CORPORATION OF THE CITY OF
CLARENCE-ROCKLAND
REGULAR MEETING

October 28, 2019, 6:30 pm
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

Pages

1. **Opening of the meeting**

   The meeting is scheduled to begin at 6:30 pm in order to allow for a closed session.

   The portion of the meeting that is open to the public begins at 7:15 pm.

2. **Prayer** 1

3. **Adoption of the agenda**

4. **Disclosure of pecuniary interests** 3

5. **Closed Meeting**

   5.1 **Closed meeting minutes of October 7, 2019**

   5.2 **Claim Settlement - File No. L02-MCB**

   5.3 **IAFF mandate**

   5.4 **Pending Litigation - Contractual infringement**

6. **Closed Meeting report**

7. **Announcements**

8. **Comment/Question Period**

Note: Members of the public may come forward to the podium and after seeking permission from the Presiding Officer, shall state their name and direct their question/comment on any matter which is related to any item included in this agenda to the Presiding Officer.

The maximum time allowed in all circumstances for a question/comment shall be three (3) minutes per person per meeting. There shall be a maximum of 30 minutes dedicated to the question/comment period. Any unasked questions/comments due to the time restriction may be submitted in writing to the Clerk.

At no time shall this question period be taken by members of the audience to make speeches or accusations.

9. **Council Members' Items**

10. **Consent Items**

Note: All items listed in this section of the agenda will be subject to approval under one non-debatable, non-amendable motion. Should any member of Council wish to hold a discussion or engage in debate on one of these items, he or she is required to ask for the item to be considered separately before a vote is taken.

10.1 Adoption of the minutes of the following meetings:

a. Regular meeting - October 7, 2019 5

b. Committee of the Whole meeting - October 7, 2019 21

10.2 Receipt of the minutes of the following meetings:

a. Heritage Advisory Committee - May 28, 2019 29

b. Committee of Adjustment - August 28, 2019 37

10.3 The following recommendations from Committee of the Whole of October 7, 2019

a. Resolution to authorize that the full capital budget amount of $335,000 be utilized to implement the SharePoint Document and Records Management Intranet Project 57

b. Resolution to approve the list of sole and single source vendors 61

c. Resolution to authorize that the City apply for a grant under the Investing in Canada Infrastructure Program: Community, Culture and Recreation Stream for Community Hub Project 67

10.4 Resolution to adopt salaries paid from August 25, 2019 to October 5, 2019, in the gross amountof $991,462.57 and net amount of $717,224.38

11. Committee/Staff Reports

11.1 Accounts paid 525

11.2 Modification to the resolution for the balcony of the Très-Sainte-Trinité presbytery 529

12. By-laws

Note: All items listed in this section of the agenda will be subject to approval under one non-debatable, non-amendable motion. Should any member of Council wish to hold a discussion or engage in debate on one of these By-laws, he or she is required to ask for the item to be considered separately before a vote is taken.

12.1 2019-72 - Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland (Secondary Plan) 563

13. Confirmatory By-law 1325

14. Adjournment

CORPORATION DE LA CITÉ DE
CLARENCE-ROCKLAND
RÉUNION RÉGULIÈRE

le 28 octobre 2019, 18 h 30
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

Pages

1. **Ouverture de la réunion**

   La réunion débute à 18h30 afin de permettre une session à huis clos.

   La section de la réunion ouverte au public débute à 19h15.

2. **Prière** 1

3. **Adoption de l'ordre du jour**

4. **Déclarations d'intérêts pécuniaires** 3

5. **Réunion à huis clos**

   5.1 **Procès-verbal de la réunion à huis clos du 7 octobre 2019**

   5.2 **Résolution de réclamation - Dossier No. L02-MCB**

   5.3 **Mandat IAFF**

   5.4 **Litige potentiel - violation contractuelle**

6. **Rapport de la réunion à huis clos**

7. **Annonces**

8. **Période de Questions/Commentaires**

Note: Les membres du public sont invités à se rendre au podium et après avoir reçu la permission du président de l'assemblée, doivent se nommer et adresser leur question et/ou commentaire sur tout sujet qui est relié à n'importe quel item qui figure à l'ordre du jour au président de réunion.
Le temps maximal accordé pour une question/commentaire dans toutes circonstances est de trois (3) minutes par personne par réunion. Il y aura un maximum de 30 minutes consacrés à la période de questions/ commentaires. Toutes questions et/ou commentaires qui n'ont pas été adressés par faute de temps peuvent être soumis par écrit à la greffière.
En aucun cas, cette période de questions/ commentaires ne peut être utilisée par les membres du public pour faire des discours ou porter des accusations.

9. **Items des membres du Conseil**

10. **Items par consentement**

Note : Les items énumérés dans cette section de l'ordre du jour seront sujet à être considéré pour approbation sous une résolution qui n'est pas sujette au débat et non-modifiable. Si un membre du conseil désire engager une discussion ou un débat par rapport à un de ces items, il/elle doit demander que l'item soit considéré séparément avant que le vote ait lieu.

10.1 Adoption des procès-verbaux des réunions suivantes:

a. **Réunion régulière - 7 octobre 2019** 5

b. **Comité plénier - 7 octobre 2019** 21

10.2 Réception des procès-verbaux des réunions suivantes:

a. **Comité consultatif du patrimoine - 28 mai 2019** 29

b. **Comité de dérogation - 28 août 2019** 37

10.3 Les recommandations suivantes du comité plénier du 7 octobre 2019

a. **Résolution pour autoriser que la totalité du montant budgété, soit de 335 000 $, soit utilisé pour l'implantation du projet d'intranet et système de gestion des documents SharePoint** 57

b. **Résolution pour approuver la liste de fournisseurs uniques et exclusifs** 61

c. Résolution pour autoriser que la Cité soumette une demande de subvention au Programme d'infrastructure Investir dans le Canada : volet communautaire, culturel et récréatif pour le projet de Carrefour communautaire 67

10.4 Résolution pour adopter les salaires payés pour la période du 25 août 2019 au 5 octobre 2019, au montantbrut de 991 462,57 $, et montant net de 717 224,38 $

11. Rapports des Comités/Services

11.1 Comptes payés 525

11.2 Modification à la résolution pour le balcon du presbytère de la Paroisse Très-Sainte-Trinité 529

12. Règlements municipaux

Les règlements énumérés dans cette section de l'ordre du jour seront sujet à être considéré pour approbation sous une résolution qui n'est pas sujette au débat et non-modifiable. Si un membre du conseil désire engager une discussion ou un débat par rapport à un de ces règlements, il/elle doit demander que l'item soit considéré séparément avant que le vote ait lieu.

12.1 2019-72 - Amendement no. 13 au Plan Officiel de l'aire urbaine de la Cité de Clarence-Rockland (plan secondaire) 563

13. Règlement de confirmation 1325

14. Ajournement

PRIÈRE D'OUVERTURE / OPENING PRAYOR
CITÉ DE / CITY OF CLARENCE-ROCKLAND

Notre Père

Les personnes présentes dans cette salle ont des opinions divergentes, des modes d'expressions variés, des façons différentes de vivre leurs émotions et des cheminements divers dans la prise de leurs décisions.

May we combine clarity of mind with kindness of heart. May we be impartial without bending to strong personalities. May we sacrifice self-interest for the good of the whole.

Veuillez éclairer nos discussions et nos décisions. Aidez-nous à accomplir notre travail avec amour et une vision juste de l'avenir pour le plus grand bien de ceux que nous représentons.

May your name be glorified through our efforts.
Amen

Clarence-Rockland

Declaration of pecuniary interest
Déclaration d'intérêt pécuniaire

Date of meeting Date de la réunion:	
Item Number Numéro de l'item:	
Subject of the item: Sujet de l'item :	
Name of Council Member Nom du membre du conseil	

I, _____, hereby declare a pecuniary interest in the matter identified above for the following reason :

Je, _____, déclare un intérêt pécuniaire en ce qui concerne l'article ci-haut mentionné, pour la raison suivante :

Name (print)	Signature	Date

This declaration is filed in accordance with the *Municipal Conflict of Interest Act* and will be recorded in the meeting minutes and will be made available in a public registry. / Cette déclaration est soumise sous la *Loi sur les conflits d'intérêt municipaux* et sera enregistrée dans le procès-verbal de la réunion et sera disponible dans un registre public.

Excerpt from the Municipal Conflict of Interest Act, R.S.O. 1990, c. M.50

DUTY OF MEMBER

When present at meeting at which matter considered

5 (1) Where a member, either on his or her own behalf or while acting for, by, with or through another, has any pecuniary interest, direct or indirect, in any matter and is present at a meeting of the council or local board at which the matter is the subject of consideration, the member,

(a) shall, prior to any consideration of the matter at the meeting, disclose the interest and the general nature thereof;

(b) shall not take part in the discussion of, or vote on any question in respect of the matter; and

(c) shall not attempt in any way whether before, during or after the meeting to influence the voting on any such question. R.S.O. 1990, c. M.50, s. 5 (1).

Where member to leave closed meeting

(2) Where the meeting referred to in subsection (1) is not open to the public, in addition to complying with the requirements of that subsection, the member shall forthwith leave the meeting or the part of the meeting during which the matter is under consideration. R.S.O. 1990, c. M.50, s. 5 (2).

Extrait de la Loi sur les conflits d'intérêts municipaux, L.R.O. 1990, chap. M.50

OBLIGATIONS DU MEMBRE

Participation à une réunion où l’affaire est discutée

5 (1) Le membre qui, soit pour son propre compte soit pour le compte d’autrui ou par personne interposée, seul ou avec d’autres, a un intérêt pécuniaire direct ou indirect dans une affaire et participe à une réunion du conseil ou du conseil local où l’affaire est discutée, est tenu aux obligations suivantes :

a) avant toute discussion de l’affaire, déclarer son intérêt et en préciser la nature en termes généraux;

b) ne pas prendre part à la discussion ni voter sur une question relative à l’affaire;

c) ne pas tenter, avant, pendant ni après la réunion, d’influencer de quelque façon le vote sur une question relative à l’affaire. L.R.O. 1990, chap. M.50, par. 5 (1).

Exclusion de la réunion à huis clos

(2) Si la réunion visée au paragraphe (1) se tient à huis clos, outre les obligations que lui impose ce paragraphe, le membre est tenu de quitter immédiatement la réunion ou la partie de la réunion où l’affaire est discutée. L.R.O. 1990, chap. M.50, par. 5 (2).

CORPORATION OF THE

CITY OF CLARENCE-ROCKLAND

REGULAR MEETING MINUTES

October 7, 2019
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

PRESENT:	Guy Desjardins, Mayor
	Samuel Cardarelli, Councillor Ward 1
	Mario Zanth, Councillor Ward 2
	Carl Grimard, Councillor Ward 3
	Don Bouchard, Councillor Ward 4
	André J. Lalonde, Councillor Ward 5
	Christian Simard, Councillor Ward 6
	Michel Levert, Councillor Ward 7
	Diane Choinière, Councillor Ward 8
Staff Present	Helen Collier, Chief Administrative Officer
	Monique Ouellet, Clerk
	Maryse St-Pierre, Deputy Clerk

1. Opening of the meeting

Mayor Desjardins calls the meeting to order at 6:01 pm.

2. Prayer

Councillor Carl Grimard recites the prayer.

3. Adoption of the agenda

RESOLUTION 2019-190
Moved by Mario Zanth
Seconded by André J. Lalonde

BE IT RESOLVED THAT the agenda be adopted as presented.

CARRIED

4. Disclosure of pecuniary interests (none)

5. Closed Meeting

RESOLUTION 2019-191
Moved by Mario Zanth
Seconded by Christian Simard

BE IT RESOLVED THAT the regular meeting be adjourned in order to discuss the following items, as stipulated in Section 239 of the Municipal Act, 2001, as amended:

5.1. Closed Meeting Minutes of September 16, 2019
5.2. Claim Settlement - File No. L02-MCB
5.3. Hiring - Manager of Engineering and Operations
5.4. Potential Land Acquisition
5.5. Human Resources Matter
5.6. Organizational review - update

CARRIED

Members of Council move to the conference room adjacent to the Council Chambers at 6:05 pm and return to the Council Chambers at 7:12 pm.

RESOLUTION 2019-192
Moved by Mario Zanth
Seconded by Diane Choinière

BE IT RESOLVED THAT the closed session be adjourned to resume the regular meeting.

CARRIED

6. Closed Meeting report

Mayor Desjardins informs the members of the public that Council discussed some matters in closed session, that directives were given to staff and that a resolution shall be considered.

RESOLUTION 2019-193
Moved by Carl Grimard
Seconded by Mario Zanth

BE IT RESOLVED that Municipal Council hereby accepts the hiring of Mr. Raymond Garner as the manager of engineering and operations on a full-time temporary basis (2-year contract), effective October 21st, 2019 respectively, and that he be subject to a probationary period of six (6) months; and;

BE IT ALSO RESOLVED that Mr. Raymond Garner's salary be established at Level 7, class 5 of the non-unionized employee's salary grid, as recommended.

CARRIED

7. Announcements

Mayor Desjardins announces that the Library Gala and the "Festival de la famille chrétienne" were a success.

Mayor Desjardins announces the certification of Mr. Marc Bougie as a Municipal Law Enforcement Officer by the Municipal Law Enforcement Officers' Association (Ontario)

8. Comment/Question Period

Mr. Rolland Labonté, representing his daughter living at 3713 Rollin Rd, explains that the well water quality is poor since the City completed some work next to his daughter's house. Mr. Julian Lenhart explains that the City is not responsible for the quality of his well water but that he should consult with the Eastern Ontario Health Unit. Mr. Lenhart adds that the repairs to the ditch were compliant with standards.

9. Council Members' Items

9.1 Members' Resolution presented by Councillor Michel Levert and supported by Mayor Guy Desjardins to support Mr. Alain Lalonde's application to obtain a license to sell LCBO products in a convenience store located at 3150 Gendron Road

RESOLUTION 2019-194
Moved by Michel Levert
Seconded by Don Bouchard

BE IT RESOLVED THAT the Council of the City of Clarence-Rockland hereby support Mr. Alain Lalonde's application to obtain a license to sell LCBO products in a section of his convenience store located within the limits of the City of Clarence-Rockland, more specifically at 3150, Gendron Road in Hammond.

CARRIED

10. Consent Items

RESOLUTION 2019-195
Moved by Mario Zanth
Seconded by Samuel Cardarelli

BE IT RESOLVED THAT the following items, as identified under the consent items category on the regular meeting agenda of October 7, 2019, be adopted:

10.1. Adoption of the minutes of the following meetings:

a. Regular meeting - September 16, 2019
b. Committee of the Whole - September 16, 2019

10.2. The following recommendations from Committee of the Whole of September 16, 2019
a. Resolution to support the City of Kitchener regarding consumer packaging on single-use wipes
b. Resolution to proclaim Waste Reduction Week
c. Resolution to declare the property known as 1954 Claudette Drive to be surplus
d. Resolution to approve the installation of additional warning signs for Poupart Road Safety
e. Resolution to approve the update of the 2019-2024 Energy Conservation Plan
f. Resolution to approve the City of Clarence-Rockland Cybersecurity Strategic Plan

10.3. Resolution to appoint a member to the Recreational Trails Advisory Committee

10.4. Resolution to appoint a member to the Du Moulin Park Advisory Committee

CARRIED

Text of the resolutions as adopted by consent under Resolution 2019-195

10.2a. BE IT RESOLVED THAT *Council supports the resolution of the City of Kitchener dated August 26, 2019, requesting that the Federal Government review regulations related to consumer packaging on single-use wipes to remove the word "flushable".*

10.2b. BE IT RESOLVED THAT *Council of the City of Clarence-Rockland proclaims the week of October 21-27, 2019, Waste Reduction Week.*

10.2c. WHEREAS *By-law 2004-153 provides the procedures for disposing of surplus property; and*

WHEREAS *further to a consultation with all department heads, the administration recommends that the property known as 1954 Claudette Drive be declared surplus to the needs of the City;*

BE IT RESOLVED THAT *Council declares the property known as 1954 Claudette Drive to be surplus to the needs of the City; and*

BE IT RESOLVED THAT *Council hereby authorizes the Clerk and/or the Treasurer to proceed to the sale of the surplus property identified as 1954 Claudette Drive as per the policy adopted under By-law 2004-153.*

10.2d. ***BE IT RESOLVED THAT*** *Council approves the installation of additional warning signs as recommended in report INF2019-027.*

10.2e. ***WHEREAS*** *as per the Electricity Act of 1998, the City is required to update its energy conservation plan every 5 years; and*

BE IT RESOLVED THAT *Municipal Council approves the update of the 2019-2024 Energy Conservation Plan, written by J.L. Richards and dated August 28, 2019; as recommended in report no. LOI2019-09-03.*

10.2f. ***BE IT RESOLVED THAT*** *Council approve the City of Clarence-Rockland Cybersecurity Strategic Plan, as recommended in report IMIT-2019-006.*

10.3 ***WHEREAS*** *there are currently three (3) vacant seats on the Recreational Pathways Advisory Committee;*

BE IT RESOLVED THAT *Council accepts to appoint Ms. Libena Polivka as a member of the Recreational Pathways Advisory Committee for the remainder of the term.*

10.4 ***WHEREAS*** *there are currently four (4) vacant seats on the Du Moulin Park Advisory Committee;*

BE IT RESOLVED THAT *Council accepts to appoint Ms. Helen Pace as a member of the Du Moulin Park Advisory Committee for the remainder of the term.*

10.5 Resolution to change the dates for October 21, 2019 and November 4, 2019 Regular Council and Committee of the Whole meetings

RESOLUTION 2019-196
Moved by Mario Zanth
Seconded by Carl Grimard

BE IT RESOLVED THAT the scheduled Regular Council meeting of Monday, October 21, 2019 be and is hereby cancelled; and

BE IT RESOLVED THAT the scheduled Committee of the Whole meeting of Monday, October 21, 2019, be moved to Tuesday, October 22, 2019; and

BE IT RESOLVED THAT the scheduled Regular Council and Committee of the Whole meetings of Monday, November 4, 2019, be moved to Monday, October 28, 2019; and

BE IT FURTHER RESOLVED THAT the Planning Committee Meeting of Wednesday, November 6th 2019 be moved to Monday, November 4th, 2019.

CARRIED

11. Committee/Staff Reports

11.1 Replacement of Public Works Sterling 2010 Tandem Truck

RESOLUTION 2019-197
Moved by Samuel Cardarelli
Seconded by Christian Simard

WHEREAS the sterling 2010 Tandem was inspected by both the City's mechanics and a third-party mechanic and that both recommended that it be immediately removed from the fleet due to safety concerns; and

WHEREAS due to the time constraint to have a replacement Tandem in time for winter operations and given the time required for the tender process; and

WHEREAS the replacement of the Sterling 2010 Tandem is proposed in the 2020 draft budget;

BE IT RESOLVED THAT Council approves that the Department deviates from the Procurement Policy to purchase a new Tandem by means of a Request For Quote process instead of a Tender process; and

BE IT RESOLVED THAT Council approves to advance the funds from the 2020 budget and debt finance the tandem replacement costs of $350,000.

CARRIED

12. By-laws

12.1 2019-100 - Removal of Holding Symbol – C.H. Clément Construction Inc. for the Estate of Eugène Laviolette – Caron Street Subdivision (Part of Lot 23, Concession 1 Old Survey)

RESOLUTION 2019-198
Moved by Carl Grimard
Seconded by André J. Lalonde

WHEREAS the proposed amendment to the City of Clarence-Rockland Zoning By-law for the property on Caron Street identified as Part of Lot 23, Concession 1 (O.S.) is consistent with the Provincial Policy Statement and conforms to the Official Plan of the United Counties of Prescott and Russell and the Official Plan of the Urban Area of the City of Clarence-Rockland;

BE IT RESOLVED THAT Council adopts By-law 2019-100 to amend Zoning By-law 2016-10, in order to modify the zoning category from “Urban Residential Third Density – Holding (R3-h) Zone” to “Urban Residential Third Density (R3) Zone” in order to allow the registration of the proposed plan of subdivision.

CARRIED

13. Confirmatory By-law

RESOLUTION 2019-199
Moved by Mario Zanth
Seconded by Samuel Cardarelli

BE IT RESOLVED THAT By-law no. 2019-101, being a confirmatory by-law for the regular meeting of October 7, 2019, be adopted.

CARRIED

14. Adjournment

Mayor Desjardins adjourns the meeting at 7:35 pm.

Guy Desjardins, Mayor	Maryse St-Pierre, Deputy Clerk

CORPORATION DE LA

CITÉ DE CLARENCE-ROCKLAND

RÉUNION RÉGULIÈRE - PROCÈS-VERBAL

le 7 octobre 2019
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

PRÉSENT: Guy Desjardins, maire
Samuel Cardarelli, conseiller quartier 1
Mario Zanth, conseiller du quartier 2
Carl Grimard, conseiller du quartier 3
Don Bouchard, conseiller quartier 4
André J. Lalonde, conseiller du quartier 5
Christian Simard, conseiller quartier 6
Michel Levert, conseiller du quartier 7
Diane Choinière, conseillère du quartier 8
Helen Collier, directrice générale
Monique Ouellet, greffière
Maryse St-Pierre, greffière adjointe

1. Ouverture de la réunion

Le maire Desjardins ouvre la réunion à 18h01.

2. Prière

Le conseiller Carl Grimard fait la lecture de la prière.

3. Adoption de l'ordre du jour

RÉSOLUTION 2019-190
Proposée par Mario Zanth
Appuyée par André J. Lalonde

QU'IL SOIT RÉSOLU QUE l'ordre du jour soit adopté tel que présenté.

ADOPTÉE

4. Déclarations d'intérêts pécuniaires (aucune)

5. Réunion à huis clos

RÉSOLUTION 2019-191
Proposée par Mario Zanth
Appuyée par Christian Simard

QU'IL SOIT RÉSOLU QUE la réunion régulière du conseil municipal soit ajournée afin de tenir une session à huis clos pour discuter des sujets suivants, tel que stipulé à la section 239 de la Loi sur les municipalités 2001, tel que modifiée :

5.1. Procès-verbal de la réunion à huis clos du 16 septembre 2019
5.2. Résolution de réclamation - Dossier No. L02-MCB
5.3. Embauche - Gestionnaire de l'ingénierie et des opérations
5.4. Acquisition potentielle de terrain
5.5. Dossier de ressources humaines
5.6. Révision de la structure organisationnelle - mise à jour

ADOPTÉE

Les membres du conseil se retirent dans la salle de conférence adjacente à la salle du conseil à 18h05 et retournent dans la salle du conseil à 19h12.

RÉSOLUTION 2019-192
Proposée par Mario Zanth
Appuyée par Diane Choinière

QU'IL SOIT RÉSOLU QUE la réunion à huis clos soit ajournée afin de retourner en réunion régulière.

ADOPTÉE

6. Rapport de la réunion à huis clos

Le maire Desjardins informe les membres du public que le conseil a discuté de dossiers à huis clos, que des directives ont été données au personnel et qu'une résolution doit être considérée.

RÉSOLUTION 2019-193
Proposée par Carl Grimard
Appuyée par Mario Zanth

QU'IL SOIT RÉSOLU que le conseil municipal accepte l'embauche de M. Raymond Garner à titre de gestionnaire des opérations et de l'ingénierie à temps plein temporaire (contrat de 2 ans), effectif le 21 octobre 2019 respectivement et que celui-ci soit sujet à une période probatoire de six (6) mois; et

QU'IL SOIT ÉGALEMENT RÉSOLU que le salaire de M. Raymond Garner soit établi à la Classe 5, niveau 7 de la grille salariale en vigueur des employés non-syndiqués, tel que recommandé.

ADOPTÉE

7. Annonces

Le maire Desjardins annonce que la gala de la bibliothèque et le festival de la famille chrétienne ont été un succès.

Le maire Desjardins annonce la certification de M. Marc Bougie à titre d'agent d'application des lois municipales de la Municipal Law Enforcement Officers' Association (Ontario).

8. Période de Questions/Commentaires

Rolland Labonté, représentant sa fille vivant au 3713 chemin Rollin, explique que la qualité de l'eau du puits est moindre depuis que la Cité a complété les travaux près de la maison de sa fille. M. Julian Lenhart explique que la Cité n'est pas responsable de la qualité de l'eau de puits et qu'il devrait consulter le bureau de santé de l'Est ontarien à ce sujet. M. Lenhart ajoute que les réparations du fossé sont conformes aux normes.

9. Items des membres du Conseil

9.1 Résolution de membre prés par le conseiller Michel Levert et appuyé par le maire Guy Desjardins pour appuyer la demande de M. Alain Lalonde pour l'obtention d'une section de vente des produits LCBO à l'intérieur de son dépanneur situé au 3150 rue Gendron

RÉSOLUTION 2019-194
Proposée par Michel Levert
Appuyée par Don Bouchard

QU'IL SOIT RÉSOLU QUE le conseil municipal de la Cité de Clarence-Rockland appuie la demande de M. Alain Lalonde pour l'obtention d'une section de vente des produits LCBO à l'intérieur de son dépanneur situé dans les limites de la Cité de Clarence-Rockland, soit plus précisément au 3150, chemin Gendron à Hammond.

ADOPTÉE

10. Items par consentement

RÉSOLUTION 2019-195
Proposée par Mario Zanth
Appuyée par Samuel Cardarelli

QU'IL SOIT RÉSOLU QUE les items suivants, tels qu'identifiés sous la rubrique «items par consentement» à l'ordre du jour de la réunion régulière du 7 octobre 2019, soient adoptés :

10.1. Adoption des procès-verbaux des réunions suivantes:

a. Réunion régulière - 16 septembre 2019
b. Comité plénier - 16 septembre 2019

10.2. Les recommandations suivantes du comité plénier du 16 septembre 2019

a. Résolution pour appuyer la Cité de Kitchener concernant les emballages de consommation sur les lingettes à usage unique
b. Résolution pour proclamer la semaine de réduction des déchets
c. Résolution pour déclarer bien excédentaire la propriété connue comme le 1954 promenade Claudette
d. Résolution pour approuver l'ajout de panneaux d'avertissement supplémentaires pour la sécurité du chemin Poupart
e. Résolution pour approuver la mise à jour du plan de conservation d'énergie
f. Résolution pour approuver le Plan stratégique de cybersécurité de la Cité de Clarence-Rockland

10.3. Résolution pour nommer un membre au comité consultatif des sentiers récréatifs

10.4. Résolution pour nommer un membre au comité consultatif du parc Du Moulin

ADOPTÉE

Texte des résolutions adoptées par consentement telles qu'identifiées dans la résolution 2019-195

10.2a. QU'IL SOIT RÉSOLU QUE *le conseil appuie la résolution de la Cité de Kitchener datée du 26 août 2019, demandant que le gouvernement fédéral révise la législation relative aux emballages de consommation sur les lingettes à usage unique afin de retirer la mention « jetable dans les toilettes ».*

10.2b. QU'IL SOIT RÉSOLU QUE *le Conseil de la Cité de Clarence-Rockland proclame la semaine du 21 au 27 octobre 2019, Semaine de réduction des déchets.*

10.2c. ***ATTENDU QUE*** *le Règlement 2004-153 énonce les procédures pour disposer des biens excédentaires, et*

ATTENDU QUE *suite à une consultation avec tous les chefs de départements, l'administration recommande que la propriété connue comme le 1954, promenade Claudette soit déclarée bien excédentaire aux besoins de la Cité;*

QU'IL SOIT RÉSOLU QUE *le conseil déclare la propriété connue comme le 1954, promenade Claudette, bien excédentaire aux besoins de la Cité; et*

QU'IL SOIT RÉSOLU QUE *le conseil autorise la greffière et/ou le trésorier à procéder à la vente de la propriété identifiée comme le 1954, promenade Claudette sujette à suivre la politique adoptée par le Règlement no. 2004-153.*

10.2d. ***QU'IL SOIT RÉSOLU QUE*** *le Conseil approuve l'ajout de panneaux d'avertissement supplémentaires recommandés dans le rapport INF2019-027.*

10.2e. ***ATTENDU QUE*** *selon la loi de 1998 sur l'électricité, la Cité est dans l'obligation de mettre à jour son plan de conservation d'énergie à tous les 5 ans;*

QU'IL SOIT RÉSOLU QUE *le conseil municipal approuve la mise à jour du plan de conservation d'énergie 2019-2024, rédigé par J.L. Richards et daté du 28 août 2019, tel que recommandé au rapport no. LOI2019-09-03.*

10.2f. ***QU'IL SOIT RÉSOLU QUE*** *le conseil approuve le Plan stratégique de cybersécurité de la Cité de Clarence-Rockland, tel que recommandé au rapport no. IMIT-2019-006*

10.3 ***ATTENDU*** *qu'il y a présentement trois (3) postes vacants au sein du Comité consultatif des sentiers récréatifs;*

QU'IL SOIT RÉSOLU QUE *le Conseil accepte de nommer Mme Libena Polivka à titre de membre du comité consultatif des sentiers récréatifs pour le reste du terme.*

10.4 ***ATTENDU*** *qu'il y a présentement quatre (4) postes vacants au sein du Comité consultatif du Parc Du Moulin;*

QU'IL SOIT RÉSOLU QUE *le Conseil accepte de nommer Mme Helen Pace à titre de membre du comité consultatif du Parc Du Moulin pour le reste du terme.*

10.5 Résolution pour changer les dates des réunions régulière et du comité plénier du 21 octobre et du 4 novembre 2019

RÉSOLUTION 2019-196
Proposée par Mario Zanth
Appuyée par Carl Grimard

QU'IL SOIT RÉSOLU QUE la réunion régulière du conseil prévue pour le lundi 21 octobre 2019 soit annulée; et

QU'IL SOIT RÉSOLU QUE la réunion du comité plénier prévue pour le lundi 21 octobre 2019 soit reportée au mardi 22 octobre 2019; et

QU'IL SOIT RÉSOLU QUE la réunion régulière du conseil et la réunion du comité plénier prévues pour le lundi 4 novembre 2019 soient reportées au lundi 28 octobre 2019;

QU'IL SOIT AUSSI RÉSOLU QUE la réunion du comité d'aménagement du 6 novembre 2019 soit reportée au lundi 4 novembre 2019

ADOPTÉE

11. Rapports des Comités/Services

11.1 Remplacement du camion tandem Sterling 2010 pour les travaux publics

RÉSOLUTION 2019-197
Proposée par Samuel Cardarelli
Appuyée par Christian Simard

ATTENDU QUE le tandem sterling 2010 a été inspecté à la fois par les mécaniciens de la Ville et par un tiers, et que tous deux ont recommandé qu'il soit immédiatement retiré de la flotte pour des raisons de sécurité; et

ATTENDU QU'en raison de la contrainte de temps pour avoir un Tandem de remplacement à temps pour les opérations d'hiver et compte tenu du temps requis pour le processus d'appel d'offres; et

ATTENDU QUE le remplacement du tandem Sterling 2010 est proposé dans le budget préliminaire 2020;

QU'IL SOIT RÉSOLU QUE le conseil approuve que le département dévie de la politique d'approvisionnement en achetant un nouveau tandem au moyen d'un processus de demande de devis au lieu d'un processus de soumission; et

QU'IL SOIT RÉSOLU QUE le conseil approuve l'avance des fonds du budget 2020 et finance par la dette les coûts de remplacement du tandem de 350 000 $.

ADOPTÉE

12. Règlements municipaux

12.1 2019-100 - Retrait du symbole d'aménagement différé – C.H. Clément Construction Inc. pour la succession de Eugène Laviolette – Subdivision de la rue Caron (Partie du Lot 23, Concession 1 Old Survey)

RÉSOLUTION 2019-198
Proposée par Carl Grimard
Appuyée par André J. Lalonde

ATTENDU QUE l'amendement proposé au règlement de zonage de la Cité de Clarence-Rockland pour le terrain sur la rue Caron décrit comme étant une partie du lot 23, concession 1 (O.S.) est conforme à la Déclaration de principes provinciale et au Plan officiel des Comtés unis the Prescott et Russell ainsi qu'au Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland;

QU'IL SOIT RÉSOLU QUE le conseil municipal adopte le règlement 2019-100 pour modifier le Règlement de Zonage 2016-10 afin de modifier la catégorie de zonage de « Zone résidentielle urbaine de densité 3 – aménagement différé (R3-h) » à « Zone résidentielle urbaine de densité 3 (R3) » afin de permettre l'enregistrement du plan de lotissement proposé.

ADOPTÉE

13. Règlement de confirmation

RÉSOLUTION 2019-199
Proposée par Mario Zanth
Appuyée par Samuel Cardarelli

QU'IL SOIT RÉSOLU QUE le règlement no. 2019-101, étant un règlement de confirmation pour la réunion régulière du 7 octobre 2019, soit adopté.

ADOPTÉE

14. Ajournement

Le maire Desjardins lève l'assemblée à 19h35.

Guy Desjardins, Maire	Maryse St-Pierre, Greffière adjointe

CORPORATION OF THE

CITY OF CLARENCE-ROCKLAND

COMMITTEE OF THE WHOLE MINUTES

October 7, 2019
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

PRESENT: Guy Desjardins, Mayor
Samuel Cardarelli, Councillor Ward 1
Mario Zanth, Councillor Ward 2
Carl Grimard, Councillor Ward 3
Don Bouchard, Councillor Ward 4
André J. Lalonde, Councillor Ward 5
Christian Simard, Councillor Ward 6
Michel Levert, Councillor Ward 7
Diane Choinière, Councillor Ward 8
Helen Collier, Chief Administrative Officer
Monique Ouellet, Clerk
Maryse St-Pierre, Deputy Clerk

1. Opening of the meeting

Mayor Desjardins calls the meeting to order at 7:58 pm.

2. Adoption of the agenda

RECOMMENDATION COW2019-123
Moved by Carl Grimard
Seconded by Mario Zanth

THAT the agenda be adopted as presented.

CARRIED

3. Disclosure of pecuniary interests (none)

4. Delegations / Presentations

4.1 Presentation by Linda Meier-Szabo and Aurèle Poirier regarding the "Leadership et Teambuilding" Program

Mrs. Meier-Szabo and Mr. Aurèle Poirier present the Leadership and Teambuilding Program.

Further to the presentation, Mayor Desjardins suggests considering their funding request during the budget meetings.

4.2 Presentation of the Transportation Master Plan

Mr. Brandon Orr presents the Transportation Master Plan. Mr. Richard Campeau explains that people have 30 days to submit an appeal to the Ministry of Environment.

Further to questions, Julian Lenhart explains that the growth projections presented in this study are based on the Official Plan.

5. Petitions / Correspondence

5.1 Petition from Kevin Morrow and Denis Bissonnette regarding water supply

Mr. Kevin Morrow explains the situation with the water supply in Bouvier Road.

Further to questions, Julian Lenhart explains that the local improvement would be the sole solution, however this could be costly for residents.

Further to questions, Julian Lenhart explains that he will follow-up regarding the water supply for future need.

6. Notice of Motion (none)

7. Comment/Question Period (none)

8. Report from the United Counties of Prescott and Russell

Mayor Desjardins explains that the UCPR is working on a public transit between villages.

9. Committee/Staff Reports

9.1 SharePoint Document and Records Management Intranet Project

Further to questions, Michel Cousineau confirms that an amount of $75,000 for a website meets the standards.

RECOMMENDATION COW2019-124
Moved by Carl Grimard
Seconded by Diane Choinière

WHEREAS Council approved a budget of $265,000 to implement the SharePoint Document and Records Management Intranet Project in 2017; and

WHEREAS Council approved a budget of $70,000 to design and build a new website in 2019; and

WHEREAS the SharePoint Document and Records Management Intranet Project and the Website Project were combined in the 2019 Capital Budget Work-in-Progress List with a total budget of $335,000 with the assumption that the website would be completed through the SharePoint Project;

THAT the Committee of the Whole recommends that Council authorizes that the full capital budget amount of $335,000 be utilized to implement the SharePoint Document and Records Management Intranet Project with the understanding that staff will be recommending that an amount of $75,000 be considered in the 2020 capital budget for the design and implementation of a new website.

CARRIED

9.2 List of sole and single source vendors

RECOMMENDATION COW2019-125
Moved by Don Bouchard
Seconded by Michel Levert

WHEREAS subsection (a) and (b) of Schedule D – Non-Competitive Procurement of the existing Procurement Policy allows the municipality to single or sole source to vendors.

THAT the Committee of the Whole recommends that Municipal Council approve the revised list of sole and single source vendors as presented in Appendix A of report FIN2019-024.

CARRIED

9.3 Protective Services – Monthly Report (June-August 2019)

RECOMMENDATION COW2019-126
Moved by Samuel Cardarelli
Seconded by Mario Zanth

THAT Report No. PRO2019-023 in regards to monthly statistics for the months of June, July and August 2019, be received as information.

CARRIED

9.4 Fire-EMS Station Update

RECOMMENDATION COW2019-127
Moved by Carl Grimard
Seconded by Don Bouchard

THAT Report No. PRO2019-024 related to current progress of the new fire stations, be received as information.

CARRIED

10. Other items

Further to questions, Julian Lenhart explains that speed reduction requests should be supported by petitions.

Further to questions, Julian Lenhart confirms that in order to reduce the speed to 40 km/h, the By-law needs to be adopted.

Further to questions, Julian Lenhart confirms that Lacroix Road will be open on November 1st.

Further to questions, Julian Lenhart confirms that Landry Road will be open on October 21.

11. Adjournment

The Mayor adjourns the meeting at 9:29 pm.

Guy Desjardins, Mayor	Maryse St-Pierre, Deputy Clerk

CORPORATION DE LA

CITÉ DE CLARENCE-ROCKLAND

PROCÈS-VERBAL DU COMITÉ PLÉNIER

le 7 octobre 2019
Salle du Conseil
415 rue Lemay Street, Clarence Creek, Ont.

PRÉSENT: Guy Desjardins, maire
Samuel Cardarelli, conseiller quartier 1
Mario Zanth, conseiller du quartier 2
Carl Grimard, conseiller du quartier 3
Don Bouchard, conseiller quartier 4
André J. Lalonde, conseiller du quartier 5
Christian Simard, conseiller quartier 6
Michel Levert, conseiller du quartier 7
Diane Choinière, conseillère du quartier 8
Helen Collier, directrice générale
Monique Ouellet, greffière
Maryse St-Pierre, greffière adjointe

1. Ouverture de la réunion

Le maire Desjardins ouvre la réunion à 19h58.

2. Adoption de l'ordre du jour

RECOMMANDATION COW2019-123
Proposée par Carl Grimard
Appuyée par Mario Zanth

QUE l'ordre du jour soit adopté tel que présenté.

ADOPTÉE

3. Déclarations d'intérêts pécuniaires (aucune)

4. Délégations / Présentations

4.1 Présentation de Linda Meier-Szabo et Aurele Poirier concernant le programme "Leadership et Teambuilding"

Mme Linda Meier-Szabo et M. Aurèle Poirier présentent le programme Leadership et Teambuilding.

Suite à la présentation, le maire Desjardins suggère de considérer la lettre de demande de fonds lors des délibérations budgétaires.

4.2 Présentation du plan maître des transports

M. Brandon Orr présente le plan maître des transports. M. Richard Campeau explique que les gens ont une période de 30 jours pour déposer un appel au ministère de l'Environnement.

Suite aux questions, Julian Lenhart explique que les projections de croissance présentées dans l'étude se basent sur les prévisions du plan officiel.

5. Pétitions / Correspondance

5.1 Pétition de Kevin Morrow et Denis Bissonnette concernant la fourniture d'eau

M. Kevin Morrow explique la situation de la fourniture d'eau sur la rue Bouvier.

Suite aux questions, Julian Lenhart explique que l'option possible pour régler cette situation est une amélioration locale, mais que le coût peut être élevé pour les résidents.

Suite aux questions, Julian Lenhart explique qu'il va faire un suivi concernant la fourniture d'eau pour des besoins futurs.

6. Avis de motion (aucun)

7. Période de Questions/Commentaires (aucune)

8. Rapport des Comtés unis de Prescott et Russell

Le maire Desjardins explique que les CUPR travaillent sur un transport en commun entre les villages.

9. Rapports des Comités/Services

9.1 Projet d'intranet et de système de gestion des documents SharePoint

Suite aux questions, Michel Cousineau confirme qu'un montant de 75 000$ pour le site web correspond aux normes.

RECOMMANDATION COW2019-124
Proposée par Carl Grimard
Appuyée par Diane Choinière

ATTENDU QUE le conseil a approuvé un budget de 265 000 $ pour l'implantation du projet d'intranet et système de gestion de documents SharePoint en 2017; et

ATTENDU QUE le conseil a approuvé un budget de 70 000 $ pour la conception et la construction d'un nouveau site Web en 2018; et

ATTENDU QUE le projet d'intranet et système de gestion de documents SharePoint et le projet du site Web ont été combinés dans la liste des 'Projets d'immobilisation en cours' en 2019 avec un montant totalisant 335 000 $ avec l'intention que le projet du site Web soit complété à même le projet SharePoint;

QUE le Comité plénier recommande que le Conseil autorise que la totalité du montant budgété, soit de 335 000 $, soit utilisée pour l'implantation du projet d'intranet et système de gestion des documents SharePoint tout en reconnaissant que le personnel recommandera qu'un montant de 75 000 $ soit considéré au budget 2020 pour la conception et l'implémentation d'un nouveau site Web.

ADOPTÉE

9.2 Liste de fournisseurs uniques et exclusifs

RECOMMANDATION COW2019-125
Proposée par Don Bouchard
Appuyée par Michel Levert

ATTENDU QUE l'alinéa (a) et (b) de l'annexe D - Approvisionnement non concurrentiel de la politique d'approvisionnement permet de faire des achats avec des fournisseurs uniques et exclusifs.

QUE le comité plénier recommande au conseil municipal d'approuver la liste révisée des fournisseurs uniques et exclusifs telle que présentée à l'annexe A du rapport FIN2019-024.

ADOPTÉE

9.3 Services de la protection – Rapport mensuel (Juin-August 2019)

RECOMMANDATION COW2019-126
Proposée par Samuel Cardarelli
Appuyée par Mario Zanth

QUE le rapport No. PRO2019-023 au sujet des statistiques mensuelles pour les mois de juin, juillet et août 2019, soit reçu à titre d'information.

ADOPTÉE

9.4 Mise à jour de la station d'incendie/paramédical

RECOMMANDATION COW2019-127
Proposée par Carl Grimard
Appuyée par Don Bouchard

QUE le rapport PRO2019-024 relié à l'état d'avancement des nouvelles casernes soit reçu à titre d'information.

ADOPTÉE

10. Autres items

Suite aux questions, Julian Lenhart explique que les demandes de réduction de la vitesse doivent être appuyées par des pétitions.

Suite aux questions, Julian Lenhart confirme qu'afin de réduire la vitesse à 40 km/h, un règlement doit être adopté.

Suite aux questions, Julian Lenhart confirme que l'ouverture du chemin Lacroix est prévue pour le 1er novembre.

Suite aux questions, Julian Lenhart confirme que l'ouverture du chemin Landry est prévue pour le 21 octobre.

11. Ajournement

Le maire lève l'assemblée à 21h29.

Guy Desjardins, Maire	Maryse St-Pierre, Greffière adjointe

Clarence-Rockland

CORPORATION DE LA

CITÉ DE CLARENCE-ROCKLAND

ERBAL RÉUNION COMITÉ CONSULTATIF DU PATRIMOINE

le 28 mai 2019

PRÉSENT: Marie-Eve Belanger
Lise Guindon
Michel Jubinville
Gilles Chartrand
Don Bouchard

ABSENT: Ghyslain Hotte
Louis Aubry

1. Ouverture de la réunion

Le président ouvre la réunion à 13h30.

2. Adoption de l'ordre du jour

Proposé par Gilles Chartrand
Appuyé par Lise Guindon

QUE l'ordre du jour soit adopté tel que présenté.

ADOPTÉE

3. Adoption des procès-verbaux

Proposé par Don Bouchard
Appuyé par Gilles Chartrand

Que le procès-verbal de la réunion du comité consultatif du patrimoine du 28 mars 2019 soit approuvé.

ADOPTÉE

4. Plan de travail

4.1 Parc du Moulin

M. Chartrand a apporté deux cartes qu'il présente au comité

M. Bouchard propose que les cartes soient misent sur un panneau avec un point dessus "Vous êtes ici".

Mme Bélanger propose que les cartes soient détaillées et explicatives.

M. Jean-Luc Jubinville assiste à la réunion. Il indique que le comité prépare un plan concept du parc du moulin. Il recommande que les panneaux ne soient pas permanent au cas où le plan concept propose un sentier, etc.

M. Michel Jubinville demande si les maquettes de bâtiment pourraient être mises au parc sous une coupolle.

M. Jean-Luc Jubinville indique que les maquettes seraient sujettes au soleil, etc et pourrait être endommagées. Il suggère peut-être une journée spéciale ou une semaine spéciale et on pourrait avoir les maquettes.

4.2 Toponymie

M. Jubinville indique que le conseil a adopté le nom du parc dans le Village Morris comme le Parc Alain Potvin Park.

4.3 Circuit patrimonial

Mme Bélanger attend des nouvelles de Monique Ouellet pour les termes de référence.

4.4 Registre municipal

Le comité fait le tour des propriétés de Rockland, Clarence Point et Clarence Creek qui pourrait potentiellement être dans le registre.

4.5 Mois du patrimoine

4.6 Parc Patrimoine

La Chambre de commerce avait un plan pour le parc patrimoine qu'ils ont présenté au conseil.

M. Jean-Luc Jubinville n'a pas eu de nouvelles de la Chambre de Commerce depuis.

M. Chartrand mentionne que la chambre de commerce voulait modifier le nom du parc. Le comité ne souhaite pas modifier le nom.

M. Jubinville mentionne que nous avons encore les billots de l'arbre Powers.

5. Affaire nouvelles

6. Ajournement

La réunion est ajournée à 15h.

Michel Jubinville

Président

Marie-Eve Bélanger

W Secrétaire

Clarence-Rockland

CORPORATION OF THE

CITY OF CLARENCE-ROCKLAND

HERITAGE ADVISORY COMMITTEE MEETING MINUTES

May 28, 2019
Salle de conférence principale / Principal Boardroom
1560, rue Laurier Street, Rockland ON K4K 1P7

PRESENT: Marie-Eve Belanger
Lise Guindon
Michel Jubinville
Gilles Chartrand
Don Bouchard

ABSENT: Ghyslain Hotte
Louis Aubry

1. Opening of the meeting

The Chair opens the meeting at 1:30 pm.

2. Adoption of the agenda

Moved by Gilles Chartrand
Seconded By Lise Guindon

THAT the agenda be adopted as presented.

CARRIED

3. Adoption of the minutes

Moved by Don Bouchard
Seconded By Gilles Chartrand

That the minutes of the Heritage Advisory Committee of March 28th, 2019 be approved.

CARRIED

4. Work Schedule

4.1 du Moulin Park

Mr. Chartrand brought 2 maps of du Moulin Park for viewing at the Committee.

Mr. Bouchard recommends that the maps be inserted on a panel with a dot that indicates "You are here".

Mrs. Bélanger proposes that the maps be detailed with lots of information.

Mr. Jean-Luc Jubinville assist the discussion. He indicated that the du Moulin Park Committee is preparing a concept plan for du Moulin Park. He recommends that the panels not be permanent in case that the concept plan proposes a pathway or another structure.

Mr. Michel Jubinville suggests that the model of the buildings be installed in the park under a dome. Mr. Jean-Luc Jubinville indicated that the model would possibly be subject to the elements and be damaged. He suggest that a special day or week be organized with the wooden structure.

4.2 Toponomy

Mr. Jubinville indicated that Council adopted the name of Morris Village Park as Alain Potvin Park.

4.3 Heritage Tour

Mrs. Bélanger is awaiting comments from Monique Ouellet in regards to the Terms and references.

4.4 Municipal registry

The Committee goes over the properties of Rockland, Clarence Point and Clarence Creek, which could potentially be listed under the Registry.

4.5 Heritage Month

4.6 Heritage Park

The Chamber of Commerce presented a plan of the park to Council.

Mr. Jean-Luc Jubinville did not hear any news from the Chamber of Commerce since then.

Mr. Chartrand indicated that the Chamber of Commerce wanted to rename the park. The Committee does not want to.

Mr. Jubinville stated that the City still has the wood from Powers tree.

5. New items

6. Adjournment

The meeting is adjourned at 3pm.

Michel Jubinville

President

Marie Eve Belanger

W Recording Secretary

Clarence-Rockland

CORPORATION OF THE

CITY OF CLARENCE-ROCKLAND

COMMITTEE OF ADJUSTMENT MEETING MINUTES

August 28, 2019
Council Chambers
415 rue Lemay Street, Clarence Creek, Ont.

PRESENT:	Serge Dicaire
	Marie-Eve Belanger
	Michel Bergeron
	Samuel Cardarelli
	Mario Zanth
	Nicolas Denis
ABSENT:	Michel Levert
	Guy Desjardins

1. Opening of the meeting

The Chair opens the meeting at 7h03 pm.

2. Reading and Adoption of the agenda

Moved by Michel Bergeron
Seconded By Samuel Cardarelli

THAT the agenda be adopted as presented.

CARRIED

3. Pecuniary declarations

4. Adoption of the minutes

Moved by Michel Bergeron
Seconded By Samuel Cardarelli

That the minutes of the Adjustment Committee of June 26, 2019 be approved.

CARRIED

5. Consent Applications

5.1 B-CR-015-2019

Mr. Simard asks if the Official Plan boundary will be an issue for the construction of a house. Mrs. Bélanger indicates that she cannot modify the boundary line now, as it requires an amendment. However, the OP allows us to interpret the location of the boundary line.

Moved by Mario Zanth
Seconded By Michel Bergeron

QUE le Comité de dérogation approuve la demande d'autorisation soumise par Benoit Simard, dossier B-CR-015-2019, concernant la propriété décrite comme étant la partie du lot 8, concession 6, partie 1 sur le plan 50R-1475 et partie 3 sur le plan 50R-4082;

Sujette aux conditions suivantes :

1. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland une copie originale en papier et une copie numérique en format PDF du plan de référence (plan d'arpentage) dûment enregistrées qui se conforment essentiellement à la demande B-CR-015-2019 telle qu'accordée.
2. Que le(s) requérant(s) fournisse(nt) aux Comtés Unis de Prescott et Russell une copie en format PDF et une copie en format DWG du plan de référence (plan d'arpentage) dûment enregistrées qui se conforment essentiellement à la demande B-CR-015-2019 telle qu'accordée.
3. Que le(s) requérant(s) remette à la Cité de Clarence-Rockland un montant représentant 5% de la valeur de la parcelle à être détachée pour fins de parc. La valeur de la parcelle sera déterminée par:
4. Une évaluation de marché ou lettre d'opinion, obtenu par le propriétaire et au dépenses du propriétaire, d'un évaluateur certifié, révisé et accepté par le Département d'infrastructures et aménagement; ou
5. L'enregistrement de la vente du terrain le plus récent, pas plus que 24 mois avant la date de la décision, révisé et accepté par le Département d'infrastructures et aménagement; pourvu que la vente était au valeur du marché et qu'il n'y a pas eu des modifications qui pourraient affecter la valeur du terrain, incluant mais pas limité à des

changements de zonage, de désignation du Plan officiel, ou de morcellement.

6. Que la partie à être détachée soit branchée au réseau d'approvisionnement en eau municipale ou que le(s) requérant(s) fournisse(nt) à l'autorité approbatrice de la Cité de Clarence-Rockland un engagement écrit stipulant qu'il(s) assurera(ont) que tout contrat d'achat et de vente (purchase and sale agreement) pour la partie à être détachée mentionnera que le terrain doit être branchée au réseau d'approvisionnement en eau municipale qui longe le chemin Landry.

7. Que l'arpenteur-géomètre embauché par le(s) requérant(s) détermine la largeur de l'emprise du chemin Landry et si ladite emprise est inférieure à 20 mètres, qu'une bande de terrain d'une largeur égale à la dimension requise pour atteindre 10 mètres (mesurée à partir de la ligne centrale de l'emprise de chemin), longeant la partie du lot à être détachée et retenue au long du chemin soit transférée sans frais et sans encombre à la Cité de Clarence-Rockland. De plus, l'avocat du (des) requérant(s) devra procéder à l'enregistrement d'un règlement municipal dédiant cette partie de terrain public. Un frais devra être payé à la Cité de Clarence-Rockland pour la rédaction du règlement. Une copie du règlement enregistré doit être remise au Département des Services d'infrastructure de l'aménagement du territoire pour que la condition soit considérée comme étant remplie.

8. Que le(s) requérant(s) fournisse(nt) à l'Autorité approbatrice de la Cité de Clarence-Rockland un Transfert/Acte de cession transférant le terrain divisé dans le but d'émettre un certificat d'autorisation.

9. Que chaque condition soit remplie et que l'Autorité approbatrice de la Cité de Clarence-Rockland en soit avisée par écrit pas plus tard qu'un (1) an après la date de l'avis de la décision par les départements ou les agences qui ont imposé la/les condition(s) respective(s).

CARRIED

5.2 B-CR-016-2019

Mr. Dicaire inquired on why the lot line to the west does not touch the adjacent lot line. Mr. Denis indicated that the owner mentioned that there was an error in the lot line location in our system.

Moved by Samuel Cardarelli
Seconded By Michel Bergeron

THAT the Committee of Adjustment approve the consent application submitted by Joshua VanNoy, file number B-CR-016-2019, concerning the property described as 649 St-Felix Road, subject to the following conditions:

1. That the applicant(s) provide to the City of Clarence-Rockland one original paper copy and a digital copy (PDF format) of a registered Reference Plan (plan of survey) that identifies the severance B-CR-016-2019 as approved by the Committee,

2. That the applicant(s) provide to the United Counties of Prescott and Russell one copy to be submitted electronically in PDF and DWG formats of a registered Reference Plan (plan of survey) that identifies the severance B-CR-016-2019 as approved by the Committee.

3. That the applicant(s) provide to the Approval Authority of the City of Clarence-Rockland an Environmental Impact Study for the Fish Habitat to be prepared by a professional in the field, to demonstrate that there will be no negative impacts on the natural features or on the ecological functions for which the features are identified. This report shall be prepared by a qualified professional at the applicant's expense, and shall be reviewed and approved by South Nation Conservation.

4. That the applicant(s) provide to the Approval Authority of the City of Clarence-Rockland a water assessment report, as per the Official Plan of the United Counties, section 7.4.2, policy 14.1, to demonstrate that the aquifer can provide a long term sustainable water supply of acceptable quality and quantity. This report shall be prepared by a qualified professional at the applicant's expense, and shall be reviewed and approved by South Nation Conservation.

5. That the applicant(s) pay the City of Clarence-Rockland an amount equivalent to 5% of the value of the parcel to be severed as cash in lieu of parkland payment. The value of the land shall be determined by:

a) A market appraisal or a letter of opinion, obtained by and at the owner's expense, from a certified appraiser reviewed and accepted by the Infrastructure and Planning Department; or

b) The most recent land sale record of the subject property, no more than 24 months prior to the date of the decision, reviewed and accepted by the

Infrastructure and Planning Department; provided the sale was at market value and there has been no change that may impact the land value, including but not limited to changes in the zoning, Official Plan designation, or severance.

6. That the Ontario Land Surveyor retained by the applicant(s) determine the width of the road right-of-way presently in place along St-Felix Road and where such right-of-way is less than 20 metres that a parcel of land representing the missing portion required to achieve a width of 10 metres (measured from the centre line of the road right of way) along the frontage of the severed and retained parcels be transferred to the City of Clarence-Rockland free of fees or encumbrances. In addition, the lawyer of the applicant(s) must register a by-law dedicating the land as public. Fees will need to be paid to the City of Clarence-Rockland for the preparation of the by-law. A copy of the registered by-law must be sent to the Infrastructure and Planning Services Department in order for the condition to be considered as fulfilled.

7. That the applicant(s) provide to South Nation Conservation a written undertaking which acknowledges that the proposed property lines must be at a minimum clearing distance of three (3) metres from all existing private sewage systems for the proposed severed lot.

8. That the applicant provide to the Approval Authority of the City of Clarence-Rockland a Transfer/Deed of land conveying the severed land for use for the issuance of a Certificate of Consent.

9. That each condition be fulfilled and that the Consent Approval Authority of the City of Clarence-Rockland be notified in writing within one (1) year of the date of the Decision by the departments and/or agencies having imposed the said conditions.

CARRIED

5.3 B-CR-017-2019

Moved by Mario Zanth
Seconded By Michel Bergeron

QUE le Comité de dérogation approuve la demande d'autorisation soumise par Gilles et Aline Guindon, dossier B-CR-017-2019, concernant la propriété décrite comme étant le 3701 Drouin;

Sujette aux conditions suivantes :

1. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland deux copies originales en papier du plan de référence (plan d'arpentage) dûment enregistrées et une copie PDF qui se conforment essentiellement à la demande B-CR-17-2019 telle qu'accordée.

2. Que le requérant fournisse une (1) copie du plan de référence (plan d'arpentage) en PDF et DWG dûment enregistré qui se conforme essentiellement à la demande B-CR-017-2019 telle que soumise aux Comtés unis de Prescott et Russell. Le plan est à remettre directement aux Comtés unis.

3. Que le(s) requérant(s) fournisse(nt) à la Conservation de la Nation Sud une lettre originale signée reconnaissant que tous les systèmes d'égouts privés existants sont à plus de trois (3) mètres des lignes de propriété existantes et proposées.

4. Que le(s) requérant(s) fournisse(nt) à l'autorité approbatrice de la Cité de Clarence-Rockland

    a. Une copie du Plan de renvoi ou de la description légale du bien-fonds séparé et de l'acte ou l'instrument transférant le bien-fonds séparé au propriétaire de la propriété attenante au sud connue en tant que 3691 chemin Drouin de sorte qu'aucun nouveau lot n'est créé, conformément à l'alinéa (b) ci-dessous;

    b. Une attestation officielle joint à l'acte/au transfert requis en vertu de l'alinéa (a) ci-dessus comptant la mention suivante :

« Les biens-fonds devant être séparés ont pour seul but l'ajout d'un lot aux biens-fonds attenants appartenant à (*insérer le nom*) décrits comme NIP (*numéro d'identification de la propriété*) qui constitue les Parties (*insérer les numéros*) sur le Plan (*insérer le numéro de plan*), non pas pour la création d'un nouveau lot, et tout transfert, charge ou autre opération ultérieur(e) portant sur les biens-fonds devant être séparés est soumis au respect de l'article 50(3) ou de l'article 50(5) de la *Loi sur l'aménagement du territoire*, le cas échéant. Ni les biens-fonds à séparer, ni les biens-fonds attenants ne peuvent être transférés, chargés ou non autrement cédés dans le futur sans l'autre parcelle, sauf si un nouveau consentement est obtenu. Le Propriétaire doit faire en sorte que les biens-fonds à séparer soient consolidés sur le titre avec les biens-fonds attenants et que cette condition soit inscrite sur le registre des parcelles pour la parcelle consolidée comme restriction. »

(c) L'engagement d'un avocat autorisé à exercer le droit dans la province de l'Ontario, et en règle avec le Barreau du Haut-Canada, comme suit :

« En contrepartie de, et nonobstant, la délivrance du Certificat en vertu de l'article 50(12) de la *Loi sur l'aménagement du territoire* à l'égard de l'objet de la demande de consentement, je m'engage au nom du Propriétaire, dans les 10 jours après l'enregistrement sur le titre du document de transfert contenant la mention indiquée dans l'attestation officielle délivrée par le Comité de dérogation, de déposer une demande de consolidation des parcelles, y compris le bien-fonds séparé (*insérer le numéro* de la partie du NIP) et le bien-fonds attenant (*insérer le numéro* du NIP). Cette consolidation de NIP vise à renforcer la stipulation de la *Loi sur l'aménagement du territoire* dans la condition décrite ci-dessus selon laquelle les deux parcelles ont fusionné dans le Titre et qu'elles ne peuvent être cédées séparément à l'avenir. Je m'engage également à transmettre une copie de la demande enregistrée de consolidation des parcelles et une copie des pages de résumé des parcelles consolidées au bureau du Comité dans les 21 jours après l'enregistrement de la demande de consolidation des parcelles.

5. Un engagement du procureur de l'auteur de la demande confirmant que les actes seront enregistrés dans les deux (2) ans suivant la date du certificat.

6. Que toute hypothèque sur la propriété soit libérée du terrain détaché et pour tout terrain à être ajouté à un lot avec une hypothèque, cette hypothèque sera étendue sur le terrain supplémentaire et que l'avocat fournisse un engagement écrit que la condition est remplie.

7. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland une preuve que toute connexion (électricité, eau, égout, etc.) du garage (situé sur la parcelle détachée) qui provient de la parcelle retenue soit débranchée.

8. Que le(s) requérant(s) fournisse(nt) à l'Autorité approbatrice de la Cité de Clarence-Rockland un Transfert/Acte de cession transférant le terrain divisé dans le but d'émettre un certificat d'autorisation.

9. chaque condition soit remplie et que l'Autorité approbatrice de la Cité de Clarence-Rockland en soit avisée par écrit pas plus tard qu'un (1) an après la date de l'avis de la décision par les départements ou les agences qui ont imposé la/les condition(s) respective(s).

CARRIED

6. Minor Variance Applications

6.1 D-13-19-08

Mr. Zanth indicates that the shrubs should not be located too close to the intersection for the visibility.

Moved by Mario Zanth
Seconded By Samuel Cardarelli

THAT the Committee of Adjustment accepts the application for Minor Variance submitted by Ian Barrett, for the property identified as 2885 Chamberland Street, to:

- Allow a minor variance to reduce three (3) parking space dimensions from 2.7 m * 5.6 m to 2.7 m * 4.9 m, reduce the driveway aisle width (front) from 6.0 m to 4.0 m and (side) from 6.0 m to 4.8 m as well as reduce the required width of landscaping between a commercial property and a property line from 3.0 m to 1.0 m, subject to the following condition;

1. Add “small vehicle” only signs to the three smaller parking spaces.
2. Add shrubs or other small landscaping material between the parking area curb and street curb to improve the aesthetics and provide a certain level of screening of the parking area from the abutting streets.

CARRIED

6.2 D-13-19-09

Mr. Cardarelli inquired on why the rear yard setback is 7.5 metres. Mr. Denis and Mrs. Bélanger indicated that this requirement has been in place for a long time and it seems to be norm in other municipalities. It is also to ensure that there is enough space for a backyard.

Moved by Mario Zanth
Seconded By Samuel Cardarelli

QUE le Comité de dérogation accepte la demande de dérogation mineure soumise par Marie-Andrée Carrière, dossier A/09/19, concernant la propriété décrite comme 1034 rue Notre-Dame, dans le but de :

- Réduire la cour arrière minimale de 7,5 m à 6,0 m.

CARRIED

6.3 D-13-19-10

Mrs. Genest explains the history of the site and that she was not well informed when she bought the house. Mrs Bélanger also explains that the use of the single detached dwelling is not permitted in the commercial zone.

Moved by Mario Zanth
Seconded By Michel Bergeron

QUE le Comité de dérogation accepte la demande de permission soumise par Mme Genest et M. Laferrière, dossier A/10/19, concernant la propriété décrite comme étant le 311 rue laurier dans le but de :

- Permettre un logement secondaire dans une habitation isolée légal non-conforme.

CARRIED

6.4 D-13-19-11

Moved by Samuel Cardarelli
Seconded By Michel Bergeron

QUE le Comité de dérogation accepte la demande de dérogation mineure soumise par Marcel et Ines Martin, dossier A/11/19, concernant la propriété décrite comme 574 rue Robert, dans le but de :

- Réduire la cour latérale extérieur minimale de 3,5 m à 1,0 m .

CARRIED

8. Other Items

Mr. Zanth requested that the meeting of the Adjustment Committee and the meeting for the Planning Committee be on the same night. Mrs. Bélanger will follow up with the Clerk.

9. Adjournment

The meeting is adjourned at 7h59 pm.

~~Serge Dicaire~~ Acting President
Mario Zanth

W Marie-Eve Bélanger Secretary Treasurer

CORPORATION DE LA

CITÉ DE CLARENCE-ROCKLAND

PROCÈS-VERBAL RÉUNION COMITÉ DE DÉROGATION

le 28 août 2019
Salle du Conseil
415 rue Lemay Street,
Clarence Creek, Ont.

PRÉSENT:	Serge Dicaire
	Marie-Eve Belanger
	Michel Bergeron
	Samuel Cardarelli
	Mario Zanth
	Nicolas Denis
ABSENT:	Michel Levert
	Guy Desjardins

1. Ouverture de la réunion

Le président ouvre la réunion à 19h03.

2. Lecture et Adoption de l'ordre du jour

Proposé par Michel Bergeron
Appuyé par Samuel Cardarelli

QUE l'ordre du jour soit adopté tel que présenté.

ADOPTÉE

3. Déclarations pécuniaires

4. Adoption des procès-verbaux

Proposé par Michel Bergeron
Appuyé par Samuel Cardarelli

Que le procès-verbal de la réunion du comité de dérogation du 26 juin 2019 soit approuvé.

ADOPTÉE

5. Demandes de morcellement

5.1 B-CR-015-2019

M. Simard demande si la limite de la désignation du Plan Officiel sera un problème pour la construction d'une maison. Mme Bélanger indique qu'elle ne peut pas modifier la limite de la désignation mais le PO nous permet de faire une interprétation de sa localisation.

Proposé par Mario Zanth
Appuyé par Michel Bergeron

QUE le Comité de dérogation approuve la demande d'autorisation soumise par Benoit Simard, dossier B-CR-015-2019, concernant la propriété décrite comme étant la partie du lot 8, concession 6, partie 1 sur le plan 50R-1475 et partie 3 sur le plan 50R-4082;

Sujette aux conditions suivantes :

1. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland une copie originale en papier et une copie numérique en format PDF du plan de référence (plan d'arpentage) dûment enregistrées qui se conforment essentiellement à la demande B-CR-015-2019 telle qu'accordée.

2. Que le(s) requérant(s) fournisse(nt) aux Comtés Unis de Prescott et Russell une copie en format PDF et une copie en format DWG du plan de référence (plan d'arpentage) dûment enregistrées qui se conforment essentiellement à la demande B-CR-015-2019 telle qu'accordée.

3. Que le(s) requérant(s) remette à la Cité de Clarence-Rockland un montant représentant 5% de la valeur de la parcelle à être détachée pour fins de parc. La valeur de la parcelle sera déterminée par:

4. Une évaluation de marché ou lettre d'opinion, obtenu par le propriétaire et au dépenses du propriétaire, d'un évaluateur certifié, révisé et accepté par le Département d'infrastructures et aménagement; ou

5. L'enregistrement de la vente du terrain le plus récent, pas plus que 24 mois avant la date de la décision, révisé et accepté par le Département d'infrastructures et aménagement; pourvu que la vente

était au valeur du marché et qu'il n'y a pas eu des modifications qui pourraient affecter la valeur du terrain, incluant mais pas limité à des changements de zonage, de désignation du Plan officiel, ou de morcellement.

6. Que la partie à être détachée soit branchée au réseau d'approvisionnement en eau municipale ou que le(s) requérant(s) fournisse(nt) à l'autorité approbatrice de la Cité de Clarence-Rockland un engagement écrit stipulant qu'il(s) assurera(ont) que tout contrat d'achat et de vente (purchase and sale agreement) pour la partie à être détachée mentionnera que le terrain doit être branchée au réseau d'approvisionnement en eau municipale qui longe le chemin Landry.

7. Que l'arpenteur-géomètre embauché par le(s) requérant(s) détermine la largeur de l'emprise du chemin Landry et si ladite emprise est inférieure à 20 mètres, qu'une bande de terrain d'une largeur égale à la dimension requise pour atteindre 10 mètres (mesurée à partir de la ligne centrale de l'emprise de chemin), longeant la partie du lot à être détachée et retenue au long du chemin soit transférée sans frais et sans encombre à la Cité de Clarence-Rockland. De plus, l'avocat du (des) requérant(s) devra procéder à l'enregistrement d'un règlement municipal dédiant cette partie de terrain public. Un frais devra être payé à la Cité de Clarence-Rockland pour la rédaction du règlement. Une copie du règlement enregistré doit être remise au Département des Services d'infrastructure de l'aménagement du territoire pour que la condition soit considérée comme étant remplie.

8. Que le(s) requérant(s) fournisse(nt) à l'Autorité approbatrice de la Cité de Clarence-Rockland un Transfert/Acte de cession transférant le terrain divisé dans le but d'émettre un certificat d'autorisation.

9. Que chaque condition soit remplie et que l'Autorité approbatrice de la Cité de Clarence-Rockland en soit avisée par écrit pas plus tard qu'un (1) an après la date de l'avis de la décision par les départements ou les agences qui ont imposé la/les condition(s) respective(s).

ADOPTÉE

5.2 B-CR-016-2019

M. Dicaire demande pourquoi la ligne de lot à l'ouest ne touche pas la ligne de lot adjacente. M. Denis indique que le propriétaire lui a mentionné que notre cartographie n'était pas exacte.

Proposé par Samuel Cardarelli
Appuyé par Michel Bergeron

THAT the Committee of Adjustment approve the consent application submitted by Joshua VanNoy, file number B-CR-016-2019, concerning the property described as 649 St-Felix Road, subject to the following conditions:

1. That the applicant(s) provide to the City of Clarence-Rockland one original paper copy and a digital copy (PDF format) of a registered Reference Plan (plan of survey) that identifies the severance B-CR-016-2019 as approved by the Committee,

2. That the applicant(s) provide to the United Counties of Prescott and Russell one copy to be submitted electronically in PDF and DWG formats of a registered Reference Plan (plan of survey) that identifies the severance B-CR-016-2019 as approved by the Committee.

3. That the applicant(s) provide to the Approval Authority of the City of Clarence-Rockland an Environmental Impact Study for the Fish Habitat to be prepared by a professional in the field, to demonstrate that there will be no negative impacts on the natural features or on the ecological functions for which the features are identified. This report shall be prepared by a qualified professional at the applicant's expense, and shall be reviewed and approved by South Nation Conservation.

4. That the applicant(s) provide to the Approval Authority of the City of Clarence-Rockland a water assessment report, as per the Official Plan of the United Counties, section 7.4.2, policy 14.1, to demonstrate that the aquifer can provide a long term sustainable water supply of acceptable quality and quantity. This report shall be prepared by a qualified professional at the applicant's expense, and shall be reviewed and approved by South Nation Conservation.

5. That the applicant(s) pay the City of Clarence-Rockland an amount equivalent to 5% of the value of the parcel to be severed as cash in lieu of parkland payment. The value of the land shall be

determined by:a)A market appraisal or a letter of opinion, obtained by and at the owner's expense, from a certified appraiser reviewed and accepted by the Infrastructure and Planning Department; orb)The most recent land sale record of the subject property, no more than 24 months prior to the date of the decision, reviewed and accepted by the Infrastructure and Planning Department; provided the sale was at market value and there has been no change that may impact the land value, including but not limited to changes in the zoning, Official Plan designation, or severance.

6. That the Ontario Land Surveyor retained by the applicant(s) determine the width of the road right-of-way presently in place along St-Felix Road and where such right-of-way is less than 20 metres that a parcel of land representing the missing portion required to achieve a width of 10 metres (measured from the centre line of the road right of way) along the frontage of the severed and retained parcels be transferred to the City of Clarence-Rockland free of fees or encumbrances. In addition, the lawyer of the applicant(s) must register a by-law dedicating the land as public. Fees will need to be paid to the City of Clarence-Rockland for the preparation of the by-law. A copy of the registered by-law must be sent to the Infrastructure and Planning Services Department in order for the condition to be considered as fulfilled.

7. That the applicant(s) provide to South Nation Conservation a written undertaking which acknowledges that the proposed property lines must be at a minimum clearing distance of three (3) metres from all existing private sewage systems for the proposed severed lot.

8. That the applicant provide to the Approval Authority of the City of Clarence-Rockland a Transfer/Deed of land conveying the severed land for use for the issuance of a Certificate of Consent.

9. That each condition be fulfilled and that the Consent Approval Authority of the City of Clarence-Rockland be notified in writing within one (1) year of the date of the Decision by the departments and/or agencies having imposed the said conditions.

ADOPTÉE

5.3 B-CR-017-2019

Proposé par Mario Zanth
Appuyé par Michel Bergeron

QUE le Comité de dérogation approuve la demande d'autorisation soumise par Gilles et Aline Guindon, dossier B-CR-017-2019, concernant la propriété décrite comme étant le 3701 Drouin;

Sujette aux conditions suivantes :

1. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland deux copies originales en papier du plan de référence (plan d'arpentage) dûment enregistrées et une copie PDF qui se conforment essentiellement à la demande B-CR-17-2019 telle qu'accordée.

2. Que le requérant fournisse une (1) copie du plan de référence (plan d'arpentage) en PDF et DWG dûment enregistré qui se conforme essentiellement à la demande B-CR-017-2019 telle que soumise aux Comtés unis de Prescott et Russell. Le plan est à remettre directement aux Comtés unis.

3. Que le(s) requérant(s) fournisse(nt) à la Conservation de la Nation Sud une lettre originale signée reconnaissant que tous les systèmes d'égouts privés existants sont à plus de trois (3) mètres des lignes de propriété existantes et proposées.

4. Que le(s) requérant(s) fournisse(nt) à l'autorité approbatrice de la Cité de Clarence-Rockland

    a. Une copie du Plan de renvoi ou de la description légale du bien-fonds séparé et de l'acte ou l'instrument transférant le bien-fonds séparé au propriétaire de la propriété attenante au sud connue en tant que 3691 chemin Drouin de sorte qu'aucun nouveau lot n'est créé, conformément à l'alinéa (b) ci-dessous;

    b. Une attestation officielle joint à l'acte/au transfert requis en vertu de l'alinéa (a) ci-dessus comptant la mention suivante :

« Les biens-fonds devant être séparés ont pour seul but l'ajout d'un lot aux biens-fonds attenants appartenant à (*insérer le nom*) décrits comme NIP (*numéro d'identification de la propriété*) qui constitue les Parties (*insérer les numéros*) sur le Plan (*insérer le numéro de plan*), non pas pour la création d'un nouveau lot, et tout transfert, charge ou autre opération ultérieur(e) portant sur les biens-fonds devant être séparés est

soumis au respect de l'article 50(3) ou de l'article 50(5) de la *Loi sur l'aménagement du territoire*, le cas échéant. Ni les biens-fonds à séparer, ni les biens-fonds attenants ne peuvent être transférés, chargés ou non autrement cédés dans le futur sans l'autre parcelle, sauf si un nouveau consentement est obtenu. Le Propriétaire doit faire en sorte que les biens-fonds à séparer soient consolidés sur le titre avec les biens-fonds attenants et que cette condition soit inscrite sur le registre des parcelles pour la parcelle consolidée comme restriction. »

(c) L'engagement d'un avocat autorisé à exercer le droit dans la province de l'Ontario, et en règle avec le Barreau du Haut-Canada, comme suit :

« En contrepartie de, et nonobstant, la délivrance du Certificat en vertu de l'article 50(12) de la *Loi sur l'aménagement du territoire* à l'égard de l'objet de la demande de consentement, je m'engage au nom du Propriétaire, dans les 10 jours après l'enregistrement sur le titre du document de transfert contenant la mention indiquée dans l'attestation officielle délivrée par le Comité de dérogation, de déposer une demande de consolidation des parcelles, y compris le bien-fonds séparé (*insérer le numéro* de la partie du NIP) et le bien-fonds attenant (*insérer le numéro* du NIP). Cette consolidation de NIP vise à renforcer la stipulation de la *Loi sur l'aménagement du territoire* dans la condition décrite ci-dessus selon laquelle les deux parcelles ont fusionné dans le Titre et qu'elles ne peuvent être cédées séparément à l'avenir. Je m'engage également à transmettre une copie de la demande enregistrée de consolidation des parcelles et une copie des pages de résumé des parcelles consolidées au bureau du Comité dans les 21 jours après l'enregistrement de la demande de consolidation des parcelles. »

5. Un engagement du procureur de l'auteur de la demande confirmant que les actes seront enregistrés dans les deux (2) ans suivant la date du certificat.

6. Que toute hypothèque sur la propriété soit libérée du terrain détaché et pour tout terrain à être ajouté à un lot avec une hypothèque, cette hypothèque sera étendue sur le terrain supplémentaire et que l'avocat fournisse un engagement écrit que la condition est remplie.

7. Que le(s) requérant(s) fournisse(nt) à la Cité de Clarence-Rockland une preuve que toute connexion (électricité, eau, égout, etc.) du garage (situé sur la parcelle détachée) qui provient de la parcelle retenue soit débranchée.

8. Que le(s) requérant(s) fournisse(nt) à l'Autorité approbatrice de la Cité de Clarence-Rockland un Transfert/Acte de cession transférant le terrain divisé dans le but d'émettre un certificat d'autorisation.

9. Que chaque condition soit remplie et que l'Autorité approbatrice de la Cité de Clarence-Rockland en soit avisée par écrit pas plus tard qu'un (1) an après la date de l'avis de la décision par les départements ou les agences qui ont imposé la/les condition(s) respective(s).

ADOPTÉE

6. Demandes de dérogation mineure

6.1 D-13-19-08

M. Zanth indique que les arbustes ne devraient pas être installés trop près de l'intersection pour ne pas affecter la visibilité.

Proposé par Mario Zanth
Appuyé par Samuel Cardarelli

THAT the Committee of Adjustment accepts the application for Minor Variance submitted by Ian Barrett, for the property identified as 2885 Chamberland Street, to:

- Allow a minor variance to reduce three (3) parking space dimensions from 2.7 m * 5.6 m to 2.7 m * 4.9 m, reduce the driveway aisle width (front) from 6.0 m to 4.0 m and (side) from 6.0 m to 4.8 m as well as reduce the required width of landscaping between a commercial property and a property line from 3.0 m to 1.0 m, subject to the following condition;

1. Add "small vehicle" only signs to the three smaller parking spaces.
2. Add shrubs or other small landscaping material between the parking area curb and street curb to improve the aesthetics and provide a certain level of screening of the parking area from the abutting streets.

ADOPTÉE

6.2 D-13-19-09

M. Cardarelli demande pourquoi la marge de recul arrière est 7,5 mètres. M. Denis et Mme Bélanger indique que cette disposition a été mise en place depuis un certain temps et il semble que ceci est la norme aux

travers des diverses municipalités. C'est également pour s'assurer qu'il y ait assez de place pour une cour arrière.

Proposé par Mario Zanth
Appuyé par Samuel Cardarelli

QUE le Comité de dérogation accepte la demande de dérogation mineure soumise par Marie-Andrée Carrière, dossier A/09/19, concernant la propriété décrite comme 1034 rue Notre-Dame, dans le but de :

- Réduire la cour arrière minimale de 7,5 m à 6,0 m.

ADOPTÉE

6.3 D-13-19-10

Mme Genest explique l'historique du site et qu'elle n'a pas bien été informé lorsqu'elle a acheté la maison. Mme Bélanger explique également que l'usage d'une maison unifamiliale n'est pas permis dans la zone commerciale.

Proposé par Mario Zanth
Appuyé par Michel Bergeron

QUE le Comité de dérogation accepte la demande de permission soumise par Mme Genest et M. Laferrière, dossier A/10/19, concernant la propriété décrite comme étant le 311 rue laurier dans le but de :

- Permettre un logement secondaire dans une habitation isolée légal non-conforme.

ADOPTÉE

6.4 D-13-19-11

Proposé par Samuel Cardarelli
Appuyé par Michel Bergeron

QUE le Comité de dérogation accepte la demande de dérogation mineure soumise par Marcel et Ines Martin, dossier A/11/19, concernant la propriété décrite comme 574 rue Robert, dans le but de :

- Réduire la cour latérale extérieur minimale de 3,5 m à 1,0 m .

ADOPTÉE

8. Autres items

M. Zanth demande si la réunion du comité de dérogation peut être le même soir que la réunion du comité d'aménagement. Mme Bélanger va faire le suivi avec la greffière.

9. Ajournement

La réunion est ajournée à 19h59.

~~Serge Dicaire Président~~
Mario Zanth, Président par intérim.

W Marie-Eve Bélanger Secrétaire-Trésorière

Clarence-Rockland

REPORT N° CLERK2019-15

Date	30/09/2019
Submitted by	Monique Ouellet, Clerk (Project Lead)
Subject	SharePoint Project
File N°	C11-CLE

1) **NATURE/GOAL :**

The purpose of this report is to seek authorization from Council to use the amount budgeted for the SharePoint/Website which is listed in the 2019 Budget Book, Work-in-Progress (WIP) Capital Project, to complete the SharePoint Document and Records Management Intranet Project only.

2) **DIRECTIVE/PREVIOUS POLICY :**

- The SharePoint Document and Records Management Intranet Project was presented and approved in the 2017 Capital Budget with a budget of $265,000.
- The Website Project was presented and approved in the 2018 Capital Budget with a budget of $70,000.
- The SharePoint Document and Records Management Intranet Project was combined in the 2019 Capital Budget WIP with a budget of $335,000 with the assumption that the website would be completed through the SharePoint Project.

3) **DEPARTMENT'S RECOMMENDATION :**

WHEREAS Council approved a budget of $265,000 to implement the SharePoint Document and Records Management Intranet Project in 2017; and

WHEREAS Council approved a budget of $70,000 to design and build a new website in 2019; and

WHEREAS the SharePoint Document and Records Management Intranet Project and the Website Project were combined in the 2019 Capital Budget Work-in-Progress List with a total budget of $335,000 with the assumption that the website would be completed through the SharePoint Project;

BE IT RESOLVED THAT the Committee of the Whole recommends that Council authorizes that the full capital budget amount of $335,000 be utilized to implement the SharePoint Document and Records Management Intranet Project with the understanding that staff will be recommending that an amount of $75,000 be considered in the 2020 capital budget for the design and implementation of a new website.

ATTENDU QUE le conseil a approuvé un budget de 265 000 $ pour l'implémentation du projet d'intranet et système de gestion de documents SharePoint en 2017; et

ATTENDU QUE le conseil a approuvé un budget de 70 000 $ pour la conception et la construction d'un nouveau site Web en 2018; et

ATTENDU QUE le projet d'intranet et système de gestion de documents SharePoint et le projet du site Web ont été combinés dans la liste des 'Projets d'immobilisation en cours' en 2019 avec un montant totalisant 335 000 $ avec l'intention que le projet du site Web soit complété à même le projet SharePoint;

QU'IL SOIT RÉSOLU QUE le Comité plénier recommande que le Conseil autorise que la totalité du montant budgété, soit 335 000 $ soit utilisé pour l'implémentation du projet d'intranet et système de gestion des documents SharePoint tout en reconnaissant que le personnel recommandera qu'un montant de 75 000 $ soit considéré au budget 2020 pour la conception et l'implémentation d'un nouveau site Web.

4) **BACKGROUND :**

Council approved a capital budget of $265,000 in 2017 for the SharePoint implementation project which consists of an integrated document management system to facilitate access and manage documents across the organization. It is also an Intranet web based solution, records management solution, documents collaboration solution. SharePoint is a web-based, collaborative platform that also integrates with Microsoft Office and allows for storage, retrieval, searching, archiving, tracking, management, and reporting on electronic documents and records.

5) **DISCUSSION :**

Staff has been working with StoneShare Inc throughout this project as per the contract that was awarded on October 25th, 2018 and later amended on March 19, 2019 to move to a SharePoint Online Platform.

Please understand that the initial contract with StoneShare Inc., which consisted of configuring the Intranet (Townsquare Configuation) and reviewing the design and implementing the Records Management Center Environment, is almost complete. This contract also included step-by-step onboarding phases for a Pilot Group. The Finance Department was chosen as the Pilot Group and therefore they are now fully operational under the new Online SharePoint Platform.

Currently, we are finalizing the onboarding phases for the Administration and Human Resources as well as finalizing the corporate intranet.

Immediately after the completion of the Administration/HR onboarding, we will need to proceed with the onboarding of seven (7) other groups (Infrastructure – 2 groups, Community Services – 2 groups, I.T. Services – 1 group, Protective Services – 2 groups). In order to complete these phases and ensure that all the departments are onboard as soon as possible, we will need an additional $70,000, bringing the Total Project Budget at $335,000.

StoneShare Inc. (initial contract) includes onboarding of Pilot Group – Finance	$171,450
Onboarding – Administration & HR	$20,000
Onboarding – Infrastructure (2 groups)	$40,000
Onboarding – Community Services (2 groups)	$40,000
Onboarding – I.T. Services	$20,000
Onboarding – Protective Services (2 groups)	$40,000
Total Project	$331,450

6) **CONSULTATION:**
n/a

7) **RECOMMENDATIONS OR COMMENTS FROM COMMITTEE/ OTHER DEPARTMENTS :**
n/a

8) **FINANCIAL IMPACT (expenses/material/etc.):**
With Council's approval, the $70,000 intended for the design of a new website would be utilized for the completion of the SharePoint Document and Records Management Intranet Project with the understanding that staff will be recommending that an amount of $75,000 be considered in the 2019 capital budget for the design and implementation of a new website.

9) **LEGAL IMPLICATIONS :**
n/a

10) **RISK MANAGEMENT :**
It is imperative that this project be completed as smoothly as possible and that the groups onboarding have a positive and experience. Should Council wish to not allow the use of the requested funds for the completion of this project, it would mean that staff will need to manage the onboarding phases for four (4) groups in-house. This is a

possibility, but not recommended as it would have a negative impact on the success of this project.

11) **STRATEGIC IMPLICATIONS :**
To implement an integrated document management system (SharePoint) is listed as a strategic priority in the Strategic Plan.

12) **SUPPORTING DOCUMENTS:**
n/a

RAPPORT N° FIN2019-024 Fournisseurs exclusifs et uniques

Date	26/09/2019
Soumis par	Yves Rousselle & Frédéric Desnoyers
Objet	Liste de fournisseurs uniques et exclusifs
# du dossier	N/A

1) **NATURE / OBJECTIF :**

Ce rapport a pour but de recommander l'approbation de la liste révisée des fournisseurs uniques et exclusifs tel que prévois l'annexe D – Approvisionnement non concurrentiel de la politique d'approvisionnement.

2) **DIRECTIVE/POLITIQUE ANTÉCÉDENTE :**

La résolution 2016-40 a été endosser afin d'accepter une liste de fournisseurs uniques et exclusifs.

3) **RECOMMANDATION DU SERVICE :**

ATTENDU QUE l'alinéa (a) et (b) de l'annexe D - Approvisionnement non concurrentiel de la politique d'approvisionnement permet de faire des achats avec des fournisseurs uniques et exclusifs.

QU'IL SOIT RÉSOLU que le comité plénier recommande au conseil municipal d'approuver la liste révisée des fournisseurs uniques et exclusifs telle que présenté à l'annexe A du rapport FIN2019-024.

WHEREAS subsection (a) and (b) of Schedule D – Non Competitive Procurement of the existing Procurement Policy allows the municipality to single or sole source to vendors.

BE IT RESOLVED THAT the committee of the whole recommends to municipal council to approve the revised list of sole and single source vendors as presented in Appendix A of report FIN2019-024.

4) **HISTORIQUE :**

En 2016 la résolution 2016-40 a été endossé par le conseil municipal afin d'accepter une liste de fournisseurs uniques et exclusifs.

5) **DISCUSSION :**

Il est stipulé dans la section 18 de la politique d'approvisionnement que la municipalité doit utiliser un processus d'approvisionnement concurrentiel pour faire l'acquisition des biens et services mais que dans certaine situation il n'est pas possible ou préférable de suivre ce processus. Ceci est connu comme un processus non concurrentiel. Les critères à suivre du processus non concurrentiel sont indiqués dans l'annexe D de la politique en vigueur.

Un processus non concurrentiel peut être effectué en utilisant un fournisseur unique ou un fournisseur exclusif seulement si une (1) ou plusieurs des conditions énumérés dans l'aliéna (a) ou (b) indiqué ci-dessous s'applique. Les conditions énumérées en (a) s'appliquent aux approvisionnement à fournisseurs uniques et les conditions énumérés en (b) s'appliquent aux approvisionnement à fournisseurs exclusifs.

Un fournisseur unique existe lorsqu'il y a une seule source connue pour un bien ou pour un service particulier. Ce bien peut être assujetti à un droit d'auteur, à une marque de commerce déposée ou tout simplement ne pas être disponible pour achat.

Un fournisseur exclusif existe lorsqu'il y a plus d'une source dans un libre marché, mais que pour des raisons de fonctionnement, un seul fournisseur est recommandé pour la fourniture d'un bien ou d'un service.

(a) Les biens et services ne sont disponibles qu'auprès d'un seul fournisseur pour les raisons suivantes :

(i) un monopole légal ou de marché;

(ii) la rareté de l'offre sur le marché;

(iii) l'existence de droits exclusifs tels qu'un brevet, un droit d'auteur ou une licence; ou

(iv) l'article, le service ou le système complet est exclusif à un seul fournisseur, et il n'existe aucune solution de rechange ou de remplacement au Canada.

(b) Les biens et services sont disponibles auprès de plus d'une source, mais il existe des raisons valables et suffisantes raisons de choisir un fournisseur en particulier, comme suit :

(i) une tentative d'acquérir les biens et services requis en sollicitant des soumissions concurrentielles a été faite

de bonne foi, mais n'a pas permis de trouver un fournisseur consentant, compétent et conforme;

(ii) la nature confidentielle de l'exigence est telle qu'il ne serait pas dans l'intérêt public de lancer un appel d'offres concurrentiel;

(iii) l'appel d'offres concurrentiel ne serait pas économique pour la Cité;

(iv) la construction, la rénovation, la réparation, l'entretien, etc. d'un immeuble loué à bail par la Cité ne peut être effectué(e) que par le locateur de l'immeuble, conformément à une convention de bail;

(v) les biens sont achetés dans des circonstances exceptionnellement avantageuses pour la Cité, comme dans le cas d'une faillite ou d'une mise sous séquestre;

(vi) il est avantageux pour la Cité d'acquérir les biens et services directement d'un autre organisme ou service public;

(vii) une autre organisation finance en totalité ou en grande partie l'approvisionnement et a choisi le fournisseur, et les modalités de l'engagement pour la Cité sont acceptables;

(viii) l'approvisionnement porte sur une marque particulière de biens ou services destinés uniquement à la revente au public alors qu'aucune autre marque n'est souhaitable, et la marque n'est pas disponible auprès d'une autre source;

(ix) il est nécessaire d'assurer la compatibilité avec une norme de la Cité, ou le maintien et le soutien d'une norme de la Cité, et il n'y a pas de solutions de rechange, de substituts ou de mesures d'adaptation raisonnables;

(x) il est nécessaire d'éviter d'enfreindre les garanties ou sûretés lorsqu'un soutien ou un service est requis pour une norme de la Cité; ou

(xi) des moniteurs, des entraîneurs et des services spécialisés de programmes de loisirs pour lesquels il n'est pas facile d'obtenir un appel d'offres.

Veuillez prendre note que le département des finances va s'assurer que la liste est gardée au strict minimum pour ainsi s'assurer que les achats se font selon un processus compétitif.

6) **CONSULTATION :**

N/A

7) **RECOMMANDATION OU COMMENTAIRES DU COMITÉ :**

N/A

8) **IMPACT FINANCIER (monétaire/matériaux/etc.) :**

Aucun impact financier est envisagé. Les achats de biens et de services doivent respecter le budget d'opération et de mobilisation peu importe le processus d'achat utilisé.

9) **IMPLICATIONS LÉGALES :**

N/A

10) **GESTION DU RISQUE (RISK MANAGEMENT) :**

N/A

11) **IMPLICATIONS STRATÉGIQUES :**

N/A

12) **DOCUMENTS D'APPUI :**

Annexe A – Sommaire des fournisseurs exclusifs et uniques

Annexe "A"

Cité de / City of Clarence-Rockland

Fournisseurs exclusifs et uniques

Fournisseur	Département	Fournisseur exclusif	Fournisseur unique	Produits / Services
Vice Hunter LLP	Tous les départements	X		Service professionnel
Merx	Tous les départements	X		Logiciel
TVC22	Administration	X		Télévision communautaire
Halpenny Insurance	Finances	X		Courtier assurance
Vadim - Central Square	Finances	X		Logiciel
MPAC	Finances		X	Évaluation de propriété
Municipal Tax Equity (MTE)	Finances	X		Consultant en taxe
Hicks Morley LLP	Ressources humaines	X		Service professionnel
HR Download	Ressources humaines	X		Logiciel
Primologic	Ressources humaines	X		Logiciel
Robert Boileau Inc.	Services Communautaires	X		Zamboni-Réparations et entretiens
Microsoft	Tech. Information (IM/IT)		X	Produits et services
Softchoice	Tech. Information (IM/IT)	X		Produits et services
Sahara Security Systems	Tech. Information (IM/IT)	X		Services
Integra	Tech. Information (IM/IT)	X		Services
CDW	Tech. Information (IM/IT)	X		Produits
RIM (Blackberry)	Tech. Information (IM/IT)		X	Support logiciels
BMC Software	Tech. Information (IM/IT)		X	Support logiciels
Druite (Antidote) Software	Tech. Information (IM/IT)		X	Support logiciels
ESRI	Tech. Information (IM/IT)		X	Support logiciels
NetMotion Software	Tech. Information (IM/IT)		X	Support logiciels
Trend Micro	Tech. Information (IM/IT)		X	Support logiciels
Worktech	Tech. Information (IM/IT)		X	Support logiciels
Adobe Pro	Tech. Information (IM/IT)		X	Support logiciels
ArcGIS	Tech. Information (IM/IT)		X	Support logiciels
HP	Tech. Information (IM/IT)		X	Support logiciels
Symantec	Tech. Information (IM/IT)		X	Support logiciels
Veeam	Tech. Information (IM/IT)		X	Support logiciels
NetApp	Tech. Information (IM/IT)		X	Support logiciels
Fortinet	Tech. Information (IM/IT)		X	Support logiciels
Book King	Tech. Information (IM/IT)		X	Services en ligne
Digibot	Tech. Information (IM/IT)		X	Services en ligne
HR Complete	Tech. Information (IM/IT)		X	Services en ligne
eScribe	Tech. Information (IM/IT)		X	Services en ligne
Aquageo	Tech. Information (IM/IT)		X	Logiciel - Modèle hydrolique réseau aqueduc
PCSWMM	Tech. Information (IM/IT)		X	Logiciel - Modèle hydrolique réseau pluvial
Autodesk	Tech. Information (IM/IT)		X	Services en ligne
Hilfrich Inc.	Infrastructure et aménagement du territoire	X		Services du bâtiment - Révisions Plans
Evan Supply Ltd.	Infrastructure et aménagement du territoire	X		Compteur d'eau - Neptune
Nortrax Canada Inc (John Deere)	Infra et amén. / Travaux publiques	X		Réparation et pièces d'équipement exclusif à John Deere, BOMAG, Bandit ou Nortrax
Surgenor Truck Group	Infra et amén. / Travaux publiques	X		Pièces pour moteur exclusif à Mack, Volvo et Réparation d'équipement Mack, Volvo (motuer seulement)
Francis Canada Truck Centre	Infra et amén. / Travaux publiques	X		Pièces pour moteur exclusif à Freightliner et Réparation d'équipement
Plannord	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif à Bombardier et Réparation d'équipement Bombardier
Joe Johnson Equipment Ltd.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif à Trackless et Réparation d'équipement Trackless
Holder Tractors Inc.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif à Holder Tractors et Réparation d'équipement Holder
Équipements Lourds Papineau Inc.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif au système épandeur et charrue et réparation au système épandeur
Rush Truck Centres of Canada Inc.	Infra et amén. / Travaux publiques	X		Pièces pour moteur exclusif à International et réparation d'équipement du manufacturier International
Harper Detroit Diesel - Allison Inc.	Infra et amén. / Travaux publiques	X		Pièces de transmission exclusif à Allison ou Detroit Diesel et réparation de transmission Allison ou de moteur Detroit Diesel
Cummins Eastern Canada Ltd.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif au moteur ou génératrice Cummins et réparation de moteur ou génératrice Cummins
Precisison Diesel Heavy Dutry Centre	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif à TYM Tractors et réparation d'équipement du manufacturier TYM Tractors
Denis CIMAF Inc.	Infra et amén. / Travaux publiques	X		Pièces d'équipement pour débroussailleuse-tondeuses DTN et réparation de la débroussailleuse-tondeuses DTN
Tenco Machinery Canada Ltd.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif à Gilleta et réparation d'équipement du manufacturier Gilleta
J.A. Larue Inc.	Infra et amén. / Travaux publiques	X		Pièces d'équipement exclusif aux soufleur de neige et réparation d'équipement du manufacturier du Blower de neige
Groeneveld Lubrication Solutions Inc.	Infra et amén. / Travaux publiques	X		Réparations de graisse automatiser et entretiens de graissage automatiser
Aalto	Infra et amén. / Travaux publiques	X		GPS - flottes
C.I.E. Champion Industrial Equipment	Infra et amén. / Travaux publiques	X		Réparations de Dickie John et entretiens de Dickie John (système électronique d'épandage du sel)
Battleshied Industries Limited	Services d'urgence	X		Réparation et entretient des camions pompier - pompes- échelles
Code 4 Fire (Hurst)	Services d'urgence	X		Réparation - entretiens des mâchoires de survie (Jaws of life)

REPORT N° ADMIN 2019-012

Date	22/10/2019
Submitted by	Helen Collier, CAO
Subject	Rationalization of Installations / Community Hub
File N°	n/a

1) **NATURE/GOAL :**
This report is presenting to Council a review of 11 existing facilities and the recommended future use for each.

2) **DIRECTIVE/PREVIOUS POLICY :**
n/a

3) **DEPARTMENT'S RECOMMENDATION :**
THAT a 2020 capital project for $450,000 be established to investigate the viability of the proposed facility rationalization as outlined in Report No. Admin 2019-012 to be funded from the 2019 surplus; and

THAT the City apply for a grant under the Investing in Canada Infrastructure Program: Community, Culture and Recreation Stream; and

THAT a Community Hub Reserve be established to manage the revenues collected for this project; and

THAT a policy be established to contribute future operating surpluses to the Community Hub Reserve in an effort to reduce the debt required for the project; and

THAT the Administration prepare a complete review of vacant lands to consider for disposal; and

THAT all revenue generated from the sale of surplus property be contributed to the Community Hub Reserve; and

THAT a Committee of Council and staff be established to guide the process; and

THAT the Community Services Operational staff be relocated to the paramedic building on Landry Road; and

THAT the trailer located at the Bourget Community Centre parking be disposed of and contents relocated to the former Bourget Fire Station.

QU'un projet capital 2020 de 450 000 $ soit établi afin d'étudier la viabilité de la rationalisation de l'installation proposée dans le rapport Nº Admin2019-012 qui sera financé par les surplus 2019 ; et

QUE la Cité soumet une demande de subvention au Programme d'infrastructure Investir dans le Canada : volet communautaire, culturel et récréatif ; et

QU'un réserve carrefour communautaire soit établi pour gérer les recettes perçues pour ce projet ; et

QU'une politique soit établie pour que tous les excédents d'exploitation futurs soient attribués au réserve du carrefour communautaire dans le but de réduire la dette requise pour ce projet ; et

QUE l'Administration prépare une révision complète des terrains en surplus pour la considération de ventes ; et

QUE toutes les recettes perçues par la vente des terrains en surplus soient attribuées au fonds de réserve du carrefour communautaire ; et

QU'un Comité du conseil et personnel soit établi pour guider le processus ; et

QUE le personnel opérationnel des Services communautaires déménage à l'ancienne station des ambulances du chemin Landry ; et

QUE la roulotte située dans le stationnement du Centre communautaire de Bourget soit éliminée et son contenu soit apporté à l'ancienne caserne de Bourget.

4) **BACKGROUND :**

This process brings together a review of the City's key existing operating facilities whose future has been in question.

5) **DISCUSSION :**

This report will look at the future use and need of 11 City owned and operated facilities. The recommendations that are put forward are at a very preliminary stage and will need further investigation for some. There will also be a comprehensive community consultation and a Committee of Council established to guide this project to fruition if approved by Council. Ultimately, this report presents a corporate look at these facilities for which Council has indicated some concern in the last few years. The result of this review presents an opportunity for a Community Hub that will provide some much needed community space and services for the population.

The need for this report to come forward at this time is to obtain Council's approval in principle to move forward so that the City can take advantage of a one-time funding opportunity that has presented itself. The deadline to submit the funding application is November 12, 2019.

A number of factors necessitated this review.

1) The ongoing debate over the future use of the Jean-Marc Lalonde (JML) Arena.

2) The need to improve City Hall service delivery.

3) The looming (2025) deadline to make City facilities accessible in accordance with the provincial *Accessibility for Ontarians with Disabilities Act* (AODA) guidelines.

4) There has been a number of studies done with the community that identify shortfalls in services and community space:
   a. Parks and Recreation Master Plan 2016 (see Attachment 1);
   b. Strategic Plan, conducted in 2016 (see Attachment 2);
   c. City's Official Plan (see Attachment 3);
   d. Downtown Revitalization Plan; and
   e. Cultural Analysis Plan (see Attachment 4)

5) The growth of the municipality is a strong factor. Clarence-Rockland is a vibrant, bilingual community that is very attractive to growing families as well as retiring residents. The population of the municipality based on the potential for development could grow between 10,000 to 15,000 by 2040.

6) The construction of two new protective service buildings has led to the acquisition of the Landry Road paramedic post and left the former Bourget Fire Station vacant.

7) The construction of these two new protective services buildings also sees a significant amount of space being vacated at 415 Lemay.

8) Finally, there is a one-time funding opportunity that could finance a significant portion of this proposal. The high level anticipated cost of this facility transformation is $15 million to be funded 53% by grants and 47% by the City. The City's share is proposed to be funded in part from sale of properties and reserves. The balance would be debt. The debt payment would be offset by lower facility operating costs and rental income from tenants in the Community Hub.

This report looks at the future use of 11 City facilities listed below.

1) Jean-Marc Lalonde Arena

The JML Arena has been a fixture in the community since 1972. It houses many memories for the community. The objective is to transform this facility into a vibrant community hub. (The Community Hub will be discussed in more details below.)

The building has been under much scrutiny in the last number of years since it was decommissioned in 2011 as an arena. There is a continuous annual cost of $110,000 to keep the facility operable for use by many. The building is in need of many repairs, over $3 million to bring it up to current safety and accessible standards. There was a building condition assessment completed which identified many challenges but the study concluded that the shell was still in good condition (see Attachment 5). This spawned the idea to transform it into a Community Hub. This site has a huge advantage over others in that it is already owned by the City, has ample parking, is situated in close proximity to other facilities, parks and Laurier Street. It is also important to note that this facility, in its current state, is one of the largest contributors to green house gas (GHG) emissions. Once transformed, it will longer produce large GHG emissions. To qualify for the grant application, the municipality needs to complete a study that calculates the reduction of GHG emissions from carrying out the project.

2) 1560 Laurier Street, City Hall

This facility currently houses the administrative staff of the City. The building is close to capacity, is not accessible, and the space is very challenging to serve the ratepayers who visit the popular and busy Client Service Centre. The space and flow in the Client Service Centre is also very inefficient for staff to work together. The last major renovation to this building was completed nearly 20 years ago.

3) Chamberland Community Centre

The Chamberland Community Centre is being used more frequently since the building received a few renovations. There is an active teen program—Carrefour bien-être pour les jeunes de l'Ontario—operated by Valoris. The building itself, however, is in need of much future repair. There is currently a 3-year contract with Valoris which would dovetail with the timing of the new Community Hub should the project move forward.

4) Bandshell

The bandshell was built in 1991 for *La fanfare de Rockland Concert Band* and serves as a rehearsal facility for their band.

Currently, the equipment is stored in the basement of the small building, without an elevator. This presents a challenge for a lot of the participants. During the 2019 budget process, Council was requested to consider this situation.

As we all know, art and culture is a very important part of a healthy and active living in a community. We have to support these activities with proper and adapted amenities. The Community Hub project would incorporate space for this group, potentially creating a stage within the Council Chambers and the necessary storage required.

5) Baseball Diamond

This baseball diamond is over 40 years old and would benefit from an upgrade. Lighting fixture posts and the fence are at their limit of their useful life.

It is well used by the community. This project proposes to re-position the diamond to make room for the potential ice pad pond.

6) Community Services Operations Garage (The Chamberland Recreation Garage)

This facility has many challenges for space and safety. In 2018, the City had to rent a trailer to make a safe clean space for the employees to have their lunch, meetings, and personal belongings. The recommendation is to move the Community Services Operational staff to the former Paramedic Station on Landry Road.

The Chamberland Recreation Garage also houses the Centre d'aide. It is recommended that if the Community Hub project moves forward that they move into the rear of 1560 Laurier Street which would see the Centre d'aide on one level with much improved ease of access and parking.

7) Former Paramedic Facility – Landry Road

The building is a safe work environment with much more space and a backup generator power. In addition, the City owns the 2-acre lot adjoin the lot directly to the south of the property. The operations would be centralized and more adaptable to the service needs.

8) 415 Lemay Street, Council Chambers

The current facility that houses the Council Chambers is in need of much repair as exhibited by the frequent placement of buckets to catch water from the leaking roof. The building does not meet accessibility standards. Although a wheelchair can

access at the rear of the building, this alone does not make the building accessible as explained at the beginning of the report.

In 2014, approximately $20,000 was spent to relocate the Council Chambers from 1560 Laurier Street to 415 Lemay Street. Although subjective, the value of that expenditure has been realized.

Also housed at 415 Lemay Street are the By-law and Fire Services administrative staff which will move into their new facility early in 2020. The other use of 415 Lemay Street is the planning / lunch room for the City's Operations staff. This facility also provides room for the Operators' lockers and time clock. It would be recommended at this time to decommission half of this facility and maintain the operators space if the Community Hub project moves forward.

9) Former Bourget Fire Station

This building has no significant value to make it worth selling. Therefore, it is recommended to use it to store the spare fire vehicle and to store the Public Works sand and equipment required for the winter in Bourget/Hammond area.

Currently, Public Works is using space at the Bourget Community Centre. The first issue is that it takes up parking and it does not represent what a community centre should look like. The second issue is the trailer, which houses the equipment and is not appropriate in a public space. One bay of the old fire station would be used to store the sand out of the elements and prevent it from freezing and to store one sidewalk machine.

10) St-Pascal File Storage Archives

With the implementation of SharePoint, a rigorous cleanup of the St-Pascal file storage will be taking place and in theory no more files should be sent to St-Pascal. What would be left could be housed more conveniently at 1560 Laurier Street. St-Pascal is also being used to store some community services park equipment. This equipment would be moved to the new Landry Road facility. Given the lack of need for this facility it would be recommended to sell.

11) Museum

This facility is hidden out of the way with many challenges related to accessibility and an aging building. The proposal, if the project moves ahead, would be to move the Museum to the former day care space at 1560 Laurier Street which is fully accessible. It would also locate the Museum beside the historic City Hall building and the war memorial. This new home for the

Museum would provide greater visibility. The proposal would be to sell the former Museum site. Based on the deed for the property, permission may be required to do so.

COMMUNITY HUB

The Community Hub being proposed for consideration aims to bring together many services and addresses some needed community and cultural venues for the citizens of Clarence-Rockland. The Community Hub is at the concept stage. The definition of a concept is *"an abstract idea; a general notion."*

The Community Hub would transform the JML Arena into a vibrant, active, accessible space. Given the facility's size, it will be able to provide new community centre space (large and small), an activity space large enough to accommodate most of the current activities held at the JML Arena, a Council Chambers, a Client Service Centre, and City Hall staff.

The new community centre space would look out over the Simon Park and open out onto an outdoor patio space. Stepping off the patio you would be greeted by an ice pad pond. The ice pad would bring skating back to the venue. A few modifications would be required in the park, such as repositioning the baseball diamond and bandshell.

Access from Laurier Street would need to be created. In creating that access, it is suggested that a recreational pathway flow straight from Laurier Street to Avenue du Parc. This pathway would continue to St-Joseph Street to connect it to the existing cycling lane.

The proposal, as it stands, wants to look at physically connecting the Community Hub with the Cultural and Recreational Complex. Within the Community Hub, administration would look to incorporate Service Ontario, Service Canada, and possibly the post office to the Client Service Centre. Currently, the closest Service Canada offices are in Hawkesbury and Beaconhill (Ottawa). Relocating the post office would free up some space for development on Laurier Street.

Also to be considered are an art gallery, a teen and seniors programming space, a community kitchen, a community garden, OPP community offices, and an innovation centre.

Of interest, the province has guidelines on creating a community hub. See Attachment 6. In addition, there is a tool kit that has been prepared that is very interesting on helping municipalities create a community hub. See Attachment 7.

This proposed project will address a number of challenges with some existing facilities. The number one challenge is accessibility. Although City Hall and 415 Lemay Street appear accessible, they would not meet the guidelines of the *Accessibility for Ontarians with Disabilities Act* (AODA).

As per those guidelines, accessibility covers all persons regardless of their age or size and those who have any particular physical, sensory, mental health or intellectual ability or disability.

- Customer services entry should be a level entry (step-free) entrance to facilitate not just wheelchair users but also people with buggies; people with suitcases or shopping trolleys; people using walking or mobility aids; and people with visual difficulties.

- Customer services entry should be clearly distinguishable from the rest of the building to avoid confusion.

- Customer services area should provide the clients that are required to wait for any reason, a comfortable accessible seating area within sight of the reception. Seats should be moveable with adequate space in the seating layout to accommodate wheelchair users; parents with strollers; people with visual difficulties; guide dog users; and those with walking aids.

- Contrasting colour should be used to define circulation routes, such as the route between the entrance door and reception desk.

- Customer services counters should incorporate an induction loop system for the benefit of people who wear hearing aids, and the presence of the equipment should be clearly signed.

- Customer services accessible parking should be located immediately adjacent to the entry.

A clearly visible and accessible entrance is likely to create a positive impression for all building users and make them feel welcome. If an entrance is hard to find or if it is difficult to access due to heavy doors

or narrow door width, it creates a poor first impression and may make some people feel less welcome or even excluded.

The design of reception and waiting areas, and the ease in which people are able to move independently around a building, have a similar influence on overall accessibility. A well-designed building layout with clear access routes and doors that are sufficiently wide and easy to operate will demonstrate a commitment to accessibility.

The municipality will be required to meet these guidelines by 2025. Creation of the Community Hub could take up to 4 years to complete in its entirety. By creating a community hub on one level, it will meet many of the AODA requirements.

The second challenge is the health and safety at the existing Community Services Garage on Chamberland Street for both Centre d'aide and the City's Operations staff. Lack of parking, stairs, and space in general pose considerable challenges at this location. A separate trailer had to be rented for City staff to have an appropriate lunch room. Stairs are an ongoing challenge for our senior volunteers at the Centre d'aide.

The third reason for this proposal is to address some requirements identified in the Parks and Recreation Master Plan (Attachment 1) and Cultural Analysis Plan (Attachment 4) such as lack of cultural space for seniors and teens.

A fourth factor to consider is there have been requests to move the Council Chambers back to the urban area of Clarence-Rockland. The Chamber was established in Clarence Creek in 2014. The Council of the day wanted the Chamber to be more available to the rural ratepayers. A total of $20,000 was spent on renovating the Chamber at the time.

The fifth reason is the need to increase the size of the Client Service Centre to make more seating available. In addition, the Client Service Centre needs office spaces to meet with clients who would like to register for a license or may have an issue with their tax or water bill. Currently, a manager needs to be displaced to make room.

The sixth reason for this review is a number of these facilities in this review are extremely inefficient energy wise. The significant ones are the JML Arena and City Hall. If the City of Clarence-Rockland is successful in securing the funding, a green house gas (GHG) emissions study will be completed to demonstrate the impacts.

A seventh factor is we also need to take into consideration the additional space needed at City Hall for growth in staff and the potential for full time City Councillors. This proposal to transform the JML Arena into a Community Hub has an added bonus in that the municipality already owns it.

The final and most significant reason to consider this project is to benefit from the one-time infrastructure funding opportunity that has been announced. The program is called Investing in Canada Infrastructure Program: Community, Culture and Recreation Stream. The governments are making available $1 billion. This program speaks

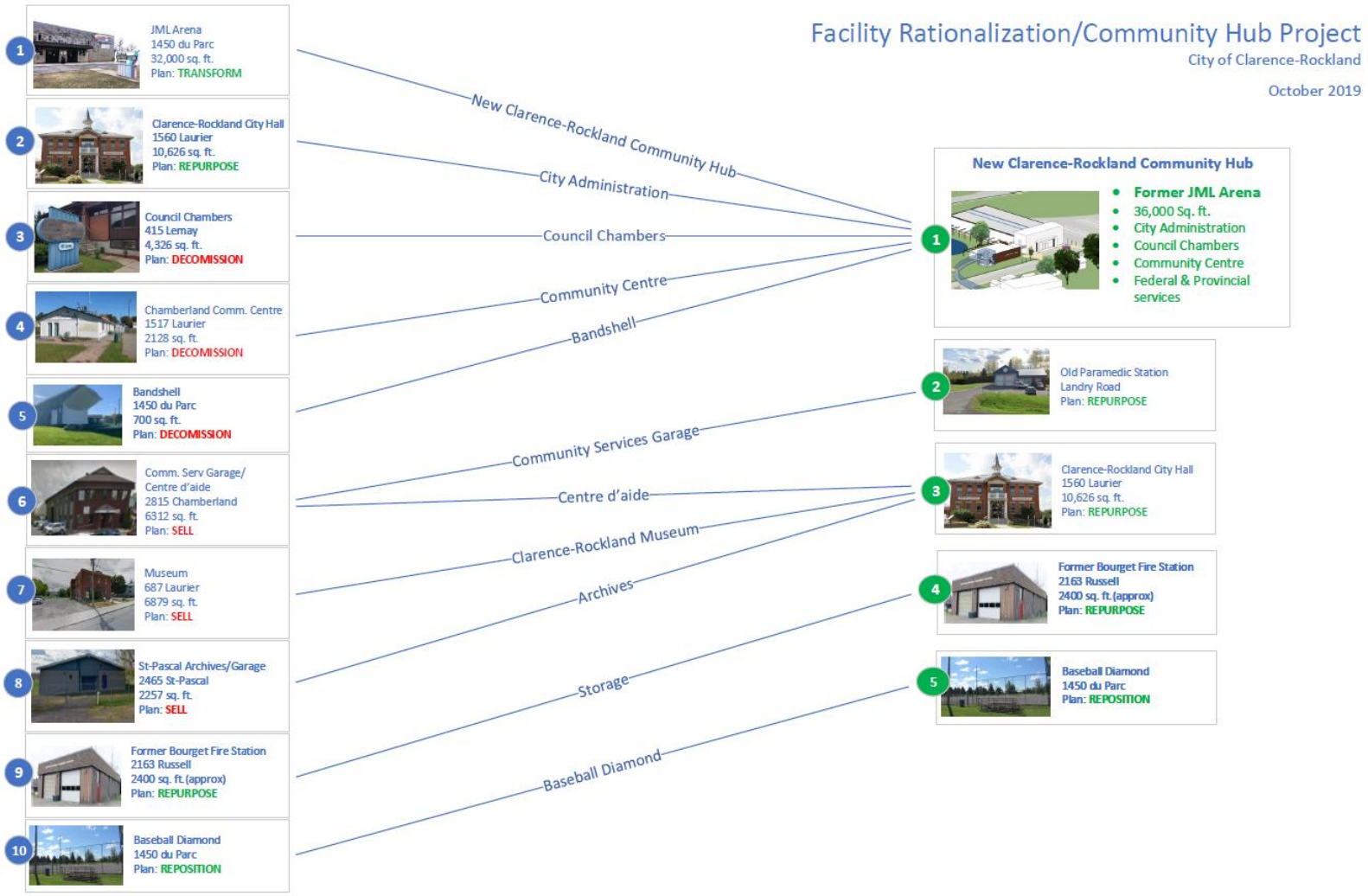
specifically to creating community hubs. The program offers 40% funding from the federal government, 33.33 % from the province and 26.67% from the municipality. It is important to note the funding does not include city administrative space or Council Chambers, however, it does include all other aspects being considered here. The grant application will require the City to conduct a GHG emission report which would be done with the initial seed funding of $450,000. A complete description of the funding program can be seen in Attachment 8.

Undertaking this project will impact many user groups of the above mentioned facilities. All of the groups impacted will be consulted during the process, if Council approves the concept, in order to understand their needs so they can be incorporated into the new Hub. The goal is to better serve these groups in a more accessible, inclusive, safer, and cleaner environment. The list of groups impacted are:

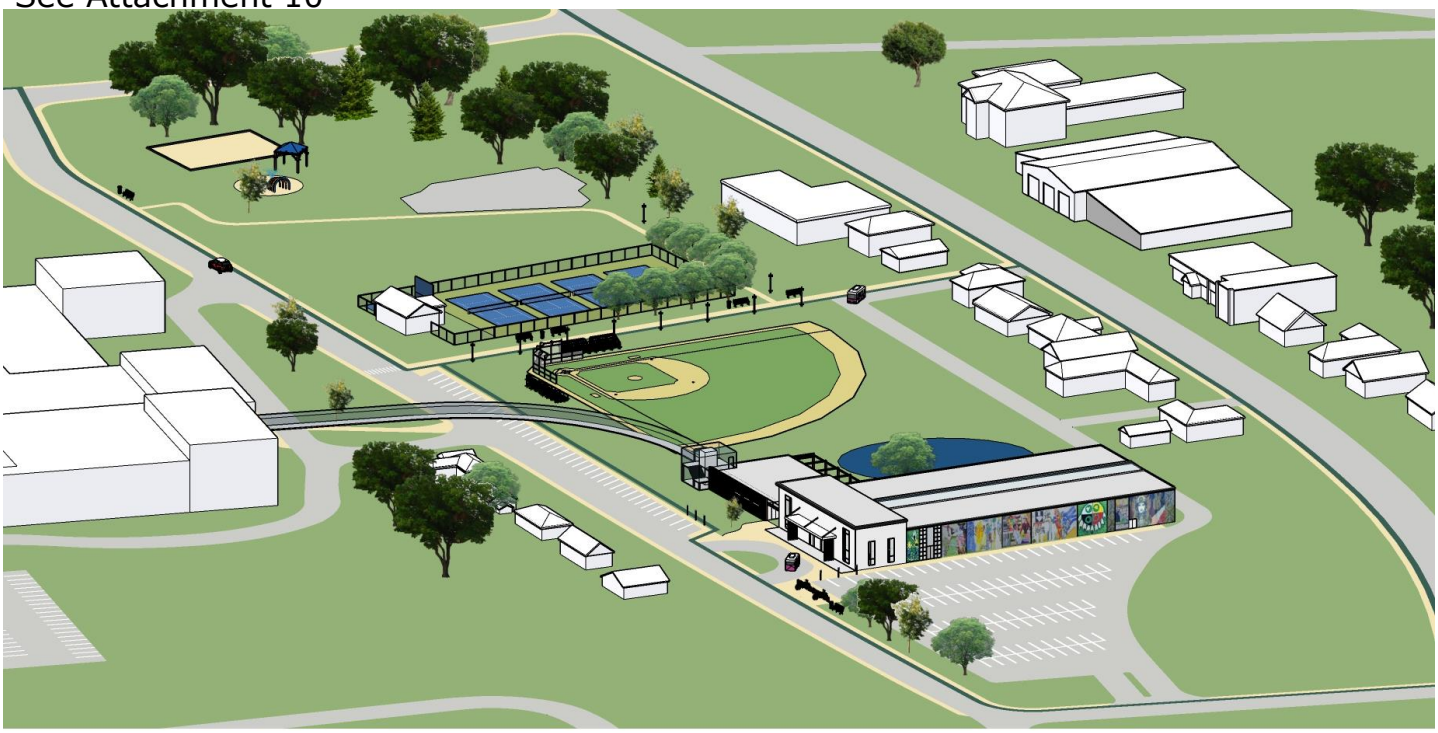
1) Pickle Ball Association;
2) Air Cadets;
3) Club Optimist Lobster Fest;
4) Wrestlemania;
5) Family Day;
6) Roller Derby;
7) Archery Club;
8) Catholic School Board;
9) Interior Baseball;
10) Fly Ball;
11) Ball Hockey;
12) Centre d'aide;
13) Museum (which also provides office space to the Rockland United Soccer Club);
14) All ratepayers;
15) City Hall clients; and
16) City staff

Provided below is a summary table of the proposal. Following this table is an overall image of what the Community Hub could look like. These images are in Attachments 9 and 10 to view in a larger format. There is also a google map image of the current site – see Attachment 11

See Attachment 9



See Attachment 10



The timeline for this proposal is as follows:

Year	Date	Action
2019	Sept. 4	Director's brainstorming
	Sept. 11	Manager's brainstorming
	Oct. 22	Presentation to Council
	Oct. 28	Approval in principal of researching the project
	Nov. 5	Draft budget consideration of seed funding
	Nov. 12	Grant submission
	Nov. 18	Approval of seed funding ($450,000)
	December	Establish Committee of Council and Staff
	December	Begin Consultation with the groups and public for input and ideas
2020	January	Continue gathering public input
	February	Province to announce if project is eligible
	March	Present public input back to Council
	April	Make modifications
	June	Community Services Operations staff move to Landry Road
	June	Grant Funding announcement
	July	Tender for architect
	September	Award architect contract
2021	January	Council to consider architects rendering
	March	Open house to present rendering
	April	Budget approval for the project
	June	Tender project
2022	January	Award tender
	March	Ground breaking
	April	Begin construction
2023	June	Occupancy

COMMUNICATIONS

On the City's website, a Community Hub button will be created with a method for ratepayers to have their say. With a project of this size, there will be monthly updates to Council.

6) **CONSULTATION:**

n/a

7) **RECOMMENDATIONS OR COMMENTS FROM COMMITTEE/ OTHER DEPARTMENTS :**

This report has been reviewed in detailed by the directors. Input was also sought from the managers.

8) **FINANCIAL IMPACT:**

This project is at a concept stage. The final cost cannot be established until the project is further explored. Therefore, staff are recommending that $450,000 be approved to hire a facility specialist / architect to explore the opportunity and to complete the GHG emissions study.

A preliminary budget has been put together to determine the financial requirements for the grant application. This estimation will require refinement.

The Community Hub has been roughly estimated to cost $14.9 million. The grant application is clear in that administrative space is ineligible. The cost of the ineligible space is estimated to be approximately $4.2 million. That leaves a balance of $10.7 million that is eligible for grant funding. If successful, the federal government would fund 40% or $4.3 million, the province would fund 33.33% or $3.6 million and the City's share would be 26.67% or $2.8 million.

The amount that the City has to finance is $4.2 million (the ineligible amount) + the city's share of the eligible amount of $2.8 million for a total of $7.0 million.

In summary, the costs of this project would be shared as follows:

Federal grant	$4.3 million
Provincial grant	$3.6 million
City	$7.0 million
Total	$14.9 million

It is proposed that the City would finance the $7.0 million from:

Sale of vacant lands and properties, reserves, and future City surpluses:	$2.5 million
The balance would be debt (4% over 30 years)	$4.5 million = debt payment of $261,000
Total	$7.0 million

The debt payment would be financed from reduced operating costs at certain facilities 415 Lemay, Community Operations Garage and new revenues from tenants.

The projected operating cost savings are $147,000 (see Attachment 12). The balance of the funds $114,000 would be generated from rental of the community space, Service Ontario, Service Canada and potentially the post office.

The initial $450,000 would be to complete community consultation, prepare tender documents, and complete the GHG emissions study These funds won't come from within the project.

9) **LEGAL IMPLICATIONS:**
n/a

10) **RISK MANAGEMENT:**
n/a

11) **STRATEGIC IMPLICATIONS:**
This project will address many identified needs, situate the City well for growth, attract new residents to a welcoming space and address the accessibility requirements. In addition, the City will greatly reduce its carbon foot print.

By eliminating/reducing some of the unneeded buildings (older buildings) we would eliminate all future capital budget needed to modify these buildings in order to meet accessibility standards and up keeping of aging infrastructure.

12) **SUPPORTING DOCUMENTS:**
Attachment 1 – Parks and Recreation Master Plan

Attachment 2 - Strategic Plan

Attachment 3 – Clarence-Rockland Official Plan

Attachment 4 – Analyse des besoins culturels

Attachment 5 – Jean-Marc Lalonde Building Condition Assessment

Attachment 6– Community Hubs in Ontario: A Strategic Framework and Action Plan

Attachment 7 – How to Hub: Community Hub Development Toolkit

Attachment 8 – Funding Program Description

Attachment 9 – Diagram

Attachment 10 – Image of Community Hub

Attachment 11 – Map of existing site

Attachment 12 – Projected Operating Costs

CITY OF CLARENCE-ROCKLAND

PARKS + RECREATION MASTER PLAN

FEBRUARY 2016

PREPARED BY
SIERRA PLANNING & MANAGEMENT

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Introduction to the Plan

What is a Parks and Recreation Master Plan?

This Parks and Recreation Master Plan provides a comprehensive, multi-year framework of short (1-3 years), medium (4-6 years), and longer-term (7-years) priorities for the provision of parks and recreation services in the City of Clarence-Rockland. The Master Plan provides direction to 2031.

This Master Plan is a municipal guidance document, design to further effective planning, budgeting and implementation of stated goals and objectives for parks and recreation in the City of Clarence-Rockland.

This Master Plan is a flexible blueprint to guide municipal decision making over the next fifteen years. Many of the recommendations provided in this Plan are stand-alone, and can be implemented separate and apart from decisions required to implement other aspects of the Master Plan.

The Master Plan is a city-wide document in that it identifies required investment in communities across the city, recognizing the interconnected nature of the City's communities.

Aligning the Master Plan to Council's Strategic Priorities

The City of Clarence-Rockland has recently undertaken a strategic planning exercise. The City's stated vision is:

'The City of Clarence-Rockland is a great place to live. It is welcoming, bilingual, self-sufficient, safe and family oriented. We are proud of our heritage, our natural beauty and rural charm that contribute to our sense of belonging in the community'.

The City's stated mission is to offer services in a 'respectful, responsible and accessible way that is both environmentally and financially sustainable to provide a quality lifestyle for all'.

This Master Plan provides guidance for the City of Clarence-Rockland to fulfil this vision and mission in the realm of parks and recreation. Specifically, this Master Plan identifies goals and objectives to ensure that parks and recreation services play an active role in positioning the City of Clarence-Rockland as a preferential place to live.

Process Guiding Plan Development and Implementation

Developing the Master Plan involved:

- Public engagement and stakeholder outreach across the City. Members of the public, and key stakeholder groups, were consulted at each stage in the Plan's development. Section 2.2 provides an overview of engagement that informed the development of the Master Plan.
- An analysis of local, regional and provincial demographic and leisure trends, as well as best practices in other communities.
- A review of existing recreation facilities and programs, including conditions, revenues and expenditures, utilization.
- An analysis of plans and policies for the City over the long-term horizon.

1 Background and Community Context

1.1 Location and Constituent Communities

The City of Clarence-Rockland is strategically situated approximately 40km east of the City of Ottawa. On account of its proximity to Ottawa, a large proportion of the City's workforce commutes daily to Ottawa. The 2011 National Household Survey (NHS) conducted by Statistics Canada indicated that 63% of the City's employed labour force work in Ottawa[i]. This has significant implications for the provision of recreation services and programming in Clarence-Rockland: Due to the time constraints associated with commuting, many residents will choose to engage in recreation pursuits closer to their place of employment.

The City of Clarence-Rockland comprises seven distinct communities: Rockland is the City's urban core, which is complimented by a collection of more rural communities: Bourget, Cheney, Clarence, Clarence Creek, Hammond, and Saint Pascal-Baylon. Historically, population distribution has been split 80% in the urban area (Rockland), and 20% within the rural communities.

Figure 1: Clarence-Rockland - Map of Communities
Sierra Planning and Management, 2016 with Google Earth

1.2 Population Growth and Characteristics

1.2.1. Historic Population Growth

The City has enjoyed sustained population growth over the past 15 years, averaging a growth of 540 residents annually. As of 2015, the City is estimated to have a population of 24,553 residents (see reference on pg. 81) , making it the largest municipality within the United Counties of Prescott-Russell. In this regard, Clarence-Rockland has a role to play as a hub for services, including recreation, for other communities in the United Counties.

The age profile of Clarence-Rockland is similar to that of the province as a whole, and of the adjacent City of Ottawa. Clarence-Rockland has a slightly higher proportion of residents aged 40-54, and youth aged 5 to 14 years, however on the whole, the City's population follows broader population trends:

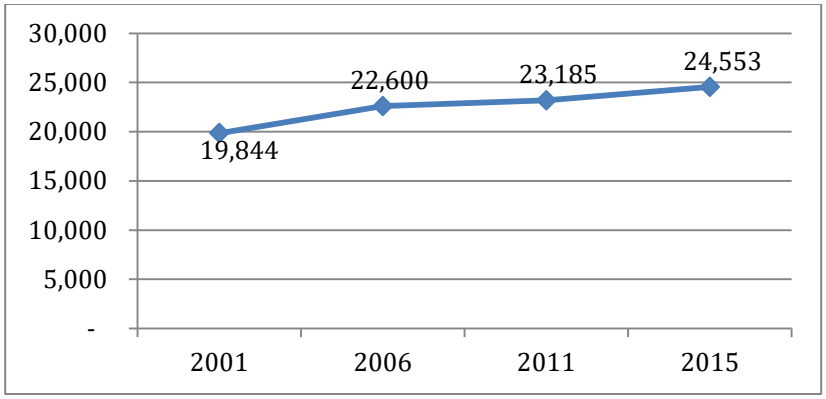


Figure 2: City of Clarence-Rockland: Historic Population Growth
Sierra Planning and Management, Data from City of Clarence-Rockland DC Background Study

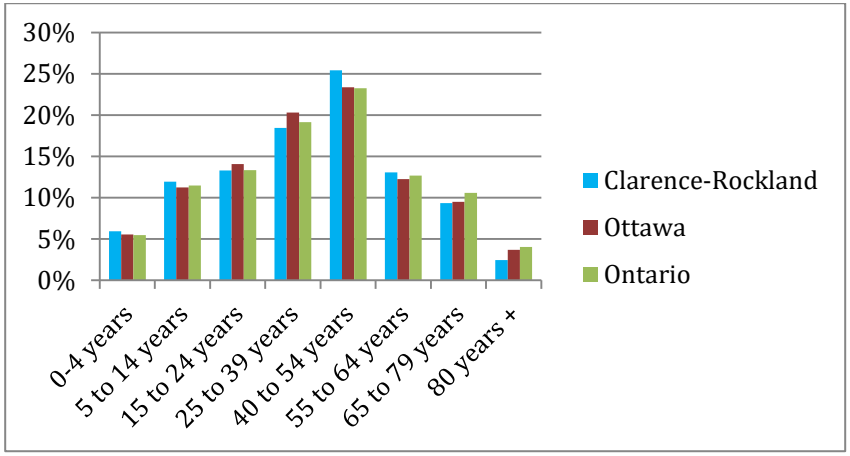


Figure 3: City of Clarence-Rockland: Population Distribution by Age (2011)
Sierra Planning & Management, Data from the Census of Canada (2011)

An understanding of the age distribution of the City's residents is vital to ensure that recreation facilities and programming meet the needs of all residents. As we age, our recreation needs change. Broad patterns in participation changes with age are:

- Participation in physical recreation pursuits typically declines with age;
- Desire to start a new activity is typically strong among young adults and decreases with age;
- More strenuous activities are typically popular with younger adults, and participation declines over time;
- Creative, cultural, social and passive activities are of more interest to older adults, as is golf;
- Team sports are most popular with youth and young adults, with participation typically declining with age (with the exception of curling).

1.2.2. Projected Population Growth

Given that this Master Plan will guide recreation planning over the next fifteen years, this Plan considers changes to the City's current recreation programming to better meet the age-specific needs of residents, but also what changes are likely to be necessary to continue to meet these needs over time. Population projections for the United Counties of Prescott-Russell indicate that the number of youth and young adults is expected to grow slightly over the next fifteen years, indicating that the City of Clarence-Rockland will need to continue to maintain and invest in facilities and programming that cater to this demographic. Conversely, the number of young adults is expected to decline, as are middle-aged adults (ages 45-59). The age group expected to grow considerably is residents aged 65 years or older. Between 2016 and 2031, the proportion of residents aged 65 and older is expected to grow from 16% to 28%, or a total of a little over 14,700 residents. In this context, it is clear that the City will need to plan for recreation programs and facilities that serve this demographic group.

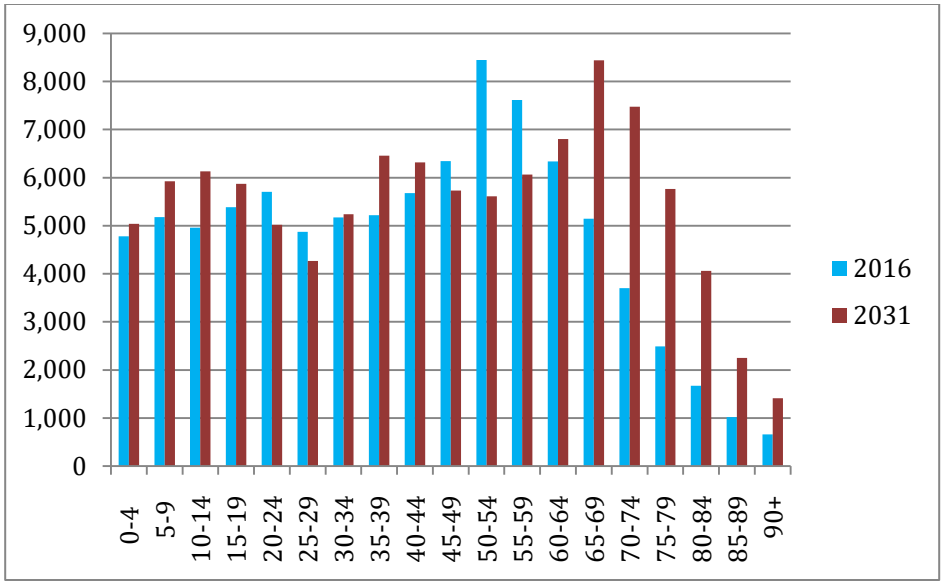


Figure 4: Population Projections by 5-Year Age Group - United Counties of Prescott Russell
Sierra Planning and Management with data from the Ontario Ministry of Finance (2013) Table 12

In terms of where population growth is expected to take place, the majority of new residents to Clarence-Rockland are expected to reside in Rockland. Rural communities are expected to see relatively modest growth in residents.

Community	2015 Population	2030 Population	Growth in Residents	% Growth
Rockland	12,441	18,285	5,844	47%
Bourget	1,090	1,445	355	33%
Clarence Creek	620	877	257	41%
Clarence Point	1,059	1,212	153	14%
Cheney	238	302	64	27%
Hammond	492	684	192	39%
St. Pascal-Baylon	212	251	39	19%
Rural	8,401	9,386	985	12%
TOTAL	**24,553**	**32,442**	**7,889**	--

Figure 5: Projected Population Growth by Community - 2015-2030
Sierra Planning and Management with data from the City of Clarence-Rockland DC Background Study

Sierra Planning

1.2.3. Language

A key area where Clarence-Rockland differs significantly from the broader province and from the adjacent City of Ottawa, is in the proportion of residents whose mother tongue is French. As of the 2011 Census, 65% of Clarence-Rockland residents reported that their first language was French. This is compared to 15% of Ottawa residents, and 4% of the province as a whole.

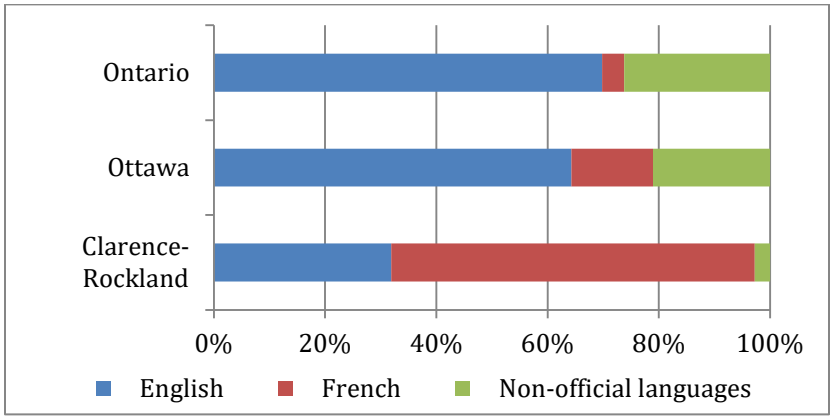


Figure 6: City of Clarence-Rockland: Mother tongue of residents (2011)
Sierra Planning and Management

As a municipality that is officially bilingual, the City of Clarence-Rockland is well equipped to provide recreation services in both official languages based on the preference of individual residents.

1.2.4. Income and Education

Based on data from the 2011 National Household Survey (NHS), Clarence-Rockland residents generally follow provincial trends in terms of educational attainment: Approximately half of all residents aged fifteen and older have a post-secondary certificate of some type. Median household income in Clarence-Rockland however is significantly higher than the provincial average, and slightly higher than the adjacent City of Ottawa.

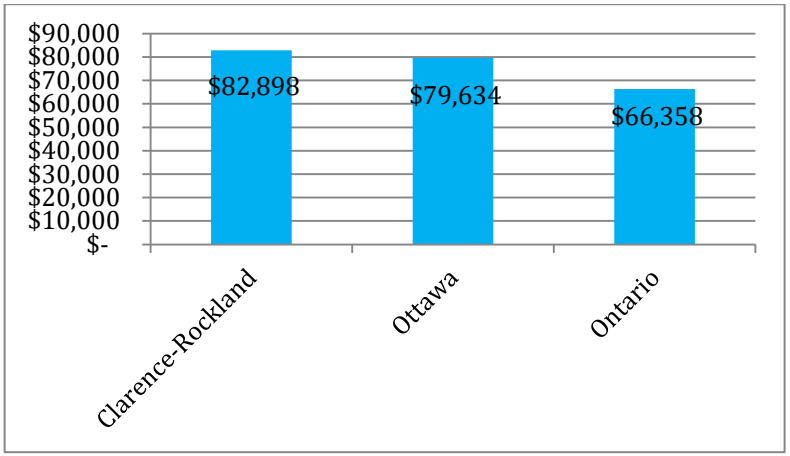


Figure 7: Median Household Income after tax - Clarence-Rockland, Ottawa, and Ontario (2011)
Sierra Planning and Management with data from Statistics Canada National Household Survey (2011)

The higher median income in Clarence-Rockland as compared to the broader capital region, and the provincial average, has implications for the provision of parks and recreation facilities and services over the next fifteen years. Typically, higher income households participate in recreation activities more frequently than lower income households. This is a product of both greater disposable income, and in some cases greater disposable time. Higher income households may also have a higher participation rate in recreation activities with higher costs: These include equestrian activities, martial arts, hockey, and dance.

Regardless of the higher median household income in Clarence-Rockland in comparison to the broader province, the cost of activities is one of the most frequently cited barriers to participation in recreation pursuits. Accordingly, the City of Clarence-Rockland will need to continue to monitor the affordability of recreation programming to ensure that recreation pursuits are accessible to all residents.

1.3 Current Conditions: Inventory

The City is home to two recently opened, state-of-the-art indoor recreation and leisure facilities:

Clarence-Rockland Sport and Cultural Complex (2008): Includes an indoor swimming pool, library, gymnasium, and fitness facilities. The Complex is located in the core of Rockland, and is attached to the École Secondaire Catholique l'Escale.

Clarence-Rockland Arena: This is a new facility that houses the Canadian International Hockey Academy. The facility also offers ice time to local residents. The facility includes two indoor ice sheets with associated outdoor soccer fields.

As relatively new facilities, neither the Clarence-Rockland Sport and Cultural Complex, nor the Clarence-Rockland Arena require any significant short-term capital upgrades or maintenance. The operating agreement between the City of Clarence-Rockland and the operator (CIH) specifies that the operator will make ongoing contributions to a Capital Replacement Fund for major capital replacements, in an amount to be decided annually. The City is not required to contribute to the fund.

The Sport and Cultural Complex is operated by the YMCA, however under the terms of the operating agreement, the City of Clarence-Rockland is responsible for all major capital repairs (defined as any repair that costs in excess of $25,000). The building is expected to require minimal capital repairs over the short and medium term, and approximately $330,000 in long-term capital repairs.

Top: *Clarence-Rockland Sport and Cultural Complex.*
Below: *Clarence-Rockland Arena.*

Table 1: Expected Capital Repairs/Upgrades - Centre Cultural-Sportif
Source: City of Clarence-Rockland PSAB Report (2015)

Timing	Expected Capital Repairs/Upgrades
Short Term: 2016-2018	--
Medium Term: 2019-2022	$139,000
Long Term: 2023-2030	$329,000

The City is also home to some older facilities which remain integral components of recreation programming across our communities:

Clarence Creek Arena: A single pad ice surface, with a recently renovated community room above.

Jean-Marc Lalonde Arena: A single pad arena which is not currently used for ice. This facility is used by the Air Cadets, Roller Derby, and other community uses.

Community halls are the central gathering spaces within the City's rural communities. The City provides community space in Bourget, Hammond (also serves Cheney), Saint Pascal-Baylon, Clarence Creek, and in Rockland.

Given their age, these facilities will require more significant investment over the plan period to maintain. The largest expected required investment is in the Clarence Creek and Jean Marc Lalonde Arenas. Both arenas are expected to require more than $1 million in capital repairs over the plan period to maintain their functionality. As smaller facilities that do not include any specialized amenities, both the Hammond and Bourget Community Centres will require significantly less investment over the plan period. The largest expected expense is the replacement of the roofing system at the Bourget Community Centre.

	Short Term 2016-2018	Medium Term 2019-2022	Long Term 2023-2030	TOTAL
Clarence Creek Arena	$470,000	$257,000	$533,000	**$1,260,000**
Jean Marc Lalonde Arena	$477,000	$637,000	$591,000	**$1,705,000**
Hammond Community Centre	$14,000	$33,000	$11,000	**$58,000**
Bourget Community Centre	$146,000	--	$36,000	**$182,000**
Community Centre Ronald-Lalonde	$50,000	--	--	**$50,000**

Table 2: Expected Capital Upgrades and Repairs: Municipal buildings 2016-2030
Sierra Planning & Management, based on data from the City of Clarence-Rockland

The City's compliment of indoor recreation facilities are supplemented by an array of outdoor facilities. Specifically, the municipality is home to the following outdoor recreation facilities:

PSAB data from the City of Clarence-Rockland indicates that the City plans to invest over $2 million to maintain existing parks over the next fifteen years. Large budget items over the short-term comprise:

Bourget Park: Replace play equipment ($34,000)

Cheney Park: Replace play equipment ($33,000)

Clarence Creek Park:

Replace tennis court & basketball court surfaces ($28,000)

Replace parking lot asphalt ($55,000)

Eugene Laviolette Park: Replace play equipment ($34,000)

Bellevue Park: Replace play equipment ($39,000)

Valiquette Park: Replace parking lot ($98,000)

Facility Type	#
Ball Diamonds	5
Basketball Courts	4
Boat Launches	1
Skate Parks	2
Soccer Field (Full Size)	2
Soccer Fields (Junior/general playing field)	7
Splash Pads	1
Tennis Courts	7
Parkland	77.81 Ha.

Table 3: Inventory: Outdoor Recreation Assets
Sierra Planning & Management

1.4 Parks and Recreation Provision

Parks and recreation falls under the jurisdiction of the Community Services Department at the City of Clarence-Rockland. Community Services is responsible for three categories of services:

a. Recreation, arts and culture/buildings
b. Daycare services
c. Public transit

As a whole, the department has over 154 employees. Very few of these however are directly involved in parks and recreation provision. Over time, the City has shifted from a direct provision model towards a partnership model as it pertains to recreation: Both the Clarence-Rockland Arena, and Clarence-Rockland Sport and Cultural Complex are operated by third-party operators. Moreover, the YMCA of Clarence-Rockland has assumed a primary role in providing recreation programming within the municipality. Several community halls in the rural communities are operated by local recreation societies through operating grants.

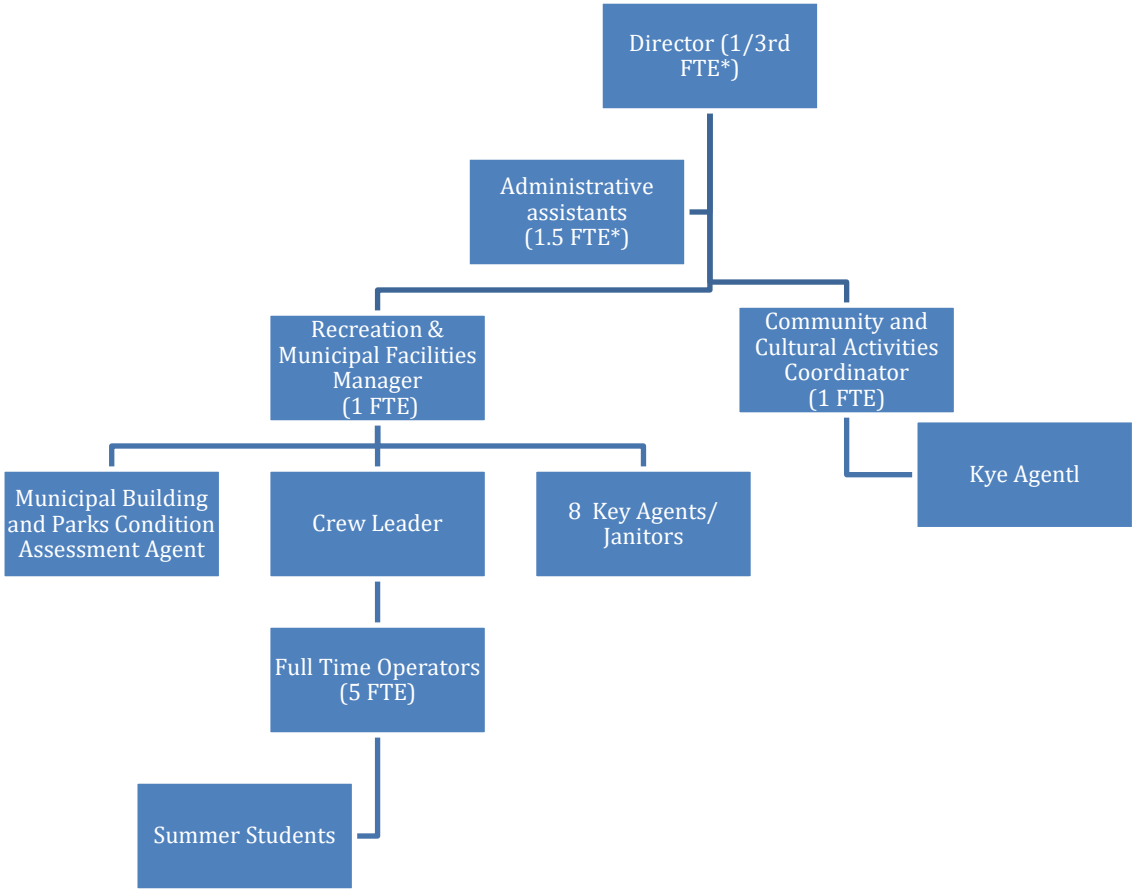
Despite these partnerships, the City directly operates and maintains both the Clarence Creek and Jean Marc Lalonde Arenas. City staff are also responsible for maintaining all municipal parks, managing bookings of city-operated recreation facilities. Community events also fall under the umbrella of the recreation-based responsibilities of the City's Community Services department.

The table below summarizes these responsibilities:

Facility Name/ Category	Operating Arrangement		
	Direct Provision: City of Clarence-Rockland	Operated through Community Grant	Third-Party Operator
Clarence-Rockland Arena			✓
Clarence-Rockland Sport & Cultural Complex			✓
Clarence Creek Arena	✓		
Jean Marc Lalonde Arena	✓		
Bourget Community Centre		✓	
Community Centre Alphonse-Carrière	✓		

Facility Name/ Category	Operating Arrangement		
	Direct Provision: City of Clarence-Rockland	Operated through Community Grant	Third-Party Operator
Chamberland Centre	✓		
Community Centre Ronald-Lalonde	✓		
Municipal Parks and associated amenities (ball diamonds, courts, playing fields, splash pads, boat ramps, and outdoor rinks.	✓		

In terms of staff complement, the Community Services department dedicates the following resources to the provision of parks and recreation services:



Note: FTE refers to 'Full Time Employees'

**The Director splits their time between the three components of the Community Services department – a.) recreation, arts and culture/buildings, b.) daycare services; and c.) public transit.*

*** The City currently employs 2 FTE administrative assistants that report to the Director of Community Services. They split their time between two components of the Community Services department – a.) recreation, arts and culture/buildings; and c.) public transit.*

2 Analysis and Summary of Findings

2.1 Introduction

The Master Plan takes into consideration a range of factors when analyzing the current and projected recreation-based needs in Clarence-Rockland. Specifically, our analysis includes:

- Current inventory of facilities and programming;
- Historic utilization of existing facilities and programming;
- Comparison of level of service against comparable communities;
- Plans for new facilities within the City's capital budget; and
- Comments and input from community members and recreation user groups.

For clarity, our analysis and summary of findings is organized into the following categories:

- Indoor Facilities;
- Outdoor Facilities;
- Programming;
- Events; and
- Internal Organization.

2.1.1. Standards of Provision

There are two methods through which to compare level of service between municipalities: Population-based standards of provision, and participation-based standards of provision.

Population-based standards: These provide a basic measure of the comparable level of service between municipalities by indicating the ratio of a given type of facility to residents. While this provides the reader with a simple and seemingly comparable figure, standards between municipalities should be compared with caution: A standard of provision that meets community needs in one municipality, may not meet community needs of another community. As an example, while an 'average' community across the country provides indoor arenas at a rate of 1 per 20,000 residents (see reference on pg. 81) , this may not apply to a community of 5,000 that decides that demand for indoor ice is sufficient to warrant the initial investment and ongoing operating subsidy associated with the development of an indoor arena. They can however provide a general picture of the level of service in comparison to communities of a similar size and/or fiscal capacity.

Participation-based standards: These provide a more accurate picture of level of service as they take into consideration the local appetite for various sports and use of different types of facilities. To develop participation-based standards of provision, accurate and comprehensive enrollment data is required for each user group using a given facility.

In the absence of participation data, we have used population-based standards of provision within our analysis. To ensure that these standards accurately reflect local trends in sport and

recreation participation, we have also analyzed facility utilization data, and received input from community members and recreation groups that use the facilities.

The City of Clarence-Rockland relies significantly on the residential tax base to fund the public services it provides. In 2014, 86% of the City's tax base was drawn from residential sources. This is similar to many lower-tier municipalities of a comparable size. To identify comparable standards of provision, we have compared the City's population-based standard of provision against those of municipalities with a similar proportion of their tax base derived through residential taxation.

2.2 Consultation Process

The Parks and Recreation Master Plan included an inclusive consultation process that provided residents with a variety of opportunities to provide input. This process included:

a. **Project Introduction via website:** The City created a project webpage to introduce residents to the project.

b. **Public Workshop**: The City and consulting team held a public workshop to introduce residents to the project and to gather feedback in terms of participation in recreation activities, satisfaction with facilities and programming, and aspirations for the future of recreation in Clarence-Rockland. The workshop elicited a lively discussion among 46 residents.

c. **Public Survey**: The City facilitated an online survey for residents to provide input into the Master Plan. The public survey was promoted on local radio and on the City's website. The survey was provided in both English and French. The survey received a total of 372 responses (290 English, 82 French)

d. **User group Survey:** The City worked with the consulting team to develop a user group survey. The survey solicited feedback from groups that use the City's recreation facilities and provide programming for residents. The City provided the consulting team with a list of contacts: 23 groups responded and provided feedback, on a range of facilities.

e. **Master Plan Presentation:** The Master Plan will be presented to residents once it has been approved by council.

2.3 Indoor Facilities

2.3.1. Ice

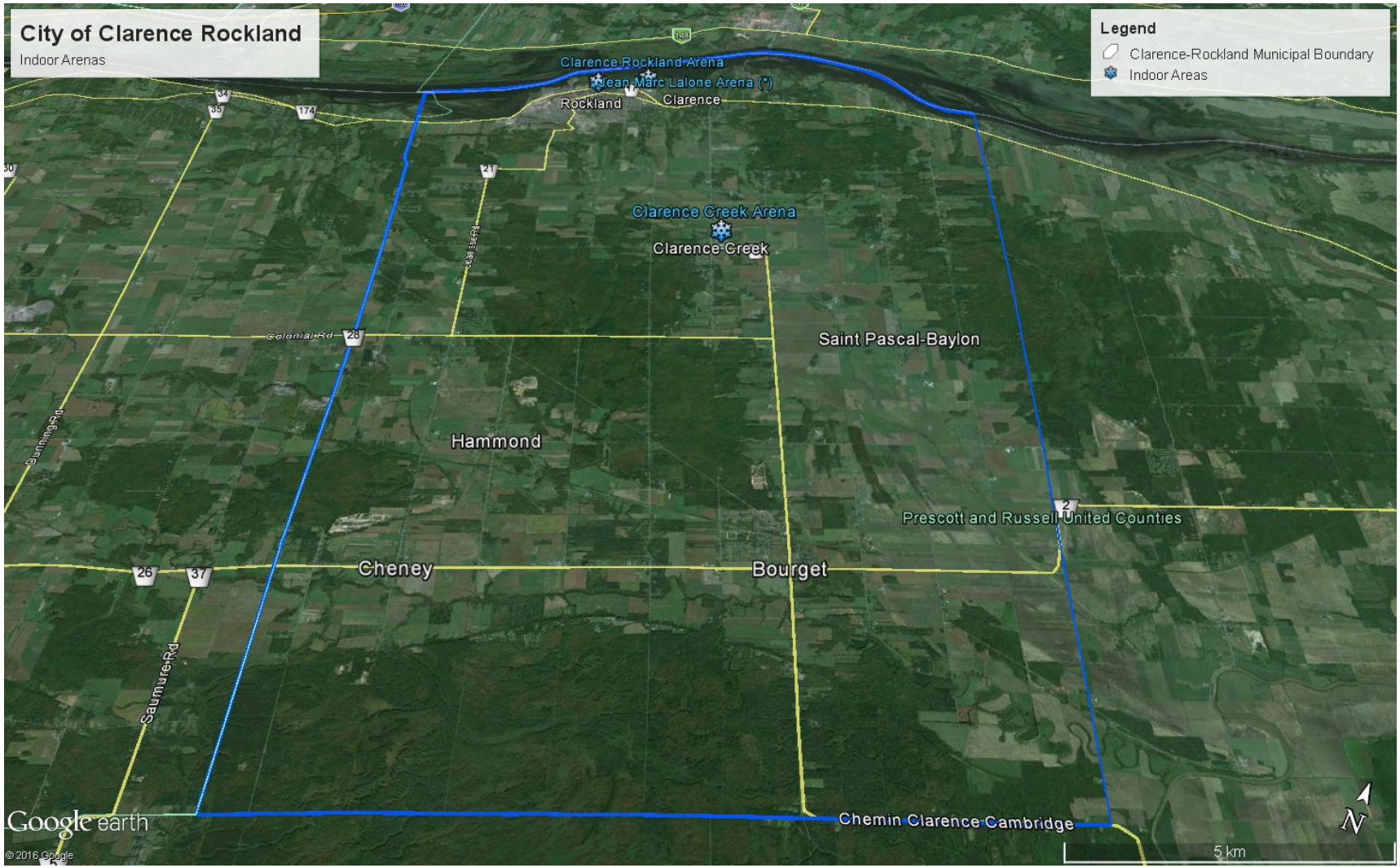
While the City is currently home to three indoor arenas, only the Clarence Creek Arena and Clarence-Rockland Arena operate with ice. In the context of the Clarence-Rockland Arena opening in 2011, the City removed ice at the Jean Marc Lalonde Arena. This decision was made after weighing the demand for ice time in the context of the addition of two ice sheets to the city's supply of prime time ice, and the cost of providing ice time in the Jean Marc Lalonde Arena which is an older facility. Accordingly, our population-based standards of provision for the City are calculated accounting for three operational ice sheets.

Population-based standards of provision have been calculated using demographic projections contained within the City's Development Charges Background Study. These are the most comprehensive population projections that the City has access to at the time of development of this Master Plan.

Based on three ice sheets, the current population-based standard of provision is one ice sheet per 8,562 residents. This falls generally within the range of provision in communities of a comparable size and with similar tax-base characteristics (see adjacent table).

	Population (2011)	Indoor Ice Population Standard	Residential Tax Base (2014)
Clarence-Rockland	25,685 *(2016)*	1: 8,562	92%
Orangeville	27,975	1: 6,993	85%
Grimsby	25,325	1: 12,662	92%
Russell Township	15,247	1: 7,937	84%
Pembroke	14,360	1: 7,180	69%

Table 4: Population-Based Indoor Ice Standard, and Tax Breakdown - Selected Ontario Communities
Sierra Planning and Management


City of Clarence Rockland
Indoor Arenas
Legend
Clarence-Rockland Municipal Boundary
Indoor Areas
Clarence Rockland Arena
Jean Marc Lalone Arena (*)
Rockland
Clarence
Clarence Creek Arena
Clarence Creek
Saint Pascal-Baylon
Hammond
Prescott and Russell United Counties
Cheney
Bourget
Chemin Clarence Cambridge
Colonial Rd
Dunning Rd
Saumure Rd
Google earth
© 2016 Google
5 km
N

Population-based standards of provision can provide a general idea whether or not the level of service falls within those of comparable municipalities. It is also necessary to understand whether this current level of service works for the community. This is gauged through an analysis of historic and current utilization, in collaboration with feedback from user groups and community members.

An analysis of utilization of both the Clarence-Rockland and Clarence Creek Arenas indicates that the newer Clarence-Rockland Arena is well used. With prime-time utilization close to 85% during the 2014-15 season, it is clear that the arena is booked for the majority of the most in-demand ice times. A non-prime time utilization of 75% indicates that this facility is well used by the community with limited capacity to accommodate significant increases in demand.

Conversely, the Clarence Creek Arena is relatively underutilized, with 65% of prime time ice booked between 2014-15, and 20% non-prime time utilization. This indicates there is significant room for this arena to accommodate growth in demand over the short- and medium- term dependent on population growth.

Arena	Prime-Time Utilization	Non-Prime Time Utilization
Clarence-Rockland Arena	84%	75%
Clarence Creek Arena	65%	20%

Table 5: Utilization of Indoor Ice 2014-15 Season
Sierra Planning and Management with booking data from the City of Clarence-Rockland

Feedback from resident indicates the following:

- Residents are largely satisfied with the Clarence-Rockland Arena, however gaining access to sufficient ice time is a challenge for certain groups, particularly during the spring.
- While residents are generally satisfied with their experience at the Clarence Creek Arena, residents indicated that due to its age, the facility is dated, and can be particularly cold. On account of its age and part design standards, the changing rooms are smaller than what is available in more modern facilities.
- Given the disparity between the age and quality of amenities between the Clarence-Rockland Arena and Clarence-Creek Arena, residents do not feel that both arenas should have the same rental booking cost.
- In general, residents feel the hourly cost of ice is high in comparison to surrounding communities.

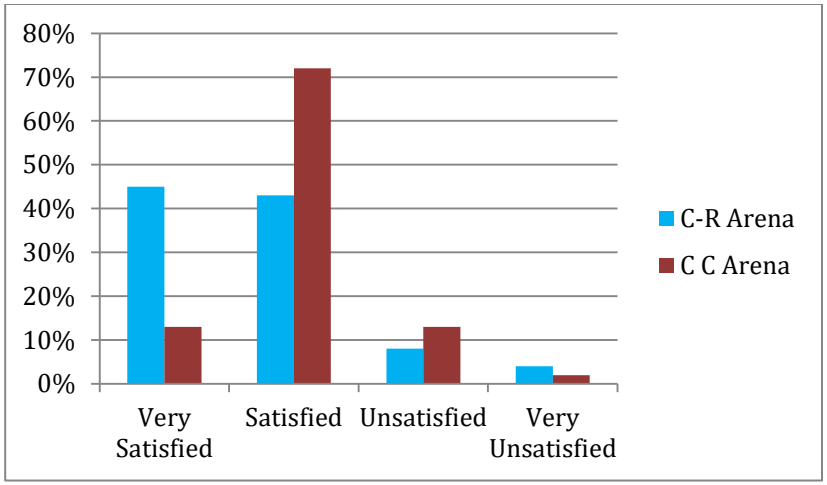


Figure 8: Public Survey Results - Satisfaction with Arenas in Clarence-Rockland
Sierra Planning and Management

The Clarence-Rockland Arena is operated by Canlan Ice Sports, and managed by the CIH Academy. Under the terms of the operating agreement, CIH is responsible for any operating deficits accrued by the facility. Conversely, Clarence Creek Arena is operated directly by the City. In 2014, the Clarence Creek Arena operated with a deficit of approximately $140,000. This is not unusual for an older stand-alone ice facility.

The Jean Marc Lalonde Arena is currently operated as a slab facility – i.e. the slab without ice is available for rent without ice. The slab is primarily used by the 832 Air Cadets, and increasingly by nearby schools as a gymnasium. The facility is under-utilized, with only 17% of available time being booked in 2014-2015.

Public consultation indicated that a large proportion of residents feel that this facility could and should be put to better use. Popular suggestions included:

- Curling Rink
- Indoor skate park
- Indoor tennis/squash courts
- Indoor soccer facility
- Return ice to function as an indoor arena

Residents felt strongly that the facility should be repurposed and/or brought back into a more productive use, particularly given:

- Its location in the core of Rockland, close to schools, residences and other recreation and cultural facilities;
- That the upkeep and operation of the building is a continued cost for tax payers despite low utilization; and
- That the building remains functional.

On account of projected population growth, the standard of indoor ice provision in Clarence-Rockland is expected to worsen over the plan period. By 2031 the standard of provision may reach 1 ice sheet per 10,917 residents. In comparison to other communities, this remains an acceptable standard of provision however whether this works for Clarence-Rockland depends on local patterns of participation.

Our analysis indicates that there is room for the Clarence Creek Arena to accommodate some growth in demand for ice time. The extent to which the arena will be able to accommodate additional demand will be dependent on:

- The willingness of residents to travel to Clarence Creek to use this arena;
- Population growth;
- Growth in participation; and
- Any development of additional facilities in municipalities close to Clarence-Rockland.

Year	Population-Based Standard of Provision
2016	1: 8,562 residents
2021	1: 9,347 residents
2026	1: 10,132 residents
2031	1: 10,917 residents

2.3.2. Community Centres

There are no meaningful population-based standards of provision for community halls. Typically municipalities are more involved in providing community space in rural communities than in urban cores, often in the form of stand-alone community halls or a space within a multi-purpose recreation facility. In urban areas with a greater number and variety of spaces for the community to use, municipalities tend to be less involved in the provision of community space.

The City of Clarence-Rockland provides community space in the urban core (Rockland) through the Chamberland Centre, a multi-purpose room at the YMCA, and a community room at the Jean-Marc Lalone Arena. Residents also have access to community space within the City's schools.

In the rural hamlets, the City of Clarence-Rockland is a key provider of community space. The City owns and maintains four community centres.

- **Bourget** Community Centre;
- Community room at the **Clarence Creek** Arena;
- Alphonse-Carrière Community Centre: Serves **Hammond and Cheney;** and
- Ronald-Lalonde Community Centre: Serves **St. Pascal-Baylon.**

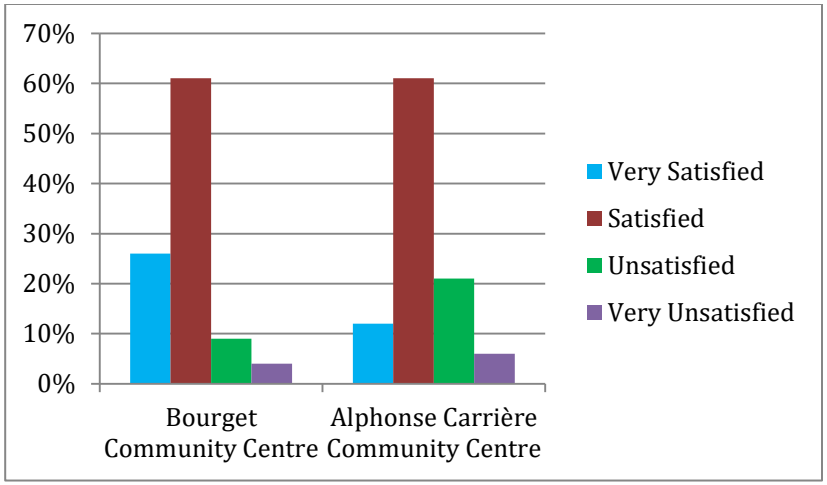
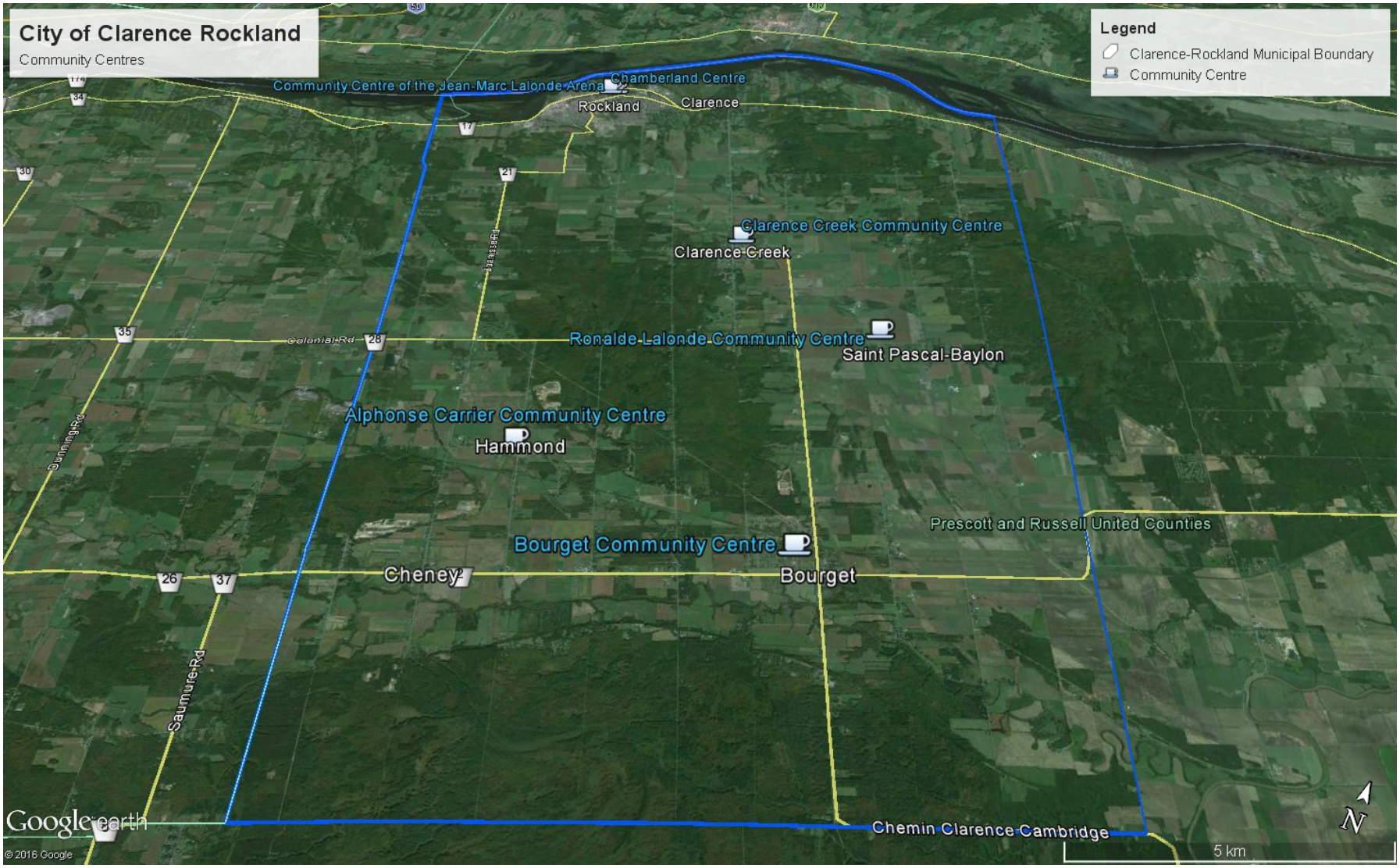


Figure 9: Community Satisfaction with Selected Community Centres
Sierra Planning and Management with data from the public survey

Community halls are typically used on a relatively infrequent basis, and accordingly, utilization rates of between 10-20% are common. An analysis of utilization data indicates that this holds true for Clarence-Rockland's community halls. These facilities are provided to residents as communal gathering spaces, rather than facilities that should be expected to operate with a profit.


City of Clarence Rockland
Community Centres
Legend
Clarence-Rockland Municipal Boundary
Community Centre
Community Centre of the Jean-Marc Lalonde Arena
Chamberland Centre
Rockland
Clarence
Clarence Creek Community Centre
Clarence-Creek
Renaldo-Lalonde Community Centre
Saint Pascal-Baylon
Alphonse Carrier Community Centre
Hammond
Bourget Community Centre
Bourget
Cheney
Prescott and Russell United Counties
Chemin Clarence-Cambridge
Saumure Rd
Colonial Rd
Dunning Rd
5 km
N
Google earth
© 2016 Google

Residents indicated they are largely satisfied with the community halls they have access to. Areas of concern included:

- A need for broader recreation programming in the community halls that goes beyond social events;
- A need for programming for all age groups that goes beyond the traditional social programming for adults and older adults;
- Some maintenance concerns, specifically:
    - Odour at the Chamberland Centre;
    - Old, worn décor at the community rooms at both the Clarence Creek and Jean Marc Lalonde Arenas.

There is certainly an appetite for, and opportunity, to make more effective use of the City's community halls to broaden access to recreation programming for all rural residents, particularly youth and seniors who may be less mobile.

A review of building condition reports indicates that the stand-alone community halls are generally in good condition, with the Bourget Community Centre requiring more maintenance than others primarily as a result of requiring a new roofing and HVAC system. No other significant capital repairs are then expected until 2030.

	Short Term (2015-2018)	Medium Term (2019-2023)	Long Term (2024-2030)
Bourget Community Centre	$146,000	--	$36,000
Alphonse-Carrière Community Centre	$14,000	$33,000	$11,000
Chamberland Centre	--	--	$30,000

Table 6: Projected Capital Investment Requirements - Community Halls
City of Clarence-Rockland PSAB Data (2015)

2.3.3. Clarence-Rockland Sport and Cultural Complex

The City of Clarence-Rockland is home to the Clarence-Rockland Sport and Cultural Complex – a relatively new facility (2008) that provides the following amenities:

- Indoor pool (25m), with teaching pool;
- Gymnasium;
- Fitness centre with walking track;
- General and family locker rooms;
- Clarence-Rockland Public Library; and
- Connected to the École Secondaire Catholique L'Escale connected with the Optimiste Performance Hall.

The YMCA-YWCA of Clarence-Rockland operates the complex's health and fitness facilities on behalf of the City. Membership has remained consistent over the past three year, with approximately 2,699 members drawn from across the City and surrounding communities.

Year	Membership (includes family membership)
2012	1,337
2013	1,337
2014	1,273

Community	Total 2014	%
Rockland	1909	71%
Clarence Creek	151	6%
Hammond	120	4%
Wendover	87	3%
Bourget	78	3%
Ottawa	76	3%
St. Pascal-Baylon	69	3%
Plantagenet	59	2%
Cumberland	43	2%
Curran	37	1%
Alfred	28	1%
Other (Combined)	27	1%
Lefaivre	8	0%
Orleans	7	0%
TOTAL	**2699**	**100%**

The Sport and Cultural Complex houses the City's only indoor pool. Indoor pools are typically expensive operations to run, requiring a large tax base to support. Accordingly, indoor pools are typically found in communities of a population size of 40-50,000 residents or more.

With this in mind however, indoor pools often serve a regional population. The Clarence-Rockland YMCA-YWCA offers swimming instruction and drop-in public swims to both members and non-members. The YMCA-YWCA does not record the origin of participants in swimming instruction or drop-in, however indicated that of all capital region YMCAs, they have the highest non-member registration – this is almost exclusively on account of pool usage.

In addition to the indoor pool, the YMCA-YWCA of Clarence-Rockland provides a broad range of fitness and wellness programming that fall under the categories of:

- Pre-School
- Child
- Youth
- Family
- Summer Camps
- Adult

The City of Clarence-Rockland is no longer directly involved in recreation programming, rather this service is provided by the YMCA-YWCA, and by independent user groups.

Under the terms of the operating agreement, the City of Clarence-Rockland is responsible for major capital repairs. The only significant expenditure expected over the duration of the plan is the replacement of pool heating and dehumidification system and filtration.

In 2014, the YMCA-YWCA operated the complex with a deficit of $460,832. The City is obligated to provide deficit funding subject to a subsidy cap.

Residents are generally satisfied with the Sport and Cultural Complex, with the following key concerns:

- Prohibitive cost for drop-in use, particularly for swimming;
- Additional cost on top of membership for specialty programs; and
- Distance to YMCA-YWCA programs for rural residents.

Residents indicated an appetite for:

- Introduction of YMCA-YWCA programming in rural community halls;
- Subsidies to improve affordability of programming; and
- Growth of senior programming.

2.4 Outdoor Facilities

The adjacent table identifies the current inventory of outdoor recreation facilities (excluding parkland – this follows), across Clarence-Rockland as a whole. These facilities are located within parks across the municipality.

Population-based standards of provision are relevant to some, but not all outdoor recreation facilities. Many of the smaller, neighbourhood-scale amenities are typically planned based on location, and should be located to ensure all residents have equitable access. Where broad population-based standards can be applied, the City appears to provide a sufficient number of playing fields, tennis courts, and skate parks.

Facility Type	#	Population-Based Standard (2016)	Comparable Standard
Soccer Fields (Junior/general playing field)	7	1: 3,325 residents	1: 2,000-3,000 residents – *need for regulation sized soccer field typically related to specific participation patterns of the community.*
Soccer Field (Full Size)	2		
Tennis Courts	7	1: 3,669 residents	1: 4,000-5,000 residents
Ball Diamonds	5	1:5,137 residents	1: 2,500-4,000 residents
Basketball Courts	4	N/A – Typically included in community scale parks	N/A
Boat Launches	1	N/A: Geographically specific	N/A
Splash Pads	1	N/A: Geographically specific	N/A
Skate Parks	2	1: 1,620 youth (ages 10-19)	1: 4,500-5,000 youth (ages 10-19)
TOTAL SURFACES:	**29**		

All rural communities within Clarence-Rockland have access to outdoor amenities. Each community has a minimum of one municipal park with a play structure. Most have a playing field, and a basketball court (flooded during the winter for outdoor ice).

At present, the majority of both indoor and outdoor recreation facilities are concentrated within the urban core of Rockland. This is primarily on account of the concentration of population in Rockland as compared to the city's rural communities.

Community engagement during the public meeting indicated that while residents are largely content with the distribution of recreation amenities, specific desires expressed during the consultation process comprised:

- The development of splash pads in rural communities, particularly Bourget and Hammond;
- The provision of youth-friendly outdoor amenities in Hammond and Cheney (e.g. splash pad or skate park); and
- The development of bike paths to connect the rural communities.

	Bourget	Cheney	Clarence	Clarence Creek	Hammond	St. Pascal Baylon
Play Structure	✓	✓	✓	✓	✓	
Playing Field	✓	✓		✓	✓	✓
Basketball Court		✓	✓	✓	✓	
Ball Diamond	✓			✓	✓	✓
Skate Park	✓					
Splash Pad						
Volleyball Court	✓					
Tennis Court				✓	✓	

Table 7: Outdoor Recreation Asset Inventory by Rural Community
Sierra Planning & Management

2.4.1. Ball Diamonds

The population-based level of provision of ball diamonds appears to be slightly below that of comparable municipalities. General trends in sport participation however indicate that ball sports are not currently experiencing significant growth in popularity and are actually shrinking in many municipalities. Accordingly, the slightly lower population-based standard of provision in Clarence-Rockland as compared to other municipalities may not mean that the City is currently failing to meet community needs.

In light of projected population growth, it is unlikely that the City will need to invest in additional tennis courts and skate parks. Additional playing fields may be required but these are generally developed as a part of new schools.

Based on projected population growth, to maintain the current level of provision of ball diamonds the City would need to invest in one additional ball diamond over the plan period. Community consultation indicated that the City currently does not have any co-located ball diamonds. This is a hindrance to growing leagues and hosting tournaments. User groups report that enrollment in leagues is strong and growing.

With the exception of the lack of double diamond, residents are generally satisfied with the City's ball diamonds. Specific maintenance concerns that the Plan suggests should be addressed comprise:

- **Saint Pascal-Baylon diamond**: septic field needs emptying frequently, bathrooms need renovation, insufficient seating, and un-level field.
- **Hammond diamond:** Lack of lighting between diamond and parking.
- **Bourget diamond**: Needs a grass outfield and softer infield playing surface to cater to little leagues.

Year	Population-Based Standard	Ball Diamonds Required to Maintain Current Level of Provision
2016	1: 5,137	-
2021	1: 5,608	5.4
2026	1: 6,079	5.8
2031	1: 6,550	6.3

Table 8: Projected Population-Based Standard, Ball Diamonds 2016-2031
Sierra Planning & Management

2.4.2. Soccer Fields

Soccer is a popular and growing sport in Clarence-Rockland with approximately 700 members last season. Inclusive of L'Escale, the Municipality provides 5 full size soccer pitches (2 lit), 9 'super-8' or junior fields, and 2 mini fields.

Population-based standards of provision indicate that the City will remain within broadly defined acceptable levels of service. Consultation indicated that the local soccer club finds the current level of provision sufficient for current and future growth.

Field Type	2016 Level of Provision	2031 Level of Provision	Comparable Standard
Full Size – Lit	1: 14,727	1: 16,375	1: 15,000-20,000
Junior	1: 3,325	1: 3,639	1: 2,000-4,000

Table 9: Projected Standard of Provision - Soccer Fields 2016, 2031
Sierra Planning & Management

Consultation did however indicate that there is an appetite within the community for an indoor soccer facility. A lack of indoor facility:

- Impedes athlete development by restricting play/practice to warm months;
- Puts players enrolled in local leagues at a disadvantage in comparison to teams with access to year-round training.

The local soccer club has had discussions with the City regarding repurposing the Jean Marc Lalonde Arena into an indoor soccer facility. There are also options to bubble/dome an existing field to fulfil this need. Our recommendations within this Master Plan speak to the option to develop an integrated soccer and baseball dome with the opportunity to dome a turf field. There is no specific population-based target for domed fields, rather they are provided in communities where a.) demand exists for such a facility that is supported by historic popularity and growth in enrollment, and b.) where there is sufficient municipal appetite to develop and operate a facility of this kind, and/or there is an opportunity for partnership, or c.) the private sector initiates investment in a domed facility.

Domed fields can be found across Ontario. Examples include:

- North Glengary: Pop. 10,251
- Bradford West Gwillimbury: Pop. 28,077
- Aurora: Pop. 53,203

Most municipal sports domes result from a partnership with local school boards and/or user groups. Given the positive and productive relationship between the City of Clarence-Rockland, and the local school boards in facility development and operation, there is significant potential for the City of Clarence-Rockland to partner to develop an indoor soccer dome.

2.4.3. Tennis

The municipality as a whole is well situated in terms of provision of tennis courts. The City current provides a total of 7 tennis courts:

- Hammond (2)
- Simon Park (4)
- Clarence Creek Arena (1)

Comparable standards of provision are
1: 4-5,000 residents. Over the plan period, the City is unlikely to need to invest in additional tennis courts.

Year	Population-Based Standard of Provision
2016	1: 3,669 residents
2021	1: 4,006 residents
2026	1: 4,342 residents
2031	1: 4,679 residents

Table 10: Projected Standard of Provision - Tennis courts 2016-2031
Sierra Planning & Management

2.4.4. Splash Pads/Spray Parks

Splash pads are growing in popularity in park design: They provide an aquatic play environment for young families with significantly lower operating costs than an outdoor pool. They are also a low/no cost activity for families as compared to traditional aquatic activities.

The City of Clarence-Rockland currently operates one splash pad in Parc Simon (Rockland) which has been very well received by community members.

The City is planning to open a second splash pad in Bourget in 2016. This will address community calls for a second splash pad in one of the rural communities to serve residents living outside of Rockland. There are also plans to add a third splash pad in Clarence Creek.

Comparable standard of provision in communities with a similar proportion of residential tax base is **1 splash pad per 1,500 to 2,500 youth under 14.** With the addition of the splash pad in Bourget, the City will meet this standard over the medium term, but may slip below this standard over the longer-term.

Year	Without Addition	With Addition of Bourget Splash Pad
2016	1: 4,592	1: 2,296
2021	1: 5,013	1: 2,506
2026	1: 5,434	1: 2,717
2031	1: 5,855	1: 2,928

Table 11: Projected Standard of Provision - Splash Pads 2016-2031
Sierra Planning and Management

2.4.5. Waterfront

Clarence-Rockland is advantageously located along the scenic Ottawa River. To date, public development along the waterfront has been limited to Du Moulin Park. There is potential however to improve public access to this natural asset, and improve the amenities available to residents.

Prioritizing waterfront development was a popular topic in all areas of consultation. Public consultation indicated the highest priorities were:

- Development of a boardwalk or trail along the waterfront, linking with a broader network of trails;
- Addition of shelter/shade;
- Permanent docks; and
- Activities by the water (e.g. kayaking).

The City is currently putting together an advisory committee for Du Moulin Park to address the redesign of the park.

Beyond Du Moulin Park however, there is an opportunity for the City to take greater control over the development process as development occurs along the Ottawa River. Specifically, there is an opportunity for the City to more actively obtain land parcels that front, or improve connections, to the waterfront. Given the nature and timing of development, this will likely be a generational project that occurs over the longer-term.

2.4.6. Bike Paths

Bike paths were the most frequently cited community need in all consultations.

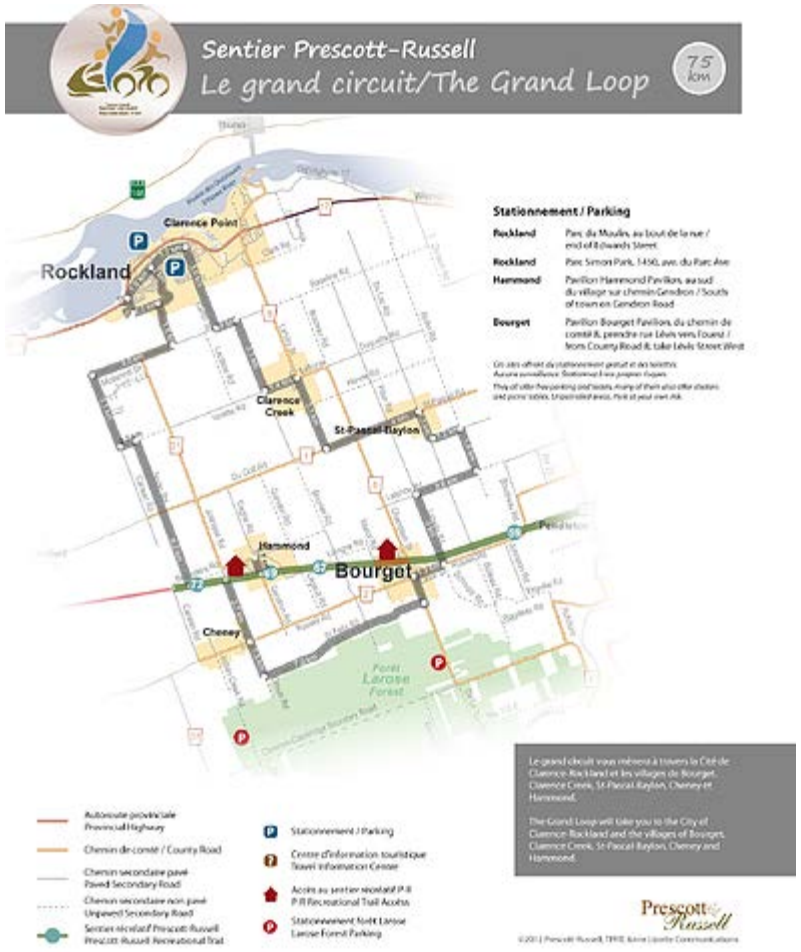
Currently, the Municipality promotes the Clarence-Rockland Bicycle Path/Le Grand Circuit – a 75km loop through each of the city's communities. There is no designation for cycling on these routes – similar to other bicycle routes in the United Counties of Prescott-Russell.

The City also houses a stretch of the Prescott-Russell Recreational Trail that connects the villages of Bourget and Hammond.

Bicycle paths provide a range of benefits to communities, including:

- Encourage physical activity among residents;
- Create connections between communities;
- Encourage sport tourism; and
- Improve driver/cyclist safety.

Developing bike paths in rural settings is typically limited to a lane painted on one side of the road, without physical dividers. Signage is an important component for rural bike paths. Best practice in this regard comprises clear road markings in addition to stand alone signage.



2.5 Parks

The provision of parks varies significantly between municipalities. A general rule of thumb is the provision of 2-4 hectares of publicly accessible parks per 1,000 residents. This may be significantly lower in large urban communities where historic development has left little available public land for parks and green space, or also in rural municipalities where the population has significant access to green space through private lots.

By including all City-owned parks and green spaces, the City currently provides 3.17 hectares per 1,000 residents, which is within the average range of parks and green space for municipalities within Ontario.

While the quantity of parkland is important, so too is its quality and distribution. The City of Clarence-Rockland does not currently have a parkland classification system in place to guide municipal decision making in the realm of parks planning and development. To date the City has obtained land as a part of the subdivision process, and has developed amenities on the parkland based on best practice and community aspirations. A key recommendation of this Master Plan is to adopt a parkland classification system (see following section) to guide municipal planning in the realm of parkland acquisition and development.

Community	Parkland Ha. per 1,000 Residents
Bourget	3.71
Clarence Creek	7.63
Clarence Point	1.76
Cheney	13.78
Hammond	3.14
Rockland	1.18
Saint Pascal Baylon	7.09
Rural	5.51
Average	**3.17**

Table 12: Current Level of Provision: Parkland by Community

Community consultation indicated that community members are generally happy with the current level of service of parkland, and the amenities available within their community. Specific concerns comprised:

- A lack of playground facilities and seating in Simon Park;
- A need for more diverse play amenities in Hammond and Cheney e.g. a splash pad or skate park.

The City of Clarence-Rockland currently plans investment in parkland amenities through its capital budgeting process. PSAB data from the City of Clarence-Rockland indicates that the City plans to invest over $2 million to maintain existing parks over the next fifteen years. Large budget items over the short-term comprise:

- Bourget Park: Replace play equipment ($34,000)
- Cheney Park: Replace play equipment ($33,000)
- Clarence Creek Park:
    - Replace tennis court & basketball court surfaces ($28,000)
    - Replace parking lot asphalt ($55,000)
- Eugene Laviolette Park: Replace play equipment ($34,000)
- Bellevue Park: Replace play equipment ($39,000)
- Valiquette Park: Replace parking lot ($98,000)

These items will ensure that the City's parks continue to function as valuable community assets over the Master Plan period.

	Short-Term 2016-2019	Medium-Term 2020-2025	Long-Term 2026-2030
All Parks	$585,000	$1,171,000	$551,000

Table 13: Capital Budget for Playground Repairs and Upgrades
City of Clarence-Rockland Capital Budget for Repairs and Upgrades 2016-2030

2.5.1. Dog Park

With cities becoming more crowded, and leash laws becoming more restrictive, many dog owners are looking to the creation of dog parks as a solution to their need for a space to spend quality time with their pets.

Benefits include:

- Socialization for both dogs and people
- Builds community spirit
- Increases variety of opportunities for physical exercise
- Promotes responsible dog ownership
- Allows dogs to exercise and socialize safely

The City of Clarence-Rockland acquired a temporary land lease in Rockland, on which it has developed an off-leash dog park. This lease will expire in 2020. Due to the temporary nature of the land lease, the park has been developed to minimum standards, and provides only basic amenities associated with dog parks at this time.

Consultation indicated that the dog park is popular among residents, although they would like to see the addition of amenities to improve its functionality. Specifically:

- Improved perimeter fencing;
- Multiple refuse bins;
- A water source.

Best practice in terms of dog park provision is as follows:

Site Selection:

- Location away from other established uses including residences (this will avoid complaints about the noise of barking);
- Assure availability of close-by parking;
- Choose spots where there are minimal impacts on the visual character of the park (it's almost impossible to grow grass in a dog park);
- Avoid environmentally sensitive habitats.

Amenities:

- Pet fountains;
- Fence;
- Double-gate entry;
- Dog waste bag dispenser;
- Separate areas for small and large dogs;
- Benches;
- Shade;
- Signage with rules and information on dog licencing.

Operation:

- Parks policies must be in place to set out code of conduct of visiting residents. Potential inclusions:
  - Prohibition of non-sterilized, aggressive, fearful dogs of certain breeds
  - Prohibition of food, toys, digging, excessing barking, children
  - Waste disposal requirements
  - Vaccination requirements
  - Prohibition of prong and choke collars
- Development of regulations for the dog park must combine existing public policy and community input.

The City of Clarence-Rockland currently has a dog park committee which works with the City on all matters concerning the dog park.

2.5.2. Parkland Acquisition

The City of Clarence-Rockland's Official Plans currently outline the parkland acquisition process which is based on the minimum standards of provision outlined in the Ontario Planning Act.

There is an opportunity for the City to make changes to its Official Plan language to broaden the range of tools it has to negotiate and acquire parkland and/or park amenities as a part of the development process.

Section 37 of the Planning Act authorizes municipalities to grant increases in height and density of development, in exchange for the provision of "facilities, services or matters".

As an identification of best practice, in its Official Plan, the City of Toronto identifies the facilities, services or matters to be provided under Section 37 as:

a. The conservation of heritage resources;

b. Fully furnished and equipped non-profit child care facilities, including start-up funding;

c. Public art;

d. Other non-profit arts, cultural, community or institutional facilities;

e. **Parkland and/or park improvement;**

f. **Public access to ravines and valleys;**

g. Streetscape improvements on the public boulevard

h. Rental housing;

i. Affordable housing;

j. Affordable condominium units;

k. Local improvements to transit facilities;

l. Land for other municipal purposes

2.6 Recreation Programming

Recreation and leisure programming in Clarence-Rockland is almost exclusively the responsibility of the YMCA-YWCA of Clarence-Rockland and community groups. The City itself formerly ran a gymnastics program which it has now chosen to transfer to the YMCA-YWCA of Clarence-Rockland.

The YMCA-YWCA of Clarence-Rockland offers the following programming:

- Aquatic;
- Fitness;
- Gymnastics
- Arts;
- Dance;
- General interest;
- Soccer;
- Martial arts;
- Street hockey;
- Basketball;
- Volleyball;
- Badminton; and
- Seniors-specific programming.

Enrollment in specific programming varies year to year but discussions with the YMCA-YWCA of Clarence-Rockland indicated that enrollment trends generally matches those of other communities in which the YMCA-YWCA provides recreation programming.

Community consultation indicated that residents are generally satisfied with the quality of programming at the YMCA-YWCA of Clarence-Rockland, however had several key concerns:

a. Additional charges for premium programs on top of membership fees;
b. The relatively high cost of membership as a barrier to enrollment in family-based recreation programming;
c. Centralization of programming in Rockland, with no YMCA-YWCA programming in rural communities.

While the partnership between the City of Clarence-Rockland and the YMCA-YWCA of Clarence-Rockland provides residents with high quality recreation programming, we have provided a series of recommendations in this regard in Section 3.

The City of Clarence-Rockland is also home to a broad collection of recreation and leisure user groups which provide the following categories of programming. Note that this list is not exhaustive:

- Air cadets;
- Archery;
- Badminton;
- Baseball;
- Bingo;
- Flag football;
- Hockey;
- Ringette;
- Scouts/Girl Guides;
- Skating;
- Soccer; and
- Social events/programming.

Community consultation indicated that residents are generally satisfied with the variety and quality of programs and activities offered by local recreation and leisure groups. Key concerns were mainly facility-related, specifically the lack of indoor facilities to accommodate off-season play and practice, and facilities with multiple playing surfaces/fields that would allow tournaments.

While the City has chosen to take a partnership approach to recreation programming, there is an opportunity to expand programming into rural communities to broaden local access. We have provided clear recommendations in this regard in Section 3. Should the City be unable to find a willing or competent partner to fulfil this role, there is an opportunity for the City to enter the realm of direct recreation programming in rural communities either on a temporary or permanent basis.

2.7 Partnerships

The Municipality has a strong history of mutually beneficial and effective partnerships. Over the past decade, the City has developed and/or strengthened partnerships with the following organizations in the provision of recreation services:

- Canadian International Hockey Academy;
- YMCA-YWCA of Clarence-Rockland;
- Local school boards;
- Clarence-Rockland Public Library; and
- Rural recreation societies.

The City also works with a number of recreation-based advisory committees:

- Off-Leash Dog Park Committee;
- Recreational Pathways Committee;
- YMCA/YWCA Committee; and
- Bourget Recreational Committee.

The level of collaboration and partnerships in the provision of recreation services in Clarence-Rockland is significant, and impressive. Partnership-based recommendations as a part of this Master Plan are contained in Section 3, however this Master Plan acknowledges the exemplary work that the City has undertaken to date in this regard, and recommendations look to strengthen these ties rather than significantly change the way that recreation is provided.

Facility	Owner	Partnership/Operating Agreement
Clarence-Rockland Arena	City of C-R	CIH
Recreation Complex	City of C-R	Capital Region YMCA/YWCA
L'Escale High School	Conseil scolaire de district catholique de L'Est Ontarien	JUA with City for performance hall and fields
Bourget Community Centre	City of C-R	Bourget Recreation Committee

Table 14: Facility-Based Partnerships - City of Clarence-Rockland
Sierra Planning & Management

2.8 Events

The development, organization, and provision of community-scale events is a mandate of the City of Clarence-Rockland's Community Services department.

The Community Services Department at the City of Clarence-Rockland currently organizes three annual events:

1. Canada Day: Located in Simon Park in the centre of Rockland. The event typically attracts between 3,500-5,000 attendees. There is an opportunity for the City to move the event to Du Moulin Park to share the equipment being used for the Ottawa River Festival which occurs the first weekend of July.

2. Ottawa River Festival: Located in Du Moulin Park, this festival takes place during the first weekend of July and runs for four days (Thursday through to Sunday).

Attendance to the festival has grown significantly over the past four years:

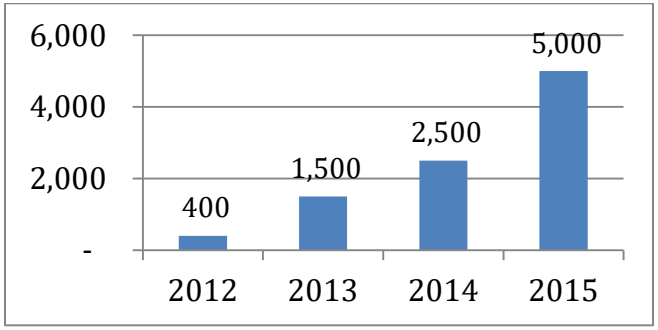


Figure 10: Attendance - Ottawa River Festival 2012-2015

Community Services is responsible for organizing the Ottawa River Festival, however they also coordinate with a number of community groups that run activities during the event (e.g. Rockland Ford Poker Run, Power Boat Poker Fun, United Counties of Prescott Russell Foire Gourmande).

While the event has become a significant success, the logistics of organizing and managing it is also becoming a strain on the resources of the Community Services Department.

3. Christmas Parade: Occurring the last Sunday of November in Rockland, this is a simple event for the department to organize. Attendance is typically between 1,500 and 2,500 depending on the weather.

The City has indicated that it sees the provision of community-scale events as an important mandate of the Community Services Department. Based on existing resource levels, it is unlikely that the Community Services Department can take on the role of developing additional events, or expanding existing events significantly beyond their current capacity. Regardless, the provision of community-scale events remains and important task that both builds a sense of community among residents, and attracts visitors to Clarence-Rockland.

2.9 Fees and Charges

Despite that the City of Clarence-Rockland has adopted primarily a facilitation approach to recreation services, it has retained control over facility booking charges for municipally-owned facilities. The City is centrally responsible for booking ice time, despite that the Clarence-Rockland Arena is operated by a community partner.

Community consultation indicated that residents were concerned over user fees for ice that are higher than in comparable communities. A review of ice fees in surrounding communities indicates that the hourly ice rate for adults is relatively high compared to Russell, La nation, and Champlain, however in line with the prime-time fees of Ottawa and Casselman. The City does not have a non-prime time rate.

Ice	Clarence-Rockland	Ottawa	Russell Township	The Nation	Casselman	Champlain
Adult Non-Prime Time	$ 235.00	$ 126.65	$ 110.00	$ 105.00	$ 100.00	$ 93.50
Adult Prime Time		$ 271.60	$ 174.00	$ 160.00	$ 250.00	$ 150.50
Adult Weekend					$ 225.00	
Adult Weekend Off-Peak (10pm-close)					$ 195.00	
Minor Non-Prime Time	$ 105.00	$ 126.65	$ 110.00	$ 120.00	$ 140.00	$ 64.00
Minor Prime Time	$ 130.00	$ 162.80	$ 150.00		$ 160.00	$ 105.00
Minor Tournament Rate				$ 90.00		
Non Prime Time (Flat Rate for all groups)		$ 126.65				
Commercial		$ 279.60				
Schools			$ 128.00		$ 80.00	
Primary				$ 30.00		
Secondary				$ 105.00		
Drop in				$15/person		
Non-Resident Prime Time			$ 215.00			
Non Resident Non-Prime Time						
Non-Resident Minor Prime Time						$ 127.75
Non-Resident Minor Non-Prime Time						$ 84.00
Last Minute - Prime Time	$ 195.00	$ 162.80			$ 195.00	
Last Minute - Non-Prime Time		$ 126.65				

Table 15: Ice User Fees: Clarence-Rockland and Proximate Communities (2015)
Sierra Planning & Management

The City has adopted a one-rate fee across each of its ice facilities, meaning that users pay the same fee to play in the Clarence-Creek Arena, as they do at the newer Clarence-Rockland Arena. While this decision has been unpopular with user groups and local residents, it reflects the reality of the cost of providing ice in an older facility.

The City of Clarence-Rockland also assumes responsibility for bookings for municipal fields and ball diamonds. A review of rental rates for ball diamonds in comparison to surrounding communities indicates that user fees are typically higher. Despite this, user groups and residents did not raise this as a concern or barrier to participation in the consultation for this Master Plan. Their concerns were primarily related to:

a. The quality of amenities;
b. The availability of amenities that facilitate league/tournament play.

Ball Diamonds	Clarence-Rockland	Ottawa	Russell Township	The Nation	Casselman	Champlain
Minor sports associations	$ 30.00	Price depends on quality	$17Lit /$12 Unlit	No user fee policy	No user fee policy	No charge
Minor sports tournaments - day & evening	$ 75.00					
Minor sports tournaments - evening/night	$ 20.00					
Adult leagues	$ 40.00		$21 Lit/ $14 Unlit			$25 per game
Adult tournaments - day & evening	$ 160.00					
Adult tournaments - evening/night	$ 40.00					
Non Residents			$28 Lit/$17 Unlit			

Table 16: Diamond User Fees: Clarence-Rockland and Proximate Communities
Sierra Planning & Management

The YMCA-YWCA of Clarence-Rockland sets the user fees and charges associated with the fitness and aquatic components of the Clarence-Rockland Cultural and Sports Complex. The fee structure is membership based, with non-members able to purchase a day pass to provide access to the fitness and aquatic facilities.

Community consultation conducted as a part of this Master Plan indicated that while residents are generally satisfied with the quality of programming provided by the YMCA-YWCA of Clarence Rockland, some programs are cost prohibitive, particularly drop-in swimming for non-members. Given that the facility is owned by the City, residents feel that the City has a responsibility to remove financial barriers associated with this program. The adjacent table provides an overview of the fees to swim for non-members at the YMCA-YWCA of Clarence-Rockland, in comparison to the nearby City of Ottawa facilities.

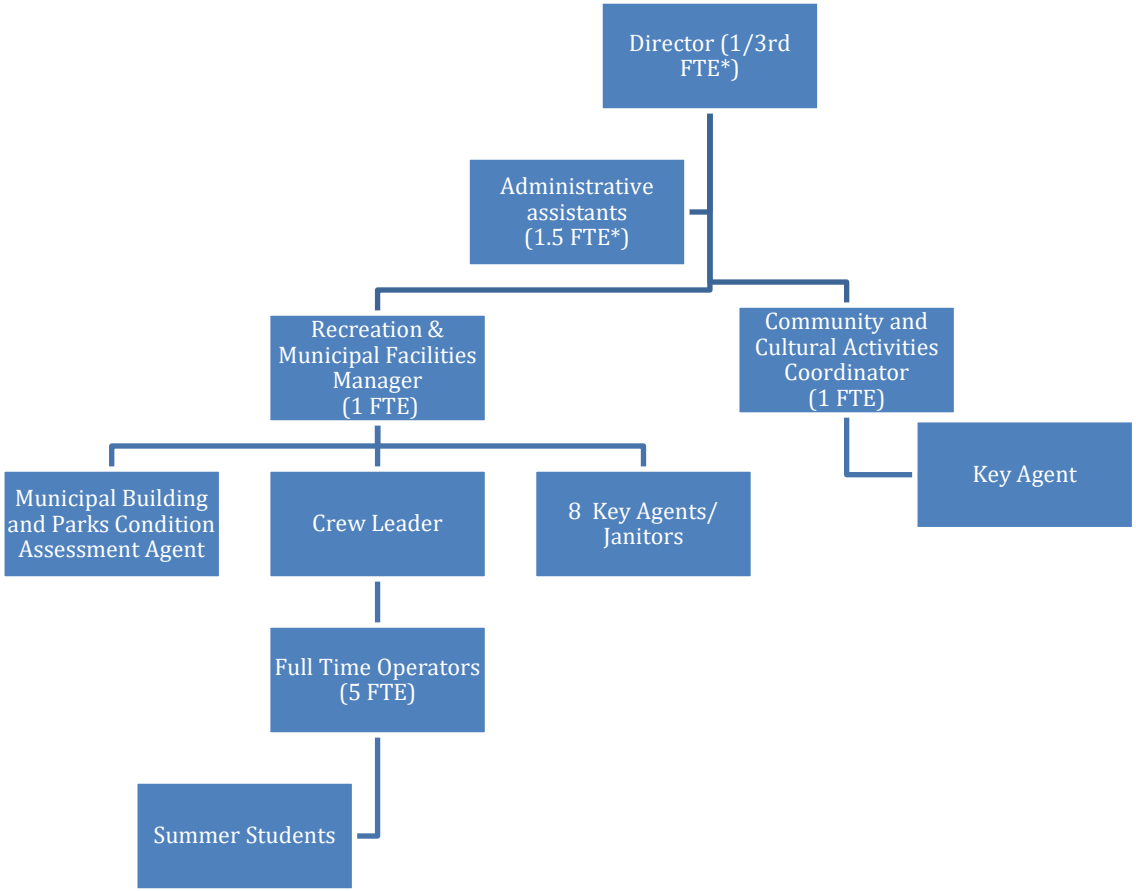
The price differential is likely due to the subsidized nature of municipal swimming pools: Municipalities subsidize the cost of access to swimming pools as a service for local residents. As a non-municipal entity, the YMCA-YWCA does not provide this subsidy. This Master Plan has identified that this cost represents a significant barriers to participation in aquatic activities for residents, at a City-owned facility, and our recommendations provide guidance on next steps to alleviate this issue.

Indoor Swimming	Clarence-Rockland: Day Pass	Ottawa
Tots 2 and under	$ 6.50	FREE
Child 3-12	$ 6.50	$ 1.95
Youth (13-18)	$ 6.50	$ 1.95
Student full time	$ 6.50	$ 1.95
Adult (19-64)	$ 13.00	$ 4.40
Senior (65+)	$ 8.00	$ 2.55
Family (1 adult 2 children)	$ 16.25	$ 1.95
Group (10 or more)		$ 1.70

Table 17: Cost of Entry - Swimming Pools Clarence-Rockland and Ottawa
Sierra Planning & Management

2.10 Internal Organization

In terms of staff complement, the Community Services department dedicates the following resources to the provision of parks and recreation services:



**The Director splits their time between the three components of the Community Services department – a.) recreation, arts and culture/buildings, b.) daycare services; and c.) public transit.*

*** The City currently employs 2 FTE administrative assistants that report to the Director of Community Services. They split their time between two components of the Community Services department – a.) recreation, arts and culture/buildings; and c.) public transit.*

The Parks & Rec maintenance crew has consisted of five full time employees since 1998, when the City of Clarence and the City of Rockland were amalgamated. The crew has experienced significant growth in responsibilities over this time related to the growth of recreation facilities that the crew needs to take care of. As an example over the last two years, two additional parks were added last year to the crew's roster, with no noted addition of resources – either labour or machines.

The crew indicated several key issues as it pertains to their ability to provide a sufficient level of service to meet residents' needs:

a. A lack of defined hierarchy and roles/job description

All crew members carry the same job description under the union 'operator'. There are no defined responsibilities, or division between crew members that are assigned to arena operation and maintenance versus those out for the day maintaining other buildings and outdoor facilities. While the crew fills in for each other and works to ensure that what they are assigned gets done, this lack of definition leads to several issues:

i. Lack of Accountability: Crew members are assigned a task from the crew leader or other senior members of the crew, but because there is no defined role for any individual, it is easy for whether or not this task has been done to slip through the cracks.

ii. Confusion with Vacation: Because there are no defined roles, it is unclear who should take the lead when the self-defined 'lead' is on vacation, and also a lack of procedures in terms of how the workload is passed off and tracked for accountability.

iii. Payscales: Younger staff members have indicated that they are undergoing training to ensure they receive the appropriate training for their position. How this will be translated into any bump in pay is unclear given that existing staff members do not have these qualifications but yet get paid on the same pay scale.

iv. Required qualifications: There is currently no requirement and incoming staff members to have any qualifications as it pertains to maintenance or management. This makes it difficult for existing staff to train them given their own strained resources, and also leaves the department open to potential lawsuits or other complaints as it pertains to levels of maintenance. It also discourages existing employees to engage in formal training.

b. Lack of space

The existing crew is primarily based out of the garage in the commercial district of Rockland. However, in recent years the City has leased the indoor office portion of this garage to the local food bank and a clothing bank. This has led to the following issues:

i. A lack of office space: In fact there is no formal office space for any crew member, which leads to lunches being eaten in the yard, and a general lack of organization and coordination or filing of notes.

ii. A lack of storage space: the crew needs indoor storage for trucks, machines, and other equipment. Without access to this space they have had to store their equipment indoors at other locations across the City (see related issues that follow), and in some instances store equipment outside which is not mindful of the long term maintenance and care requirements for the equipment.

c. Multiple Storage Locations

The crew currently operates primarily out of the central garage in the commercial district of Rockland. This space currently does not meet their requirements in terms of a.) space in general, and b.) indoor space. As such, they have taken to keeping equipment at any City-owned location that has storage space.

This leads to the following issues:

i. Inefficiencies associated with having equipment scattered across the City in different locations. Moreover, since there is no designated location for each piece of equipment, sometimes crew members are not 100% sure which location a tool or machine is.

ii. Having to store machinery outside when it should really be inside in a protected area – this diminishes the life span of the machines.

d. Labour Shortage

The crew comprises 5 full time workers. This has not changed since 1998 despite growing workloads Three have been with the union for over 20 years and as such are entitled to 5 weeks of vacation annually. This leaves the crew with 6 months of labour that is lost on an annual basis. Generally, the crew agrees that there are not enough people on the team to complete all required tasks. The strain is particularly bad during the winter when they lose one team member to the arena operation. This leads to the following issues:

i. Repairs are frequently only conducted when they have become a safety hazard
ii. Regular maintenance and upgrades are not conducted, which shortens the life span of facilities and amenities.
iii. Older facilities become relatively unattractive because the crew does not have the time to dedicate to 'aesthetic' maintenance. An example is the Clarence Creek Arena which the crew agrees needed repainting for at least ten years but only recently was completed.
iv. A lack of training – because there is not sufficient time, staff do not undergo training.

e. Budget Decreases

Anecdotally, the crew indicates that their budget for maintenance has decreased over the last few years. This means that any 'non-urgent' maintenance gets deferred. A failure to conduct annual maintenance on facilities and amenities leads to a crunch when they finally break down due to lack of regular maintenance.

A review of municipalities of a comparable size, indicates that the Community Services Department has relatively fewer staff members to complete their responsibilities. It should also be noted that Clarence-Rockland is somewhat unique in that the maintenance crew that services the recreation buildings and outdoor facilities also services the City's daycare facilities. As such, the crew and their budget is stretched more thinly than in communities of a comparable size. While concrete information on exact staffing numbers versus specific responsibilities is not available, it is clear that the division of staff between recreation, daycare, and transportation responsibilities for Community Services, is somewhat unique.

The perceived shortage of resources however, is also exaggerated on account of a lack of clear internal hierarchy and organization. This leads to lost time and resources that could be more efficiently used.

We provide recommendations in this regard to improving internal organization, and aligning staffing levels in Section 3.

3 Recommendations

3.1 The Vision:

A vibrant community that leverages the natural and built assets of our urban core and rural hamlets to offer residents and visitors the best in both indoor and outdoor recreation experiences.

3.2 The Mission:

To maximize the capacity of high quality recreation services and facilities to support residential and economic development.

3.3 Guiding Principles:

A: Leveraging Recreation to Build a Healthy Community

- By recognizing the role that recreation plays in promoting healthy lifestyles and social interaction, the City will strive to ensure that services are properly delivered, maintained and enhanced.
- The City will encourage participation in sport at every stage of life and the pursuit of healthy, active lifestyles.
- The City will facilitate health and wellness through passive and active leisure opportunities which allow residents to maximize participation in recreation in their daily lives.

B: Making Recreation Accessible for All

- The Community Services Department will continue to explore and implement ways to remove barriers which may prevent residents from participating in recreation. This includes physical, financial, and social barriers among others that may come to the attention of the City.
- Community Services will work to ensure that all residents – both urban and rural - have equitable access to formal and unstructured recreation activities, while recognizing the existing distribution of facilities and demands for centralizing functions.
- The City will be proactive in active transportation planning, and investment in infrastructure that links residents with recreation facilities and programming while promoting active transportation as a mode of travel.
- The City will take an active role in fostering partnerships to grow opportunities for youth to participate in organized and unorganized activities within their home community.
- As the older adult and senior population grows, the City will work with its partners to broaden the complement of active and social leisure programs and services available to this age group.
- The City will seek to ensure that sufficient facility space and allocations of time, and programs, are offered at affordable costs to enable participation.

- The City will continue to invest in neighbourhood-scale indoor and outdoor recreation facilities, in addition to regional-scale facilities, to provide a diverse range of passive and active recreation opportunities for all residents.

C: Embracing the Natural Environment

- The City will continue to embrace its natural surroundings, and build upon the opportunities provided by these assets through the exploration of options for development that maintains sensitive habitats while expanding opportunities for residents to enjoy them through both passive and active recreational activities.
- The City will seek to maximize public enjoyment of its parks and waterfront assets through festivals and events.
- The City will encourage and prioritize development that facilitates the use of Clarence-Rockland's waterfront, trail ways, and other natural environments for passive and active recreation uses.

D: Encouraging Positive Partnerships and Alliances

- Where appropriate, the City will pursue partnerships with other public, community and private sector providers in order to facilitate the provision of a diverse range of recreation services.
- The Community Services Department recognizes the value of partnerships for facility development, operation, and program development. The department will strive to ensure the most effective use of the City's resources in order to maximize all opportunities for partnership development with other municipalities, school boards, and other institutions.
- The City will strive to maintain existing successful partnerships with recreation programming partners and operators, and seek out mutually beneficial opportunities to grow these partnerships.
- The City will continue to provide a core set of festivals and events that appeal to a broad cross section of residents, and draw visitors to Clarence-Rockland. The City will take on a facilitation role to assist community members requiring support to provide more specialized events.

E: Providing the Necessary Infrastructure

- The City will strive towards the provision and maintenance of recreation infrastructure that meets community needs and reflects a diversity of interests, ages, and abilities.
- The City will continue to maintain a high standard of facility maintenance and will plan efficiently towards the replacement of facilities and amenities as may be required over time.
- The City will continue to work with operating partners to ensure City-owned facilities are maintained to City standards, and that operators continue to operate City-owned facilities in a fiscally prudent manner, including planning for and contributing to capital reserves where appropriate.

F: Efficient and Effective Service Delivery

- The City will strive to provide high level of customer service and facility maintenance to the community which is responsive to current and future needs.
- The City, through its role as the primary coordinator of the local recreation system, will ensure that the required tools, resources and supports are available so that recreation opportunities are provided in an efficient and effective manor.

3.4 Goals and Objectives

Goal 1: Promote Health, Wellness and Active Living

Objectives:

- To promote physical activity as a way of life and quality of life through programming.
- To offer opportunities for participation in recreation activities for all members of the community irrespective of age, ability, ethnicity, and income.
- To ensure that this is achieved in both the City's urban core and rural communities.

Goal 2: Maximize Access to Recreational and Community Oriented Opportunities, Programs and Events.

Objectives:

- To grow formal recreation programming in the City's rural hamlets to ensure all residents have equitable access to recreation opportunities.
- To leverage new and existing partnerships to increase recreation programming in each of the City's communities.
- To provide facilities that offer opportunities for recreation activities on a year-round basis, recognizing the confluence between outdoor activities and complementary indoor spaces.

- To improve access to recreation programming through accessible facility design and the provision of appropriate programming and equipment for people with special needs.
- To grow a core set of festivals and events that target a broad cross section of residents and visitors to Clarence-Rockland, while providing support for groups looking to provide events that target specific demographic groups.

Goal 3: Target Children and Youth through Recreation

Objectives:

- To promote healthy and active living for children and youth by offering a range of recreation services. This should prioritize growing the offer of programs which target older youth (ages 13-18).
- To invest in traditional and non-traditional recreation infrastructure that encourages youth participation in physical exercise and sports across the City's constituent communities.

Goal 4: Prioritize and Enhance Outdoor Recreational Opportunities through Trail, Bike Path, and Park Development

Objectives:

- To invest in existing parks to enhance their utility for community members.
- To enhance the development and utilization of multi-use trails to accommodate a range passive and active recreation activities.
- To connect rural residents with recreation opportunities across the City's constituent communities.
- To enhance connectivity between existing trails in order to link all areas of the community.
- To provide a uniform standard of development for bicycle paths throughout the City.
- To enhance the level of service within Clarence-Rockland's parks and open spaces to provide high quality passive and active recreational experiences for residents of all ages.
- To work with developers to increase the variety and quality of amenities within new and existing parks.

Goal 5: Invest in the City's Waterfront as a Long-Term, Generational Project

Objectives:

- To enhance public access to the City's waterfront as a leisure and recreation asset.
- To improve connectivity along the City's waterfront to grow opportunities for passive enjoyment of this asset.
- To leverage new development to increase the City's land ownership along the Ottawa River.

Goal 6: Facilities Renewal and Investment

Objectives:

- Maximize the utilization of existing assets through investment in improvements and renewal. This requires a comparison between the costs and benefits of facility renewal against new construction.
- To pursue all opportunities to develop recreation infrastructure by leveraging Federal, Provincial, and other funding programs that exist.
- To ensure long-term capital planning for infrastructure renewal as a principle of operational sustainability.
- To support investment in facilities which enhance opportunities for multi-use and/or alternative use in order to enhance utilization and revenue generation.
- To ensure efficient investment in modern recreational infrastructure which maximizes facility benefits to residents and visitors.
- To ensure that the Community Services Department has sufficient resources to maintain all City-owned recreation assets to a high standard to ensure their continued utility for residents.
- To ensure that the Community Services Department maximizes the efficiency with which it uses its resources to operate and maintain the City's recreation inventory.

Goal 7: Support, Promote and Partner for Access to Facilities and Programs for all Residents

Objectives:

- To maintain and grow existing successful partnerships with facility operators to provide access to a wide range of recreation facilities and programming.
- To continuously investigate new ways to develop programs for rural residents in partnership with school boards, recreation societies, operators, non-profit organizations, and other organizations.
- To investigate flexible program options to enhance the participation of rural residents in recreation (e.g. mobile programming).
- To grow the range of seniors programming to include both social and more active pursuits.

- To identify potential opportunities to work with developers to grow access to parkland, trails, and outdoor amenities as a part of the development process.

3.5 Indoor Recreation Facility Recommendations

3.5.1. Indoor Ice

Recommendation 1: *Monitor utilization of indoor ice at the Clarence-Rockland and Clarence Creek Arena based on either maximum utilization (achieved consistently year to year). Based on projections of growth, one additional ice pad would likely be required slightly beyond the plan period – beyond the current planning horizon. Accordingly, during this plan period, and predicated on population growth as projected, commission work as necessary to enable a new indoor ice surface by the time the City's population reaches a standard of 1 indoor ice sheet per 11,000 residents.*

The City will need to identify the most appropriate form that a new ice pad could take. Contingent on the Jean Marc Lalonde Arena being decommissioned as an ice facility, options could include:

- *Building around the Clarence Creek Arena: Invest around and breathe new life into an older asset; OR*
- *Development of a new build twin pad arena, and decommission the Clarence Creek Arena.*

Rationale: While the utilization of the Clarence-Rockland Arena is relatively strong, utilization of the Clarence Creek Arena is significantly lower. There is an opportunity for Clarence Creek to play a more central role in meeting the ice needs of residents of Clarence-Rockland, particularly given its central location within the municipality.

It is expected that Clarence Creek Arena will meet growing ice needs associated with projected population growth, however the City will need to monitor utilization, and begin planning for the development of a fourth indoor ice pad once utilization at both arenas reaches close to prime time capacity.

Recommendation 2: *Decommission the Jean Marc Lalonde Arena and identify opportunities to repurpose into an indoor non-ice based recreation facility that provides opportunities for a range of sport and recreation activities.*

Rationale: The building of the Jean Marc Lalonde (JML) Arena is in good physical condition, and offers potential for required indoor sport and recreation space. Moreover, the building is located within the downtown core of Rockland, in close proximity to schools and other recreation amenities. The dimensions of the former ice surface lend themselves to being repurposed as an indoor mixed sport facility.

Regardless, it is important to note that the JML Arena remains at this time a viable option to fulfil future ice needs of the City. As such, the pros and cons of redeveloping this building for other needs that would remove the capacity of this facility to meet future ice needs must be carefully balanced.

Recommendation 3: *Pursue a partnership with local school boards to cost-share the repurposing of the Jean Marc Lalonde Arena into an indoor non-ice based recreation facility.*

Rationale: Local school boards have approached the City indicating that they require additional gymnasium space to accommodate physical activity classes in the context of growing enrollment. The Jean Marc Lalonde Arena is in close proximity to four local schools and as such is well positioned to function as additional gymnasium space for the school boards.

3.5.2. Community Centres

Recommendation 4: *Complete necessary maintenance at existing community halls to improve appeal for bookings.*

Rationale: The City's community centres are focal points within their respective communities that serve important civic and social functions. These facilities are currently underutilized. Maintenance issues at the Clarence Creek and Jean Marc Lalonde community rooms should be prioritized to ensure that these facilities continue to function to their full potential.

Recommendation 5: *Do not plan for additional community halls over the plan period.*

Rationale: Projected population growth is expected to take place primarily in the urban core of Rockland. Rural communities are expected to experience minimal population growth over the plan period. Consultation completed as a part of this Master Plan did not identify any desires for additional community halls in the two communities that currently do not have one – Clarence Point, and Cheney. These community members appear content to travel to nearby communities to use these facilities.

Recommendation 6*: Leverage the City's successful partnership with the YMCA-YWCA of Clarence Rockland to expand programming to rural community halls.*

Rationale: The Municipality has transferred responsibility for non-user group recreation programming in Clarence-Rockland to the Capital Region YMCA-YWCA. The YMCA has the expertise and resources to provide programming in the rural halls.

The Municipality is financing the operation and maintenance of the community halls – the lack of programming is a missed opportunity to improve utilization of these assets.

Recommendation 7*: If a partnership with the YMCA-YWCA of Clarence Rockland is not forthcoming, the City should proactively assess options for programming rural community halls.*

Rationale: The Municipality is financing the operation and maintenance of the community halls – the lack of programming is a missed opportunity to improve utilization of these assets.

Recommendation 8: *Provide recreation committees the right to first refusal for bookings of the City's community halls.*

Rationale: While it is important to expand the use of the City's community halls to more structured recreation programming, it is also vital that these halls retain their current function for local communities as social gathering spaces. Accordingly, to ensure that local recreation committees can continue to build social ties within their communities, they should be given the right to first refusal for bookings as the City and/or the YMCA-YWCA of Clarence-Rockland begins the process of more actively programming these facilities.

3.6 Outdoor Recreation Facility Recommendations:

3.6.1. Ball Diamonds

Recommendation 9: *Invest in a twin-diamond facility over the plan period to facilitate league and tournament play. This may be paired with regulation size soccer fields to meet the growing enrollment in soccer.*

Rationale: Ball sports are growing in popularity in Clarence-Rockland, and are of particular popularity in the City's rural communities where there is not immediate local access to other recreation facilities. A twin diamond will facilitate growth in existing leagues, and allow for the City to host tournaments and competitions. This facility would ideally be a part of a complex that includes a domed field turf field.

Recommendation 10: *The City should proactively engage in land banking over the plan period to plan for the development of a twin diamond facility which may be paired with regulation size soccer fields.*

Rationale: The development of a twin diamond facility with associated playing fields will require a significant investment in land. In the context of upcoming new residential development, this land should be proactively planned for through a process of land banking as development occurs.

3.6.2. Soccer Fields

Recommendation 11: *The City should consider the development of an integrated soccer and baseball complex as an aspirational project over the long term. The complex should include a domed field turf field, in addition to a twin baseball diamond field. This will require land banking and planning over the plan period.*

Rationale: Both soccer and baseball are popular and growing sports within Clarence-Rockland. They also offer a viable alternative to more expensive sports and recreational activities. An indoor soccer facility will allow local athletes to practice year-round and compete with other leagues in the area. A twin baseball diamond will allow the City to grow baseball enrollment based on latent demand, and host tournaments.

3.6.3. Tennis Courts

***Recommendation 12**: Maintain existing tennis courts to standards acceptable for play over the plan period as per the City's asset management plan.*

Rationale: The City is well served by tennis courts based on comparable population standards. Public consultation did not indicate any unmet need for tennis courts over the plan period.

3.6.4. Splash Pads/Spray Parks

***Recommendation 13**: Move forward with the installation of a splash pad in Bourget in 2016.*

Rationale: The installation of a splash pad in Bourget will move the City of Clarence-Rockland in line with standards in comparable communities, and also improve access to these facilities for rural residents.

***Recommendation 14:** Move forward with the installation of a splash pad in Clarence Creek over the short term.*

Rationale: The installation of a third splash pad, in Clarence Creek, will ensure that the City meets standards in comparable communities, and will further increase access to these facilities for rural residents.

***Recommendation 15:** Monitor community use and stated desires for splash pads with option to include a fourth splash pad near the end of the plan period – may be as a part of the Regional Group Park, or waterfront development.*

Rationale: The installation of a second splash pad in Rockland near the end of the plan period would improve access to these facilities for residents in the growing urban centre of Rockland.

3.6.5. Waterfront

***Recommendation 16**: Move forward with planned Development-Charge funded waterfront development however focus on analysis of constraints, rather than design.*

Rationale: The community clearly has a desire to improve access to amenities at the City's waterfront. The community's vision for the waterfront has been clearly articulated through consultation conducted for this Master Plan (provided under separate cover). The City has dedicated funds within their Development Charges funded budget to furthering the process of improving public access to the waterfront which would be quickly used up through a design exercise. Instead, this Master Plan recommends that these funds are used to identify constraints to development which would then inform a more practical design exercise.

***Recommendation 17**: Focus waterfront development on Rockland waterfront and connections to urban core: Conduct a secondary plan exercise to look at connectivity issues from the waterfront across County Road 17.*

Rationale: Waterfront development in Rockland is an opportunity to look at improving connectivity between the waterfront and developing neighbourhood(s) north of County Road 17, and the broader urban core of Rockland.

3.6.6. Bike Paths

***Recommendation 18**: The development of bike lanes should take a phased approach, with connections in the urban core forming the first phase of development. Rural connections to urban bike lanes should form a second phase of development.*

Rationale: There is greater opportunity to create linkages through bike lanes in the urban core of Rockland: This phase will likely require less investment, and has the potential to be used by a greater volume of riders than rural bike lanes. The urban bike lanes should then form a base upon which rural connections can be made.

***Recommendation 19:** The development of rural bike lanes should focus on the existing United Counties trail.*

Rationale: Any development of bike lanes must leverage existing infrastructure to be an effective investment.

***Recommendation 20:** Move forward with related investment in bike trails and network as per DC Background Study.*

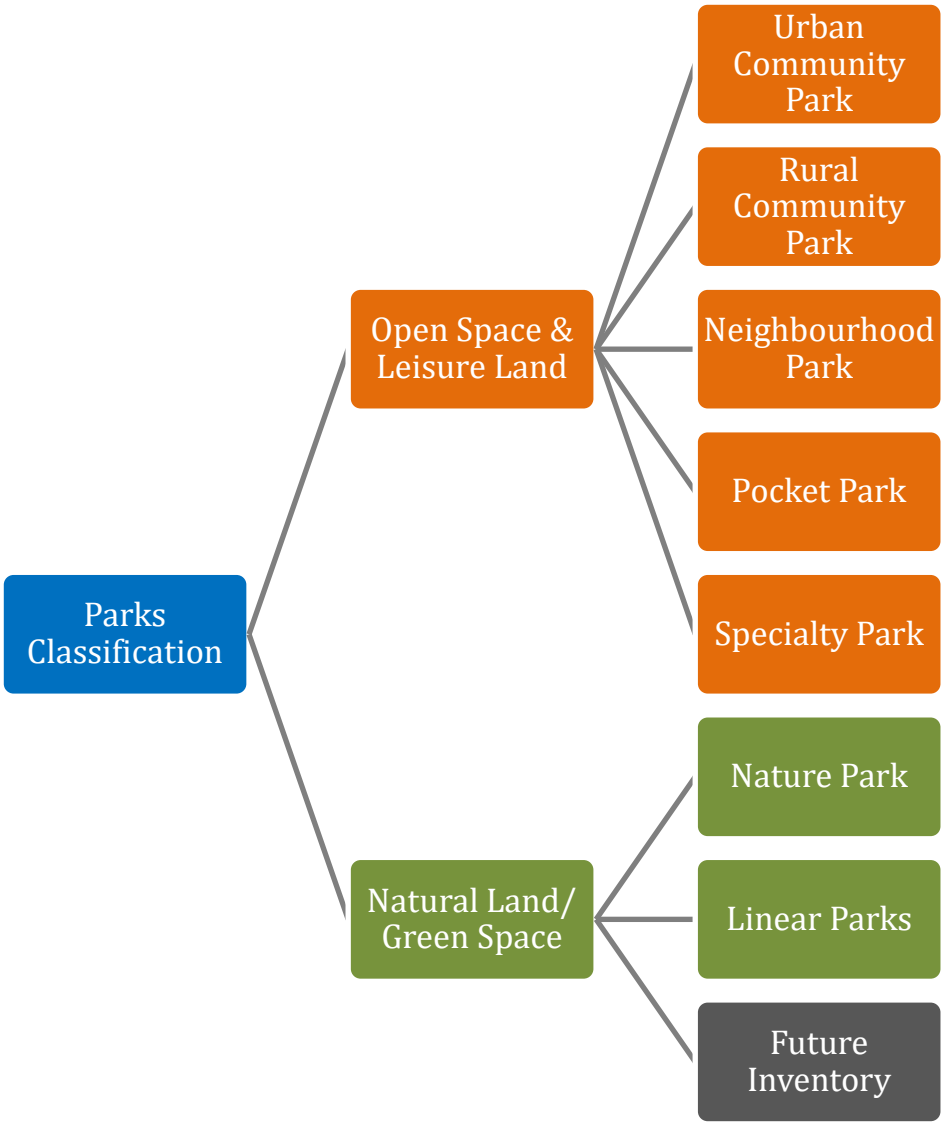
Rationale: These funds have been earmarked for this purpose, and consultation through this Master Plan has indicated there is a clear demand for these services.

3.6.7. Parkland

***Recommendation 21:** Adopt a parkland classification system as a part of the Master Planning process.*

Rationale: The City of Clarence-Rockland does not currently have a parkland classification system to assist in future parks planning exercises. Parkland classification systems serve as a reference tool to guide the City in the development of new parks, and investment in existing parks that may not currently be meeting community needs to their full potential.

Through a review of the City's existing parkland inventory, and staff aspirations for the parks system, we recommend the adoption of the following parks classification system:



Urban Community Park:

Includes: A range of active and passive recreational uses including indoor and/or outdoor activities. May house indoor recreation facilities such as arenas and community halls, and outdoor amenities such as sports fields and ball diamonds.

Serves: All City residents.
Size: Depends on configuration.
Example: Simon Park

Rural Community Park:

Includes: A range of active and passive recreational uses including sports fields and other sport-specific amenities. May include a community hall and/or arena.

Serves: Primarily serves residents of the rural community in which it is located.
Size: Depends on configuration.
Example: Bernard Valiquette Park (Bourget)

Neighbourhood Park:

Includes: Active and passive recreation facilities – primarily outdoor, for every-day use rather than competition. E.g. playground, playing field.

Serves: Local neighbourhood (ten minute walk).
Size: Approximately 1-3ha
Example: Parc Deschamps

Pocket Park:

Includes: Passive infrastructure only.

Serves: Local neighbourhood
Size: Typically small or irregular single plot.
Example: Heritage Park on Laurier Street.

Specialty Park:

Includes: Specialty uses not found in other parks, such as a dog park, community gardens, boat launch, etc.

Serves: All City residents.
Size: Depends on amenities housed.
Example: Du Moulin Park, Dog Park.

Nature Park:

Includes: Land of environmental significance. Development typically limited to trails.

Serves: All City residents.
Size: Depends on configuration.
Example: Lavigne Natural Park

Linear Park:

Includes: Trail ways and/or bike paths.

Serves: All City residents and in some cases visitors to the city.
Size: Depends on configuration.
Example: Prescott-Russell Recreational Trail

Recommendation 22: *Adopt the following provision targets for parkland over the Plan period:*

Park Type	Suggested Provision Target
Urban Community Park	0.5 ha per 1,000 urban residents. (Current standard 0.37)
Rural Community Park	1 per rural community.
Neighbourhood Park	1 within a ten minute walk of all residential neighbourhoods not served by an urban or rural community park. Should include typical play space amenities.
Pocket Park	Where municipal landholdings are too small for development of amenities. Parcels of this nature should not be actively pursued in the subdivision process.
Specialty Park	Where demand exists for specialized facilities.
Nature Park	Developed where land is acquired of environmental significance, at the discretion of the municipality.
Linear Parks	Where opportunity exists for acquisition of parcels

Specific recommendations as it pertains to communities and parkland comprise:

Recommendation 23: *Identify options for the development of an urban community park in the Regional Group development.*

Rationale: A best practice in terms of urban parkland provision is 0.5ha of urban community parkland per 1,000 residents. Simon Park currently services the municipality in this regard, however as the urban core of Rockland grows and moves away from the traditional downtown core, there is an opportunity to improve the current level of provision, and create a second urban community park within the Regional Group development. The concept for this development is an urban village with connections to the waterfront, lending itself to a location for a second urban community park.

Recommendation 24: *Move forward with addition of splash pad to Bernard Valiquette Park.*

Rationale: The City has allocated funds for this project, and there is clear demand for this facility in Bourget.

Recommendation 25: *Monitor requirement for additional neighbourhood park if additional subdivisions are approved outside of current community boundary.*

Rationale: Bourget is currently well served in terms of neighbourhood parks, however if additional development occurs outside of the current community boundary, new residents would likely be under served in terms of proximate access to neighbourhood park amenities.

Recommendation 26: *Maintain Cheney Park. Consider the addition of amenities for youth under 10 years of age – e.g. a splash pad or skate park, over the medium term.*

Rationale: Based on both population-based standards, and local access to neighbourhood scale recreation amenities, Cheney is well served. There is a community desire for additional amenities in this park that serve youth under 10 years of age.

Recommendation 27: *Clarence Creek is well served by parkland at present. The City should monitor development of the future subdivision to assess requirements for additional neighbourhood scale parks.*

Rationale: The future subdivision process would add additional residents to Clarence Creek, away from the traditional settlement boundary. This may result in new residences being located too far from existing neighbourhood scale park amenities.

Recommendation 28: *Move forward with the development of Mountainview Park in Clarence Point as a neighbourhood scale park.*

Rationale: This park will improve access to neighbourhood scale amenities for residents in Clarence Point, and is already budgeted for in the City's capital budget.

Recommendation 29: *Assess feasibility of skate park provision in Hammond Park over the plan period.*

Rationale: Hammond is well served by parkland. Future development in the JML subdivision will be well served by the existing park. Residents indicated the park lacks amenities for older youth.

Recommendation 30: *Maintain the relationship with the school board that permits public access and use of the Saint Pascal-Baylon ball diamond and soccer field.*

Rationale: The current agreement ensures public access to recreation amenities that serve an important role for both residents of Saint Pascal Baylon, and for user groups across the City that use these facilities.

Recommendation 31: *Assess public interest in additional facilities behind the community centre in Saint Pascal Baylon.*

Rationale: Community amenities in Saint Pascal Baylon are currently concentrated by the Saint Pascal Baylon ball diamond. The local community centre has a sizable tract of land behind it but to date only houses horseshoe pits. The City should ascertain local appetite for additional amenities in this location that do not duplicate existing amenities in the community.

Recommendation 32: *Move forward with concept development of Morris Village and Regional Group Park development.*

Rationale: Per capita provision is lower than in comparable jurisdictions, however will catch up with development of the park in Morris Village, and the Regional Group subdivision.

Recommendation 33: *Limit investment in the current dog park given that the land is on a short-term lease. Regardless however, provide investment for this facility for it to function as a dog park over the lease period. Work with the Dog Park committee to identify required upgrades.*

Rationale: The dog park is on a short-term lease and as such, significant investment in this facility is not prudent. However, for the park to function as a dog park, it requires certain amenities that it currently lacks. This includes fencing and water provision.

Recommendation 34: *Identify a permanent location for the dog park over the short to medium term.*

Rationale: The dog park is a valued amenity within the community. To ensure it is available for residents on a permanent basis, the City will need to identify municipal land to develop a permanent dog park. Moreover, a permanent location will allow for investment to provide a high quality, functional experience for users. A permanent location should allow for the following amenities:

- Amenities for both small and big dogs
- Water source (clean)
- Sufficient (high) fencing
- Lighting (could be self-sustained if no hydro is available)
- Multiple refuse containers spread over park area.
- Permanent covered area for shade
- Benches/tables for owners

Recommendation 35: *Assess demand for a second dog park over the plan period.*

Rationale: While the dog park is a relatively new amenity in Clarence-Rockland, it has proven popular with residents from across the municipality. The City should assess demand for a second dog park over the plan period, assessing demand through a.) utilization of the existing dog park, and b.) community desires for a second location. Based on public appetite, this may be located in a rural community.

Recommendation 36: *Replace play structures at the end of their lifecycle as per the City's Asset Management Plan.*

Rationale: The City currently has an asset management plan that identifies required investment and/or replacement of playground equipment over the plan period. This is based on manufactures best practice in terms of life cycle replacement.

Recommendation 37: *Develop a Parks Policy that identifies appropriate use, roles and responsibilities of authorities, hours, signage requirements, offenses and penalties etc.*

Rationale: The City does not currently have a Parks Policy, which reduces the municipality's capacity to regulate park use. While residents are generally happy with the City's parks, safety and security was a concern that arose in consultation.

Recommendation 38: *Plan for play structures appropriate for both younger and older children in all neighbourhood parks.*

Rationale: Best practice in comparable municipalities dictates that playgrounds should provide amenities for all ages under 14 years.

As the City revises its asset management plan on an annual basis over the Plan period, it should work to ensure all playgrounds have structures for both younger and older children.

Recommendation 39: *Prioritize wheelchair accessible play structures in new acquisitions.*

Rationale: It is not feasible to replace all older play structures that are not accessible, however this should be a priority as the City works through its asset management plan, and acquires new play structures.

Recommendation 40: *Work with the Planning Department to revise wording in the Official Plans to include wording to allow the municipality to negotiate with developers to contribute to life cycle maintenance for play structures, and provide funding for amenities within parks.*

Rationale: The City's Official Plan is a tool that allows the municipality to negotiate with developers during the subdivision process, to ensure that residents have access to high quality amenities within local parks.

Recommendation 41: *Adopt a parkland disposition policy that identifies the process through which the City would identify surplus parkland, and assess its suitability for disposition.*

Rationale: The City does not currently have a parkland disposition policy, which limits the transparency with which it can identify, and dispose of surplus land.

3.7 Programming Recommendations

Recommendation 42: *Work with rural recreation committees to identify priorities for rural programming in each community.*

Rationale: A goal of the Master Plan is to improve access to recreation programming for rural residents, however this must be conducted in partnership with rural recreation committees and user groups that provide existing programming. This will ensure that programming is not duplicated, and that developed programs accurately reflect the needs of rural communities.

Recommendation 43: *Focus on expanding programming to rural residents using community halls as anchors.*

Rationale: Community halls are focal gathering points for rural communities. They are currently underutilized, and as municipal assets, should be leveraged in expanding programming to rural communities.

Recommendation 44: *Leverage the City's successful partnership with the YMCA to expand programming to rural community halls.*

Rationale: To date, the partnership between the YMCA-YWCA of Clarence-Rockland, and the City of Clarence-Rockland, has ensured that residents have access to high quality recreation programming for all ages. As a partner in the community with significant knowledge and experience in recreation programming, broadly and locally, the YMCA-YWCA is an obvious choice in this regard.

Recommendation 45: *Identify options to program rural schools.*

Rationale: Like rural community centres, rural schools are focal gathering points for their communities, and are under-utilized assets. Moreover, the City of Clarence-Rockland has historically had positive relationships with local school boards. The City should investigate the appetite for programming in rural school gymnasiums either directly, or through a partnership with the YMCA-YWCA of Clarence-Rockland, the school boards, and/or other qualified operators.

3.8 Partnership-Based Recommendations

Recommendation 46: *Review existing Joint Use Agreements and Partnership Agreements when they are up for renewal to ensure agreements continue to positively contribute to Clarence-Rockland's recreation system.*

Rationale: The City of Clarence-Rockland has historically built a positive and mutually beneficial relationship with local school boards. Particularly in rural communities, local schools play a key role in the provision of indoor recreation space.

Recommendation 47: *Work with local recreation committees to assess potential to expand programming for seniors and youth to community halls in rural areas.*

Rationale: Local recreation committees have experience in providing social programming in Bourget. This role has the potential to be expanded through the development of local recreation committees in other rural communities to improve access to local programming.

3.9 Event-Based Recommendations

Recommendation 48: *Define a 'core' set of events that the Municipality is responsible for facilitating.*

Rationale: The City receives multiple requests on an annual basis to fund and operate community events. Without a procedure in place to identify which events to support, there is a lack of transparency. Defining a core set of events that the Municipality is responsible for facilitating, improves transparency in terms of the City's role in providing events. Core events should be those that both cater to local residents and have the potential to attract visitors from outside of Clarence-Rockland.

Recommendation 49: *Continue to facilitate, promote, and evolve existing core events (i.e. Canada Day, Santa Claus Parade, and Ottawa River Festival).*

Rationale: Based on the popularity of these events, and their ability to draw visitors into Clarence-Rockland, the City should define these as core events that Community Services is responsible for facilitating.

Recommendation 50: *Outside of defined core events, the City should adopt a facilitation role – assisting community groups interested in organizing events.*

Rationale: While a lack of resources means that the City cannot support every event that requests funding or assistance in other regards, this Master Plan identifies that the Community Services department has a key role to play in assisting community groups that are shouldering a majority of the responsibility for events.

3.10 Recommendations on Fees and Charges

Recommendation 51: *Revisit user fees on a regular basis based on quality of amenities.*

Rationale: At this point in time, the existing user fee schedule appears to meet both the needs of the municipality, and local residents. It is vital however to complete an annual review of user fees based on quality of amenities, to ensure that these fees meet the needs of the municipality and of residents.

Recommendation 52: *Work with the Capital Region YMCA-YWCA to remove financial barriers to non-members for day entry to indoor swimming.*

Rationale: The Cultural and Sports Complex is a city-owned facility, with the YMCA-YWCA of Clarence-Rockland operating the fitness and aquatic components of this building. As a City-owned facility, the City has a responsibility to ensure that residents have reasonable access to aquatic programming. This may mean that the City purchases free swim times once a week from the YMCA-YWCA for this purpose.

3.11 Recommendations on Internal Organization

Recommendation 53: *Identify opportunities to work with the union responsible for Community Service employees to develop defined titles, roles and responsibilities.*

Rationale: Defined roles and responsibilities improve efficiency and accountability by clearly identifying who is responsible for what.

Recommendation 54: *Investigate options for work-flow software.*

Rationale: Work-flow software will improve the efficiency and accountability associated with assigning maintenance jobs to employees.

Recommendation 55: *Appraise existing garage. Identify value of existing garage for disposition or reallocation to a different municipal use. Identify possibility for land purchase for new garage or site on existing municipal land.*

Rationale: The existing garage does not meet the needs of the Community Services Department.

Recommendation 56: *Identify the potential role for one additional FTE worker as a project coordinator in the Community Services Department to assist with existing recreation services provision. Description: Responsible for implementation of future capital projects. This could be done internally if staff is available.*

Rationale: The existing staffing structure is clearly strained, with maintenance issues deferred due to lack of staffing. While other recommendations provided within this section will improve efficiency of resource-use, the Community Services Department should identify the role that one additional FTE worker would play, and present this proposal to City council.

Recommendation 57: *Investigate the feasibility of adopting CLASS booking software with online booking capabilities.*

Rational: CLASS booking software will reduce the labour costs associated with maintaining the current booking system, and will provide more detailed information regarding trends in facility bookings.

4 Implementation

4.1 Timelines and Budget Allocations

The following identifies approximate timelines and high level cost estimates and/or budget allocations for the recommendations contained within this Master Plan. These timelines are flexible, and are approximately based on projected population growth. The Master Plan recommendations have identified approximate timing based on population projections, but also identified appropriate standards of provision.

The Master Plan is a flexible document, and the timing of the recommendations should be revisited on an annual basis by the Community Services Department based on actual population growth, and any changes in annual utilization.

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Indoor Recreation Facility Recommendations								
1. Commission work as necessary to enable a new indoor ice surface by the time the City's population reaches a standard of 1 indoor ice sheet per 11,000 residents.							*Cost will vary based on work required. Basic allocation for feasibility study and design: $300,000; Land banking or land purchase will be above this.*	
2. Decommission the Jean Marc Lalonde Arena and identify opportunities to repurpose into an indoor non-ice based recreation facility that provides opportunities for a range of sport and recreation activities.	*Cost will vary based on use and condition of arena*							
3. Pursue a partnership with local school boards to cost-share the repurposing of the Jean Marc Lalonde Arena into an indoor non-ice based recreation facility.	*Cost of staff time only.*							
4. Complete necessary maintenance at existing community halls to improve appeal for bookings.	*Community Services Department to identify estimated cost for high priority work.*	*Ongoing*						
5. Do not plan for additional community halls over the plan period.	*Ongoing*							
6. Leverage the City's successful partnership with the YMCA-YWCA of Clarence Rockland to expand programming to rural community halls.	*Cost of staff time only - cost of programming should rest with YMCA-YWCA*		*Ongoing*					
	OR							
7. If a partnership with the YMCA-YWCA of Clarence Rockland is not forthcoming, the City should proactively assess options for programming rural community halls.	*Conservative estimate of $20,000 annually based on expanding programming through an external programmer, and cost of existing staff time to coordinate.*							
8. Provide recreation committees the right to first refusal for bookings of the City's community halls.	*Ongoing*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Outdoor Recreation Facility Recommendations								
9.&11. Invest in a twin-diamond facility over the plan period to facilitate league and tournament play. This may be paired with regulation size soccer fields (one domed) to meet the growing enrollment in soccer.				*Cost will vary based on land costs and precise configuration of the project. Twin ball diamonds can cost in the range of $400-$600k depending on design and amenities. A domed soccer field may cost in the range of $2-3 million.*				
10. The City should proactively engage in land banking over the plan period to plan for the development of a twin diamond facility which may be paired with regulation size soccer fields.	*Ongoing: Cost will vary and is the opportunity cost of a.) alternative investment of municipal funds, and b.) taking cash-in-lieu of land acquired through the development subdivision process.*							
12. Maintain existing tennis courts to standards acceptable for play over the plan period as per the City's asset management plan.	*Ongoing*							
	$28,000 Clarence Creek Arena surfaces		*36,000 Simon Park surfaces*					
13. Move forward with the installation of a splash pad in Bourget in 2016.	*$150,000*							
14. Move forward with the installation of a splash pad in Clarence Creek over the short term.			*$150,000*					
15. Monitor community use and stated desires for splash pads with option to include a fourth splash pad near the end of the plan period – may be as a part of the Regional Group Park, or waterfront development.							*$150,000*	

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Outdoor Recreation Facility Recommendations								
16. Move forward with planned Development-Charge funded waterfront development however focus on analysis of constraints, rather than design.	*$50,000 as per existing capital budget*							
17. Focus waterfront development on Rockland waterfront and connections to urban core: Conduct a secondary plan exercise to look at connectivity issues from the waterfront across County Road 17.		*$100,000*	*$100,000*					
18. The development of bike lanes should take a phased approach, with connections in the urban core forming the first phase of development. Rural connections to urban bike lanes should form a second phase of development.	*Ongoing*							
19. The development of rural bike lanes should focus on the existing United Counties trail.	*Ongoing*							
20. Move forward with related investment in bike trails and network as per DC Background Study.	*Ongoing: $245,000*							
21. Adopt a parkland classification system as a part of the Master Planning process.	*Cost of Staff Time*							
22. Adopt the identified provision targets for parkland over the Plan period.	*Cost of Staff Time*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Outdoor Recreation Facility Recommendations								
23. Identify options for the development of an urban community park in the Regional Group development.	*$200,000*							
24. Move forward with addition of splash pad to Bernard Valiquette Park.	*$150,000*							
25. Monitor requirement for additional neighbourhood park if additional subdivisions are approved outside of current community boundary.	*Ongoing*							
26. Maintain Cheney Park. Consider the addition of amenities for youth under 10 years of age – e.g. a splash pad or skate park, over the medium term.			*$150,000*					
27. Clarence Creek is well served by parkland at present. The City should monitor development of the future subdivision to assess requirements for additional neighbourhood scale parks.	*Ongoing*							
28. Move forward with the development of Mountainview Park in Clarence Point as a neighbourhood scale park.	*$100,000*							
29. Assess feasibility of skate park provision in Hammond Park over the plan period.	*Ongoing: $300,000 allocation*							
30. Maintain the relationship with the school board that permits public access and use of the Saint Pascal-Baylon ball diamond and soccer field.	*Ongoing*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Outdoor Recreation Facility Recommendations								
31. Assess public interest in additional facilities behind the community centre in Saint Pascal Baylon.	*Cost will vary based on amenity. Allocation of $50,000*							
32. Move forward with concept development of Morris Village and Regional Group Park development.	*$50,000*							
33. Limit investment in the current dog park given that the land is on a short-term lease. Regardless however, provide investment for this facility for it to function as a dog park over the lease period. Work with the Dog Park committee to identify required upgrades.	*Allocation of $50,000*							
34. Identify a permanent location for the dog park over the short to medium term.	*Land should be acquired through the development process.*							
35. Assess demand for a second dog park over the plan period.			*Land should be acquired through the development process.*					
36. Replace play structures at the end of their lifecycle as per the City's Asset Management Plan.	*Ongoing: Current estimates: 2016-2018 $224,000 2019-2022: $182,000 2023+: $492,000*							
37. Develop a Parks Policy that identifies appropriate use, roles, and responsibilities of authorities, hours, signage requirements, offenses and penalties etc.	*$10,000*							
38. Plan for play structures appropriate for both younger and older children in all neighbourhood parks.	*Ongoing: Cost will depend on number of parks developed.*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Outdoor Recreation Facility Recommendations								
39. Prioritize wheelchair accessible play structures in new acquisitions	*Ongoing: Cost will depend on number of acquisitions*							
40. Work with the Planning Department to revise wording in the Official Plan to include wording to allow the municipality to negotiate with developers to contribute to life cycle maintenance for play structures, and provide funding for amenities within parks.	*Cost of staff time.*							
41. Adopt a parkland disposition policy that identifies the process through which the City would identify surplus parkland, and assess its suitability for disposition.	*Cost of staff time.*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Programming Recommendations								
42. Work with rural recreation committees to identify priorities for rural programming in each community.	*Cost of staff time*							
43. Focus on expanding programming to rural residents using community halls as anchors.	*Partnership with YMCA-YWCA*							
44. Leverage the City's successful partnesrhip with the YMCA to expand programming to rural community halls.	*If City engages instead with direct programming : estimate of $20,000 annually*							
45. Identify options to program rural schools.	*Cost of staff time*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Partnership Recommendations								
46. Review existing Joint Use Agreements and Partnesrhip Agreements when they are up for renewal to ensure agreements continue to positively contribute to Clarence-Rockland's recreation system.	*Ongoing - Cost of Staff Time*							
47. Work with local recreation committees to assess potential to expand programming for seniors and youth to community halls in rural areas.	*Cost of staff time*							
Event-Based Recommendations								
48. Define a 'core' set of events that the Municipality is responsible for faciliting.	*Cost of staff time*							
49. Continue to facilitate, promote, and evolve exisiting core events (i.e. Canada Day, Santa Claus Parade, and Ottawa River Festival).	*Ongoing - Cost of Staff Time*							
50. Outside of defined core events, the City should adopt a facilitation role - assisting community groups interested in organizing events.	*Ongoing - Cost of Staff Time*							

Recommendation	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2027	2028-2029	2030-2031
Recommendations: Fees & Charges								
51. Revisit user fees on a regular basis based on quality of amenities.	*Ongoing: Cost of staff time*							
52. Work with the Capital Region YMCA-YWCA to remove financial barriers to non-members for day entry to indoor swimming.	*Ongoing: Estimate of $10,000 annually*							
Recommendations: Internal Organization								
53. Identify opportunities to work with the union responsible for Community Service employees to develop defined titles, roles and responsibilities.	*Cost of staff time*							
54. Investigate options for work-flow software.	*City has acquired licence for WorkTech - no additional cost.*							
55. Appraise existing garage. Identify value of existing garage for disposition or reallocation to a different municipal use. Identify possibility for land purchase for new garage or site on existing municipal land.	*Cost will vary significantly based on land requirements and design for new facility.*							
56. Identify the potential role for one additional FTE worker in the Community Services Department to assist with existing recreation services provision.	*$50,000*							
57. Investigate the feasibility of adopting CLASS booking software with online booking capabilities.	*$30,000*							

4.2 Prioritizing Plan Recommendations

This Master Plan has identified recommendations in terms of appropriate timing. This provides Council with some strategic direction as to the relative prioritization of the recommendations. Regardless, ultimately the decisions regarding what the City invests in, and the specific timing of this investment will rest with Council. To assist in the process of prioritizing investment in parks and recreation projects over the course of the Plan, we have provided the following suggested decision matrix. This is for assistance only, and Council may choose to add additional categories, remove categories, and weight categories as they see fit.

Category	Score			
	Good Fit 4	Marginal Fit 3	Poor Fit 2	No Fit 1
Fits with Council's Strategic Priorities				
Identified community need through a.) Strategic planning exercise b.) Community consultation				
Funds previously allocated through budgeting process.				
Project will positively impact sectors/departments beyond community services.				
Addresses a previously recognized service gap.				
Improves equitable distribution of recreation amenities and programming between communities.				
Does not duplicate existing or nearby programs or services.				
Collaborative opportunities identified to reduce financial and operative burden.				
TOTAL SCORE				

5 References

Ontario Ministry of Culture and Recreation: Guidelines for Developing Public Recreation Facility Standards (2004).

Statistics Canada - 2011 National Household Survey. Catalogue Number 99-012-X2011032.

City of Clarence-Rockland, Planning Department Statistics 2015.

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STRATEGIC PLANNING

Have your say….it's your future!

Clarence-Rockland

Destination

City of Clarence-Rockland

STRATEGIC PLAN

2015 to 2021

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Message from Mayor and Council

Your Council is pleased to share with you the 2015-2021 Strategic Plan for the City of Clarence-Rockland.

This Strategic Plan represents the culmination of a comprehensive community engagement process which included workshops, online and website surveys. We would like to extend our sincere appreciation to all those that participated in the consultation process. You provided significant insight into your vision for the future of Clarence-Rockland; which services are highly valued and the level of satisfaction with the delivery of these services and, most importantly, the identification of municipal priorities.

Based on your feedback, the municipality is now positioned to align community goals and objectives with Council's priorities and enhance our accountability with our stakeholders.

The Plan is focused on for mutually supportive Pillars: **Sense of Community; Health and Wellness; Financial Stability and Environmental Responsibility.** These Pillars function as the foundation in establishing priorities for change.

This Strategic Plan is intended to provide focus and assistance to Council, the City's administration and the community so that we may collaboratively develop priorities to ensure that we remain a vibrant, healthy and sustainable City as we move forward into the future.

The City of Clarence-Rockland remains committed to working with its communities to make the City a destination of choice.

We are now positioned to take those first important steps to make.... **Destination Clarence-Rockland…..** a reality.

Message from the Chief Administrative Officer

A strategic planning process represents one of the most important initiatives that is undertaken by a municipality. It enables the administration to develop a clear and achievable "blueprint" in the establishment of future directions and priorities. Throughout the planning process, members of Council, the community and our employees have worked diligently to achieve common goals and objectives to transform a collective vision into reality.

I would like to express a sincere thank you to all participants who attended our workshops and those of you who took time to fill out the survey or write to us to share ideas about the future direction of Clarence-Rockland. This plan would not have been possible without your valued input-we could not have done it alone.

Please be assured that the Strategic Plan will be a "living document". The priorities and directions articulated in the plan will be continuously monitored and updated to remain current with the changing times.

Again, ... thank you .

Background

In 2015, the City of Clarence- Rockland initiated a Strategic Planning process to define the City's Vision, Mission, Goals and Objectives for a 3 - 4 year time period.

The Strategic Planning process was very much an interactive one involving many of Clarence-Rockland's stakeholders. The 2015-2021 Strategic Plan has been developed based on extensive participation and feedback from over 1300 community members and addresses the needs that have been identified by Council members and the City's administration. The priorities identified in this Strategic Plan, therefore, represent a collaborative effort taking into consideration the needs of the Clarence-Rockland community stakeholders.

Based on the feedback received through workshops, online surveys and emails, the following four (4) Strategic Pillars were identified as pivotal to the efficient and effective delivery of municipal services to our community: ***Sense of Community, Health and Wellness, Financial Stability and Environmental Responsibility.***

We believe that this Strategic Plan will:

- align goals and objectives with Council's priorities and enhance accountability to our stakeholders,
- serve as a reference point to identify community needs,
- ensure the effective and efficient use of resources,
- provide direction to employees,
- establish an interrelationship between strategic priorities and municipal planning and budget approvals; and
- serve as a tool to measure and evaluate day-to-day operations against strategic priorities

This Strategic Plan represents the culmination of an extensive "self-assessment" and planning process. This involved a determination of Corporate Values; Mission and Vision Statements; assessment of community feedback; identification of

Pillars for change; establishment of strategic priorities, goals and objectives; and monitoring strategies.

Table 1.1 provides an overview of the Strategic Planning process.

Table 1.1

Vision

To be the best place to live, by being welcoming, bilingual, self-sufficient, safe and family oriented. Clarence-Rockland will be a healthy, economically sustainable and environmentally sensitive community that will continuously invest in its future.

Mission

The City of Clarence- Rockland provides excellent local government services by demonstrating leadership, partnerships and a commitment to meet community needs. Services are delivered efficiently and effectively while respecting financial sustainability, the environment and the cultural well-being of the community.

Values

The development of the City's Strategic Plan, has been founded on the core ideologies of the municipality - ideologies that reflect what the organization believes in and how these will determine how the municipality will conduct its business and provide services as it moves forward into the future.

To this end, the City embraces the following values and commits to:

- provide ***excellence in customer service*** by researching and incorporating best practices of peer municipalities and implementing continuous improvement strategies
- ***conduct its business in an open and transparent manner*** by sharing timely and relevant information to stakeholders
- ***conduct its affairs with integrity by being honest, consistent and accountable*** for all actions taken by the municipality.

- ***respect the individual rights*** of employees and community stakeholders to support a work environment that exemplifies teamwork and mutual respect

Community Consultation

Stakeholder engagement and feedback represented a fundamental underpinning in the development of this Strategic Plan. Numerous venues were provided to secure public input into the strategic planning process. Stakeholders were requested to provide insight into the following:

- what services are most important to the community and what is the satisfaction level in the provision of the services?
- strengths, weaknesses, opportunities and threats (SWOT) to the municipality and its stakeholders
- identifying a **Vision** for a future Clarence-Rockland
- identifying key information sources that are used when seeking information about municipal issues
- importance of securing more retail and employment opportunities
- identifying municipal priorities

Approximately 23 workshops were held in April-June, 2015. These workshops involved a total of 474 participants. Supplementing the workshops, access to an online survey was available from May 1-July 8, 2015. Approximately 812 citizens in total participated in this survey opportunity. The total number of participants represented approximately 4% of the City's population.

The workshops and online surveys were advertised via mail - outs, the local newspaper, bus and bus shelter adds, electronic message boards and the City's website.

What Did We Hear?

Based on the results of the workshops and online surveys, a prioritized summary was compiled by the administration identifying the services that were considered most important to the quality of life of Clarence-Rockland residents and businesses and, as importantly, the associated level of satisfaction in the provision of these services.

In many instances, there was a “strong alignment” with the importance of a service and the level of satisfaction with that service. By example, a service which was viewed as very important to the respondents and had a corresponding high level of satisfaction was assumed to have a “strong” alignment. Conversely, some services that were viewed as very important to the community but had a low level of satisfaction. These services would be seen as having a “poor” or “fair” alignment and, as such, warranted attention in identifying priorities for the Strategic Plan. Appendix A provides an overview of the alignment analysis conducted by staff.

The Strategic Priorities highlighted in this Plan reflect a desire to strengthen the alignment of highly valued services where warranted and, as well, respond to needs identified by Council and the administration.

Strengths, Weaknesses, Opportunities and Threats (SWOT)

In order to identify strategic directions to move forward into the future, it was important for the organization to undertake an objective assessment of itself. Accordingly, the consultation process requested respondents to identify:

- what the City does well;
- where improvements are required in the provision of services;
- what opportunities are available to address needed improvements and position itself to deal with threats to the organization ; and

- internal/external threats that could have a negative impact on the municipality.

The results of this analysis represents an integral consideration in the strategic planning exercise. The SWOT analysis serves as a strategic management tool and enables the municipality to undertake a self-assessment of its current internal processes, and allows it to identify opportunities for change taking into consideration limitations of the organization and any threats facing it.

Table 1.2 represents a consolidated summary of the SWOT analysis obtained through the consultation processes.

Table 1.2

The Strategic Plan Framework

STRATEGIC PILLARS:

The City of Clarence-Rockland is committed to the provision of municipal services in a sustainable manner to meet the present and future needs of its communities. This Strategic Plan represents a significant milestone in achieving this objective.

The community consultation process highlighted that the municipality operates within the following four (4) separate and identifiable Pillars. The City's **Vision** is supported by these Pillars:

SENSE OF COMMUNITY

The residents and businesses in the City of Clarence-Rockland are proud of their bilingual culture, their rich heritage, the abundance of natural features in both a rural and urban setting and the extensive number of municipal facilities. It is important that the municipality acknowledge these traits and provide services that reinforce these community values.

HEALTH AND WELLNESS

The municipality commits to providing services that respond to the continued health and well-being of its residents.

FINANCIAL STABILITY

The City of Clarence-Rockland is subject to increasing demands to maintain existing infrastructure and programs and, as well, position itself for the future. It is, therefore, critical that the municipality ensure that appropriate levels of funding are available to meet community needs and expectations. It is necessary that Council and the administration assesses and implement innovative funding strategies to meet the pressures of funding future requirements.

ENVIRONMENTAL RESPONSIBILITY

The municipality has a significant amount of infrastructure that needs to be maintained in an environmentally responsible manner. The municipality must

ensure that timely rehabilitation works are implemented to protect our environment while meeting the needs of the community. It is anticipated that the municipality will continue to grow thus placing further pressures on sound environmental stewardship.

The Pillars serve to provide a focus for the municipality in order to provide timely services to meet operational needs. The Pillars provide guidance for the development and implementation of strategic priorities to meet the challenges facing the municipality as it moves forward into the future.

STRATEGIC PRIORITIES:

This Strategic Plan has identified Strategic Priorities for each of the four Pillars referenced above. Table 1.3 identifies Strategic priorities for each of the four (4) Pillars.

Table 1.3 – Strategic Priorities

SENSE OF COMMUNITY	HEALTH AND WELLNESS	FINANCIAL STABILITY	ENVIRONMENTAL RESPONSIBILITY
1. Riverfront Development 2. Downtown Revitalization 3. Communication 4. Image and Promote	1. Active Transportation 2. Integrated Accessibility Standards 3. Emergency Preparedness 4. Recreational Facilities	1. Economic Development 2. Commercial/Industrial Growth 3. Tax Base 4. Funding Opportunities	1. Growth Management 2. Planning 3. Asset Management

GOALS AND OBJECTIVES:

For each Strategic Priority referenced in Table 1.3, the Strategic Plan identifies concise and measurable goals and objectives for each priority. **Appendix B** summarizes the associated goals and objectives for each Strategic Priority; highlights budget requirements (where necessary) and identifies the lead department assigned primary responsibility to oversee a Strategic Priority. **Appendix C** summarizes departmental involvement for each Priority.

Implementation and Monitoring

The Strategic Plan must be a "living document". It is critical that the strategic actions itemized in the Plan be identifiable and measurable. As such, there must be a mechanism contained within the Plan to continuously assess the progress of the Strategic Plan's action items and ensure that they are monitored and adjusted accordingly. In order to cascade Strategic Priorities throughout the organization, the Plan will require the following actions:

Assignment of Responsibilities: Strategic Goals will be assigned to a lead department that will assume responsibility for implementation of the associated Strategic Objectives. The department head will be required to provide regular report updates to the Chief Administrative Officer on the progress of the Strategic Goals. It is understood that other departments may be involved in a Strategic Goal; however, only the lead department head will provide the updates to the Chief Administrative Officer.

Performance Reviews: As appropriate, annual employee performance reviews will contain a requirement to address Strategic Plan goals and objectives for the forthcoming year. The department head will assign the Strategic Objectives to appropriate employees and ensure that regular progress meetings are convened with the employee throughout the year to monitor progress on Strategic Objectives.

***Annual Budgets*:** The administration will ensure that funding to implement Strategic Priorities are reflected in the draft capital works and operating programs for Council's consideration and approval.

Reporting to Council: The Chief Administrator Officer (CAO) will provide Council with semi-annual updates on the progress of the Strategic Plan Priorities. The CAO will also provide a year-end report for Council's review in respect of the accomplishments of the administration for the current year, future undertakings and a status report on compliance with Strategic Planning Priorities.

The above actions will ensure that approved Strategic Objectives are cascaded throughout the organization.

Updates: The Corporate Strategic Plan will be reviewed and updated as necessary at least every 5 years. However, as external and internal factors dictate, it may be necessary to amend the Strategic Priorities identified in this plan at an earlier date.

Strategic Accomplishments

The Strategic Planning process was initiated in 2015; however, since that time, the municipality has commenced or completed several Strategic Priority initiatives that are complementary to the Strategic Priorities contained in this Plan. They are summarized as follows:

***Asset Management*:** Council has approved the framework for the development of a Corporate Asset Management Plan. Phase 1 of the Plan was approved by City Council in November, 2017. Phase 2 is scheduled for approval by mid-year 2018.

Growth Management: Growth forecasts (2018-2043) have been developed and will be a critical component for the update of the City's Development Charge Bylaw. These forecasts, also, will be used for several servicing studies (e.g. water and wastewater treatment plant upgrades, master servicing studies etc.) that are currently underway.

***Health and Wellness*:** A Recreation Master Plan was approved by Council in 2016.

Policies: Revisions have been made to the City's purchasing policies and bylaw; information technology policies and procedures; and road closure procedures. Council has approved a policy with respect to addressing community requests.

County Road 17/174: The City of Clarence-Rockland has been liaising with the United Counties of Prescott and Russell to incorporate paramedic service requirements into a new fire station.

***Economic Development*:** The City has worked collaboratively with the United Counties of Prescott Russell to secure a $40 million commitment from the province for the widening of County Road 17. Additionally, the municipality has participated in meetings with provincial and federal elected representatives to ensure that the widening of County Road 17/174 remains a high priority with all levels of government.

Heritage Tour: In conjunction with Heritage Committee staff has identified sites of historical significance and developed pamphlets and a heritage tour of these sites.

Commercial/Industrial Growth: A location analysis and recommendation for the development of a new industrial park was presented to Council in 2017. A detailed business (including several options was presented to Council at an in-camera session in September 2017). A proposal for 2018 has been included in the 2018 Capital Budget for development of industrial lands.

Revitalization of Downtown Core: Council approved a funding partnership (referred to as the Core Improvement Program) to encourage improvements to the existing business within the downtown core. The 2017 capital works budget has also allocated funding for the beautification of the downtown business core.

APPENDIX A

SERVICE ALIGNMENT ANALYSIS

	SERVICE CATEGORY	LEVEL OF IMPORTANCE	LEVEL OF SATISFACTION	ALIGNMENT LEVEL
1	Street Repairs	96%	22%	POOR
2	Snow Clearing	92%	63%	GOOD
3	Fire and Rescue	92%	77%	EXCELLENT
4	Garbage	89%	80%	EXCELLENT
5	Parks, Open Space	86%	63%	GOOD
6	Police	87%	71%	GOOD
7	Recycling	84%	74%	EXCELLENT
8	Recreational	82%	54%	GOOD
9	Storm Drain/Flood	81%	50%	FAIR
10	Widening C-R 17/174	80%		
11	Planning	78%	34%	FAIR
12	By-law Enforcement	77%	52%	GOOD
13	Street Lighting	76%	64%	EXCELLENT
14	City Website	75%	57%	GOOD
15	Sidewalks	71%	46%	GOOD
16	Construction	70%	36%	FAIR
17	Downtown Revitalization	69%	25%	FAIR
18	Arts, Culture	63%	32%	FAIR
19	Library	59%	56%	EXCELLENT
20	Transit	55%	25%	GOOD
21	Daycare	52%	34%	GOOD

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Riverfront Development					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	To increase recreation, tourism and economic development opportunities along Ottawa Riverfront	• Liaise with Park Advisory Committee to develop concept plan for Du Moulin Park	• Evaluate staged implementation strategies and Development Charge impacts for Du Moulin Park • Liaise with UCPR economic development staff to identify riverfront opportunities • Research best practices re: riverfront development • Develop riverfront Master Plan • Investigate funding opportunities • Identify public/private partnerships to develop riverfront	City - Operating Budget Consultant - $60K	**Community Services *** Infrastructure and Planning	

**** Lead Department***

Destination – Clarence-Rockland

2015- 2021 Strategic Action Plan

	Strategic Priority - Downtown Revitalization					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	To revitalize the downtown core area	• Review best practices of peer municipalities • Develop phased street improvement plan and obtain implementation funding approvals • **Research feasibility of incentives for densification projects in the core downtown and village areas (e.g. feasibility of mixed use commercial/ residential)** • Convene regular business association meetings	• Implement phased infrastructure improvements • Ongoing • Ongoing	City - Operating and Capital budgets	**Infrastructure and Planning *** Finance and Economic Development	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Communications					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	To enhance external and internal communications regarding delivery of municipal services	• Identify policies and procedures required to deliver efficient and effective municipal services • Prioritize policies and procedures; and develop an implementation schedule for council approval	• Ongoing • Ongoing	City - Operating Budget	**Office of the CAO *** All Departments	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Communications					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	To implement an integrated document management system (SharePoint)	• Review best practices of peer municipalities • Issue RFP to retain consultant to design SharePoint for intranet and City's Website • Implement recommendations	• Ongoing	City - Operating and Capital Budget • Consultant appointment $70K	**Clerk *** All Departments	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Image and Promote					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	Optimize utilisation of staff resources	• Undertake skills inventory of existing staff compliment	• Ongoing • Identify and implement inter-departmental opportunities regarding staff utilization	City - Operating Budget	**Human Resources *** All Departments	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Image and Promote					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
SENSE OF COMMUNITY	Develop corporate succession plan		• Research best practices of peer municipalities and businesses • Identify positions requiring a succession plan strategy • Provide training and hands-on work opportunities to designated positions	City - Operating Budget	**Human Resources *** All Departments	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Active Transportation					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
HEALTH AND WELLNESS	To promote active transportation by developing an integrated bike path and cycling system		• Develop active transportation needs for urban and rural areas • Review best practices of peer municipalities • **Develop prioritized master transportation plan and associated costs for the urban and village core areas. Subsequently, linkages will be assessed between these areas.** • Implement infrastructure needs • Investigate possible Provincial and Federal funding programs • Develop cycling and path standards	City - Operating and Capital	**Community Services *** Infrastructure and Planning	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Emergency Prepardeness					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
HEALTH AND WELLNESS	Update Corporate Emergency Management Response Program	• Update Emergency Management Committee By-Law • Update Emergency Response Plan By-Law • Identify training requirements for Emergency Control Group and submit to province • Conduct and evaluate annual Emergency Response Exercise	• Ongoing	City - Operating Budget	**Protective Services *** All Departments	

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Integrated Accessibility Standards					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
HEALTH AND WELLNESS	To update accessibility 5 year plan and associated policies	• Review current Accessibility Plan and Policies • In conjunction with Accessibility Advisory Committee, develop 2018-2023 Plan and Policies • Identify and implement training requirements • Identify accessibility needs and costs for recreation and administration buildings	• Prepare annual progress report re: implementation of accessibility measures • Post 2018-2023 plan/policies on web-site • Submit updated Accessibility Plan and Policies to Province • Ongoing	City - Operating and Capital Budget	**Clerk *** Community Services Infrastructure and Planning Protective Services	• Update of Accessibility Plan and Policies will comply wth mandatory Integrated Accessibility Standards (IASR)

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Recreational Facilities					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
HEALTH AND WELLNESS	To expand indoor recreational space		• Municipality to identify its community recreation needs • Review best practices • Establish public - private partnership and develop terms of reference • Execute a memorandum of understanding with private sector partner re: operation of site	City - Operating and Capital Budget	**Community Services *** Infrastructure and Planning	

**** Lead Department***

Destination - Clarence-Rockland

2015 - 2021 Strategic Action Plan

	Strategic Priority - Economic Development					
	GOALS	OBJECTIVES		Funding Requirements	Participating Department(s)	Comments
		2018	2019-2021			
FINANCIAL STABILITY	Increase Economic Development opportunities by improving County Road 17 and Highway 174 corridor	• Review current "lobbying" initiatives to expand and improve County Road 17/174 corridor	• Ongoing	City - Operating Budget	**Finance and Economic Development *** Infrastructure and Planning	
		• Liaise with Unities Counties of Prescott and Russell (UCPR) to develop planning and funding strategies to expand County Road 17	• Ongoing			
		• In conjunction with UCPR, meet with Ottawa Mayor to determine City's position in regard to Highway 174 improvements	• Ongoing			• UCPR is road authority. Clarence-Rockland will be in a support role.
		• In conjunction with UCPR prepare brief to Federal and Provincial governments in regard to funding County Road 17	• Ongoing			• Ottawa is jurisdictional authority for Highway 174

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Taxes					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
FINANCIAL STABILITY	To promote commercial and industrial growth	• Tender sale of 5 acres of City commercial and industrial land (2017) • Complete feasibility assessment for business park	• **Establish new reserve to facilitate future business park development** • Undertake economic development strategy for business park	City - Operating Budget Retain consultant - $ 100K	**Finance and Economic Development *** Infrastructure and Planning	• Approved in 2017

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Funding					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
FINANCIAL STABILITY	To develop a long range financing strategy to meet projected needs		• Identify long range operating and capital financial needs • Research best practices of peer municipalities • Develop financial policies and strategies to address long term needs (e.g. pay-as-you-go debt limits, reserve funds)	City - Operating Budget	**Finance and Economic Development *** All departments	• Assumes 10 year asset management programs and Development Charge By-Law update are approved.

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Infrastructure					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
FINANCIAL STABILITY	To enhance access to external funding sources (e.g. Federal and Provincial Programs)		• Identify best practices to determine/access external funding sources • Identify funding opportunities • Establish relationship with decision makers and administrators of funding programs	City - Operating Budget	**Finance and Economic Development *** All Departments	• Will involve research of both public and private sectors

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Growth Management					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
ENVIRONMENTAL RESPONSIBILITY	To update City's Development Charge By-Law	• Meeting with developers and builders to discuss update process (2017) • Determine infrastructure needs and costs to address growth projections • Develop infrastructure standards	• Review infrastructure needs and costs with developers/ builders • Develop Development Charges policies and charges for various forms of development • Development Charge By-law approval (2019)	• Financial/Policy consultants - $100K (2019) • Engineering consultant - $100K (2018)	**Finance and Economic Development *** CAO/Clerk Finance and Economic Development Community Services Infrastructure and Planning Protective Services	• 1st developer meeting will be convened in December 2017 • Assumes By-Law not appealed

**** Lead Department***

Destination – Clarence-Rockland

2015 – 2021 Strategic Action Plan

	Strategic Priority - Planning					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
ENVIRONMENTAL RESPONSIBILITY	To improve communications standards and approval processes with development community	• Convene two developer/builder meetings per year • Establish planning application review team and convene team meetings with applicants • Adopt engineering standards and development application approval process	• Ongoing • Ongoing		**Infrastructure and Planning *** Community Services CAO's Office	• Draft documents to be tabled with developers/builders in 2017

**** Lead Department***

Destination - Clarence-Rockland

2015 - 2021 Strategic Action Plan

	Strategic Priority - Asset Management					
	GOALS	**OBJECTIVES**		**Funding Requirements**	**Participating Department(s)**	**Comments**
		2018	**2019-2021**			
ENVIRONMENTAL RESPONSIBILITY	Develop Corporate Asset Management Plan	• Establish levels of service and performance measures • Risk assessment and prioritization analysis; costing	• Prepare asset management policies • Submit corporate asset management plan to province	Operating and Capital budgets	**Infrastructure and Planning *** Community Services Finance and Economic Development Emergency Services	Corporate Asset Management Plan comprises: (1) Phase I and Phase II (2) Development Charges Bylaw update (3) Asset Management Policies (4) "Shovel Ready Projects"

**** Lead Department***

City of Clarence-Rockland
Strategic Priorities

Strategic Priorities	Initiate	CAO/Clerk	Human Resources	Finance and Economic Development	Community Services	Infrastructure and Planning	Protective Services	Comments
1. Riverfront Development	2019-21				√	√		
2. Revitalize Downtown	2018			√		√		
3. Policy Development	2018	√	√	√	√	√	√	
4. Document Management	2018	√	√	√	√	√	√	
5. Skills Inventory	2018	√	√	√	√	√	√	
6. Succession Planning	2019-21	√	√	√	√	√	√	
7. Active Transportation	2019-21				√	√		
8. Accessibility	2018	√			√	√	√	
9. Emergency Response	2018	√	√	√	√	√	√	
10. Recreation Space	2019-2021				√	√		
11. County Rd 17/174	2018			√		√		
12. Industrial Growth	2018			√		√		
13. Long Range Financial Planning	2019-2021	√	√	√	√	√	√	
14. External Funding	2019-2021	√	√	√	√	√	√	
15. DC By-Law	2018	√		√	√	√	√	
16. Development Community	2018	√			√	√		
17. Asset Management	2018	√		√	√	√	√	
2018/2019-21		**8/3**	**4/3**	**9/3**	**8/6**	**11/6**	**7/3**	

Clarence-Rockland

OFFICIAL PLAN of THE URBAN AREA of THE CITY of CLARENCE-ROCKLAND

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

Official Plan of the Urban Area
of the City of Clarence-Rockland

November 19, 2013

Prescott Russell

Urbanisme et Foresterie · Travaux publics
Planning and Forestry · Public Works

Le 1 octobre 2014

Cité de Clarence-Rockland
Monsieur Mike Michaud
Directeur
Service de l'Aménagement du territoire
1560, rue Laurier
Rockland ON K4K 1P7

SUJET : Fin de la période d'appel
Plan officiel de l'aire urbaine de la cité de Clarence-Rockland
Dossier nº 020-LOPA-14-002

Monsieur Michaud,

La présente est à l'effet de vous informer que la période d'appel dans le dossier cité en rubrique est échue depuis le 29 septembre 2014 et que nous n'avons reçu aucune objection relativement à cette filière. Le Plan officiel de l'aire urbaine de la cité de Clarence-Rockland est par conséquent en vigueur depuis le 30 septembre 2014.

En espérant le tout à votre entière satisfaction.

Le directeur de l'Urbanisme et de la Foresterie

Louis Prévost

59, rue Court St., C.P./P.O. Box 304, L'Orignal ON K0B 1K0 · Tel.: 613 675-4661 · **1 800 667-6307** · Fax: 613 675-1007
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Pictures on the cover were provided by the City of Clarence-Rockland

OFFICIAL PLAN OF THE URBAN AREA OF THE CITY OF CLARENCE-ROCKLAND

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SECTION 1
TITLE AND COMPONENTS OF THE OFFICIAL PLAN

1.1 Title

Upon approval of the United Counties of Prescott and Russell, this Official Plan shall be known as the “Official Plan of the Urban Area of the City of Clarence-Rockland”, hereafter referred to as “Urban Area.”

1.2 Boundaries

This Official Plan applies to all the lands within the boundaries of the Urban Area of the City of Clarence-Rockland, as shown on Schedule ‘A’ of the Official Plan of the United Counties of Prescott and Russell, as amended.

1.3 The Official Plan

The Official Plan consists of the attached text and the attached Schedule ’A’ and Schedule ’B’.

Sections 1, 2, 3 and 4 provide the Introduction, Basis, Goals and Objectives and General Development Policies.

Sections 5 to 12 provide policies for specific land use designations, transportation, servicing, implementation and interpretation of the Plan.

Schedule ‘A’, Land Use Designations, illustrates the limits and locations of the land use designations and Policy Areas.

Schedule ‘B’ illustrates the Transportation Network and related linkages within the Urban area, showing a hierarchy of the Road network (i.e., arterial, collector), as well as the recreational pathway system (i.e., pedestrian, bicycle) and linkages with Open Spaces.

SECTION 2
BASIS FOR THE OFFICIAL PLAN

2.1 Policy Context

This Official Plan was prepared to direct the future development of the Urban Area of the City of Clarence-Rockland for a period of approximately 20 years, from 2013 to the year 2033. This Plan is consistent with the Provincial Policy Statement and the *Planning Act*, conforms to the Official Plan of the United Counties of Prescott and Russell, and establishes specific policies that reflect the unique character of Rockland.

This Plan covers the entire area within the limits of the Urban Area. The Plan takes into account the functional relationships between the Urban Area, the surrounding rural area and hamlets and adjacent municipalities in the United Counties of Prescott and Russell, and the City of Ottawa.

The Provincial Policy Statement, as well as the Official Plan of the United Counties of Prescott and Russell, establishes a number of policies affecting planning matters that must be adhered to. The following sections include policies that are consistent with statements issued under the *Planning Act* and are complemented by locally-generated policies regarding matters of municipal interest.

2.2 Strategic Direction

There are three basic principles of the Plan. These are:

1. That sustainable growth is desirable and the Plan should be flexible;

2. That quality of life must be preserved and enhanced;

3. To create a vision and set policies in order to manage future growth within Rockland.

2.3 Growth and Population Projections

For growth and population projections, refer to the Urban Boundary Review produced for the City of Clarence-Rockland (February 2010) as well as the United Counties of Prescott and Russell Official Plan.

2.4 Municipal Roles

The role of the Urban Area has evolved since the last Official Plan from a regional centre, a manufacturing town and a dormitory town to the following:

1. A regional service centre that provides commercial goods and services, community services and facilities for the surrounding municipalities of the United Counties of Prescott and Russell.

2. A centre for educational facilities.

3. A place that offers a full range of housing choice and affordability on fully serviced lots and is in the vicinity of the City of Ottawa.

2.5 Environmental

In recent years, there has been a growing awareness of the need to protect the environment as

a natural attribute that contributes to the character of a municipality. The *Planning Act* enables the City to do this within limitations.

The natural environment, which includes the air, ground, water and energy, can be severely affected by human activities; therefore, it is necessary to plan with these elements and their functions in mind, in order to anticipate how they could be affected and take the necessary actions to protect their integrity.

This Plan recognizes the importance of protecting and enhancing the Ottawa River and other watercourses within the Urban Area as well as opportunities to provide compatible recreational opportunities along these scenic natural areas.

2.6 Residential

For information regarding residential growth and projections, refer to the Urban Boundary Review produced for the City of Clarence-Rockland (February 2010) as part of the Five-Year Review supporting information and material.

The predominant land use in the Urban Area is residential and it has contributed to most of the construction that has occurred in the past decade or so. In particular, over the past five years, the City of Clarence-Rockland has experienced unprecedented residential growth with approximately 80% of the growth occurring in the Urban Area. There has been an increase in row dwellings and apartment developments over the past decade. These types of residential developments are in response to a market demand for more affordable housing. This is reflective of an aging population and an increase in young families purchasing their first home.

Council shall consider increasing residential building heights in areas deemed proper for these types of development.

It is anticipated that the main form of residential tenure and construction will be single dwellings. However, as the population continues to grow, opportunities for higher density must be made available.

The United Counties of Prescott and Russell Official Plan provides guidance on the distribution of residential types and density. The Official Plan is seeking to ensure that 70% of all new housing will be low density (up to 16 units per net ha), 20% medium density (up to 30 units per net ha) and 10% high density (more than 30 units per net ha). A net hectare is defined as the actual land used for the development of residential land use exclusive of land required for roads, parks or other amenities.

Rockland needs to recognize its niche in the market place and promote housing that is affordable as well as housing in unique locations, such as the waterfront. Future growth areas within the Urban Area need to be efficiently planned in a manner that will accommodate all forms of residential housing. Higher density residential development will be promoted and supported in the area adjacent to the Commercial Core Area to support commercial development along Laurier Street.

2.7 Parks and Open Space

The Urban Area offers a wide range of opportunities for recreation. The Urban Area and the various school boards have entered into agreements to share their respective facilities. There are several active and passive parks throughout the Urban Area, as well as a private golf

course.

There is a need to continue to expand the supply of parkland as the population increases and to provide linkages between these. The waterfront provides opportunities for public recreational opportunities, tourism and water-oriented commercial activities.

2.8 Commercial Concentration

Laurier Street is the main commercial arterial of the Urban Area. There are two commercial nodes or sectors along Laurier Street: the existing Downtown Core Area and the existing commercial development in the west end of the Urban Area.

The Urban Area possesses a diversified local commercial base. In the past few years, the most active commercial developments have been the fast-food and retail sectors, such as large format retail along County Road 17.

2.9 Industrial Development

The Municipality encourages existing businesses to expand and encourages the development of service commercial, light industrial and business park uses. Medium and heavy industrial uses will be discouraged within the limits of the Urban Area in favour of rural locations away from residential uses such as Trade and Industry Policy Areas.

2.10 Economic Growth and Development

The Urban Area has relied on traditional commercial and light industrial uses for non-residential tax assessment and very little of the tax revenue has, in fact, been generated by light industrial uses.

The nature of employment has changed over the past decade. Schools and other community facilities have become one of the dominant employment sectors in the Urban Area.

With assets such as its bilingual character, its closeness to the Capital region, its unique location along the Ottawa River and its role as a major service centre for Prescott-Russell, the Urban Area intends to take steps to diversify its economy. Council has agreed to prepare an economic development strategy including a downtown revitalization strategy and has already taken steps in order to foster home-based businesses by amending the zoning provisions.

Many government programs are available to stimulate economic development. The United Counties of Prescott and Russell have made a commitment to this objective as well. The Urban Area should cooperate with these agencies and encourage the business community to take advantage of these programs.

2.11 Transportation

County Road No. 17 and Laurier Street function as the main east-west corridor. All collector roads in the Urban Area should direct traffic to these roads.

In the southern portion of the Urban Area, there is a need to define collector roads that will direct traffic from the residential areas to the commercial nodes.

In the eastern portion of the Urban Area, Council will work with the UCPR to improve the

intersection of Laurier Street with County Road 17 by possibly eliminating the existing entrance in favor of a more westerly entrance as conceptually depicted on Schedule B.

In addition to the road network, a system of defined bicycle routes and pedestrians or nature trails that are integrated with roadways and sidewalks would contribute to a more efficient internal transportation network, as shown on Schedule 'B' to this Official Plan document.

2.12 Heritage

A number of properties have been designated as buildings of historical and architectural value or interest under Part IV of the *Ontario Heritage Act*, 1974.

Building	Location
Former Post Office	2055 Laurier St.
Former Rockland Town Hall	1560 Laurier St.
Catholic Church & Rectory	2178, 2180 & 2184 Laurier St.
St. Andrew Community Centre	1595 Laurier St.
Former Baptist Church	1587 Laurier St.

The City intends to encourage the preservation and restoration of non-designated existing structures that contribute to the historic character and to designate other properties within the Urban Area for their historical or architectural value or interest.

2.13 Social Development

The City and the school boards have entered into agreements allowing students to use municipal equipment (arena, tennis courts, baseball diamonds, outdoor rinks, community hall) and residents to use school facilities (gymnasium, auditorium, school yards, football fields, school rooms, etc.). The need for similar agreements will increase with a growing population and declining financial resources.

The City encourages and recognizes the contribution and involvement of volunteer work throughout the community.

2.14 Affordable Housing

Affordable housing includes all forms of tenure, such as social housing, co-op housing, condominium, rental, private ownership, homes for the aged, homes for the disabled and all special needs housing.

Affordable housing includes all residential units that meet the definition of affordability of the Province of Ontario. Council shall encourage infill and housing intensification, particularly in the core area of the Urban Area. Development standards and densities within the Urban Area should be cost-effective, thereby reducing the costs associated with housing. Alternative housing types, such as garden suites and accessory dwelling units, shall be permitted in the Urban Area.

2.15 Flexibility

A flexible approach to planning is important to the growth of the Urban Area. The Plan must be flexible in responding to development applications, proactive in attracting development by

describing the wishes of Council, and provide sufficient direction to manage future development. The City is in a competitive environment in relation to other municipalities and it is desirable to have a Plan that is general in nature, and which permits some interpretation to respond to the day to day needs of the City without being amended.
The Plan may need to be amended to accommodate unanticipated situations and as a measure of control over certain types of uses that have negative impacts on adjacent uses and, in particular, residential uses.

2.16 Planning Concept

1. The planning concept that appears on Schedule 'A', Land Use Designations, defines each major functional area. This Plan lists the permitted uses and details the appropriate policies applying to the permitted uses.

2. The concept that is illustrated on Schedule 'A' is that of a growing community. All land that has potential for development has been designated for uses that are in keeping with the City's vision. The City favours uses that are urban and that will contribute to maintaining or enhancing the Urban Area's character and role as a growing community. Consequently, certain types of new developments, such as estate lot, mobile homes, heavy industry and agricultural uses are prohibited.

3. The predominant land use on the Official Plan is residential. The designation distinguishes between low and medium density residential uses.

4. The residential uses are to be supported by a compact local Commercial Core that fronts onto the historic commercial street of the Urban Area (Laurier Street), by a large area of service commercial uses located at the west end of the Urban Area and by small local commercial nodes scattered throughout the Urban Area. Large format retail centres on County Road 17 compliment the local commercial areas.

5. Several schools are grouped together in the heart of the Urban Area, creating an education campus. These sites also provide recreational and community facilities, outdoor equipment, open space and a large wooded area that contribute to the natural environment. Council shall ensure that these facilities can expand without creating negative impacts for the adjacent residential communities and road network.

6. There are several active parks in the Urban Area and several more are planned in the future. Nature trails and bicycle routes should be considered and planned to link all the open space and parks throughout the Urban Area.

7. There is a large passive open space that runs along the edge of Lafontaine Creek at the bottom of a well treed bluff and a smaller one located in the northwest end of the Urban Area near Voisine Road and Woods Street. These sites are used as stormwater management facilities. Also, there is a Provincially Significant Wetland (PSW) located along Clarence Creek and the Ottawa River, and a former quarry that has been designated as an Area of Natural and Scientific Interest (ANSI) by the Ministry of Natural Resources. All of these features add to the natural diversity of the landscape and provide opportunities for passive and active recreational use.

8. One (1) area has been identified on Schedule 'A' of the Official Plan as "Special Study Area (SSA)." This site, which has been added to the Urban Area by Amendment to the County Official Plan, would require the preparation of special studies to determine its

future development potential.

9. Several changes are proposed for the existing road system in order to improve access to and within the Urban Area. Council will work with the County on assessing the social impacts of widening County Road 17 as this may further split the Urban Area into two, while effectively isolating the southern portion of the Urban Area from the river. An east-west bypass road with a southern alignment should be further considered and explored. Many of the changes are illustrated on Schedule 'B' and include: the extension of Docteur Corbeil to St-Jean; the extension of Caron Street to County Road No. 17; and the development of an east-west Arterial Road across the southern section of the Urban Area.

10. The lands located north of County Road No. 17 and east of the sewage treatment plant are proposed for a "Business Park" designation and a portion of land at the northern end of Edwards Street is redesignated to allow water-oriented recreational facilities.

2.17 Approach to Planning

1. Land uses have specific designations on Schedule 'A'. Some of the land uses have special policies that need to be addressed prior to development.

2. The City will cooperate with other levels of government in order to provide an appropriate level of service at a reasonable price. To achieve this, the City will work with other municipalities and public agencies to share in the provision of services to the residents of the Urban Area.

3. All proponents of development shall meet with the City's Planning Department prior to submitting an application for development.

SECTION 3
GOALS, OBJECTIVES, ACTIONS AND VISION STATEMENT

3.1 Goals

The Official Plan manages the future development for the Urban Area; it provides a land use planning concept, policies and comprehensive implementation tools.

The goals of the Plan are as follows:

1. Establish the planning policies for the Urban Area.

2. Permit the City to take advantage of development opportunities.

3. Make planning decisions based on the long term needs of the Urban Area and the City in general.

4. Adopt a proactive approach to encourage economic growth and development.

5. Involve the public in the decision-making process and balance the long term needs of the residents with the rights of the individual.

6. Formulate policies and land use concepts that meet the needs of the City for the planning period to the year 2033.

7. Select the most appropriate land uses and designate these in the most efficient manner so as to make the best use of land.

8. Encourage access to sustainable and active forms of transportation infrastructure through pedestrian links, bicycle paths and open spaces.

9. Permit reduced Right–of-Way widths as long as they are appropriate for the proposed density.

3.2 Objectives

The objectives of the Plan are as follows:

1. Encourage development that respects the character of the Urban Area.

2. Provide for a greater variety of housing types.

3. Reserve areas for non-residential development.

4. Promote the roles of the City (regional centre, education facilities, and residential character).

5. Promote the Urban Area’s assets, setting, location (along the shore of the Ottawa River), charms, and potential.

6. Introduce a more flexible approach to planning while respecting the planning principles in the Plan.

7. Assure a greater compatibility of land uses, particularly for new development proposals abutting existing areas.

8. Permit the use of all lands to their best potential within the planning concept.

9. Allow development only where full municipal services are available.

10. Adopt a hierarchy for the road network that promotes efficient utilization, discourages through traffic on local roads, and directs traffic from local roads to collectors and from collectors to arterials.

11. Encourage preservation, restoration and conversion of older buildings that have historical or architectural value or interest.

12. Recognize the environment as a positive feature in development proposals by protecting and assuming hazard lands (i.e. flood plains, unstable slopes) and natural heritage lands (i.e. wetlands) and natural heritage corridors.

13. Preserve environmentally sensitive lands and consider physical development constraints in the preparation of development proposals.

14. Strengthen the City's role as an important educational and community facilities centre in the United Counties of Prescott and Russell.

15. Foster a stronger Downtown Core Area by concentrating retail commercial along the core area of Laurier Street, reducing through traffic and placing an emphasis on this area being community focused and a people place.

16. Encourage public participation in the planning process.

3.3 Actions

1. Review and update the Comprehensive Zoning By-law to conform to the provisions of this Plan.

2. Update the existing economic development strategy to strengthen its economic position and assist commerce to expand and develop in Urban Area.

3. Provide assistance in the creation of a public parking lot(s) within the Commercial Core Area.

4. Develop a compact pedestrian-oriented Commercial Core Area.

5. Develop urban design policies (i.e., signage, street furniture, etc.) that will be used in reviewing development proposals within the Commercial Core Area.

6. Update the Recreation Master Plan and the Sanitary Sewer Master Plan.

7. Designate the Ste. Famille Community Center as a property of historical value or interest.

8. Improve the internal road network.

9. Review the potential location of a 4-lane Roadway linking Trim Road in the City of

Ottawa to the Urban Area.

10. Favour development that will result in minimum expenditure for infrastructure works for the Urban Area.

11. Support initiatives to implement a public transit system within the City of Clarence-Rockland.

12. Promote the use of bicycles as a means of transportation.

13. Maintain municipal infrastructures to acceptable standards.

14. Assist source protection committees throughout the source protection planning process.

15. Develop a private approach by-law to mitigate issues with respect to private property access to public roads.

16. Council shall have the currently designated Wetland along County Road 17 re-evaluated to determine if these lands should remain in this designation.

17. Develop a site alteration by-law.

18. Have St-Jean Street downloaded from the County to a local collector road for the portion within the Urban Area.

19. Undertake a study to determine the need and feasibility for a stormwater management facility(ies) to service the Commercial Core Area.

3.4 Vision Statement

The Planning Department, in preparing this Plan, conducted extensive public consultation. During the preparation of this Plan, a vision of the Urban Area emerged. The following vision statement provides an overall context for the preparation of the Plan and for the future strategic direction of the Urban Area.

“The Municipal Council is committed to a land use planning process which manages changes that occur in the evolution and development of the Urban Area. The Official Plan is a document that reflects the public interest while recognizing individual rights and responsibilities. By adopting the policies in this Official Plan, the Municipal Council will strive to create a high quality living environment by providing a balance between the preservation of natural and physical resources while meeting the other needs of the existing and future population in a fiscally responsible manner. The Municipal Council also recognizes that land within the Urban Area is a limited resource and long range plans are needed to manage existing resources and to address future requirements.”

SECTION 4
GENERAL DEVELOPMENT POLICIES

The policies of this Section deal with development considerations that are common to a number of land use categories. These policies apply, where relevant, in addition to the policies under the specific land use categories.

4.1 Access to Public Road

All new development must have frontage on a public road that is of an adequate width and standard of construction and is maintained year-round by the City of Clarence-Rockland or other Public Authority.

All new development will be carefully located so that no traffic hazard is created by the new use.

The policies and guidelines of the United Counties of Prescott and Russell will apply to any new development abutting a County Road.

4.2 Contaminated Sites and Records of Site Condition

Contaminated Lands are those lands where the environmental condition of the property has been harmed through past activities. Although such lands represent a potential hazard due to real or perceived environmental contamination, opportunities for brownfield redevelopment may exist. The redevelopment of abandoned or underutilized industrial and commercial sites is consistent with the policies encouraging increased intensification in built-up areas.

The following policies will apply:

1. In order to ensure that there will be no adverse effects from any proposed development or redevelopment, environmental site assessments and remediation of contaminated sites are required by this Plan prior to any activity or development occurring on the site that is known or suspected to be contaminated. The City will require the proponent of development on such sites to determine the nature and extent of contamination and the necessary remediation measures in accordance with the policies below.

2. The City will require all applications for development in areas known or suspected of former land use activities that may lead to soil contamination be supported by a Phase I Environmental Site Assessment (ESA).

3. Where a Phase I ESA reveals that a site may be contaminated, a Phase II ESA will be required. A Phase I or II ESA is an assessment of property conducted in accordance with Part XV.I of the *Environmental Protection Act* and Ontario Regulation 153/04 or their successors by or under the supervision of a qualified person to determine the location and concentration of one or more contaminants on the site proposed for development.

4. Prior to a development being approved on a site where information reveals that the site may be or is contaminated, the applicant will provide a Record of Site Condition in accordance with Part XV.I of the *Environmental Protection Act*, and Ontario Regulation 153/04 or their successors. The Record of Site Condition, which details requirements related to site assessment and cleanup, must be acknowledged by the Ministry of the Environment and uploaded to the Electronic Brownfields Registry, confirming that the site has been made suitable for the proposed use. The Record of Site Condition and MOE acknowledgement will be provided to the City. If a Certificate of Property Use (CPU) is required, it will be registered on title of the subject lands.

5. All contaminated lands shall be subject to Site Plan Control.

6. The City may consider a program for financial and other incentives to promote the redevelopment and reuse of brownfield properties that are subject to environmental constraints.

4.3 Cultural Heritage, Significant Built Heritage and Archaeological Resources

The City of Clarence-Rockland recognizes the importance of cultural heritage resources and significant built heritage resources. Therefore, Council will encourage the identification, conservation, protection, restoration, maintenance and enhancement of cultural heritage resources and significant built heritage resources. All new development permitted by the policies of this Plan will have regard for cultural heritage resources and significant built heritage resources and will, wherever possible, incorporate these resources into any new development plans. In addition, all new development will be planned in a manner that preserves and enhances the context in which cultural heritage resources and significant built heritage resources are situated.

Cultural heritage resources include, but are not restricted to, archaeological sites, cemeteries and burial sites, buildings and structural remains of historical and architectural value, and human-made rural, village and urban districts or landscapes of historic and scenic interest.

Pursuant to the *Ontario Heritage Act*, the Municipality may, by By-law:

a) designate properties to be of historic or architectural value or interest;

b) define any area or areas within Rockland as an area to be examined for designation as a heritage conservation district; and

c) designate Rockland, or any area or areas within Rockland, as a heritage conservation district.

The City of Clarence-Rockland will lead the community in restoring, rehabilitating, enhancing and maintaining cultural heritage resources owned by the Municipality as examples of the proper stewardship of such resources.

The City of Clarence-Rockland may participate in the development of significant cultural heritage resources through acquisition, assembly, resale, joint ventures or other forms of involvement that will result in the sensitive conservation, restoration or rehabilitation of those resources.

The City of Clarence-Rockland recognizes that there may be archaeological remains of prehistoric or historic habitation, or areas containing archaeological potential within the boundaries of the Urban Area. The City of Clarence-Rockland may require archaeological assessments conducted by archaeologists licensed under the *Ontario Heritage Act*, as a condition of any development proposal affecting areas containing a known archaeological site or considered to have archaeological potential. Archaeological Assessment Reports conducted by licensed archaeologists are to be in compliance with guidelines set out by the Ministry of Citizenship, Culture and Recreation, as well as licensing requirements developed under the *Ontario Heritage Act*.

The retention, renewal and conservation of commercial built resources of historic or architectural merit will be encouraged if they are affected by an application for development or redevelopment. The impact of such development plans on the character of the surrounding area will also be considered.
The City of Clarence-Rockland may utilize available government or non-government funding assistance programs to assist in the implementation of cultural heritage conservation policies. The City of Clarence-Rockland, where appropriate, will co-operate with other levels of government, as well as private agencies and individuals in the conservation of cultural heritage resources in the Municipality. The City of Clarence-Rockland will co-ordinate its heritage plans and programs with heritage plans and programs of senior levels of government.

Council shall consult with the appropriate government agencies, including the Ministry of Tourism, Culture and Recreation and the Ministry of Consumer and Commercial Relations when an identified human cemetery, marked or unmarked human burial is affected by land use development. The provisions under the *Ontario Heritage Act* and the *Cemeteries Act* shall apply. A Local Architectural Conservation Advisory Committee (LACAC) may be established pursuant to the *Ontario Heritage Act* to advise and assist Council on heritage property designation and heritage conservation planning matters.

Council shall have regard for cultural heritage resources in the undertaking of Municipal public works and related municipal undertakings involving environmental assessments. When necessary, Council will require satisfactory measures to mitigate any negative impacts to significant cultural heritage resources.

Council shall consider development and site alteration on lands containing archeological resources or areas of archaeological potential only if the significant archaeological resources have been conserved by removal and documentation or by the preservation on site.

Council may permit development and site alteration on adjacent lands to protected heritage property where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved. Alternative development techniques and/or mitigative measures may be required in order to conserve the heritage attributes of the protected heritage property affected by the adjacent development or site alteration.

4.4 Division of Land

The policies for the creation of new lots are outlined below. Regard must also be given to other applicable policies contained in the Plan, including the access requirements of Section 4.1, the servicing requirements of Section 4.20, as well as to the *Planning Act* and the Provincial Policy Statement.

The division of land can take place in two ways: by consent and by plan of subdivision. It is acknowledged that the plan of subdivision process for lot creation provides for a more thorough and comprehensive review of development. However, at the same time, it is also recognized that some development will continue to take place by the consent process. The Official Plan includes policies that will provide more rigorous controls and conditions for consents. These criteria and conditions will provide for a more thorough review of consent applications and will incorporate many of the benefits of the subdivision review process.

There are general policies that apply to all divisions of land and more specific policies have been developed for consents (severances) and plans of subdivision.

SECTION 4
GENERAL DEVELOPMENT POLICIES

4.4.1 General Policies

1. All new lots shall have frontage on a public road that is open and maintained year-round by either the Municipality or a Condominium Corporation.
2. The size and shape of any lot created will be appropriate for the proposed use and conform to the provisions of the Zoning By-law.

3. The division of land must not result in the landlocking of any parcel of land. Development commonly referred to as “keyhole” will not be permitted.

4. Any division of land must respect the separation distances for land uses as set out in this Plan and in the Zoning By-law.

5. Road widening(s) may be requested as a condition of any division of land.

6. The Municipality is entitled to a dedication of land for park purposes as a condition on any division of land. Where the proposed development comprises or abuts land along a watercourse, it is recommended that the Municipality selects that land for park purposes. In this regard, subdividers of shoreline property shall be required to convey lands that encompass not only 5% of the land being developed, but which also encompass at least five percent of the usable shoreline. Special consideration shall be given to those developments that convey more than 5% of the shoreline for usable public use. Where lands are dedicated for park purposes, the Municipality will accept only those lands suitable for park use. The Municipality may, nevertheless, accept unsatisfactory land in this regard if such land is over and above the maximum allowed dedication. In the case of low density residential uses, the land to be dedicated to the Municipality for parkland purposes will represent 5% of the area of the affected land. For residential developments of higher density, the Municipality will require an equivalent of one (1) hectare per 300 residential units for parkland purposes, rather than 5% of the gross land area included in the plan. For commercial and industrial uses, the land to be dedicated for parkland will represent 2% of the gross land area. Cash-in-lieu of land may be requested by the Municipality in situations where there is a public park in the area that is adequate for existing and future population. Cash-in-lieu may also be requested where the amount of land involved is small and, therefore, unsuitable for park development.

7. In considering applications for division of land, Council will consult with the United Counties of Prescott and Russell, School Boards and any other Boards, Committees or Agencies that must plan for future growth.

8. The cumulative effect of development and the resulting financial implications for the Municipality will be monitored on an ongoing basis. In reviewing applications, Council will consider the following matters:

    a) the studies required to determine the appropriate water and sewage disposal services;

    b) the inventory of vacant lots and the demand for new lots;

    c) the adequacy and availability of services provided by the Municipality; and

    d) the condition of the roads in the immediate vicinity.

9. A division of land will not be permitted in areas that are subject to flooding or other development constraints that would make the parcel unsuitable for the intended use, unless the proposed lot or lots are of an appropriate size and configuration to ensure that all buildings, structures, site services and site access can be safely accommodated.

10. A division of land will not be permitted within a Provincially Significant Wetland and where the division of land is not supported by an Environmental Impact Study (EIS), as described in Section 4.5, when required.

11. The Municipality requires applicants to pre-consult with planning staff prior to the submission of all *Planning Act* applications.

4.4.2 Additional Policies for Consents

In reviewing severance applications, Council will consider the cumulative impact of development, including the environmental, social and economic implications. With regard to the environmental impacts, the criteria set out in subsections 1 and 2 below will apply. In order to evaluate the social and economic impacts, Council will consider the application in the context of the amount of previous severance activity in the immediate area, the number of existing vacant lots, the condition of the road and access to the lot, the surrounding existing land uses and the availability of required municipal services. The criteria relating to these items are set out below.

1. The applicant shall provide sufficient information to allow the Municipality to confirm that the severed and retained lots will be provided with full municipal services. The Municipality shall determine if there is sufficient water and sewage treatment capacity to provide appropriate services.

2. Consents will be granted only where full municipal services can be provided at no additional cost to the Municipality.

3. Where an application for consent would require opening of existing unmaintained road allowances, approval must be obtained from Council. Council will consider any such requests in the context of the overall plans for road maintenance and improvements. Any such roads will have to be constructed to a standard required by the City of Clarence-Rockland and will normally require an agreement between Council and the applicant or owner. Generally, where an application involves the opening of new roads, it will only be considered if it involves a minor addition to the municipal road system.

4. The creation of a lot having access only to a County Road will generally be discouraged. In special circumstances where there is no other alternative available, such lot may be considered provided that the Counties have approved the proposed entrance. The policies and guidelines of the Counties will apply in such circumstances.

5. Council may request any appropriate conditions on any application for consent. Such conditions may require an agreement to be registered on the title to the land.

4.4.3 Additional Policies for Plans of Subdivision

1. Access to lots in a subdivision will be from internal roads. Where necessary for design

purposes, Council may consider direct access for lots from a County Road, subject to the approval by the United Counties of Prescott and Russell.

2. Any new roads within the subdivision will have to be constructed to the standard required by the City of Clarence-Rockland. Driveway locations for corner lots shall be placed at the furthest distance from the intersection.

3. The applicant must provide a servicing report to substantiate that water and sewer service capacities are available for the proposed development. The Municipality shall determine if there are sufficient water and sewage treatment capacities to provide appropriate services.

4. The applicant may be required to provide a tree preservation and planting plan to the satisfaction of the Municipality.

5. The applicant will be required to provide a landscaping plan to the satisfaction of the Municipality.

6. Subdivisions may be phased in accordance with the recommendations of Council. Council reserves the right to establish and implement proper phasing policies in order to ensure that development within designated growth areas is orderly and timely. Along with ensuring specific targets for intensification, specific regard will be made to the provision of infrastructure and public service facilities.

7. For any plan of subdivision, the applicant or owner will be required to enter into a subdivision agreement, which will set out the conditions for the development of the land and such agreement will be registered on the title to the land.

8. All new development should occur adjacent to existing built-up areas as a means of allowing for the efficient use of land, infrastructure and public service facilities.

9. Developments that leapfrog lands will most likely be required to enter into a cost-sharing agreement.

10. The specific provisions of the *Planning Act* relating to plans of subdivision will apply in addition to the policies set out in this Plan.

11. No driveway shall be greater than the width of the garage as it extends through the municipal boulevard adjacent to the street.

4.5 Environmental Impact Study (EIS)

Two types of EIS exist – the scoped-site EIS and the full-site EIS. The nature of the proposed development and its setting will determine the appropriate type of EIS to be applied.

A scoped-site EIS addresses the EIS requirements in an abbreviated report form or checklist prepared by the development proponent or an environmental professional. A scoped-EIS is usually applied to minor developments, such as single-lot severances, or where negative impacts are known to be minor based on experience with local conditions. The exact requirements of the scoped-site EIS will be established through consultation with Municipal staff.

A full-site EIS is prepared by a qualified professional retained by the proponent for development proposals where the scoped-site EIS is insufficient to address potential impacts. A full-site EIS requires a greater level of detail appropriate to the scale of the proposed development. A qualified professional will prepare the full-site EIS.

The following items will be required in support of a full-site EIS:

a) a map showing the location of the study area, including the location and extent of any natural feature and the location of the proposed development;

b) a description of the natural features and their ecological functions in the study area;
c) a description of the proposed development;

d) a description of the proposed development's impacts on the natural features and ecological functions (all phases of the proposed development, including post-construction, to be considered);

e) a description of the actions that may be reasonably required to prevent, change, minimize or mitigate impacts on the natural features and functions that could result from the proposed development;

f) an evaluation of cumulative effects that the proposed development, in light of existing development activities in the area, may have after mitigation on natural features and ecological functions;

g) a professional opinion as to whether or not the proposed development will have negative impacts on natural features and ecological functions; and

h) a description of monitoring activities to be undertaken (and identification of those responsible for the monitoring) to ensure that the mitigative measures are having the desired effects.

4.6 Group Homes

A group home is a single housekeeping unit in a residential dwelling that is intended to provide a community-based group living arrangement for three to ten persons, excluding staff or receiving family, who are supervised and receive care in accordance with their needs. The home will be licensed or approved in accordance with provincial statutes.

Group homes are a permitted use in all designations that permit residential uses. It is the intent of this Plan to recognize the need for group homes, to recognize the needs and concerns of the residents of the Municipality and to ensure the effective integration of group homes into the community so that they will function successfully and obtain community acceptance. In order to achieve these objectives appropriate regulations will be included in the Zoning By-law and Council will provide input to the provincial licensing or approval authorities on any applications for group homes in the Municipality.

The Zoning By-law will specifically define permitted group homes and specify where they will be allowed (i.e., typically on Local Collector Roads). New types of group homes established by the Province from time to time will be assessed in light of the policies of this Plan and added, where appropriate, to the Zoning By-law. The Zoning By-law may include provisions limiting the total number of group homes allowed, as well as establishing spacing requirements for the location

of group homes.

4.7 Hazard Lands

Hazard lands are those lands that are subject to development constraints that pose or have the potential to pose a danger to health and safety or environmental impact if development or site alteration occurs. These hazard areas include lands that are subject to erosion, flood, karst topography, unstable or organic soils, steep slopes, or other identified hazard. Development and site alteration will generally be directed to areas outside of hazard lands. However, development and site alteration, excluding institutional uses or essential emergency services or the disposal, manufacture, treatment or storage of hazardous substances (as defined in the Provincial Policy Statement, 2005) may be permitted in limited circumstances, provided the following conditions can be met:

a) the hazard can be safely addressed, and the development and site alteration is carried out in accordance with established standards and procedures;

b) new hazards are not created and existing hazards are not aggravated;

c) no adverse environmental impacts will result. An Environmental Impact Study, as described in Section 4.5 of the Plan, may be required; and

d) vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies.

For the purposes of this section, development means the creation of a new lot, a change in land use, or the construction of buildings or structures, requiring approval under the *Planning Act*, but does not include activities under an environmental assessment process or works subject to the *Drainage Act*. For the purposes of this section, site alteration shall mean activities, such as fill, grading and excavation that would change landform and natural vegetative characteristics of a site.

Council may require the submission of technical studies to support the development and/or site alteration proposed. The City of Clarence-Rockland may use various planning and other approvals (e.g. Site Plan Control, site specific zoning, site alteration by-laws, etc.) to implement the results of technical studies.

4.8 Holding Zones

It is not intended that all land use areas designated in the Official Plan will be zoned for such uses immediately in the Zoning By-law. Areas may be zoned otherwise in the By-law for their existing uses or in a holding zone category as provided for in the *Planning Act* and in accordance with the following objectives and criteria.

1. It is the intention of Council to place certain lands within a holding category in the implementing Zoning By-law when the principle of development has been established, in order to:

    a) identify future development areas;

    b) ensure that services will be properly designed;

c) ensure that any development constraints can be properly overcome;

d) effect the phasing and proper design of large scale residential, commercial and industrial developments; and

e) ensure that any necessary agreements that may include financial considerations have been completed.

Lands throughout the Urban Area may be zoned in a holding zone in accordance with the objectives set forth above.

Lands that are subject to holding provisions will be identified in the Zoning By-law by the symbol "h" in conjunction with the appropriate zone symbol denoting the eventual usage of the land and will be subject to the following policy:

2. Lands in a holding zone will generally be limited to existing uses or uses that will not prejudice the future development of the lands, such as forestry uses, conservation uses, park and open space uses.

3. The development of lands subject to holding provisions will not be permitted until Council deems it appropriate to remove the holding symbol through an amending By-law in accordance with the criteria outlined below.

   a) the proposed use of lands is in conformity with the requirements of the Zoning By-law;

   b) the required services are provided or can be provided;

   c) any required tests or reports are completed to Council's satisfaction;

   d) the financial requirements of the City of Clarence-Rockland have been fulfilled;

   e) the phasing and design of the proposed development is approved by Council; and

   f) any agreements have been completed to Council's satisfaction.

4. When Council is satisfied that the above criteria have been met in full, Council will consider a proposal to remove the "h" symbol. Notice will be given of Council's intention to remove the holding symbol in accordance with the requirements of the *Planning Act*.

4.9 Home-Based Businesses

There are currently a significant number of home-based businesses operating in the Urban Area. Council recognizes that such businesses represent a good means for expanding employment opportunities within the Municipality. It is Council's intention to encourage home-based businesses throughout the Urban Area and to establish appropriate guidelines to ensure that such businesses maintain a good neighbour policy, and that compatibility issues are addressed. Home-based business operations are intended to remain small in scope. If a home-based business owner wishes to expand his/her business, he/she should seek an appropriate location within the Urban Area's commercial or industrial areas.

4.9.1 Home-Based Occupations

Home occupations may be permitted as an accessory use to any residential use. Appropriate zoning requirements will be developed and included in the implementing Zoning By-law to ensure that they are compatible with surrounding uses. Home-based occupations are intended to remain small in scope. If a person involved with a home-based occupation is determined to expand his/her business, he/she should seek an appropriate location within the Urban Area's commercial or industrial areas.

4.10 Housing

Adequate and affordable housing for all residents is a fundamental component to ensuring a healthy community approach to growth and development. Housing is also a key contributor to individual success at school, in the workplace, and in the community. Official Plan policies have been designed to improve the availability of housing for all current and future residents of the City.

Diversity in the housing supply is achieved by providing a range of housing types, maintaining a balanced mix of ownership and rental housing, and addressing housing requirements for low income groups and people with special needs. Policies in this Plan ensure that a variety of dwelling types are permitted subject to regulations contained in the Zoning By-law. These land uses are outlined in the Residential policies of this Plan.

The ability to address housing in the Official Plan is generally limited to the land use policy and regulatory controls under the *Planning Act*. Many factors that influence housing are beyond the City's control under the *Planning Act*. In recognition of this, the policies in this section serve to provide direction to Council as to how housing needs and issues can be addressed.

4.10.1 Objectives

The following are the housing objectives:

1. Encourage diversity in the supply of housing and promoting a full range of housing types, including housing that is affordable and appropriate to low income groups and people with special needs.

2. Maintain a balanced mix of ownership and rental housing while supporting and promoting accessibility within the housing market.

3. Allow increased residential intensification in the urban area.

4. Promote housing as an important component of the economic development strategy.

5. Support innovation in housing design and development.

6. Support and promote accessibility within the housing market for persons with disabilities.

7. Ensure the City's housing stock provides acceptable levels of health and safety.

4.10.2 Policies

To encourage a greater mix of housing types and tenure, it is policy of this Plan to:

1. Encourage a wide range of housing types and forms suitable to meet the housing needs of all current and future residents.

2. Encourage production of smaller (one and two bedroom) units to accommodate the growing number of smaller households.

3. Promote a range of housing types suitable to the needs of senior citizens.

4.10.3 Housing and Economic Development

Council shall encourage housing providers to pursue housing opportunities that support economic development initiatives; it is policy of this Plan to:

1. Promote mix-use residential development in the Downtown as a stimulus to revitalization and small business development.

2. Support a range of housing types available to seniors, retirees, and younger cohorts by encouraging the development of alternative housing options.

4.10.4 Accessibility

New housing should focus on providing accessible units for the frail and elderly persons with mobility impairments. In order to support and promote accessibility within the housing market, it is policy of this Plan to:

1. Encourage all housing providers to design and develop barrier-free housing.

2. Monitor the availability of modified units within the social housing sector to determine the suitability of these units versus the needs.

4.10.5 Innovation in Housing Design and Development

The City supports innovation in housing design and development that minimizes costs in the production of affordable housing. In order to achieve this, it is policy of this Plan to:

1. Permit alternative development standards where appropriate.

2. Encourage innovative forms of multiple housing and converted dwellings in order to achieve cost efficiencies in the provision of housing.

3. Encourage innovation in housing tenure and financing.

4.10.6 Maintenance of the Housing Stock

The City's housing stock should provide acceptable levels of health and safety to all current and future residents. In order to achieve this, it is policy of this Plan to:

1. Enforce property maintenance standards in all forms of housing throughout the Urban Area.

2. Maximize the use of federal and provincial improvements, rehabilitation and housing assistance programs to maintain and upgrade existing housing stock throughout the

Urban Area.

4.11 Institutional Uses

Institutional uses, such as schools, day care centres, hospitals, museums, churches, libraries, community centres, service clubs and similar public and quasi-public uses, will generally be permitted in all land use designations except Wetlands and/or hazardous lands and hazardous sites, provided that the design and siting of the buildings and structures are in keeping with the character of the surrounding area and that the institutional use will not detract from the primary function and use of the area. Institutional uses will be subject to the following policies:

1. The land is suitable for the proposed use.

2. Adequate off-street parking and loading spaces will be provided.

3. Any new institutional use that generates a significant amount of traffic shall be located in an appropriate place so that surrounding uses are not adversely affected by it (i.e. adjacent a collector road).

4. The location and site development of institutional uses will be regulated through the Zoning By-law.

5. Land use compatibility issues are addressed.

4.12 Land Use Compatibility

In reviewing any development application, Council will be satisfied that the proposed use will be or can be made to be compatible with surrounding uses. Compatibility can be achieved in a variety of ways. It can be a separation distance that is appropriate to the particular uses or setbacks reflective of those existing within the community. It can be buffering features, such as a berm, wall, fence or landscaping, or a combination of these features. It can also consist of an intervening land use that would be compatible with both of the conflicting uses. Where buffering provisions are the means to be used to ensure compatibility, such provisions will be determined through the Site Plan Approval process. Buffering can also be achieved by the natural physical features of the land.

Applicants should consult the Ministry of the Environment's Guideline "Land Use Compatibility between Industrial Facilities and Sensitive Land Uses" when addressing the issue of land use compatibility between industrial uses and sensitive land uses.

4.13 Natural Heritage

4.13.1 General

Council recognizes the importance of protecting valleylands, wildlife habitats, fish habitats and Areas of Natural and Scientific Interest (ANSIs). These natural heritage features have been included on Schedule 'A' to the Official Plan as a Development Constraint in the form of an overlay. The diversity and connectivity of natural heritage features in the Urban Area should be maintained, restored or, where possible, improved by realizing linkages between and among the natural heritage features in the Urban Area and the surrounding environment.

In many instances the City shall take these lands into ownership as development of these lands

takes place. Having them in public ownership will ensure their protection.

Where the extent of, or location of, natural heritage features is unknown, it is Council's intention to ensure that these features or areas are identified and incorporated into the Official Plan as part of the five year review of the Plan.

It is Council's intention to protect natural heritage features and to encourage private landowners to protect and enhance natural heritage features through sound management practices.

4.13.2 Habitat of Endangered and Threatened Species

The habitat of threatened and endangered species has not been identified in the Plan. Council will ensure that, as part of the review of planning and/or development applications, the endangered and threatened species habitat mapping of the Ministry of Natural Resources will be consulted. Development and site alteration will not be permitted within the habitat of an identified endangered or threatened species (as defined in the Provincial Policy Statement, 2005). Council will require the submission of an Environmental Impact Study (EIS) in accordance with the requirements of Section 4.5 of the Plan when development and/or site alterations are proposed within 50 metres of significant portions of the habitat of threatened and endangered species.

4.13.3 Areas of Natural and Scientific Interest (ANSI)

ANSIs are areas of land and water containing natural landscapes and/or features that have been identified as having values related to the protection, appreciation and scientific study or education. These areas have been identified, mapped and ranked by the Ministry of Natural Resources. Boundaries of the ANSIs are shown on Schedule 'A'. Development and/or site alteration may be permitted within an ANSI for any of the permitted uses on the underlying land use designation subject to the following policies:

1. Applications for development and/or site alteration within an ANSI or within 50 metres of an ANSI must be accompanied by an Environmental Impact Study prepared in accordance with Section 4.5 of the Official Plan.

2. Changes to the boundaries of an ANSI require the approval of the Ministry of Natural Resources.

4.13.4 Vegetation Cover

Council recognizes the importance of protecting an adequate forest cover both at the regional and local level. Although the *Municipal Act, 2001* provides the framework that enables local municipalities the power to adopt tree cutting and tree conservation by-law, Council supports local policies to aid in reaching a 30% forest cover at the regional level.

In all designations, Council will ensure through a tree cutting and/or tree conservation by-law and through the development approvals process (i.e. subdivision or site plan agreements) that appropriate care is taken to preserve significant trees and shrubs. Existing landmark trees and hedge lines should be an essential consideration in the design of any development.
In evaluating development applications, Council will consider the following criteria for the purposes of the reasonable protection of trees and shrubs:

1. The maintenance of as much as possible of the natural vegetation between the

development and any existing public roads will be required. Developers will also be encouraged to remove as little of the vegetation as possible for the roads, building sites and servicing facilities and specific provisions relating to protection of vegetation may be incorporated into subdivision or site plan agreements.

2. Selective protection of significant trees or shrubs will be promoted in consultation with local community associations.

3. For developments that require site plan approval, a tree inventory may be required and the grading plan and landscaping plan will consider measures for the protection of trees. Preservation measures may include the use of tree wells and special techniques during the construction phase to protect mature trees.

4. For developments that are proposed by plan of subdivision, the Municipality may require a tree preservation plan as a condition of the subdivision approval. The tree preservation plan will recommend measures for protecting trees. The relocation of trees will be encouraged where this is feasible to enhance the appearance of the development.

4.13.5 Fish Habitat

All rivers, drains and watercourses have the potential to be fish habitat. Those areas that have been identified (mapped as per Ministry of Natural Resources and South Nation Conservation) as fish habitat are shown on Schedule ‘A’ as Fish Habitat. Section 4.21 of this Official Plan establishes a minimum setback from waterbodies at 30 metres. If any development or site alteration is proposed that would reduce that distance or that has the potential to negatively impact fish or fish habitat, an Environmental Impact Study, prepared in accordance with Section 4.5 of the Official Plan, must be submitted to support the development. Approvals from senior levels of government will apply as warranted.

4.14 Noise and Odours

Generally, potential noise problems are best addressed through land use planning approaches that separate noise-generating uses from housing and other noise-sensitive land uses.

Noise and odour impacts shall be addressed for new sensitive land uses adjacent to existing highways, sewage treatment facilities, industries or other stationary or line sources where noise and vibration may be generated. Council may require the proponent to undertake noise or odour studies to assess the impact on existing or proposed sensitive land uses within minimum distances identified in Ministry of the Environment Guidelines, including Publication LU–131, Noise Assessment Criteria in Land Use Planning. Noise and/or odour attenuation measures will be implemented, as required, to reduce impacts to acceptable levels.

4.14.1 Noise from County Road 17

The siting of residential uses and other noise-sensitive uses are prohibited within 45 metres of the limit of County Road 17.

Notwithstanding, Council may require the undertaking of a noise-control study where proposed noise-sensitive development would be located within 45 metres of County Road 17. Such study shall be undertaken to the satisfaction of the City and the Ministry of the Environment, in consultation with the United Counties of Prescott and Russell. Appropriate measures to

mitigate any adverse effects from noise shall be implemented in accordance with the recommendations of the study.

4.14.2 Noise from Stationary Source

Based on Ministry of the Environment Guidelines, stationary sources of noise are defined as all sources of sound and vibration, whether fixed or mobile, that exist or operate on a premises, property or facility, the combined sound and vibration levels of which are emitted beyond the property boundary of the premises, property or facility, unless the source(s) is (are) due to construction. Typical individual sources of noise include generators, commercial fans or commercial air conditioners. Industrial facilities and other facilities that include more than one source of noise are considered as a single source, for the purposes of a noise control study. Other facilities that are considered as stationary sources of noise include snow disposal sites, carwashes, motor and vehicle maintenance and repair facilities, and transportation terminals. Sources of noise excluded from stationary sources, in accordance with Ministry of Environment Guidelines, include construction activities, gas stations, music and people noise, and retail facilities, such as convenience stores, where goods are delivered infrequently.

The assessment and mitigation of noise impacts from stationary sources is complex because stationary source noise involves a broad range of land uses and activities. For this reason, noise levels will be per the Ministry of the Environment's Noise Assessment Criteria in Land Use Planning (Publication LU-131) for new noise-sensitive development and Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban) (NPC-205) for new sources of stationary noise.

Council may require a noise control study for development applications that propose new noise-sensitive uses in proximity to existing sources of stationary noise as described in the Ministry of the Environment Guidelines. If existing noise levels exceed the sound level criteria for stationary source noise, then mitigation measures will be required.

Council may require a noise control study for development applications that entail construction of new sources of stationary noise or changes in land use that may introduce new sources of stationary noise that are in proximity to existing noise-sensitive land uses, as described in the Ministry of the Environment Guidelines. If projected noise levels exceed the sound level criteria for stationary source noise, then mitigation measures will be required.

Council will apply the criteria in the Ministry of the Environment Guidelines where the expansion or alteration of an existing stationary source of noise is proposed, or where a change of use of a stationary source is being proposed that could result in an increase in noise from the new use. Such proposals typically are made in the context of a building permit and require a Certificate of Approval from the Ministry of the Environment.

4.14.3 Noise Barriers

Noise is regulated better by land use planning than by noise barriers. The extensive use of noise barriers within or adjacent to a community can result in undesirable streetscapes and views. To improve the quality of the streetscape, communities will be designed to the extent possible to provide noise attenuation through planning and design. Approaches include locating noise-sensitive uses away from areas likely to receive unacceptable noise levels, locating commercial and employment uses along busier roads, or using service roads (also referred to as "single-loaded" roads). Other measures include site planning techniques, architectural design, and selection of appropriate building components. Where the use of noise barriers is unavoidable, the visual impact of the barrier shall be mitigated through the use of berms and

landscaping.

Noise barriers may only be used where other noise attenuation methods are not feasible. The need for a barrier will have to be justified and approved through the development review process.

4.14.4 Warning Clauses

In some cases, control measures cannot achieve the sound level criteria established in the Ministry of the Environment Guidelines. In such cases, Council will require that appropriate warning clause(s) be included on title to advise purchasers or occupants of expected noise levels and other recommended noise control measures.

The following policies apply:

1. Incompatible land uses will be appropriately buffered from each other in order to prevent adverse effects from noise and odours. Potential sources may include major roads, and industrial operations.

2. To assist in identifying the necessary mitigation measures, a development proponent may be required to conduct a study in accordance with guidelines established for this purpose.

4.15 Non-Conforming Uses

4.15.1 Zoning of Non-Conforming Uses

Any existing use that does not comply with the relevant policies of the Official Plan will be deemed a non-conforming use in terms of the Plan. Such uses may be zoned in an implementing Zoning By-law in accordance with their present use provided that:

1. The zoning will not permit any change of use or performance standard that will aggravate any situation detrimental to adjacent conforming uses.

2. The use does not constitute a danger to surrounding uses and persons by virtue of its hazardous nature or the traffic flow it generates.

3. The use does not pollute the air, water or soil to the detriment of health, comfort and property.

4. The use does not interfere with the development or enjoyment of adjacent areas in accordance with this Plan.

Where an existing use does not meet with the criteria set out above, it will not be zoned in accordance with its present use. Furthermore, the City of Clarence-Rockland may seek means to eliminate the use and may acquire it when sufficient funds are available or assist in whatever way possible in the relocation of the use.

Where an existing non-conforming use is discontinued, any rezoning may only take place in conformity with this Official Plan.

4.15.2 Extension and Enlargements to Non-Conforming Uses

Where an existing use has been zoned as a non-conforming use, but there is merit in granting permission to extend or enlarge the use either within the lands held in ownership or on adjacent properties, Council may amend the Zoning By-law to permit such extension or enlargement without the necessity of amending the Official Plan if it complies with the general intent and purpose of this Plan. The Committee of Adjustment also may, based on merit, permit the extension or enlargement of a non-conforming use on lands owned at the time of passing of the By-law, provided that the intent and purpose of the Official Plan are maintained.

Council or the Committee of Adjustment will use the following guidelines when assessing any application for an extension or enlargement of a use that is zoned as a non-conforming use:

1. The extension or enlargement should not aggravate the non-conforming situation for neighbouring uses.

2. The extension or enlargement should be in reasonable proportion to the existing use and to the land on which it is to be located.

3. Any extension or enlargement involving land should be minor in relation to the total property. Any major change will require an amendment to the Plan.

4. The compatibility of the extension or enlargement with surrounding uses with regard to noise, vibration, fumes, smoke, dust, odours, lights and traffic generation will be examined carefully.

5. Adequate buffering, setbacks and any other measures necessary to reduce the nuisance will be required and, where possible, will be extended to the existing use.

6. Proper access to the site will be provided to ensure that no traffic hazards are created.

7. Adequate on-site parking and loading spaces will be provided.

8. Applicable services, such as storm drainage, water supply, sewage disposal and roads, etc. are adequate or will be made adequate.

4.15.3 Other Non-Conforming Use Provisions

Where an existing building or structure that has been zoned as a non-conforming use is destroyed, such building or structure may be reconstructed to its former dimensions provided work is commenced within twelve months of the date of destruction. An existing building or structure that is zoned as a non-conforming use may be reconstructed or strengthened to a safe condition provided the external dimensions and use of the building or structure are not changed.

The development of existing undersized lots may be permitted in accordance with the relevant provisions of the Zoning By-law. A lot addition or enlargement to an existing undersized lot may be permitted even though the addition does not bring the lot up to the standard required in the Zoning By-law. In such a case, the lot does not lose its non-conforming status and may be developed in accordance with the relevant provisions of the By-law.

4.16 Parks and Recreation Facilities

Parks will generally be permitted within all land use designations. It is intended that parkland be

acquired partly by dedication, as outlined in Section 4.4, and partly by acquisition. The specific details or parkland acquisition and development may be recommended by the Parks and Recreation Department.

4.17 Property Maintenance

It is Council's intention to enact a Maintenance and Occupancy By-law that applies to Rockland.

The policies for property maintenance are set out below:

1. Council shall enact a Maintenance and Occupancy By-law that applies to the Urban Area of the City of Clarence-Rockland in order to establish and promote standards for the maintenance of buildings and property and for their rehabilitation where warranted, under the *Municipal Act, 2001*, S.O. c.25 and the *Building Code Act 1992*, S.O. c.23, as amended.

2. It is Council's intention to encourage the maintenance of buildings and property and the rehabilitation of buildings and property where warranted through the enforcement of the Maintenance and Occupancy By-law in accordance with the requirements of the *Planning Act*.

3. The Maintenance and Occupancy By-law shall prescribe standards for the maintenance of property, including such matters as the physical condition of yards, as well as the condition of buildings and structures.

4. The By-law may require that substandard properties be repaired and maintained to comply with the prescribed standards, prohibit the use of substandard property and require the demolition and clearing of such property where the owner does not intend to maintain it.

5. The measures to be used in achieving a property maintenance program would include an education and public relations program to show residents the benefits of continued property maintenance, together with information showing that improvements can often be made without increasing assessment.

6. Complementary to the enforcement of minimum standards on private properties, the City of Clarence-Rockland undertakes to keep in a fit and well maintained condition, all Municipally-owned buildings and properties and to provide or maintain in good repair such municipal services as roads, sidewalks and other such facilities.

4.18 Public Uses and Utilities

Public uses and utilities, such as power, water services, roads, railways, telephone and gas, but not including waste disposal sites, will generally be permitted in all land use designations provided that such use or utility is necessary and appropriate in the location and can be made compatible with surrounding uses.

The development of electric power facilities will occur in an orderly manner to facilitate the efficient and reliable provision of adequate electric power. As such, it is the policy of this Plan that electric power facilities are permitted in all land use designations without an amendment to the Plan provided that the planning of all such facilities is carried out having regard to the other policies of this Plan. Furthermore, Hydro One will consult with the Municipality on the location of

any new electric power facilities.

Communications facilities will be permitted in any land use designation except Wetlands or on lands subject to Flood Plain, Organic Soils or Unstable Slope Constraints in accordance with the following provisions:

a) The establishment of a new communications facility will require an amendment to the Zoning By-law.

b) In considering any application for a new communications facility, Council will take into consideration the effect of that installation on surrounding land uses, especially any existing or proposed residential areas.

c) Notwithstanding 4.18 a) and b) above, Public Uses and Utilities will not be permitted within the Wetlands designation or within significant portions of any habitat of threatened and endangered species unless approval has been obtained under the *Environmental Protection Act*.

4.19 Separation Distances

Residential uses, in particular, will be located an appropriate distance away from any use or facility that would be a potential source of disturbance, such as major highways, industrial uses, waste facilities, wrecking yards, aggregate resource areas operations and similar uses. Certain separation distances are specified in this Plan. Section 4.14 sets out distances relating to noise studies. Other separation distances will be influenced by guidelines produced by the Ministry of the Environment dealing with industrial facilities and waste disposal facilities. These and other separation distances will be included in the Zoning By-law. Separation distances or appropriate remedial measures may also be incorporated into subdivision agreements or other agreements.

Any proposed development within 400 metres of the existing sewage treatment facility will also be subject to the requirements of Guideline D-2, “Compatibility Between Sewage Treatment and Sensitive Land Use”, produced by the Ministry of the Environment.

4.20 Servicing Requirements

4.20.1 Water Supply

1. Looping of the water distribution system shall be a priority of Council in order to ensure sufficient pressure and flow in all areas of Rockland.

2. Council shall implement the necessary restrictions on development and site alteration with regard to protecting the municipal drinking water supply and the designated vulnerable areas.

4.20.2 Sanitary Sewage System

1. It shall be the policy of Council to undertake the required infrastructure improvements in areas that are currently serviced by existing pumping stations in order to increase the capacity and efficiency of the wastewater collection system as cost effectively as possible.

2. Eliminate services from areas that could damage the natural environment.

4.20.3 Servicing Policies

The following policy will apply to development in the areas where public services are available:

1. Future development within Rockland must proceed on the basis of full municipal services. Council will only approve applications for development within Rockland when it is satisfied that there is sufficient capacity in both municipal piped systems to service the proposed development.

The following additional services shall also be required as a condition to the approval of any development proposal in Rockland, unless otherwise indicated:

- Paved streets;
- Storm sewers;
- Street lighting;
- Underground wiring (electricity, telephone, cablevision);
- Curbs;
- Sidewalks (on one side of minor collector roads and on both sides of major collector roads);
- Bicycle paths (as per Section 7); and
- Natural gas.
- Bus Shelters
- Landscaping.

Council will establish and implement the proper phasing policies in order to ensure the timely provision of infrastructure and public service facilities.

4.20.4 Other Services and Facilities

Development will be encouraged to take place where other services are already available or can be readily provided. Such services and facilities include public roads, garbage collection and disposal, fire protection, police protection, education, school busing and parks. In general, new development should not create an undue financial burden for the Municipality unless it can be shown that the long term benefits outweigh the costs.

4.21 Setbacks from Water

All buildings and structures, except for electric power transmission lines and other public utilities, marinas and marine facilities, will be set back a minimum of 30 m from the high water mark of any waterbody or watercourse. This requirement may be increased or, in special circumstances, decreased depending on site conditions, the particular use proposed and the comments from the Ministry of Natural Resources. Decreases will only be considered when there is clear evidence that no adverse impact will result from such decrease. Development and site alteration within 30 metres of the high water mark will be permitted provided the requirements of Section 4.13.5 of the Official Plan have been met. Wherever possible, existing vegetation between buildings or structures and the high water mark should remain undisturbed. Council may require that stormwater management controls, including erosion and siltation control measures be put in place prior to construction, and maintained throughout the construction process. In some instances, the Municipality may require further planting as part of the subdivision approval process and of the Site Plan Control requirements for new development. The City of Clarence-Rockland may also establish minimum geodetic elevations

for any development in proximity to a waterbody or watercourse.

4.22 Site Plan Control

Site Plan Control is intended to be used where the type of development proposed or the features of the particular site require greater care in regulating the development of buildings, structures and other proposed features than is possible or practical through the Zoning By-law. Where appropriate, Council can require a site plan in conjunction with an application for amendment to the Zoning By-law.

The entire Urban Area of the City of Clarence-Rockland is a Site Plan Control Area. However, in order to avoid undue restrictions, the Site Plan Control may be applied to all residential uses containing more than two (2) units, commercial uses, industrial uses, institutional uses, wrecking yards, golf courses, contaminated sites, all properties that are located in areas subject to a natural hazard, and any development or site alterations within or adjacent to natural feature areas, lands designated Wetlands or heritage properties designed under the *Ontario Heritage Act*; as defined through the Site Plan Control By-law.

Site Plan Control may be applied to the exterior design of new buildings including, without limitation, the character, scale, appearance and building design features and their sustainable design, where appropriate. Site Plan Control may also be applied to the sustainable design elements on any public road immediately adjoining a property being developed, including without limitation, trees, shrubs, hedges, plantings or other ground cover, permeable paving materials, street furniture and bicycle parking facilities.
It is Council's intention to use Site Plan Control to obtain road widening(s) where necessary, especially where the proposed use will generate significant volumes of traffic or where the entrance onto the public road would otherwise be unsafe. This policy applies to all roads under Municipal jurisdiction.

4.23 Temporary Uses

Temporary uses may be permitted in the implementing Zoning By-law.

Notwithstanding the policies and designations of this Official Plan, Council may, in accordance with the provisions of Section 39 of the *Planning Act*, pass By-laws to authorize the temporary use of land, buildings or structures for any purpose that is otherwise prohibited by the Zoning By-law. In considering applications for such temporary uses, Council will have regard to the following policies:

1. Such uses will be temporary in nature, be compatible or made compatible with surrounding land uses and will not interfere with the long term development of the area.

2. Appropriate controls will be included in the amending By-law to regulate the temporary use.

3. Any required agreements are completed prior to the commencement of the temporary use.

4.24 Waste Management and Conservation

The City of Clarence-Rockland has a recycling program. Council will continue to encourage good waste management practices and initiatives to make better use of resources. Council will

also welcome ideas and innovations that will realistically achieve energy and water conservation and will consider such measures in reviewing development applications, where appropriate.

4.25 Energy and Communication

There are a number of public and private sector entities that are responsible for the delivery, regulation and maintenance of energy and communication services, including hydroelectric power supply, oil and gas lines, and communications systems. All organizations comply with a regulatory framework established by government.

The following policies apply to this Plan:

1. Utility lines and plants will be installed in an efficient and economical manner with minimal disruption to existing development and the natural environment.

2. Utility and transmission lines are to be installed underground in the City so as to minimize their adverse visual impact on the environment.

3. The City will actively participate with the responsible authorities in planning for the future expansion and location of power supply services and communication systems servicing the City. The proponents of such expansions will satisfy the City that there will be no major impacts from the development as related to environmental, economic, social, transportation and other concerns as determined by the City.

4.25.1 Energy Efficiency Programs

Reducing energy use, providing consumers with access to green energy sources and transportation, and developing energy efficient subdivision, street and building designs are encouraged by this Plan.

The City will explore opportunities for energy retrofits utilizing solar wall construction and geothermal heat pumps in Municipally-owned facilities, as well as additional improvements in energy conserving design. Alternative methods of heating, cooling and constructing buildings need to be promoted as the City works towards reducing greenhouse gas emissions and meeting Kyoto targets. The following programs may be undertaken:

1. This Plan supports the continued development of programs to conserve energy and improve energy efficiency across all sectors.

2. The City will encourage the development of alternative energy systems in order to produce clean energy for the City.

3. The City will explore replacing its motor vehicle fleet with hybrid or alternative fuel vehicles to encourage energy efficiency.

4. This Plan encourages building and landscape design practices that conserve energy and reduce waste, including:

    a) utilizing techniques and materials that increase energy efficiency;

    b) siting buildings so as to best exploit the area's passive solar energy potential, and utilizing existing natural shade canopies to reduce summer energy use;

    c) encouraging compact, mixed use and infill developments that concentrate complementary land uses as a means of conserving energy; and

    d) designing buildings that meet LEED (Leadership in Energy and Environmental Design) or equivalent standards.

4.26 Water Resources

Healthy surface water ensures access to clean and plentiful drinking water. Addressing water-related issues from a watershed-based planning approach is a critical first step in protecting the City's water resources.

In general, policies contained in this section apply to all forms of development in all designations. Supplementary policies on land uses that have a direct impact on water resources are integrated throughout this Plan. Other sections of this Plan examine features, such as wetlands and fish and wildlife habitat. Policies specific to flooding hazards are found in the section dealing with protecting public health and safety.

4.26.1 General Protection of Water Resources

The following general policies apply to protect water resources in the City:

1. Sensitive surface water features and their hydrologic functions and linkages shall be

determined through a watershed-based planning approach. Sensitive surface water features are defined as areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

2. Development and site alteration shall be restricted in or near sensitive surface water features such that these features and their related hydrologic functions and linkages will be protected, improved or restored.

3. Mitigative measures and/or alternative development approaches may be required to protect, improve and restore sensitive surface water features and their hydrologic functions.

4. Efficient and sustainable use of our water resources, including practices for water conservation, shall be promoted.

4.26.2 Watershed Approach

This Plan takes a broad perspective on the watershed approach. Source water protection plans use relatively large watersheds that include groundwater aquifers, as well as all of the lakes and rivers connected in a system. On the other hand, a subwatershed plan typically addresses flooding and water quality due to stormwater using watersheds of moderate size.

While watershed-based plans may differ in scope and issues, these plans will provide the necessary level of detail to identify and assess sensitive environmental features and functions critical to the health of our natural water systems. All agencies and stakeholders involved with water regulation and stewardship may be cooperatively involved in the development of watershed-based plans.

Regardless of the particular focus of the three types of watershed-based plans outlined above, all should fulfill the following requirements in a manner and scope appropriate to the type of plan:

1. Identify the boundaries of the watershed and, where appropriate, those of its subwatersheds.

2. Identify and assess human activities in the watershed, surface water features, hydrologic functions, natural heritage features and areas and, where possible and appropriate, groundwater features, which are necessary for the ecological and hydrological integrity of the watershed.

3. Propose recommendations for protecting, improving or restoring vulnerable surface water and groundwater, sensitive surface water features and, where possible and appropriate, sensitive groundwater features and their hydrologic functions.

4. Once a watershed-based plan is received and, where needed, approved by Council, the City will implement the recommendations of the plan where it has the ability to do so through existing programs, the development review process and other mechanisms, and will encourage other parties to do the same. Where necessary, this Plan will be amended to implement watershed plans.

4.26.3 Drinking Water Resources

Drinking water is of paramount importance. Provincial legislation requires that source water protection plans be developed for Ontario's watersheds. The goal is to safeguard human health by ensuring that current and future sources of drinking water in Ontario's lakes, rivers and groundwater are protected from potential contamination and depletion.

Protection of the Ottawa River watershed will be paramount as this is the Urban Area's municipal drinking water source.

To protect its municipal drinking water source, Council will support implementation of the Source Protection Plan for the Raisin-South Nation Source Protection Region, as approved by the Minister of Environment.

1. Intake protection zone(s) have been shown as an overlay on Schedule "C", Raisin-South Nation Source Protection Region – Vulnerable Areas - , City of Clarence-Rockland. Prior to permitting development that could cause a threat to its drinking water resources, Council may require the completion of a Source Water Impact Assessment and Mitigation Plan as part of a Complete Application.

4.26.4 Surface Water Resources - Streams

Surface water resources, such as streams, provide valuable water resources for wildlife and fish habitat. In areas where a watershed-based plan has not been prepared, the following policy shall apply:

1. An Environmental Impact Study may be required for new development proposed in or adjacent to streams or other waterbodies.

4.26.5 Vegetative Buffers

Vegetative buffers along stream banks are essential to maintaining and improving water quality. Shoreline vegetation acts as a filter, protecting streams from urban runoff from lawns and roads. Vegetation also stabilizes the steam banks and helps prevent erosion from storm runoff. Wildlife and fish also benefit from shoreline vegetation on land and in the water.

1. New stream bank development will be integrated, where possible, into the landscape and maintain and enhance existing stream bank vegetation to:

    a) protect the riparian and littoral zones and associated habitat;

    b) protect the quality of the water by preventing erosion, siltation and nutrient migration;

    c) maintain shoreline character and appearance; and

    d) minimize the visual impact of development.

2. It is the intent of this Plan to maximize the amount of natural vegetation along stream banks. As such, Council may implement controls on the removal of vegetation by establishing limits on clearing, changes to the grade, and the placement of impervious surfaces along stream banks. These regulations will be based on achieving the following targets:

a) for residential uses, a maximum cleared area of 25% of the stream bank frontage or up to 23 metres, whichever is the lesser; and

b) requirements for vegetative buffers will be implemented through the Zoning By-law, site plan control and a development permit system, where authorized.

4.27 Stormwater

Stormwater can be a significant problem, especially in urban areas. Left unchecked, it can lead to increased risk of flooding hazards, increased erosion and pollution of waterbodies, subsequent loss of habitat opportunities, and possible impairment of drinking water resources.

The management of stormwater, which includes water resulting from a storm event or a thaw, is as much about land management as it is about water management. Activities on the land will directly or indirectly determine the manner and intensity with which stormwater affects waterbodies.

Urbanization increases impervious surface cover, such as roads, driveways and rooftops. These surfaces prevent infiltration of stormwater, which is forced to flow overland, creating significant erosion, pollution, or flooding problems. The purpose of managing stormwater is to control the quantity of stormwater runoff to reduce erosion and flooding, and to improve the quality of runoff to waterbodies and groundwater. As such, it is a policy of this Plan that each development or redevelopment site is responsible for it'stormwater and it's management.

4.27.1 Objectives

Stormwater management in the City is needed to:

a) ensure that the constraints and opportunities associated with urban drainage are properly recognized and are integrated into community plans and designs;

b) reduce, to acceptable levels, the potential risk of health hazards, loss of life and property damage from flooding;

c) reduce, to acceptable levels, the incidence of inconvenience caused by surface ponding and flooding;

d) ensure that the quality of stormwater reaching outlet-receiving waterbodies meets provincially accepted criteria;

e) ensure that any development or redevelopment minimizes the impact of change to the groundwater regime, increased pollution, increased erosion or increased sediment transport, especially during construction;

f) support the development of green roofs to help reduce the quantity and improve the quality of water flowing into the environment; and

g) maintain the natural stream channel geometry, insofar as it is feasible while achieving the above objectives.

4.27.2 Subwatershed Plans

It is the intent of this Plan to ensure that proper stormwater management practices are undertaken to foster sustainability of the urban subwatersheds and provide opportunities for the enhancement of our watercourses. Such plans will identify measures for stormwater quantity and quality control at a subwatershed scale in order to provide a coordinated strategy for stormwater management for all development within individual subwatersheds.
Priority for subwatershed plan development will be based on existing stormwater problems, sensitivity of the receiving waterbody, and/or development pressure.

Subwatershed plans will be developed as funding permits.

All subwatershed plans will incorporate the primary objective of no net increase in peak flow rates, unless a more stringent criterion has been identified. Subwatershed plans will also assess means of stormwater quality control to ensure the protection of urban subwatersheds and provide opportunities to improve the quality of receiving waterbodies.

Existing watercourses will be left in their natural state whenever possible.

4.27.3 Site-Specific Policies

The City will apply Best Management Practices for stormwater management, as well as the technical and procedural guidance provided in the current version of the Ministry of the Environment's "Stormwater Management Planning and Design Manual."

These documents will provide guidance for stormwater management measures applicable to the implementation of stormwater quantity and quality control measures for new development, redevelopment and retrofit situations, including public infrastructure projects.

For all new developments or redevelopments, an overland flow route must be clearly defined to provide continuous overland drainage of major system flows to the nearest major watercourse. The overland flow route (major system) shall be entirely contained within the road right-of-way or easements.

Applications for draft plan approval of subdivisions and site plan approvals in areas where a subwatershed plan has been completed will demonstrate, through a Stormwater Management Report, how the proposed development will provide stormwater management in accordance with the subwatershed plan.

Applications for draft plan approval of subdivisions and site plan approvals in areas where a subwatershed plan has not been finalized will include a Stormwater Management Report containing site-specific details as required by the City.

A Stormwater Management Report shall contain the following:

1. The overall drainage plan for the site, indicating upstream drainage areas conveyed across the site and the ultimate outlet (major overland flow route) from the site to the municipal drainage system.

2. A plan of proposed on-site stormwater quantity control measures that will satisfy downstream capacity issues. Post-development peak flow rates from the site will be limited to pre-development peak flow rates, unless detailed analysis shows that such storage is not required.

3. A plan for erosion control.

4. A description of the measures proposed to control stormwater quality on site. In particular, special measures must be proposed where a site is intended for industrial development.

5. A general grading plan, illustrating conformance with the City's overall stormwater management objectives.

For areas where a subwatershed plan has not advanced in sufficient detail to define downstream stormwater management facilities or where a development will result in unacceptable peak flow increases downstream, on-site stormwater management (storage) facilities for peak flow control will be required.

For small sites where it is impractical to implement on-site stormwater management measures (due to size or local site conditions), Council may collect cash-in-lieu of on-site stormwater management facilities where a specific study and *Development Charges By-law* has been completed. Monies will be applied towards a larger stormwater facility.

Developers of plans of subdivisions are required to construct, maintain and monitor the operation of all on-site quality ponds at their expense for a minimum period of two years after completion of housing. On-site stormwater management facilities will be designed in a manner that is compatible with the surrounding environment. Where appropriate, such facilities should be connected to recreational trails.

Maintenance will consist of annual monitoring of sediment accumulation in the pond forebay and quarterly inspections for trash removal, as well as sediment removal and lawn mowing as required.

Stormwater management facilities for subdivisions will be on lands transferred at no cost to the City, in addition to any lands required to be dedicated for park purposes under the *Planning Act.*

SECTION 5
LAND USE POLICIES

The land use pattern within the Urban Area is defined by the establishment of a number of land use designations. The specific policies for development in each of those land use designations are included in this section. All other relevant policies of this Official Plan will also apply to all development within the limits of the Urban Area.

5.1 Commercial Core Area

The Commercial Core Area of the Urban Area has evolved as mixed use area that provides a variety of functions, including shopping and services, community facilities, gathering places, and housing. It is intended that Council will continue to foster the Commercial Core Area as a multi-functional area so that it will serve as a vibrant focal point for the Municipality. Given the high visibility of the Commercial Core Area, special attention to sound urban design principles is essential. Siting buildings to create a sense of street enclosure, locating parking lots to the rear of buildings, screening service entrances and garbage storage, and effective landscaping can aesthetically enhance the development. Emphasis will also be placed on creating a safe and attractive pedestrian environment, as well as convenient access to public transit and greenspace.

5.1.1 Permitted Uses

The uses permitted in the Commercial Core Area will include the full range of commercial activities, such as retail stores, personal and business services, offices, entertainment and recreation, eating establishments, and tourist facilities. In addition to the above, a full range of institutional and community facilities, medium density residential uses in mixed use buildings, and high density residential uses will also be permitted. Adult Entertainment parlours and Adult Video stores will not be permitted in the Commercial Core Area.

5.1.2 Policies

1. All non-residential uses, including mixed use commercial/residential buildings, shall have their main access to the building from the following streets: Laurier, Edwards, Giroux, St. Joseph, Gareau or Pouliotte. Commercial access and traffic on local streets will be discouraged, since they are access points into residential areas. Access to residential components of mixed uses should be provided from side streets when a mixed use development is located on a corner lot.

2. Businesses within the Commercial Core Area may be exempted from off-street parking requirements, on condition that cash-in-lieu be paid to the Municipality in order to establish a central public parking lot. Council may waive the cash-in-lieu requirement to promote preservation of the architectural aspects of a building or promote restoration of an older building. Within the Commercial Core Area, commercial buildings may be built up to the property line, subject to requirements of the Building Code and the provisions in the Zoning By-Law. Committee of Adjustment Applications to reduce the parking requirements will not be accepted.

3. Development applications within the Commercial Core Area will be reviewed with particular attention to details that affect the appearance of the street. Items that will be reviewed include such matters as street lighting, street furniture, signage, landscaping, architectural features, and access.

4. Residential uses in mixed use buildings will be permitted if they meet the following criteria:

a) Adequate parking for residential and commercial uses shall be provided and meet the requirements of the Zoning By-law.

b) Parking for residential uses will be distinctly identified from the parking for the commercial use, and no discounting for shared parking will be permitted.

c) A private amenity area will be provided for the residential use in accordance with the provisions of the Zoning By-law.

d) No existing ground floor commercial use may be converted to residential; however, a new residential use may be added to the rear of a commercial use by an amendment to the Zoning By-law.

5. The Commercial Core Area has largely been built out and development activity will mostly comprise enlargements, conversions from one use to another and redevelopment. In evaluating applications for rezoning, minor variance or site plan approval in the Commercial Core Area, Council will have regard for the following matters:

a) Appropriate buffering to ensure compatibility with neighbouring uses.

b) Adequacy of landscaping or other site improvement features.

c) Parking can be adequately provided or cash-in-lieu of parking will be evaluated.

d) Arrangements for convenient and safe pedestrian and cycling access.

e) Traffic improvements, such as turning lanes, where required for new development, will be provided by the proponent.

f) Sewer and water capacities are adequate for the site.

g) Appropriate location for loading and unloading.

h) General harmony of buildings in terms of scale and character with the built form in the Commercial Core Area.

6. In order to minimize the disruption of traffic flow within the Core Area and promote better development, small lot rezoning will be discouraged and land assembly for consolidated development will be promoted.

7. The various uses will be identified in appropriate zone categories in the implementing Zoning By-law.

8. Commercial Core Area uses shall be subject to Site Plan Control.

9. Reducing, eliminating or consolidating access points to Laurier Street to provide a human-scaled environment, wide uninterrupted sidewalks, as well as to better foster the movement of traffic.

10. Automotive commercial uses will not be permitted.

11. The visual impact of outdoor storage or parking on adjacent uses and from the street will

be minimized through appropriate means.

12. Notwithstanding the permitted uses stated in Section 5.1.1, the property known municipally as 2337 Laurier Street may be developed as a medium density residential apartment building. Policies associated with commercial development do not apply.

5.2 Service Commercial

The area designated Service Commercial is intended to serve the needs of the residents of Rockland and the surrounding area. The uses within this area require relatively large parcels of land, large areas of surface parking and access by major roads. To prevent or reduce conflicts the Service Commercial function needs to be located away from residential areas. Where it abuts a residential area, adequate buffers need to be provided and locational criteria described in this Plan need to be satisfied to ensure compatibility.

5.2.1 Permitted Uses

Permitted uses shall include such uses as: a shopping centre subject to Section 5.2.2, convenience commercial, eating establishments, financial institution, office, motel, veterinarian, warehouse retail, warehouse, wholesaler, manufacturing, assembly plant, building material sales and storage, garden centre, agricultural equipment sales, indoor recreation, public and private parking lot, transit terminal, print shop, dry cleaning plant, and other similar uses. Automotive commercial uses including but not limited to gasoline retail facilities, gas bar, convenience stores, automobile service stations, automotive parts dealers, automobile sales and service centres and other similar uses will be permitted subject to the provisions of Section 5.2.2.

In addition to the list of permitted uses,the property described as 632-634-636 Laurier Street, may also permit the following residential uses: triplex dwelling, quadruplex dwelling, row house dwelling, converted dwelling, apartment dwelling and one or more units situated in a part of a non-residential building.

In addition to the list of permitted uses, the property described as Part of Lot 29, Concession 1 (O.S.) and described as Part 1 of Plan 50R-7586, may also permit a retirement home.

5.2.2 Policies

1. A Retail Market Study will be required for any proposed shopping centre development within the Service Commercial designation, to prove to the satisfaction of Council that the proposed shopping centre will not have a negative impact on the viability of the Commercial Core Area.

2. Where a permitted service commercial use, including automotive commercial uses abut an existing residential use or lands designated Residential, adequate buffers, screens and landscaping shall be used to mitigate any potential impacts due to noise, lighting, fumes, and any other nuisances. Additional studies may be required to determine appropriate mitigation measures for potential contaminants, such as oil, gas and chemical products.

3. A Traffic Impact Study may be required to identify any necessary improvements to upgrade the transportation network to ensure that traffic-carrying capacity of the road is not significantly affected.

4. Access to Arterial Roads is discouraged where alternate access is available. In general, entrances shall be kept to a minimum and at locations with the least impact on traffic flow. The use of joint entrances will be encouraged.

5. Pedestrian walkways will be included, with linkages to transit stops and other modes of active transportation, including sidewalks and trails.
6. Sewer and water services must be adequate for the site.

7. The visual impact of outdoor storage or parking on adjacent uses and from the street will be minimized through appropriate means.

8. Service commercial uses and automotive commercial uses shall be subject to Site Plan Control.

5.3 Business Park

The Business Park designation is intended to attract uses such as light industrial, offices and corporate headquarters. These uses generally prefer visibility from highways and they usually avoid being located near major retail and traditional industrial uses. Uses within business parks are characterized by free standing buildings on individual lots in a planned subdivision setting. Some commercial uses that serve the business park would be desirable as long as they are minor in scale and accessory to the main business park use. Proximity to recreation facilities and open space would also be desirable to serve the employees.

5.3.1 Permitted Uses

The permitted uses in the Business Park designation will include all forms of light industrial uses that are compatible with adjacent uses, which do not create a nuisance due to noise, odours, vibration, dust or smoke, including uses such as warehousing and wholesale establishments, manufacturing, processing, assembling and packaging plants, research facilities, print shops, business or professional offices, indoor recreational facilities and all automotive commercial uses permitted in the Service Commercial designation.

<u>Private Hockey Academy</u>

Notwithstanding the previous paragraph, the property described as Part of Lots 21, 22 and 23, Concession 1 (O.S.), the permitted uses for this property consist of all the uses indicated in the previous paragraph in addition to the following community and commercial uses: a community centre, a private hockey academy and a park.

Permitted accessory uses to the community centre: a personal and business services (i.e., a massage therapy clinic, a physiotherapy clinic, an administrative office), an eating establishment and a retail store.

A private hockey academy may include a cafeteria, administrative offices and dormitories.

5.3.2 Policies

1. The industrial areas will be encouraged to develop with the light industrial uses closest to the roads and residential areas and the heavy industries being located on interior lots well set back from the residential areas.

2. Where industrial uses abut residential areas, appropriate buffering will be provided to ensure compatibility between the uses and lighting will be directed away from residential uses.
3. Direct access from County Road No. 17 may be permitted subject to approval of the United Counties of Prescott and Russell and the City of Clarence-Rockland.

4. All industrial uses will be required to comply with the standards of the Ministry of the Environment in terms of noise, odours, vibrations, emissions and waste handling.

5. Adequate off-street parking and loading spaces shall be provided for all industrial uses.

6. Truck traffic will be directed to designated truck routes.

7. A traffic impact study may be required to identify any necessary improvements to upgrade the transportation network to ensure that traffic-carrying capacity of the road is not significantly affected.

8. Sewer and water services must be adequate for the site.

9. Open storage areas will be set back an appropriate distance from main roads and residential areas.

10. The various uses will be identified in appropriate zone categories.

11. Business Park uses shall be subject to Site Plan Control.

12. Notwithstanding the provisions of Section 5.3 hereto to the contrary, the permitted uses with the “Business Park” designation, for a portion of the property legally described as Part of Lots 21 and 22, Concession 1 (O.S.), and more specifically Part 5 of Plan 50R-2938, shall include all of the permitted uses of the following designations: Business Park, Service Commercial, Community Facilities and Tourist Recreation Commercial. The following use will not be permitted under this designation: transit terminal.

5.4 Community Facilities

The designation Community Facilities, as shown on Schedule ‘A’, represents the existing concentration of social, recreational and educational facilities of a non-profit nature that are intended to serve the social, recreational and educational needs of the general public.

5.4.1 Permitted Uses

The permitted uses in the Community Facilities designation will include the full range of public and/or community non-profit uses, such as parks, schools, clubs, religious institutions, government offices, arenas or other indoor recreational facilities, community centres, museums, and other similar uses.

5.4.2 Policies

1. It is the policy of the Official Plan to encourage new public uses and/or community facilities to locate near the existing concentration of these uses, to promote the area as a central gathering place. The development of community facilities shall be coordinated

with the development of the Commercial Core Area. Pedestrian and cycling connections between the Core Area and Community Facilities shall be improved wherever possible.

2. Adequate parking arrangements and, if required, loading areas shall be provided, in conformity with the requirements of the Zoning By-law. Common parking areas serving more than one use in an area designated Community Facilities may be accepted provided that:

   a) Satisfactory agreements have been included to that effect; and

   b) The requirements of the Zoning By-law are met.

3. The exterior spaces around and between buildings and structures should be planned to create interesting open spaces for pedestrians.

4. Where any lands designated Community Facilities are under private ownership, this Plan is not intended to indicate that these areas are free and open to the general public. On the other hand, this Plan does not require that the Municipality purchase these lands in order that they be retained for park and community purposes. In such cases, the Municipality will consider any requests for a change in designation by the property owner. Any change in designation will require an amendment to the Plan.

5. The Community Facility designation on Schedule ‘A’ applies to the central node. Public and community buildings exist elsewhere in Rockland, and these have a conformity status with respect to the Official Plan. They are also permitted, to some extent, in the Residential designations (Section 5.6), and in the Commercial Core Area (Section 5.1).

6. Community Facility uses shall be subject to Site Plan Control.

5.5 Tourist Recreation Commercial

Certain lands have a potential for recreation-oriented development or tourist development, especially along the river. These lands are indicated on Schedule “A”.

5.5.1 Permitted Uses

The permitted uses in the Tourist Recreation Commercial designation will include hotel, motel, marina or local launching ramps, indoor or outdoor recreation, golf course, eating establishments, convenience stores as accessory to a main use and other similar uses. Seasonal outside storage of boats as part of a marina facility/operation will be permitted.

5.5.2 Policies

1. Council shall cooperate with the senior levels of government and organized groups to promote the tourist potential of a riverside development.

2. An outdoor recreation use adjacent to a residential use must be compatible with respect to noise, lighting, and any other nuisance aspects. Buffer zones can be used to increase the level of compatibility.

3. The public park, known as “du Moulin” or “Old Mill”, at the north end of Edwards Street, is currently the only public access to the river. Any recreational or tourist development in

that area must respect and, if possible, reinforce public access to the river.

4. Tourist Recreation Commercial uses shall be zoned in accordance with the nature of their activities, either as Commercial or Open Space.

5. Adequate parking and, if required, loading areas shall be provided for all permitted uses in accordance with the requirements of the Zoning By-law.

6. Tourist Recreation Commercial uses shall be subject to Site Plan Control.

7. Council may explore the viability of a new marina that would be accessible to pedestrians and cyclists alike and has central location for all residents of Rockland.

8. Council will review the study conducted by Plania to develop the banks, docks and sites along the Ottawa River to review issues and opportunities and implications to this designation.

5.6 Residential

5.6.1 General

The Residential designations are shown on Schedule ‘A’ as Low Density Residential and Medium Density Residential. Any major expansions beyond the boundaries shown on Schedule ‘A’ will require an amendment to the Official Plan and the United Counties of Prescott and Russell Official Plan.

The Official Plan encourages mixed development, offering a choice in the type of residential accommodation and the construction of all forms of tenure, such as single ownership, cooperatives, condominiums and rental. Some complementary non-residential uses are also permitted. The residential portion of Rockland is planned in neighbourhoods. In each neighbourhood, low density residential is the predominant use, but there could also be medium density residential components, local convenience commercial uses and neighbourhood parks.

The Official Plan contains special policies concerning certain types of residential uses, such as group homes and affordable housing.

Applications for development will be examined to determine municipal service requirements for both the lands affected by the development proposal and the oversizing of services to accommodate development on adjacent properties.

It is a policy of this Official Plan to have a range of housing types throughout Rockland. The purpose of this policy is to avoid uniformity of housing types in new development areas. When reviewing development applications that proceed by plans of subdivision, Council shall require a variety of housing types.

In order to promote energy conservation, new subdivisions should consider solar orientation of streets, lots and buildings. The renovation of existing homes should include improved insulation.

All major subdivisions shall include Medium Density Residential (at least 10% of the units). Schedule ’A’ indicates, in a symbolic way, the approximate locations of medium density uses on undeveloped land. The exact location will be determined by rezoning of a parcel of land without

the necessity of amending this Plan.

5.6.2 Low Density Residential

5.6.2.1 Permitted Uses

Permitted uses include:

1. Low Density development permits single detached dwellings, semi-detached dwellings, doubles and duplex dwellings to a maximum of 16 units per net hectare;

2. Small-scale commercial, park, school, place of worship and/or community facilities serving a local residential area;

3. Medium density residential, according to Section 5.6.3.

5.6.2.2 Policies

1. Small-scale commercial uses that are intended to serve the convenience needs of local residents are permitted in the Low Density Residential Area by rezoning. Such uses are intended to be isolated rather than forming a group or cluster that could potentially change the residential character of an area. These uses, which may include confectionary stores, laundromats, and other personal establishments, are limited to a maximum of 150 m^2 of floor space per location. Zoning applications for local commercial uses will be reviewed on the basis of general conformity with the following policies:

    a) Access to and traffic generated by the site will not create adverse traffic problems on surrounding roads.

    b) Such uses must be located on an appropriate collector road.

    c) Lighting and signage are located so as not to create any adverse visual impact on the surrounding residences.

    d) The use will provide landscaping and buffering in a manner that is in harmony with adjoining and nearby residential properties.

    e) The proposed small-scale commercial use must form a good fit with the existing neighbourhood fabric.

2. Non-residential uses shall be subject to Site Plan Control and, wherever possible, will have access to a collector road.

3. Developers will be encouraged to provide some variety in lot sizes.

4. Within the built-up area of the Low Density Residential designation, Council may amend the zoning to permit medium density residential, without amending this Plan, if the following criteria are met:

    a) the building is no more than five storeys in height to a maximum of 30 units per net hectare;

b) if the site has frontage or direct access to a “Collector” street, the number of units per site shall not exceed twelve, for any or all the permitted uses as listed on Section 5.6.3.1.1, and the proposal must conform to the normal requirements of the Zoning By-law without requiring an exception to reduce the zone provisions. An exception can, however, limit the number of units; or

c) if the site does not have frontage or direct access to a “Collector” street, the number of units shall not exceed eight, for any or all the permitted uses as listed on Section 5.6.3.1.1, and the proposal must conform to the normal requirements of the Zoning By-law without requiring an exception to reduce the zone provisions. An exception can, however, limit the number of units.

5.6.3 Medium Density Residential

5.6.3.1 Permitted Uses

Permitted uses include:

1. Multiple unit residential uses such as townhouses and small apartment buildings no more than five storeys in height to a maximum of 30 units per net hectare.

2. The non-residential uses of Section 5.6.2.1.2.

5.6.3.2 Policies

1. Certain developments for which the location has already been determined are indicated on Schedule ‘A’ in a precise location. These proposals must still receive all other necessary approvals, including a site plan agreement and zoning amendment.

2. Within the built-up area of the Medium Density Residential designation, Council may amend the zoning to permit high density residential, without amending this Plan, if the following criteria are met:

   a) the building is no more than five storeys in height to a maximum of 80 units per net hectare;

   b) the site has frontage or direct access on a “Collector” street and the proposal must conform to the normal requirements of the Zoning By-law without requiring an exception to reduce the zone provisions. An exception can, however, limit the number of units; or

   c) if the site does not have frontage or direct access to a “Collector” street, the number of units shall not exceed, twelve for any or all the permitted uses as listed on Section 5.6.3.1.1, and the proposal must conform to the normal requirements of the Zoning By-law without requiring an exception to reduce the zone provisions. An exception can, however, limit the number of units.

3. When Council examines a proposal for medium density, it must consider the following factors among others: compatibility, parking, vehicular and pedestrian movement, availability of municipal services, safety, noise, and the results of public participation. In general, row housing and other ground oriented housing is more acceptable on local streets than housing which is not ground oriented.

4. Medium Density Residential uses will be subject to Site Plan Control.

5.6.3.3 Medium Density Residential – exception 1

1. Lot = 4 PBell 1908, 592-596 St-Jacques Street
   Additional permitted uses:
   - Semi-detached dwellings
   - Duplex dwellings

5.6.4 High Density Residential

5.6.4.1 Permitted Uses

Permitted uses include:

1. medium density uses at a density of more than 30 units per net hectare.

2. the non-residential uses of Section 5.6.2.1.2.

5.6.4.2 Policies

1. Certain developments for which the location has already been determined are indicated on Schedule 'A' in a precise location. These proposals must still receive all other necessary approvals, including a site plan agreement and zoning amendment.

2. When Council examines a proposal for high density residential uses, it must consider the following factors among others: compatibility, parking, vehicular and pedestrian movement, availability of municipal services, safety, noise, and the results of public participation. In general, row housing and other ground oriented housing is more acceptable on local streets than housing that is not ground oriented.

3. High Density Residential uses will be subject to Site Plan Control.

4. Notwithstanding the density provisions above, a stand alone residential use within the Core Area shall achieve a minimum density of 80 units per net hectare.

5.6.5 Phasing Policies

In order to promote the efficient use of land and achieve the desired land use pattern, phasing policies are established to guide new development in designated growth areas. Emphasis will be given to intensification, redevelopment and infill opportunities and growth will meet the following phasing policies:

1. New development in Residential Areas will occur adjacent to existing built-up urban areas. Emphasis shall be placed on achieving a mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities.

2. Where expansion onto vacant undeveloped lands is proposed, the following phasing policies shall be considered at the time of application review:

   a) The proposed development represents a contiguous expansion within the Residential Area designation.

b) The proposed development represents a logical utilization of existing municipal and social infrastructure.

c) The proposed development completes or rounds out existing neighbourhoods with respect to road connections, waterline looping, and public service facilities such as schools and recreation facilities.

d) The area is experiencing growth pressure as evidenced by adjoining development and the available supply of lots/units in existing registered and draft approved plans of subdivision/condominium.

3. Land supply requirements and intensification targets will be monitored and reviewed on a five-year basis.

4. No Official Plan amendments for the expansion of areas designated Residential Area will be considered until a comprehensive review is undertaken.

5.6.6 Intensification

Residential intensification is an effective means of ensuring the efficient use of land and infrastructure in the City. Policies aimed at increased intensification are consistent with the desire to concentrate future development in fully serviced areas, as well as provincial directives on housing policy.

In order to ensure the development of a healthy, balanced and efficient City, the City will encourage new growth to occur through intensification. The City shall target that 15 percent of all new residential units created during the planning period shall be through intensification. Intensification and redevelopment of sites and buildings will be based on criteria established in the UCPR Official Plan.

5.6.6.1 Policies

Intensive forms of development can occur without dramatic change in the character and scale of existing neighbourhoods. Opportunities for intensification will be supported under the following circumstances:

1. On lands that are no longer viable for the purpose for which they were intended, such as older industrial areas.

2. Where the present use is maintained but the addition of residential uses can be accomplished in a complementary manner.

3. That are vacant and/or underutilized within previously developed areas.

4. Fully-serviced lots that could accommodate infill developments.

5.6.6.2 Programs

1. To support intensification, financial incentives for brownfield redevelopment will be investigated.

2. In order to encourage housing intensification through the conversion of vacant commercial space, Council will actively participate in federal and provincial programs to facilitate such activity.

3. An inventory of vacant sites suitable for infilling and other forms of intensification shall be maintained.

5.6.6.3 Monitoring

Over the next five years, Council will review the amount of residential development that is occurring through intensification to determine whether or not the 15% intensification target is being reached. Council will review and, if necessary, adjust its policies and programs, including amending this Plan, to ensure that continued progress towards this target is made.

5.7 Wetlands

5.7.1 General

Wetlands are lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation or hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens.

Periodically soaked or wet lands being used for agricultural purposes are which no longer exhibit wetland characteristics are not considered to be wetlands.

Wetlands are valuable in their natural state for biological, social, hydrological and other special features. The highest level of protection and conservation is *Provincially Significant Wetlands (PSW)* and is required by Provincial policy. PSW boundaries are identified by the Ministry of Natural Resources (MNR) using the Ontario Wetland Evaluation System. This plan designates all identified PSW on Schedule ‘A’ using the ‘Wetland’ designation.

5.7.2 Permitted Uses

Subject to the other policies of this Plan, the following shall apply in determining uses permitted on land designated Wetland on Schedule ‘A’:

1. Agricultural uses existing legally on the date of adoption of this Plan shall be permitted to continue.

2. Permitted uses shall include conservation, wildlife management, fishing, passive outdoor recreation and educational activities.

3. Buildings and structures that do not require extensive site works may be permitted subject to the approval of the City in consultation with the Conservation Authority and/or Ministry of Natural Resources.

5.7.3 Policies

The following policies apply to land designated Wetland in Schedule ‘A’:

1. Based on mapping provided by the Ministry of Natural Resources, which is updated from time to time, the precise delineation of the PSW and therefore Wetland designation may be refined without amendment to this Plan. The City shall maintain up-to-date PSW information reflecting the current delineation provided by the MNR.

2. Development and/or site alterations shall not be permitted within the Wetland designation.

3. New utilities or public infrastructure such as roads, sewer or water lines shall be located outside of the Wetland designation. Where utilities or public infrastructure must be located within the Wetland, alternative methods and measures to minimize impacts on the Wetland shall be considered. Structures associated with such uses shall be located outside the Wetland designation.

4. Where land designated Wetlands is under private ownership, there is no implication that the land is open to the general public or that it will be acquired by any public agency.

5. PSWs shall be protected according to the Wetland policies of this Plan through the City Zoning By-Law.

6. Adjacent lands are defined as lands that are contiguous to a PSW where development and/or site alterations could possibly have negative impact on the Wetland. The extent of adjacent lands shall be 120 metres from the Wetland boundary. Development and/or site alterations may be permitted on adjacent lands, in accordance with their land use designation, if the ecological and hydrological function of the adjacent land has been evaluated (in accordance with Section 4.5 of this Plan) and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological and hydrological functions of the wetland, or that that the impacts can be adequately mitigated.

5.8 Major Open Space

5.8.1 General

A Major Open Space area has been designated in the Urban Area and is shown on Schedule ‘A’, this being the golf course. This is a significant feature in the Community and should be recognized. Other parks, open spaces, community and recreational facilities are permitted in various land use categories and policies for these uses are included in Section 4.16.

5.8.2 Permitted Uses

The uses permitted in the Major Open Space designation will be limited to a golf course. Accessory uses, such as pro shops, club house, offices and eating establishments are also permitted.

5.8.3 Policies

1. Any proposal to redevelop lands designated Major Open Space to another use will require an amendment to the Official Plan.

SECTION 6
DEVELOPMENT CONSTRAINTS

6.1 General

The Development Constraints, which are shown on Schedule ‘A’ as overlays, apply to lands that, by their physical characteristics or their location, present problems for development. The severity and the implications of the problems vary according to the constraint. It can be an inconvenience, a risk of property damage, or even a risk of loss of life, depending on the circumstances. Six categories of Development Constraints are identified in the Official Plan: Flood Plains, Unstable Slopes, Former Dumps, Organic Soils, Noise and Odours.

6.2 Permitted Uses

When a Land Use designation (i.e., Residential, Commercial on Schedule ’A’) is affected by a Development Constraint, the permitted uses in the underlying designation are permitted subject to the policies of this Section and the other applicable policies of this Official Plan.

6.3 Flood Plain

6.3.1 General

1. The Flood Plain areas shown as a Development Constraint on Schedule ‘A’ include all areas known to be subject to 1 in 100 year flood events. These areas have been identified and mapped by the Ministry of Natural Resources.

2. It is recognized that flood plains and associated erosion hazards may exist that are not shown on Schedule ‘A’. In reviewing development applications, the approval authority shall require that the proponent of a development demonstrate that there are no flood hazards and/or erosion hazards as part of the submission of the development application for formal review and processing. Where it is determined that flood hazards and/or erosion hazards exist, the policies in this Section shall apply, regardless of the fact that the flood hazard or erosion hazard may not be identified on Schedule ‘A’.

3. Amendments to the Flood Plain Development Constraint shown on Schedule ‘A’ may be considered provided the proposed amendment is supported by plans and/or studies prepared by a qualified professional, which demonstrate that any site alteration(s) or works will not negatively impact adjacent lands or lands located up or downstream from the subject property. The Ministry of Natural Resources and/or South Nation Conservation shall be consulted prior to the adoption and approval of Official Plan amendments concerning Flood Plains.

4. The Zoning By-law shall indicate the Flood Plain areas and it may also contain provisions with respect to flood proofing/wave proofing.

5. An amendment to the Official Plan may be considered by Council to designate an area that has historically existed within the flood plain, as a Special Policy Area. An amendment will be considered where site-specific policies have been approved by the Ministry of Natural Resources to address any hardships to the area residents that would result from strict adherence to provincial policies concerning development in flood plains.

6.3.2 Permitted Uses

1. Notwithstanding the underlying Land Use designation on Schedule ‘A’, development and site alteration shall be prohibited, except for the following circumstances:

a) repairs and minor additions to buildings and accessory buildings, which do not affect flood flows where there is existing non-conforming development;

b) uses which, by their nature, must be located within the flood plain and will not a ffect the hydrology or hydraulics of the flood plain; and

c) works required for flood and/or erosion control and passive recreational and/or open space uses without buildings that do not affect the hydrology or hydraulics of the flood plain.

2. Development and site alteration permitted on lands affected by the Flood Plain constraint (in accordance with the provisions of Section 6.3.2.1), shall meet all the following requirements:

a) the hazards can be safely addressed and the development and site alteration is carried out in accordance with the established standards and procedures;

b) new hazards are not created and existing hazards are not aggravated;

c) no adverse environmental impacts will result;

d) vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies; and

e) the development does not include institutional uses or essential emergency services or the disposal, manufacture, treatment or storage of hazardous substances.

6.4 Unstable Slopes

1. A study by the Ministry of Natural Resources indicates that the slopes along the Ottawa River and Clarence Creek (east of Pigeon Street) have a potential for slope slippage. Any construction that is too near these slopes is, therefore, dangerous, and the acts of construction and/or site alterations can make the natural conditions worse. Development in these areas shall be built at a safe distance to avoid problems. Unstable Slopes are shown on Schedule ‘A’ as an overlay.

2. Development and site alteration in areas affected by Unstable Slopes, i.e., lands with a slope stability factor of safety of 1.5 or less, generally is prohibited. However, a site-specific Zoning By-law amendment may be granted if a slope stability study supports the proposed development. Site-specific zoning amendments are not required where the Building By-law addresses the requirements for development in areas affected by Unstable Slopes, as shown on Schedule ‘A’. Site-specific Zoning By-law amendments to permit construction of a building or structure may be passed only if all of the following conditions are met:

a) appropriate development setbacks as provided in a joint report prepared by the Ministry of Natural Resources and the Ministry of Northern Development and Mines are considered;

b) sufficient soils and engineering information is made available to indicate that, although the site is identified as having Unstable Slopes, it is, in fact, suitable or can be made suitable for development using accepted scientific and engineering practices;

c) that any proposed alterations to the site will not result in increased hazards or cause adverse environmental effects on or off site; and

d) the designation on Schedule 'A' permits the proposed development.

3. The Zoning By-law shall indicate a setback, a separate zone, or both, corresponding to the Unstable Slope constraint. A "holding zone", as defined by the *Planning Act*, can be used. The Zoning By-law shall prohibit new buildings, structures, and major uses (e.g. swimming pools, industrial storage) between them and the slope.

4. The recommended setback distance is an interim measure and it can be reduced if more detailed studies are done. The construction of remedial works can also change the soil conditions. Therefore, the Municipality can amend the Zoning By-law to increase or decrease the setback distance, provided that the request for change is supported by the recommendation of a soils engineer. Council shall consult the Ministry of Natural Resources or it's designate before making a decision on such a request. It is not necessary to amend the Official Plan if the Ministry accepts the engineer's recommendation.

6.5 Former Dumps

1. Several Former Dumps exist in Rockland, one of which is the property of the Municipality. These sites are shown in the United Counties of Prescott and Russell Official Plan.

2. Development on lands identified as Former Dump may proceed in accordance with the policies of the underlying land use designation subject to an Environmental Site Assessment and in accordance with Ministry of the Environment Guideline D-4 "Land Use on or near Landfills and Dumps."

3. In reviewing development applications on lands within 500 metres of a site identified as a Former Dump, a Phase 1 Environmental Site Assessment (ESA) shall be required by the approval authority in order to ensure that there is no evidence of potential safety hazards that may be caused by landfill generated gases, ground and surface water, contamination of leachate, odour or litter, potential fires, surface runoff and vectors and vermin. Particular attention shall be given to the production and migration of methane gases. The Phase 1 ESA shall document the previous uses of the property and provide an assessment of the site to identify actual or potential hazards. The Phase 1 ESA shall be undertaken using established principles and procedures and be prepared by a qualified engineer.

4. Where the Phase 1 ESA confirms environmental problems, the proponent will be required to undertake additional studies which shall demonstrate that the site is appropriate for development or can be rehabilitated in order to mitigate known or suspected hazards and to establish procedures for site rehabilitation prior to the final approval of the proposed development. The provisions of Section 4.2 shall apply.

6.6 Organic Soils

1. The organic soils (shown in the United Counties of Prescott and Russell Official Plan) that exist in the Municipality present problems for conventional construction techniques. The solution is to use special construction techniques that are adapted to this type of soil or to extend the foundations down below the organic soil layer. The organic soil areas are not indicated on Schedule 'A' because they are all within the Flood Plain areas.

2. Flood proofing in areas of organic soils by land filling or the construction of flood works can result in stability problems. As such, in addition to the studies required in Section 6.4, a geotechnical study will be required before proceeding with flood proofing operations.

3. Development, in accordance with the permitted uses of Section 6.3.2, may be permitted without an amendment to the Official Plan provided that the proposed development is supported by a geotechnical study that demonstrates that the site is suitable for development.

6.7 Abandoned Pits and Quarries

1. Abandoned Pits and Quarries are shown in the United Counties of Prescott and Russell Official Plan.

2. Development on, abutting or adjacent to lands affected by former mineral resource operations may proceed in accordance with the policies of the underlying land use designation only if rehabilitation measures to address and mitigate known suspected hazards are under way or have been completed.

3. All development applications for sites identified as an abandoned pit or quarry will require a study that provides sufficient information to determine any potential safety hazards, to demonstrate that the site can be rehabilitated to mitigate the known or suspected hazard and to establish procedures for site rehabilitation and mitigation of the safety hazard.

SECTION 7
ROADS

7.1 Introduction

The Plan for the Road Network is shown on Schedule 'B'. The roads are classified according to the function they perform. Rights-of-way widths and standards are established for each class of road. Road improvements, such as widening, reconstruction, realignment, turning lanes, intersection improvements and other traffic control devices, should be made according to a schedule of priorities established by the City of Clarence-Rockland and the United Counties of Prescott and Russell. The City's priorities for road improvements will be justified by safety and traffic volumes. The schedule of road works of the two jurisdictions, the United Counties of Prescott and Russell and the City of Clarence-Rockland, shall be coordinated.

All new streets must conform to the policies and standards of the Official Plan. Typically, this will be accomplished through the subdivision approvals process.

Council shall explore initiatives that introduce roundabouts in certain intersections within Rockland. A traffic study must first be performed by a qualified traffic engineer prior to the initiation of such a project.

7.2 Arterial Roads

7.2.1 General

Arterial roads are intended to carry high volumes of traffic at relatively high speeds and to connect major traffic generators. The only designated arterial is County Road No. 17. All development adjacent to this Arterial Road, including entrance permits, signage, building form and location and land use shall require approval from the United Counties of Prescott and Russell. Intersections with other roads should be adequately spaced and limited in number so that they do not become a safety hazard and do not seriously interrupt the flow of traffic. Adequate lighting should be provided at all intersections.

7.2.2 Policies

1. Lot creation for residential purposes with direct access to an Arterial Road is not permitted.

2. Residential subdivisions fronting on an Arterial Road may be permitted provided that access is obtained through a local public road maintained year-round. The review process shall ensure that adequate measures are included in the subdivision design to mitigate any potential negative impacts related to the proximity of the Arterial Road to the residential development.

3. Commercial and/or industrial development with frontage on the Arterial Road may be permitted subject to the approval of the design and location of the lot access by the Prescott and Russell Public Works Department and subject to other relevant policies of this Official Plan. Typically, access will be granted via an internal road system.

4. Development on lots of record existing as of the day of adoption of this Official Plan may be permitted in accordance with the applicable land use designation policies and the Zoning By-law regulations, and provided that new accesses are kept to a strict minimum by enforcing, where possible, a minimum 200 metre separation distance from existing accesses on the same side of the road. Alternatively, safety issues may be addressed

through engineered solutions, such as turning lanes, acceleration lanes or deceleration lanes.

5. The minimum 200 metre separation distance required in policy 4 above may be reduced by the United Counties of Prescott and Russell Public Works Department without amendment to this Official Plan where sufficient frontage exists that would normally permit the maintenance of the separation distance but where topographical or safety considerations would dictate that a lesser separation distance may be reasonable.

6. A minimum development setback of 9 metres from the property line shall be required.

7. The following roads and proposed rights-of-way are designated as Arterial Roads for the purpose of the Official Plan:

Road	Proposed Right-of-way
County Road No. 17	50 m
East-West By-Pass	30 m

8. The East-West By-Pass shown on Schedule B is for information purposes only. A Class EA will be required to define its ultimate alignment.

7.3 Collector Roads

7.3.1 General

The City of Clarence-Rockland distinguishes between Major and Minor Collector Roads.

Major Collector Roads are intended to distribute traffic from the interior of residential communities or areas of industrial and commercial development to the Arterial Road Network. A secondary function of Major Collectors would be the servicing of abutting properties, although, in some cases, it may be desirable to restrict access onto them. This access should be limited to commercial properties and medium density residential development (i.e., apartment buildings).

Minor Collector Roads are intended to distribute traffic from the interior of residential neighbourhoods to a Major Collector Road or Arterial Road. An equal function is to serve abutting properties.

Major and Minor Collector Roads have been indicated on Schedule ‘B’.

7.3.2 Policies - Major Collector Roads

The City of Clarence-Rockland will consider the following principles when dealing with proposed development abutting and/or affected by a Major Collector Road and in regard to the development of new Major Collector Roads:

1. Junctions of local streets with Major Collectors should be adequately spaced and,

wherever possible, in the form of a four-way intersection.

2. Street lighting, sidewalks on either side and a bicycle path on one side shall be provided.

3. Wherever possible, new residential lots should not front onto a Major Collector.

4. The following streets are designated as Major Collector Roads for the purposes of the Official Plan:

Street Name	From - To
Laurier Street	Poupart Road (west) to County Road No. 17
Laporte Street	Laurier Street to County Road No. 17
Boul. Dr. Corbeil	Caron Street to St-Jean Street (County Road)

5. The right-of-way width for a Major Collector Road shall be 26 metres. An exception to this proposed width shall be made within the boundaries of the Commercial Core Area where the right-of-way width will be 20 metres.

6. Minor adjustments to the alignment of any “proposed” Major Collector Road may proceed without an amendment to this Plan provided that it reflects their general location and intent, as shown on Schedule ‘B’.

7. The City will begin discussions with the UCPR to have St-Jean Street – County Road (as located within the Urban Area) transferred to the City.

8. Following completion of the multi-jurisdictional Class Environmental Assessment (EA) for improvements to Ottawa Road (OR) 174 from the Highway 417/OR174 Interchange (the “Split”) to Canaan Road in the City of Ottawa, and improvements to Prescott Russell County Road (17) from Canaan Road to County Road 8 (Landry Road) in the UCPR, the City will undertake a detailed evaluation of the existing Laurier Street (east) / County Road 17 intersection to assess current deficiencies and develop a recommended alternative to address the transportation needs. One alternative to be considered is a connection east of Yves Street which would align with a future intersection along County Road 17. In order to protect the right-of-way and to avoid costly expropriation, this alignment will be shown on Schedule “B” of the Plan.

7.3.3 Policies - Minor Collector Roads

1. The City of Clarence-Rockland will take into consideration the following principles when dealing with proposed development abutting and/or affected by a Minor Collector Road and in regard to the establishment of new Minor Collector Roads.

2. Street lighting and sidewalks and bicycle paths shall be provided on one side of the Minor Collector Road.

3. Traffic on Minor Collector Roads should not be impeded by unnecessary stop signs unless warranted by transportation design criteria.

4. The following streets are designated as Minor Collector Roads for the purposes of the Official Plan:

Street Name	From - To
Edwards Street	Laurier Street to Catherine Street
St-Jean Street	Laurier Street to Poupart Road
Caron Street	David Road to Highway No. 17
Heritage Drive	Laurier Street to Patricia
Poupart Road Sterling Avenue	Laurier Street to St-Jean Street Jasper Cr. to Boul. Dr. Corbeil

5. The right-of-way width for a Minor Collector Road shall be 26 metres. An exception to this width shall be made within the boundaries of the Commercial Core Area where the right-of-way width shall be 20 metres.

7.4 Local Roads

7.4.1 General

The primary function of Local Roads is to provide direct access to lots. Generally, the volume of traffic will be low and the traffic on the street will have an origin or a destination on the route.

7.4.2 Policies

1. Through traffic should be discouraged. Local roads are under the jurisdiction of the Municipality and the right-of-way shall be a minimum of 18 metres.

2. Rights-of-way that do not meet the minimum 18 metres standard will be widened, but only if required for traffic flow. In this regard, where a widening would create an excessive reduction in the sizes of the lots fronting on the road, the Municipality may consider widening only the intersections.

3. The following streets do not have a uniform 18 metre right-of-way and, consequently, are proposed for widening: Albert, Alma, Catherine, Chapman, David, Gareau, Henrie, Hudon, Lalonde, Lawrence, McCall, Notre-Dame, Charette, Pouliotte, Powers, St-Jacques, St-Jean, St-Joseph, St-Louis, Victor, Victoria, Wallace, and Woods.

4. Alternative development standards may be developed that would allow for more flexible requirements for road widths.

7.5 Reserves for Future Roads

At regular intervals along all roads in undeveloped areas, the City of Clarence-Rockland shall establish and protect reserves for future roads having a proposed right-of-way a minimum of 18 metres (or appropriate for the type of road envisioned) for access to interior parcels of land and for the future construction of roads in relation to the development of these parcels. Such reserves should be located at intervals of at least 60 metres but not exceeding 250 metres. The protection of these reserves or their dedication to the Municipality may constitute a condition for

the approval of a severance, a subdivision, or any other type of development. Existing reserves shall be protected unless they are not required to meet the foregoing standards.

7.6 New Public Roads

Prior to the opening a new public road, the City of Clarence-Rockland will require:

1. An engineer's report with regard to street construction and to the required services (i.e., municipal water and sewer, drainage, street lighting and signs, curbs, cable and any other appropriate services).

2. The signing of an agreement with regard to construction of the road and installation of the services. A new street is not a public street unless the owner has transferred the property to the City of Clarence-Rockland and that the City of Clarence-Rockland has assumed and dedicated it as being a public highway by By-law.

7.7 Private Roads

Where a private road exists within Rockland, there is no legal obligation on the part of the Municipality to maintain, repair or otherwise service any development located on that private property road or right-of-way. If a private road is reconstructed by the landowners, at their own expense, to the standards of the Municipality and the road allowance on which it is located is deeded to the Municipality, Council may, subject to an amendment to the Official Plan, assume the road by By-law if it can be accessed by an existing public road which is currently maintained year-round. Prior to undertaking any such work, the landowners will obtain the approval of Council. The work will be supervised by the Municipality and shall be to the standards determined by the Municipality.

No new private roads may be created for new development except for private roads approved by an application under the *Condominium Act* or a development proposed under a "Common elements agreement" that has been approved by Council.

Development on Private Roads is permitted on existing lots of record, provided that such lots meet the relevant requirements of this Official Plan and provided that they are appropriately zoned in the implementing Zoning By-law.

7.8 Access to Public Road

All new development must have frontage on a public road that is of an adequate width and standard of construction and is maintained year-round by the City of Clarence-Rockland or other Public Authority.

All new development will be carefully located so that no traffic hazard is created by the new use.

The policies and guidelines of the United Counties of Prescott and Russell will apply to any new development abutting a County Road.

7.9 0.30 Metre Reserve

The Municipality may require the transfer of one or more 0.30 metre reserves for the purpose of locating and limiting the number of entrances to a property or to restrict access to a public

highway from a particular area of a property when dealing with a plan of subdivision, a plan of condominium, a site plan or severance.

7.10 Road Widening

It is the intention of Council that all roads under the jurisdiction of the Municipality eventually be widened to their proposed right-of-way widths using such mechanisms as subdivision approvals, consent approvals and Site Plan Control approvals.

7.11 Pedestrian Policies

One of the objectives of this Plan is to establish a pedestrian-friendly environment. Overall, this Plan shall encourage people to walk for health reasons and to reduce their dependence on the automobile. This Plan stresses the need for a clearly defined network of sidewalks, pathways and cycle routes that are linked to established public and commercial areas. The following policies aim at achieving this objective:

1. Where Council considers it appropriate, new development or redevelopment will be expected to provide pedestrian walkways and sidewalks constructed to an appropriate standard. The location, size and nature of the development will determine whether sidewalks are needed on both sides or one side of the street. In some cases, sidewalks may not be required.

2. When undertaking public works, and where appropriate, the City will include the provision of facilities that address the needs of pedestrians.

3. To encourage pedestrian travel, streetscapes should be safe, convenient and attractive for pedestrians. This may include providing sidewalks, locating commercial uses at street level, encouraging building design that provides shelter and providing appropriate lighting, street furniture and landscaping.

4. Council shall establish a pedestrian walkway plan for the urban area that outlines areas where walkways exist and where they should be created within an overall network. Such a plan shall encourage pedestrian interconnections between home, schools, recreational areas, and shopping areas. The City shall maintain and enhance the existing sidewalk network in order to achieve this policy.

7.12 Cycling Policies

Cycling also reduces the dependence on the automobile. This Plan shall encourage people to ride bicycles. The following policies aim at achieving this objective:

1. Council shall establish a cycling plan for the urban area that identifies cycling routes. Such a plan shall encourage the interconnections between bike routes and open space areas. Such a plan shall be designed to improve the viability of cycling as an alternative to car use.

2. When undertaking public works, and where appropriate, the City will include the provision of bike lanes and bike racks to address the needs of cyclists.

3. Where Council considers it appropriate, new development or redevelopment will be

expected to provide bike racks.

7.13 Multi-Use Pathways

The City shall maintain and expand its recreational trails and bicycle route identified on Schedule 'B'. The following policies aim at achieving this objective:

1. All development applications, including, but not limited to, plans of subdivision, severances, plans of condominium, Official Plan Amendments, Zoning By-law Amendments and Site Plans shall be reviewed to ensure that they include consideration for recreational and bicycle pathway facilities.

2. A recreational trail and bicycle route signage program for existing roadways will be developed in accordance with recognized standards and best practices. Ongoing road maintenance and new road construction and associated infrastructure shall have consideration for the recreational vehicle and bicycle in the design and placement of intersection treatments, sewer grates, manhole covers and signage. All facilities operated by the City will incorporate appropriate bicycle facilities consistent with their location in order to lead by example in promoting the usage of cycling in the City.

3. Opportunities to expand the multi-use pathways along the Ottawa River and linking with other natural areas and open space areas will be considered as part of the development review process.

7.14 Active Transportation, Pedestrian and Bicycle Network

Protecting and expanding the existing pedestrian and bicycle network in the City is essential to creating quality of place. Trails promote healthy lifestyles and provide an alternative transportation network.

7.14.1 Policies

1. The existing pedestrian and bicycle network will be maintained and expanded through the creation of additional pedestrian walkways, trails and bikeways with adequate signage throughout the City.

2. Development proposals will be reviewed to ensure that there is adequate pedestrian access in new developments. The City may acquire lands to provide pedestrian facilities as a condition of approval. Wherever possible, the provision of adequate bicycle facilities will be encouraged.

3. Bicycle facilities for all new road links and road widening projects will be considered based on an assessment of safety, potential usage, cost, and linkages to major employment, educational, or recreational centres.

4. The maximum level of separation of pedestrians and bicyclists from motor vehicle traffic will be achieved through good road design practices.

5. Sidewalks facilitate active living and are an essential component of good neighbourhood design, providing a safe pedestrian environment and access to other transportation linkages, such as trails. Curbs and sidewalks in neighbourhoods also encourage walking and provide safety for children. It is policy of this Plan to provide the following on new and reconstructed roads, when feasible:

a) Sidewalks on at least one side of urban Arterial Roads and Collector Roads adjacent to developed lands.

b) Pedestrian connections between neighbourhoods.

c) Pedestrian linkages to major attractions/generators.

d) Sidewalks are to be built and maintained to a standard that facilitates the mobility of persons with disabilities.

e) Barrier-free design of pedestrian facilities will be required through site plans.

7.14.2 Programs

1. The existing bicycle and pedestrian network will be expanded, with special emphasis on major generators, such as community centres and educational institutions, as well as enhanced linkages between community facilities, neighbourhoods and schools.

2. Pedestrian and bicycle safety programs within the City will be supported and coordinated.

3. Public awareness of the convenience, health and economic benefits of commuter cycling and walking will be promoted.

7.15 Accessibility

Accessibility is a key consideration in the planning and development of our Communities, encompassing our streets, parks, libraries, social housing, and other functions of daily living. It is policy of this Plan to support the continued development of integrated, accessible services, programs and facilities that fully respect the dignity and rights of persons with disabilities.

7.16 Parking

Parking is an integral component of the road transportation system. Therefore, it is the policy of this Plan to ensure that the location and design of parking facilities encourage the efficient and safe functioning of the transportation system.

The City shall have regard to the following factors when considering the approval of individual parking lots and the parking component of a larger development:

1. Access and exit to parking areas shall be located so that:

a) visibility of other vehicles is not hindered by inadequate sight triangles or buildings set too close to public streets or the internal road system;

b) visibility is maintained between vehicles entering/exiting the site and pedestrians along the property frontage in order to minimize conflict between the two modes of travel;

c) there is minimal disruption to the function of the adjacent road by providing turning lanes where required;

d) where practical, adjoining land uses on arterial, major collector and collector roads shall share access points in order to minimize traffic hazards;

e) where practical, the City will require internal links between adjacent parking lots.

2. Where possible, parking facilities shall be sited on a property such that large expanses fronting on public streets are avoided.

3. Parking for persons with disabilities and expecting mothers is provided within oversized parking stalls with ramped sidewalks nearby and is well located in respect to convenience for the user, proximity to the building access points or public sidewalks, and is protected, where possible, from adverse climatic elements.

4. Illumination of all areas to increase the safe, secure use of parking facilities.

5. Light spillover or glare from any lighting source onto residential uses and public streets shall be minimized, but not to the detriment of safety concerns.

6. For mixed use development containing residential units, parking areas shall be dedicated for the exclusive use of residents and separated by design or distance from parking areas for other uses except where parking facilities can be shared with these other uses so as to provide adequate, safe, secure and convenient parking for residential use.

7. Parking areas shall be designed to incorporate proper stormwater management, and use permeable surfaces, where feasible (i.e., paving stones, porous asphalt).

8. Pedestrian circulation routes through parking areas shall respect natural pedestrian travel routes, minimize hazards and inconvenience and maximize pedestrian security.

9. The design and layout of parking areas shall ensure the safe and efficient operation of the facility.

10. Parking facilities shall be designed, located and operated in such a manner that maximizes the security of motor vehicles and cycles from theft and vandalism and their users from assault or personal injury. In the case of cycle parking, the design and operation shall minimize the risk of physical damage to the cycle from the parking facilities or from other cycles sharing the facility.

The City shall require the provision of on-site loading facilities for development that may regularly receive or dispatch goods. The loading spaces shall be located to minimize the effects of noise and fumes on adjacent uses and shall not interfere with customer/employee parking or pedestrian movement.

It is Council's desire that effective management and enforcement of traffic and parking regulations will optimize the operational efficiency of our infrastructure and ensure a continued emphasis on the traffic control system in place are adequate throughout the City.

SECTION 8
SPECIAL STUDY AREA

Special Study Areas are designated on Schedule ‘A’ and are subject to the policies of this Section. Special requirements, including the preparation of Secondary Plans or Development Plans, will apply to those areas where complex issues exist and coordinated planning solutions are required prior to development proceeding. It is intended that, after planning issues have been resolved, development can proceed for the land use designations that have been identified within the study area, subject to the applicable policies of the Official Plan and, if required, of the Secondary Plan.

8.1 Special Study Area 1

Special Study Area 1 comprises all the lands situated between County Road No. 17 to the north, Part of Lots 33 and 34, Concession 1 (O.S.) to the west, the proposed major collector road to the south, and a portion of Part of Lot 32, Concession 1 (O.S.) to the east, as shown on Schedule ’A’.

The lands within the Special Study Area 1 are presently used primarily for agricultural uses, with the exception of a number of dwellings along de la Baie Road, on the south side of County Road No. 17.

The future development of lands within the Special Study Area 1 could offer a full range of residential uses, commercial, institutional and recreational activities. The completion of a Development Plan will be required prior to any development being approved in the Special Study Area 1.

8.1.1 Development Plan

1. A Development Plan shall be prepared in accordance with the following guidelines:

    a) Council shall adopt an amendment to this Official Plan prior to any development.

    b) In order to ensure the proper consideration of issues and problems, public participation and consultation with appropriate agencies shall be a mandatory component of the preparation of the Development Plan. When adopted, the Amendment to this Official Plan shall be subject to the approval of the United Counties of Prescott and Russell.

    c) Until such time as the Development Plan is prepared for the Special Study Area 1, the permitted uses shall be limited to the existing uses. Notwithstanding the above, Council may permit redevelopment of existing legal uses, limited to repairs and minor additions to buildings or structures, which would not prejudice the future development of Special Study Area 1.

    d) The Amendment to this Official Plan shall be implemented by Zoning By-Laws, development and site plans, subdivision plans and agreements, land acquisition, or other means as required.

    e) The Development Plan must consider and include policies for, amongst other things:

        i) transportation, traffic and parking;

ii) housing types, densities and mix;
iii) population size and distribution;

iv) community facilities and services, such as schools, parks, recreation and institutional uses;

v) commercial types and business office uses, size and locations;

vi) municipal services and utilities;

vii) visual amenity, landscaping and conservation criteria or standards; and

viii) means of implementation and staging.

SECTION 9
COMMUNITY IMPROVEMENTS

9.1 Goal

It is the goal of Council to upgrade, maintain and rehabilitate the physical environment, in order to ensure the continued social and economic viability of its existing Residential neighbourhoods, Commercial Core Area, Business Park, Service Commercial and Community Facilities.

9.2 Objectives

It is the intention of Council to implement a program of continuous community improvements (as defined in the *Planning Act*) that will fulfill the following objectives:

1. Foster improvements in Residential neighbourhoods by:

    a) striving for an equitable distribution of social amenities among residential neighbourhoods in facilities that are well maintained, well located and easily accessible;

    b) establishing and maintaining the physical infrastructure necessary, and appropriate for, the various residential neighbourhoods; and

    c) ensuring the maintenance of the existing housing stock, and encouraging the rehabilitation, renovation and repair of older dwellings.

2. Foster improvements in the Commercial Core Area by:

    a) maintaining a vibrant, attractive downtown by providing the necessary physical conditions to create a pleasant shopping environment;

    b) providing and maintaining incentives to support the Commercial Core Area, to foster a healthy local economy for area businesses;

    c) providing and maintaining downtown streets, sidewalks, lighting, benches and parking areas to ensure that the Commercial Core Area is accessible to both motorist and pedestrian;

    d) encouraging high standards of site development; and

    e) encouraging mixed use residential/commercial uses.

3. Foster improvements in the Service Commercial and Business Park by:

    a) developing and maintaining the Service Commercial area and Business Park to facilitate the successful operation of the commercial uses that they accommodate;

    b) ensuring that proposed improvements to local industries throughout Rockland generally enhance the areas in which they are located and area compatible with adjacent land uses;

c) ensuring that sewer mains, gas mains, watermains, roads, curbs, sidewalks and street lighting are adequate and are appropriately located to service the commercial uses; and

d) ensuring that development occurs in an efficient sequential manner.

4. Foster improvements along the Ottawa River by:

a) identifying, supporting and encouraging the development of the tourism and recreational potential of the waterfront;

b) maintaining public access to the Ottawa River and encouraging a healthy mix of tourist, recreational and open space uses; and

c) ensuring that watermains, sewer mains, roads and sidewalks are adequately designed, sized and located to service waterfront developments.

5. Foster improvements, generally, so as to:

a) encourage the participation of the private sector in community improvement initiatives involving local merchants and business people and their associations, residents and civic leaders;

b) ensure that the undertaking of specific community improvement projects does not unduly burden their financial capability;

c) generally ensure high standards of site development throughout Rockland; and

d) ensure that, when undertaking community improvement projects, compatibility of neighbouring land uses are accorded due regard.

9.3 Policy Area Designation

All of the land within Rockland shall henceforth be known as the Community Improvement Policy Area of Rockland.

9.4 Basis of Designation

The area so designated was identified on the basis of the criteria listed in Section 9.6 below. An Inventory and Analysis Report includes the background information for the policy area designation.

9.5 Comprehensive Improvements

Council will undertake comprehensive and complementary improvement programs within the policy area, as financial resources permit.

9.6 Criteria

The Community Improvement Policy Area was designated on the basis of an evaluation of available municipal services and facilities using the criteria that follow. The designated area requires improvements in some or all of the following:

a) the availability and/or adequacy of municipal services, including sanitary sewers, storm drainage, watermains, natural gas, roads, curbs and sidewalks;

b) the availability of parks, recreation and neighbourhood facilities within individual neighbourhoods;

c) compatibility of neighbouring land uses;

d) the availability and/or adequacy of on-street and off-street parking and loading, particularly in the Commercial Core Area;

e) physical amenities, including buffering between incompatible land uses, particularly between industrial and residential uses, and streetscaping and architectural treatment in the Commercial Core Area;

f) pedestrian access between the parking and commercial functions in the Commercial Core Area; and

g) building conditions.

9.7 Priority Areas

Council may establish community improvement project areas as local municipal resources allow and as government funding becomes available. Council recognizes that improvements will be undertaken gradually and that it will be necessary to select project areas on a priority basis. The following considerations shall be taken into account in determining high priority areas for community improvements:

a) Priority will be given to areas where deficiencies in the provision of such services meet the provisions in Section 9.6 herein are the most critical. Community improvement works may also be undertaken in areas of lower priority.

b) Areas within Rockland that are deemed to be rich in historical or architectural features, such as may be established under Section 4.3 of this Official Plan, shall be considered a high priority area for community improvement, if other criteria for selection are satisfied.

9.8 Implementation Options for Community Improvements

In order to achieve the objectives for Community Improvement, Council intends to use a variety of implementation methods and to choose the appropriate technique(s) for each objective. Such methods may include (but are not limited to) the following:

a) preparation and adoption of community improvement plans;

b) designation of community improvement project areas by By-law;

c) application to the appropriate government agency for funds to support the Municipality's program;

d) Municipal acquisition of land within the community improvement project area(s);

e) clearing, grading or preparing the land for community improvement;

f) enforcing By-laws dealing with property maintenance and enforcing the Municipality's policies for property maintenance and safe occupancy;

g) encourage and support the foundation of a "Business Improvement Area" by enlisting the support of businesses in the downtown core;

h) encouraging rehabilitation at the private level by providing residents with information on relevant government subsidies and programs;

i) establishing an appropriate land use Zoning By-law;

j) providing the framework for more flexible land use decisions by establishing mixed use zones in the implementing By-law, as deemed appropriate; and

k) encouraging redevelopment through rehabilitation of existing facilities, where desirable, and by implementing the Heritage policies of this Official Plan.

SECTION 10
IMPLEMENTATION

10.1 Introduction

The Official Plan of the Urban Area of the City of Clarence-Rockland is a policy document adopted under the provisions of the *Planning Act*. It is consistent with the Provincial Policy Statement (2005) issued under Section 3 of the *Planning Act* and has regard to provincial interests listed in Section 2 of the *Planning Act*. In some instances, the policies of this Plan are more limiting or restrictive than the Provincial Policy Statement (2005).

Implementation of the Official Plan is carried out through the following measures, among others:

a) by the enactment and administration of implementing By-laws pursuant to the *Planning Act*, including a Zoning By-law, Site Plan Control By-law, Property Maintenance and Occupancy By-law;

b) by the enactment and administration of By-laws pursuant to the *Municipal Act* or other *Provincial Acts*;

c) by the construction of public works;

d) by the acquisition of land;

e) by amendments to the Official Plan and to implementing By-laws;

f) by the adoption of a Community Improvement Plan; and

g) by cooperating with other levels of government, community organizations and the private sector.

10.2 Zoning By-law

10.2.1 Implementation Tool

The principal implementation tool of this Official Plan shall be the Zoning By-law. The existing Zoning By-law, that portion which applies to the Urban Area, will be amended as required to conform to the policies of this Official Plan. As set out in the *Planning Act*, this By-law may regulate the use of land, the erection or use of buildings, provisions for parking and loading spaces, among other things.

10.2.2 Specific Project

Since zoning constitutes the Municipality's most important means of control over land use and development, Council adoption of any zoning amendment required for a specific project should generally occur only when all other conditions or requirements deemed essential by the Municipality have been fulfilled. All applications for a change in the Zoning By-law shall require a pre-consultation with the City of Clarence-Rockland.

Council has the authority to require that a person or public body applying for a Zoning By-law amendment provide any other information and/or material that Council may consider necessary in making a decision.

10.3 Subdivision of Land

Council will use the subdivision and consent approval processes to ensure control over the subdivision of land. All plans of subdivision and consent applications must conform to the requirements of this Official Plan, and shall require a pre-consultation with the City of Clarence-Rockland prior to an application.

As part of the approval process, certain requirements may be imposed as a condition to the approval of a plan of subdivision or a consent and the owner may be required to enter into an agreement with the Municipality before final approval.

10.4 Maintenance and Occupancy By-law

The Municipality already has a By-law to prescribe standards for the maintenance and occupancy of property. The Maintenance and Occupancy By-laws have regard to the following aspects in establishing its requirements:

a) the physical condition of lands, yards, roads and parking areas, including the accumulation of debris and rubbish, weeds and discarded vehicles;

b) the adequacy of sanitation, including sewerage and drainage; and

c) the physical condition of, or the availability of, sidewalks, pathways, lighting fixtures, signs, garbage disposal containers and other such facilities.

The Maintenance and Occupancy By-law should also prescribe standards for the physical condition of buildings and structures, including any accessory buildings.

The adoption of a Maintenance and Occupancy By-law gives the Municipality the authority to require substandard properties to be repaired and maintained to comply with the standards, prohibit the use of substandard property, and require the demolition and clearing of such property where the owner does not intend to repair and maintain it.

When a Municipality adopts a Maintenance and Occupancy By-law, it is necessary to appoint a Property Standards Officer who is responsible for administering and enforcing the By-law. The Municipality is also required to appoint a Property Standards Committee, in accordance with the *Planning Act*.

The measures to be used generally in achieving a property maintenance program should include an education and public relations program to show people the benefits of continued property maintenance, together with information showing what improvements can be made without increasing assessment. Complementary to the enforcement of minimum standards on private properties, the Municipality should undertake to keep in a fit and well-maintained condition all Municipally-owned properties and structures.

10.5 Other By-laws

By-laws passed by Council under the authority of the *Municipal Act* or any other *Act* may implement the policies of this Official Plan. For instance, By-laws dealing with the regulation of derelict motor vehicles, wrecking yards, trailers or signs may be passed by Council, where considered appropriate. Any such By-law must conform to this Official Plan.

After approval of the Official Plan, amendments shall be made to any By-law deemed to implement the Official Plan that does not conform to the Official Plan and all amendments to implementing By-laws subsequently passed shall also conform.

10.6 Construction of Public Works

Certain policies of this Official Plan will be implemented through the construction of public works. In accordance with the *Planning Act*, no public work shall be undertaken that does not conform to the intent and purpose of the Official Plan.

10.7 Land Acquisition

Under the *Planning Act,* the Municipality may acquire and hold land within the Municipality for the purpose of developing any feature of the Official Plan. The Municipality may also sell, lease or otherwise dispose of such land when no longer required.

In some cases, a lease or an option to purchase may be preferable to an outright purchase of land.

10.8 Amendments to the Official Plan

Amendments may be made to the Official Plan when such changes are warranted. The provisions of the *Planning Act* with respect to Official Plans apply similarly to amendments, including the approval of the United Counties of Prescott and Russell or the Ontario Municipal Board, as the case may be. Applications for an Official Plan Amendment shall require a pre-consultation with the City of Clarence-Rockland. All applications must be deemed complete by planning staff. When amendments are made to the Official Plan, appropriate amendments will also be made to the implementing By-laws so that any such By-law is in conformity with the Official Plan.

10.9 Committee of Adjustment

When a Zoning By-law is in effect, the Committee of Adjustment may rule on applications of minor variances from the provisions of the Zoning By-law. In granting a variance, the Committee will be satisfied that such variance is minor, is desirable for the appropriate development or use of the land, building or structure and that the intent and purpose of the Official Plan and Zoning By-law are maintained.

In addition, the Committee of Adjustment has the power to permit an extension or enlargement of a building or structure that is a legal non-conforming use. The Committee will have regard to the policies of Section 4.15 of this Official Plan in reviewing such applications.

The City of Clarence-Rockland has been given the power to grant consents to sever land within the Urban Area. The Committee of Adjustment shall follow the policies governing consents, as well as any other relevant policies in this Official Plan.

10.10 Interim Control By-law

According to the *Planning Act*, Council may, when a planning study is under way, adopt a By-law to exercise interim land use control for a limited period of time. Thus, the study can be completed to determine the definitive use of the land without non-compatible uses being established in the interval.

10.11 Cash-in-Lieu of Parking

Under the *Planning Act*, the Municipality may sign an agreement with a property owner to permit payment, to a common fund for cash-in-lieu of providing parking spaces on the property. The money thus accumulated must be used to improve off-street parking problems.

The Municipality intends to exercise this authority when dealing with development applications in the Commercial Core Area.

10.12 Site Plan Control By-law

Site plans are detailed plans of a site indicating the location of buildings and structures, access, parking, landscaping, and so on. This is a control on the form and quality of the development, which does not abrogate the development rights of the owner according to the Zoning By-law. The general objective of the Municipality in proposing Site Plan Control is to assure that the impact of major developments is positive rather than negative, through a flexible control over the location and nature of things that are difficult to define in a Zoning By-law, such as: landscaping and buffering, grading, drainage, lighting and vehicular and pedestrian access. Minor developments, such as single family dwellings, generally do not require this type of control. This control is most suitable for industrial, commercial and medium density residential developments or for development where special site conditions exist as described in Section 4.22. In addition, the Site Plan Control mechanism provides for development agreements dealing with the Site Plan, maintenance of facilities and other related matters.

The whole of the Urban Area is designated as a Site Plan Control Area.

As a condition of a Site Plan Control By-law, the Municipality may require road widening for those roads outlined in Section 7 to a maximum width as proposed in those policies.

Prior to the submission of an application for Site Plan Control, the applicant shall arrange a pre-consultation meeting. For the purposes of the Site Plan Control By-law, the Municipality proposes to require drawings showing plan, elevation and cross-section views for all multiple residential dwellings, including mixed-use buildings. Further, the Municipality may require applicants to provide details regarding: matters relating to exterior design, including without limitation the character, scale, appearance and design features of buildings and their sustainable design; the sustainable design elements on any adjoining highway under a Municipality's jurisdiction, including, without limitation, trees, shrubs, hedges, plantings or other ground cover, permeable paving materials, street furniture, curb ramps, waste and recycling containers and bicycle parking facilities; and facilities designed to have regard for accessibility for persons with disabilities.

10.13 Road Widening

Road widenings are an important aspect of the implementation of the Official Plan and can be achieved through a variety of methods. Section 7 of this Official Plan should be referred to for further details.

10.14 Public Notification

The *Planning Act* provides the statutory requirements for giving notice of planning matters. Council may establish additional requirements for notification, which will be set out in the procedural guidelines. On a case-by-case basis, additional notification over and above the statutory requirements and Council procedural requirements may be considered. For those amendments to the Official Plan and Zoning By-law that are of a housekeeping nature (for example, typographical, grammatical or dimensioning errors, rearranging format or renumbering, consolidations, etc.), Council may forego public notification. This will not apply to any changes that would affect the policies, designations or the intent of the Official Plan.

10.15 Alternative Public Notice Procedures

The *Planning Act* allows Council to set out in the Official Plan provisions for informing and obtaining the views of the public in respect to amendments to the Official Plan, to Community Improvement Plans and amendments thereto, and Zoning By-laws and amendments thereto prior to their adoption. This alternative procedure will provide notice to individuals, organizations and agencies and provides the opportunity for them to express their views to Council. It is the intention of Council to consider alternative notice procedures, but an Official Plan amendment to that effect shall be required.

10.16 Procedural Guidelines

From time to time, Council may adopt procedural guidelines in order to assist Council, Municipal staff and the public in effectively dealing with such matters as subdivisions, consents and site plans. These guidelines will not form a part of the Official Plan.

10.17 Urban Design

Promoting quality design in private and public development is essential to improve the quality of place – quality of life. In order to attract economic development opportunities and skilled labour, the City must foster environments that emphasize human scale, accessibility, safety, attractiveness, innovation, and integration with both existing built form and the natural environment.

Good design principles are encouraged in order to improve the aesthetic quality of our urban spaces. Community Improvement Plans may also assist in improving the quality of place – quality of life.

10.17.1 Objectives

The objectives of the urban design guidelines are to:

a) encourage a high level of design quality for all types of development and redevelopment;

b) promote a built environment that is safe, energy efficient, aesthetically pleasing and productive;

c) encourage a sustainable mix of uses; and

d) promote attractive corridors that provide access to the downtown.

10.17.2 Policies

1. Buildings, structures and other design elements that complement existing built form and character are encouraged.

2. Area streetscapes are to be improved over time through appropriate upgrades, such as landscaping, lighting, sidewalks, paving, and public art.

3. Landscaping will be required in:

    a) the design of all new developments; and,

    b) existing underdeveloped locations as an effective environmental upgrading technique.

10.18 Crime Prevention Through Environmental Design (CPTED)

It is Council's intention to promote proper design and effective use of the built environment as a way to reduce crime and improve the quality of life. The following policy applies:

a) all new development shall be subject to CPTED review and assessment with an emphasis on the physical environment, productive use of space, and reducing opportunities for crime.

10.19 Development Application Review

The *Planning Act* gives Municipalities the ability to request, in addition to the minimum prescribed requirements, information and material for certain types of land use planning applications to make an informed decision, provided that the Official Plan contains provisions relating to the additional information and material. The *Planning Act* also gives Municipalities the ability to refuse to accept an application if it does not include the minimum prescribed requirements, any additional requirements contained in the Official Plan, and any required fee.

Prior to submitting any development application, the Municipality requires applicants to pre-consult with Municipal staff prior to submitting an application. Pre-consultation will provide important information, including the identification of required studies and/or reports in support of an application.

The Municipality shall request additional information that it needs when considering development proposals or *Planning Act* applications. Such information may be required as part of a complete application, or may be required prior to Council's decision on a proposed development. The following technical reports and/or plans may be required to assist in the review process of a development application. The applicant may be required to submit any of the following studies or reports:

a) Servicing capacity/feasibility/options report
b) Hydrogeological study and terrain analysis report
c) Drainage and/or stormwater management report
d) An Environmental Impact Statement
e) Traffic impact study
f) Confirmation on sufficient reserve sewage system capacity and reserve water system capacity

g) Planning rationale
h) Noise/dust/vibration and/or odour study
i) An influence area study for development in proximity to a waste management facility or industrial use
j) Vegetation inventory, enhancement plan and/or Tree Preservation Plan
k) Mine hazard rehabilitation assessment
l) Phase 1 Environmental Study and any further investigation, as required
m) Source water protection study
n) Landscape plan
o) MDS I or II calculation
p) An archaeological assessment
q) Minimum separation distance calculation for an industrial use or a wastewater management facility
r) Geotechnical study
s) Floodplain assessment
t) Heritage assessment
u) Slope stability study
v) Market study
w) Concept Plan showing planned land use
x) Any other study and/or report as identified by the Municipality.

10.20 Review Procedure

It is the intention of Council that a comprehensive review of the Official Plan takes place at least every five years. If any of the assumptions on which this Official Plan is based were to change substantially, a partial or complete review of the Official Plan may be undertaken at that time in order to determine whether the policies are still appropriate. In accordance with the *Planning Act*, as part of this review, Council will hold a special public meeting to discuss the need for revisions to the Official Plan. If changes are warranted, appropriate amendments will be made following the review.

SECTION 11
INTERPRETATION

11.1 Boundaries of Land Use Areas

It is intended that the boundaries of any land use areas shown on Schedule ‘A’ be considered as approximate only, except where bounded by such features as existing roads, rivers or other natural features. It will not be necessary to make amendments to the Official Plan for minor variations in the approximate boundaries provided that the intent of the Official Plan is preserved. In this regard, it is the intention of this Official Plan that there be more flexibility in the symbolic designations than in those designations that follow lot lines or elevations.

11.2 Figures and Quantities

It is intended that all figures and quantities contained in this Official Plan be considered as approximate. Amendments will not be required for any minor variation from these figures.

11.3 Buildings, Structures, etc.

It is intended that buildings, structures, etc. that are normally incidental, accessory and essential to a permitted use will also be allowed even though not specifically stated in the land use policies.

11.4 Significant Changes

Any significant changes from the policies contained herein will require an amendment to the Official Plan and implementing By-laws. If a change is major, particularly if it calls for reconsideration of the very basis of the Official Plan, then the Official Plan should be reviewed in whole.

11.5 Amendments to the Official Plan

Amendments to the Official Plan will not be necessary for changes that are of an administrative or technical nature, such as corrections of typographic errors, spelling, grammar or numbering, changing references to legislation, or for office consolidations of the Official Plan.

11.6 Consultation with or Approval from the Province

Where reference is made to consultation with or approval from the Province, such reference is intended to include any delegated authority. Amendments to the Official Plan will not be required to cite any such delegated authority in the Plan. Similarly, if the responsibilities of Provincial Ministries or other public bodies change, or if names of such Ministries or public bodies change, any references to these Ministries or public bodies may be correspondingly changed in the Official Plan without the need for an amendment.

SECTION 12
ADMINISTRATION

12.1 The Municipal Council

The Municipal Council shall administer the Official Plan. In this regard, Council shall recommend the implementation of any feature of the Official Plan. It will also review the Official Plan, recommend amendments as required, and carry out other duties related to planning and development.

12.2 The *Planning Act* - Delegation of Powers

The *Planning Act* authorizes the delegation of certain powers from Council to an employee or a Committee of Council. The Council can also name a Planning Advisory Committee to assist it in planning the development.

12.3 The *Planning Act* - Obligation

The *Planning Act* has confirmed an obligation on the part of the Municipality to inform the public concerning proposed amendments and it has also confirmed the public's right to expression concerning amendments.

12.4 Advice

Council may request the advice of consultants or of representatives of the various Government Ministries to assist it in its considerations.

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OTTAWA - KINGSTON - SUDBURY
TIMMINS - NORTH BAY

Rapport final

Analyse des besoins culturels

Cité de
Clarence-Rockland

Février 2009

PGF

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PGF

INTRODUCTION

CONTEXTE

La Cité de Clarence-Rockland est située sur les berges de la rivière des Outaouais à seulement 30 kilomètres du centre-ville d'Ottawa. Plus de 23 000 personnes demeurent dans la Cité, une région qui offre la tranquillité de la campagne et les services d'une grande ville.

Depuis plus de 20 ans, la population de la Cité de Clarence-Rockland a identifié le besoin de construire un complexe récréatif afin d'avoir un endroit pour pratiquer des activités sportives et culturelles et de mieux servir la communauté. Avec le récent boom économique et démographique, l'idée du complexe récréatif et culturel a refait surface.

La Cité de Clarence-Rockland a récemment construit un nouveau complexe récréatif et culturel, en partenariat avec le Conseil scolaire de district catholique de l'Est Ontario, le YMCA-YWCA de la région de la Capitale nationale et la Bibliothèque publique de Clarence-Rockland. En plus d'avoir reçu du financement du ministère de l'Éducation pour l'expansion de l'École secondaire L'Escale, la Cité de Clarence-Rockland a également investi 711 631.50 $ dans le projet. Cette expansion inclut des installations sportives, une nouvelle bibliothèque publique, un hall pour des expositions artistiques et autres événements, une promenade avec café ainsi que des espaces pour des réunions d'affaires et communautaires ainsi qu'une salle de spectacle.

Le nouveau complexe récréatif et culturel a officiellement ouvert ses portes le 5 décembre 2008. L'ouverture de la salle de spectacle est prévue pour septembre 2009.

NATURE ET PORTÉE DE L'ÉTUDE

Afin de s'assurer que le nouveau complexe récréatif et culturel soit utilisé à son plein potentiel et que la programmation culturelle offerte par la Cité de Clarence-Rockland à cet endroit, mais également sur l'ensemble de son territoire, et qu'il réponde aux besoins et attentes de la communauté, la municipalité a décidé d'entreprendre une analyse des besoins culturels.

Le but de cette analyse des besoins culturels est de fournir une fondation solide basée sur la recherche pour que la Cité soit en mesure de développer des politiques qui la guideront dans la programmation culturelle future de la communauté. La Cité de Clarence-Rockland souhaite développer plus de programmations et de services ainsi que d'améliorer ceux qui existent déjà afin de répondre aux besoins de la communauté. Un autre résultat souhaité par cette étude est d'améliorer la communication, la coopération et la coordination entre les intervenants communautaires clés, tels que les groupes sociaux et les gens représentant les arts, la culture et le patrimoine.

Pour se faire, la Cité de Clarence-Rockland a retenu les services de PGF Consultants Inc. pour planifier et exécuter un processus consultatif avec des intervenants clés de la communauté et pour donner aux résidents une chance de participer au processus. Les objectifs spécifiques de ces consultations étaient :

- De fournir à la Cité de Clarence-Rockland une liste, aussi exhaustive que possible, des ressources culturelles existantes, locales et régionales ; et
- D'identifier les besoins culturels de la communauté.

Le mandat incluait :

- Consultation des documents pertinents à l'analyse des besoins culturels ;
- Création d'un inventaire des ressources existantes locales et régionales
- Rédaction et validation d'un guide d'entrevue à être utilisé pour les entrevues personnalisées avec les gens du milieu ;
- Organisation de la logistique des entrevues personnalisées ;
- Tenue des entrevues personnalisées ;
- Synthèse et analyse des résultats des entrevues personnalisées ;
- Conception et modération de deux réunions publiques sur les besoins culturels de la communauté (une en anglais et l'autre en français)
- Synthèse et analyse des discussions des réunions publiques ;
- Préparation d'un rapport intérimaire et discussion de son contenu avec les représentants de la Cité de Clarence-Rockland ;
  Soumission du rapport final

MÉTHODOLOGIE

Afin d'effectuer son mandat, PGF s'est engagé à compléter les trois étapes suivantes : 1) la consultation des documents pertinents à l'analyse des besoins culturels ; 2) la création d'un inventaire des ressources existantes locales et régionales ; et 3) l'Analyse des besoins culturels – consultation avec les citoyens et les intervenants clés de la Cité de Clarence-Rockland.

La Cité de Clarence-Rockland a fourni à PGF, les documents suivants pour révisions : Dialogue 2007 : Rapport final de la journée de concertation touristique du 19 avril 2007 ; « Rockland First Impression Community Exchange Report – June 2006 » et le Guide d'activités communautaires et répertoire des entreprises. Les deux premiers rapports identifiaient des pistes potentielles de développement culturel pour la Cité de Clarence-Rockland tandis que le Guide d'activités a servi de départ pour la création de l'inventaire.

Avec le Guide d'activités et une liste d'intervenants remise par la Cité, PGF a créé une liste compréhensive de groupes et d'individus qui sont actifs dans le domaine des arts, de la culture, du patrimoine et des programmes sociaux. PGF a utilisé la liste des intervenants pour organiser et conduire des entrevues personnalisées dans les buts suivants : 1) pour faire la collecte d'informations sur les groupes et leurs activités ; 2) pour s'enquérir à savoir si ces groupes pouvaient identifier d'autres ressources culturelles dans la région ; 3) pour déterminer l'utilisation courante des infrastructures dans la Cité ; et 4) pour identifier comment la Cité doit être intéressée dans le domaine des arts et de la culture. PGF a également consulté différents organismes culturels régionaux et nationaux afin d'identifier des ressources culturelles possibles pour la Cité. La liste n'est pas encore complétée et sera donnée à la Cité dans son rapport final. PGF a également créé une liste d'infrastructures disponibles ou qui est disponible dans l'inventaire des ressources culturelles.

La dernière étape de notre méthodologie était la rédaction et la modération de deux réunions publiques avec les citoyens de la Cité de Clarence-Rockland ; une était en Française et l'autre en anglais. La Cité de Clarence-Rockland a envoyé des avis aux médias invitant les résidents à participer au processus de consultation et soulignant l'importance des arts et de la culture dans la communauté combiné au désir d'écouter les besoins et attentes des résidents.

Ce rapport contient une synthèse et analyse des résultats des deux rencontres publiques et une synthèse et analyse des entrevues avec intervenants clés. L'inventaire des ressources locales et régionales est inclus en annexe.

DIFFICULTÉS

Cette étude visait à identifier de façon qualitative les besoins culturels de la communauté et de fournir à la Cité une liste des ressources culturelles locales et régionales. Les informations contenues dans ce document n'ont pas été obtenues de façon scientifique et ne peuvent donc pas être considérées statistiquement.

Comme le démontre le rapport, la Cité de Clarence-Rockland a une communauté culturelle forte puisque les arts, la culture et le patrimoine sont promus par les fournisseurs traditionnels de programmes culturels en plus des écoles, groupes sociaux et religieux. Puisque le temps alloué à l'étude était limité, les consultations ont surtout été avec des intervenants clés qui ont été ciblés à cause de leurs connaissances de la programmation culturelle de la Cité et qui représentaient le mieux les différents groupes.

BESOINS CULTURELS

PGF a consulté les intervenants clés durant les entrevues personnalisées et lors des deux réunions publiques afin de déterminer les besoins culturels de la communauté. La prochaine section présentera les résultats à jour des entrevues personnalisées avec les intervenants clés du domaine des arts, de la culture et du patrimoine dans la Cité de Clarence-Rockland. La section d'ensuite présentera les résultats des réunions publiques.

RÉSULTATS – Entrevues personnalisées avec les intervenants clés

PARTICIPANTS

La Cité de Clarence-Rockland a fourni à PGF une liste de 14 intervenants clés. La liste comprenait des individus qui ont organisé ou participé à des activités en collaboration avec la Cité par le passé. L'agent de liaison de la Cité a ajouté deux personnes par courriel à mesure que d'autres gens étaient identifiés. D'autres ajouts ont eu lieu après les entrevues personnalisées et les réunions publiques. Au total, 24 intervenants clés devaient être contactés pour cette étude. Puisque plusieurs des organismes ou groupes sont dirigés par des bénévoles et ne sont pas disponibles pendant la journée, ce fut difficile de communiquer avec certains groupes. À présent, PGF a terminé 9 entrevues avec des intervenants. PGF a également parlé à deux propriétaires d'installations dans la région. Il est important de mentionner que toutes les personnes interviewées et celles que nous avons tenté de rejoindre étaient invitées à participer aux réunions publiques.

Tel que mentionné précédemment, PGF a créé un guide d'entrevue qui sera révisé par l'agent de liaison et les représentants de la Cité de Clarence-Rockland. Le guide a été développé pour obtenir les résultats suivants : 1) pour recueillir les informations concernant leur groupe ou activité ; 2) pour savoir s'ils pouvaient identifier d'autres ressources culturelles dans la région ; 3) pour déterminer l'utilisation présente des infrastructures dans la Cité ; et 4) pour identifier comment la Cité doit être engagée dans le domaine des arts et de la culture. En plus de recueillir de l'information et des détails sur les groupes ou les activités, le guide a inclus les questions suivantes :

- Connaissez-vous d'autres personnes ressources qui œuvrent dans le domaine des arts, de la culture, des loisirs, de l'éducation ou des services communautaires à qui nous devrions parler ?
- Quelles infrastructures dans la Cité de Clarence-Rockland utilisez-vous présentement ou avez-vous utilisé pour vos besoins de programmation ? De quelle façon avez-vous utilisé ces infrastructures (présentations expositions, cours et réunions) ?
- Allez-vous utiliser le nouveau complexe récréatif et culturel dans le future pour vos besoins de programmation ? Si oui, comment (présentations, expositions, cours, réunions) ?
- Utilisez-vous présentement ou avez-vous utilisé des infrastructures à l'extérieur de la Cité de Clarence-Rockland pour vos besoins de programmation ? Si oui, pourquoi utilisez-vous ces infrastructures (manque d'infrastructures dans la Cité

de Clarence-Rockland, conflit d'horaire avec d'autres organismes, pour rejoindre une autre clientèle ?)

- Quel rôle croyez-vous que la Cité de Clarence-Rockland devrait jouer en terme de programmation culturelle pour la région (promotion ou seulement pourvoyeur d'infrastructure)?
- Quelles mesures croyez-vous que la Cité de Clarence-Rockland devrait prendre pour améliorer la programmation culturelle disponible à ses résidents (partenariats avec d'autres municipalités, meilleure promotion, meilleure gestion des infrastructures, autres services ?)
- Selon vous, de quelle façon l'addition d'un coordinateur culturel aura un impact sur la programmation culturelle de la Cité de Clarence-Rockland (meilleure communication et coopération entre les groupes, meilleure organisation, meilleure promotion, meilleure utilisation des infrastructures existantes ?)

Une copie du guide d'entrevue est incluse dans l'annexe A.

SOMMAIRE

Les entrevues personnalisées avec les intervenants clés ont identifié plusieurs observations communes :

- La Cité de Clarence-Rockland est présentement très intéressée et engagée dans la programmation culturelle de la région ;
- La Cité pourrait améliorer la programmation culturelle en augmentant le financement, peut-être à égalité avec sa contribution aux sports ;
- L'embauche d'un coordonnateur culturel est essentielle et pourrait aider à la promotion, publicité et au financement par différents niveaux de gouvernements et commanditaires ;
- Les groupes artistiques de la scène attendent impatiemment la nouvelle salle de spectacle, mais les artistes visuels ont mentionné que cette infrastructure est inadéquate pour eux.

Autres observations :

- Certaines personnes ont mentionné que la promotion pourrait se faire à une échelle plus large qu'à la région immédiate pour que les touristes d'Ottawa et du Québec soient attirés ; et
- plusieurs intervenants clés ont mentionné que le MIFO à Orléans devrait être un exemple.
- La Cité devrait former des partenariats avec les écoles locales ; et
- Le rôle de la Cité devrait en être un d'intégration et de centralisation de la programmation culturelle de la région.

Voici le sommaire de 12 des entrevues avec les intervenants clés, conduits par PGF, sans ordre particulier :

Intervenants clés :

Don Jacobs – Créateur: R & B Festival, Créateur: Concert de Noël, Une soirée de partage

Don Jacobs est un enseignant de musique à la retraite qui résidait dans le Nord de l'Ontario qui a récemment déménagé à Clarence-Rockland. Il est actif dans la promotion de la musique et des arts de la scène dans la région. Il a fondé le festival local R&B qui en sera à sa deuxième édition cette année. Il est également responsable d'organiser un concert de Noël annuel (Une soirée de partage). M. Jacobs est intéressé à la promotion du tourisme et du développement économique dans la région par le renforcement de la culture, mais également en donnant aux musiciens locaux et aux artistes un endroit pour partager leur talent. À titre d'enseignant à la retraite, M. Jacobs a un intérêt particulier à la conception de programmes musicaux jeunesse, plus spécifiquement un programme communautaire de fanfare pour les jeunes, en partenariat avec les différents conseils scolaires et groupes communautaires. Il voit également le potentiel pour des séminaires, ateliers et peut-être des programmes de bourses.

Par le passé, M. Jacobs a utilisé l'hôtel River Rock et la salle Paul-Guy Lalonde à l'aréna Jean-Marc Lalonde de Rockland pour ses performances. Il a indiqué qu'il a hâte à l'ouverture de la salle de spectacle pour la tenue d'événements futurs.

M. Jacobs voit la Cité comme ayant un rôle principal d'appui aux groupes artistiques de Clarence-Rockland, plus particulièrement à titre de liaison entre tous les niveaux de gouvernements. Il est d'avis que pour avoir un meilleur appui aux arts et à la culture, la Cité devrait augmenter son budget dédié à la culture et donner plus d'aide à la promotion d'événements locaux.

Lorsqu'on lui a demandé de quelle façon l'embauche d'un coordonnateur culturel aura un impact sur la programmation culturelle dans la Cité de Clarence-Rockland, M. Jacobs a répondu qu'il existait un besoin criant pour un tel poste pour organiser et promouvoir la communauté culturelle, mais également pour aider aux stratégies de financement, soit par du financement gouvernemental, des commandites ou des partenariats avec la communauté d'affaires.

À noter : M. Jacobs a participé aux deux réunions publiques et a également communiqué directement avec PGF. À la première réunion publique, les participants ont accepté que leurs informations soient partagées avec les participants. Dans ses communications avec PGF, il a indiqué que de telles informations devraient être incluses dans une liste maîtresse, développée par la Cité et disponible au public.

Gilles Yelle – Président et fondateur : Coloris sur la Baie
Gilles Yelle est le président et fondateur de Coloris sur la Baie étant une exposition de photos et d'arts visuels par un groupe d'artistes. Cet organisme à but non lucratif a été fondé en mai 2006 pour faire la promotion des arts et des campagnes de financement au bénéfice des organismes charitables et des groupes culturels qui seraient identifiés annuellement. En trois ans d'existence, l'événement annuel a recueilli plusieurs milliers de dollars pour des récipiendaires locaux.

M. Yelle a utilisé le Centre culturel La Ste-Famille, les Jardins Belle Rive et un hôtel local pour ses expositions. Il n'est pas certain de quelle façon le nouveau complexe récréatif et culturel sera adéquat pour ses besoins, car il craint que les salles soient trop

petites. Il est cependant ouvert à l'idée d'explorer des possibilités.

M. Yelle croit que la Cité de Clarence-Rockland a démontré un grand intérêt et qu'elle est déjà très engagée dans la programmation culturelle de la région. Il voit le rôle de la Cité comme en étant un de promotion et de publicité. Il est d'avis que la Cité pourrait aider la communauté artistique en obtenant du financement aux différents niveaux de gouvernements. Présentement, le seul appui que le gouvernement provincial a donné à son événement est de la publicité dans le guide touristique.

Il est également de l'avis que l'embauche d'un coordonnateur culturel aura un impact positif dans la programmation culturelle de la Cité de Clarence-Rockland. Il a fait des références au succès du MIFO, un centre culturel similaire à Orléans, à l'ouest de Clarence-Rockland. Le coordonnateur pourrait faire la promotion d'événements dans la région et sur un plus grand territoire pour attirer des touristes du Québec et d'Ottawa. Il est impératif que le poste soit comblé par une personne compétente et qu'elle doive piger dans l'expérience du réseau existant des ressources culturelles de la région.

Diane Labrosse – Secrétaire : Le Centre culturel La Ste-Famille
Fondé en 1969, le Centre culturel La Ste-Famille est dédié à fournir une programmation annuelle culturelle et artistique en français aux résidents francophones et francophiles. Le Centre est également dédié à la promotion des artistes francophones, amateurs et professionnels. Il est concerné par les questions du patrimoine francophone, incluant l'exposition à ses clients de toutes les facettes de la culture francophone. Une initiative intitulée Photo-Sauvetage a collectionné et archivé près de 3000 photos historiques de la région.

Puisque le Centre a ses propres locaux, il est incertain de quelle façon le complexe récréatif et culturel sera utilisé pour ses activités .

Le Centre culturel La Ste-Famille a indiqué que la Cité de Clarence-Rockland leur donne déjà beaucoup d'appui spécifiquement en termes de promotion et d'organisation de projets et d'activités. Ils sont d'avis que l'embauche d'un coordonnateur culturel serait d'une grande aide.

Jennifer Fontaine – Présidente et directrice musicale: Ain't Seen Noth'n Yet
Fondé en 2006, Ain't Seen Noth'n Yet est une production privée locale de théâtre musical qui utilise sa programmation pour éduquer et exposer les jeunes de la région aux arts de la scène, mais également pour donner aux artistes canadiens un endroit pour partager et développer leur talent. La troupe produit trois spectacles musicaux professionnels par année et tient un camp d'été de 10 semaines pour les enfants de 10 à 16 ans.

ASNY utilise présentement un chapiteau pour ses productions estivales ainsi que

l'aréna de Clarence-Rockland. L'organisme attend avec impatience la nouvelle salle de spectacle pour ses événements.

ASNY est d'avis que la Cité est présentement très engagée dans la promotion et l'organisation d'événements culturels dans la région, mais qu'un peu plus pourrait être fait au niveau du financement. Mme Fontaine suggère que la Cité pourrait augmenter son financement pour qu'il soit plus près de celui accordé aux sports. La Cité pourrait également aider à la diversification des activités culturelles offertes et également améliorer le transport en commun vers la région.

L'embauche d'un coordonnateur culturel est très importante selon eux. Le coordonnateur pourrait aider à la promotion, à l'organisation au financement et aux commandites. Le coordonnateur serait un contact permanent qui connaîtrait les besoins de la communauté des arts et de la culture.

Pascal Demonsand - Sculpteur
Pascal Demonsand est un artiste actif dans les arts visuels et multimédias. M. Demonsand était responsable d'une exposition d'art contemporain appelée Art en Bourget, qui a eu lieu à Bourget de 2001 à 2005 dans l'église locale. Il est également le sculpteur dont l'œuvre est présente au complexe récréatif et culturel. M. Demonsand offre des activités éducatives à six écoles avec le programme « Artistes en éducation » du Conseil des arts de l'Ontario.

Outre l'église de Bourget et les salles de classe, M. Demonsand n'a pas utilisé d'autres infrastructures locales pour la programmation culturelle et est d'avis que le complexe récréatif et culturel sera inadéquat pour ses besoins.

M. Demonsand a indiqué que la Cité de Clarence-Rockland a toujours été très impliquée dans la programmation culturelle régionale et a toujours démontré un grand intérêt, mais qu'elle a probablement été mal conseillée par le passé. Selon lui, la Cité devrait allouer des fonds spécifiquement pour les arts et devrait encourager les arts contemporains, l'éducation artistique et la promotion.

L'embauche d'un coordonnateur culturel serait certainement bénéfique, mais il a réitéré le besoin pour l'obtention de conseils professionnels.

Francine Dupras – Présidente: Chœur du Moulin
Le Chœur du Moulin a été fondé en 1982 et offre de la formation aux gens intéressés à participer à une chorale. Ses membres proviennent de toute la région et même d'Ottawa. Le groupe donne des concerts au printemps et à Noël dans les églises de Prescott-Russell pour recueillir des fonds pour des œuvres de charité. La chorale a fait une importante contribution à la culture franco-canadienne dans la région.

La chorale utilise présentement l'école Ste-Trinité pour ses pratiques et donne ses spectacles dans les églises de la région. Le groupe a hâte d'utiliser la nouvelle salle de spectacle pour ses concerts, mais également pour ses pratiques.

Le Chœur du Moulin est d'avis que la Cité est très engagée dans la programmation culturelle de la région et qu'elle en fait une priorité. La chorale, cependant, est à la

recherche d'un plus grand investissement de la part de la Cité.

Ils sont d'avis qu'un coordonnateur culturel est essential et que la Cité devrait suivre l'exemple du MIFO à Orléans.

Yolande Labelle – Vice-présidente: Artisanat Ste-Trinité
L'Artisanat Ste-Trinité est un groupe de femmes âgées de 16 ans et plus qui est en existence depuis 1958. Elles organisent des ateliers d'artisanats traditionnels pour les personnes âgées et tiennent une exposition d'articles faits par ses membres. Le groupe suggère de contacter également l'Union culturelle des Franco-ontariennes.

Ce groupe utilise les infrastructures à l'Église Ste-Trinité et occasionnellement à l'aréna et ne prévoit pas utiliser le nouveau complexe récréatif et culturel.

Pour ce groupe, la Cité peut fournir la gérance d'infrastructures et d'équipements ainsi que de la promotion. Elles sont d'avis que la Cité doit attirer plus de jeunes en culture, plus spécifiquement en musique et en théâtre.

Elles sont d'avis que l'embauche d'un coordonnateur est nécessaire surtout pour la publicité et la promotion.

Madeleine Chabot – Trésorière : Union Culturelle des Femmes Franco-Ontariennes
Le mandat de cet organisme est de fournir et de développer des activités pour les femmes franco-ontariennes. Le club a commencé en 1937 comme un des 41 chapitres de l'Union catholique des fermières. Elles ont une exposition et vente de pâtisserie une fois par année en septembre.

Le groupe utilise des infrastructures locales pour sa programmation et ne voit pas le besoin d'utiliser le nouveau complexe récréatif et culturel.

Elles sont d'avis que la Cité pourrait promouvoir une exposition d'artisanat annuelle pour participants locaux. Ce groupe croit que l'embauche d'un coordonnateur culturel serait utile et que celui-ci devrait avoir un intérêt particulier dans les arts.

Joanne Lefebvre – Jojo et les Productions Mylzami
Joanne Lefebvre est une interprète et musicienne qui a été reconnue sur la scène culturelle franco-ontarienne pour son excellente programmation pour enfants. Depuis les 10 dernières années, les Productions Mylzami ont été très actives dans la communauté en donnant des spectacles dans les écoles et centres culturels de la région et au Québec, en plus d'organiser un festival annuel à leur ferme de Hammond. Jojo offre des ateliers et activités éducatives dans les écoles. Jojo a de plus enregistré un CD et un DVD de musique et programmation pour enfants. Jojo et Les Productions Mylzami encouragent les enfants à découvrir les arts et la culture sous toutes ses formes.

Mme Lefebvre a performé dans les centres communautaires et écoles de la région en plus du MIFO à Orléans. Elle planifie d'utiliser le nouveau complexe récréatif et culturel

et aimerait aider au développement de programmation pour enfants dans la région.

Mme Lefebvre aimerait que la Cité de Clarence-Rockland joue un rôle de leader auprès de la communauté culturelle et est d'avis que le financement pour appuyer les arts et la culture doit être augmenté. Elle suggère de mettre en place un comité ou un bureau pour les arts dans la région. La Cité devrait également faire la promotion la culture et devrait prendre en considération toutes les sortes de culture dans la région.

Jojo est d'avis que l'embauche d'un coordonnateur culturel sera bénéfique pour la programmation culturelle de la Cité de Clarence-Rockland. Ce coordonnateur devra avoir un budget adéquat et devra établir une programmation culturelle de qualité dans les deux langues officielles.

Georges Guibord – Président : La Fanfare de Rockland Concert Band
La Fanfare de Rockland Concert Band a été fondée en 1893 et existe sans interruption depuis lors, faisant de l'organisme une des plus vieilles institutions musicales au Canada. La fanfare fournit aux musiciens d'instruments à cuivre, à vent et à percussions l'occasion de jouer différents styles musicaux dans un esprit de camaraderie et de fierté à faire partie de cette institution musicale. Le Rockland Dixieland Band est une composante excitante de la fanfare, qui performe du jazz dans la tradition de la Nouvelle-Orléans. La fanfare participe annuellement aux célébrations de la Fête du Canada et du Jour du Souvenir, en plus du concert de Noël communautaire et des performances dans les résidences pour personnes âgées de la région.

La fanfare possède ses propres infrastructures, le pavillon René Rochon au Parc Simon qu'elle utilise pour ses pratiques et performances, mais anticipe utiliser la salle de spectacle pour certains concerts.

La fanfare est d'avis que la Cité pourrait aider à la promotion des arts et de la culture dans la communauté. La fanfare a souligné que la Cité les a toujours appuyés par le passé, fournissant à l'organisme 50% du budget pour la construction du pavillon. En ce qui a trait au financement, la fanfare est un organisme indépendant, qui reçoit des subventions de la Fondation Trillium pour développer son site web et pour sa programmation musicale. Elle ne demande pas de frais d'adhésion à ses membres.

François Viau – auteur et conteur
M. Viau est un auteur et un conteur. Son but est d'exposer les jeunes à la poésie, musique et chanson par le conte. Il est un artiste professionnel depuis 1976 et est actif dans la programmation éducative depuis 1987. Il offre des ateliers dans les écoles et a enregistré un CD pour le ministère de l'Éducation de l'Ontario. Certains de ses ateliers incluent la composition d'une chanson ; les élèves apprennent à écrire la musique et les paroles et ont même l'occasion d'enregistrer leur création.

M. Viau croit que la Cité de Clarence-Rockland doit investir dans la culture ainsi que d'éduquer le public. La Cité pourrait aider à l'accès aux ressources et à l'équipement ainsi qu'aider plus d'artistes à aller dans les écoles. La Cité pourrait également organiser plus de festivals et d'activités culturelles gratuites telles que « Street Art ».

L'embauche d'un coordonnateur culturel dans la Cité sera bénéfique pour établir une programmation culturelle dans la Cité et pour accroître la qualité de programmes présentement disponibles.

Hélène Tassie – Propriétaire – Académie Extravadanse
Académie Extravadanse est une compagnie privée qui offre une variété de cours de danses traditionnelles, récréatives et de mise en forme aux jeunes et adultes. Académie Extravadanse est reconnue par le National Ballet Company et compte plus de 200 étudiants. Fondé en 1998, l'école est engagée dans des activités de cueillette de fonds pour les écoles locales et Mme Tassie elle-même est active dans la communauté depuis plus de 20 ans.

Académie Extravadanse tient un récital annuel au Rideau High School d'Ottawa et attire plus de 700 personnes. Extravadanse performe également dans des écoles locales avec un petit groupe de tournée. Ils ont également utilisé l'école secondaire Gisèle-Lalonde à Orléans. L'organisme a hâte d'utiliser la salle de spectacle pour leurs performances annuelles soient le récital de Noël, le récital de fin d'année ainsi que les pratiques générales.
À leur avis, la Cité devrait développer des partenariats publics privés pour planifier et développer la programmation culturelle dans la région. Mme Tassie a comme vision la création d'un conseil des arts régional avec des membres des communautés musicales, danse et arts visuels.

Extravadanse a besoin de bénévoles et Mme Tassie espère que la Cité établira un comité culturel dans la communauté qui pourra aider à l'organisation de la programmation culturelle. Elle est également de l'avis que l'embauche d'un coordonnateur culturel aidera l'organisme dans la promotion de la culture dans Clarence-Rockland et sera un point de contact central pour la communauté.

Nathalie Charrette – Arc en son
Arc en Son est une école de violon qui opère à Rockland et a 56 élèves de la région. Les élèves jouent à différents événements locaux et dans les églises. Mme Charrette est enseignante à l'école Du Rosaire, une école élémentaire de la région, offre des leçons à six autres écoles locales.

Elle a hâte à l'ouverture de la nouvelle salle de spectacle. Elle trouve difficile de trouver des infrastructures pour leurs spectacles et a utilisé les Jardins Belle Rive et l'hôtel River Rock par le passé. Elle anticipe utiliser les nouvelles installations en décembre 2009.

La Cité de Clarence-Rockland pourrait aider de plusieurs façons en ce qui a trait à la programmation culturelle pour la région. Il y a définitivement un besoin pour une personne qui gérera les infrastructures de la région et pour la promotion de la communauté culturelle locale. La communauté a besoin de savoir qu'il n'est pas nécessaire d'aller à Ottawa pour les arts : qu'il sera plus abordable et pratique pour les gens de demeurer à Rockland et qu'il est également possible d'avoir accès à une programmation culturelle et artistique de qualité.

Mme Charrette est consciente qu'il pourrait ne pas y avoir un large budget pour les besoins culturels de la Cité mais veut souligner qu'il existe un grand potentiel de croissance pour les jeunes locaux. La Cité pourrait obtenir des subventions gouvernementales. Un coordonnateur culturel permanent sera bénéfique pour atteindre ces buts, mais cela devra être quelqu'un de familier avec la communauté et spécifiquement avec la communauté culturelle qui pourra faire de bons choix informés en terme de programmation culturelle dans la Cité.

Gaëtan Pagé – Président – Club Lions Clarence Creek
Un participant à une des réunions publiques a suggéré de parler avec M. Gaëtan Pagé en ce qui a trait aux besoins que le Club Lions de Clarence Creek pourrait avoir à cette rubrique. M. Pagé est d'avis que la programmation culturelle que son organisme fournit à la communauté, soit le carnaval d'hiver et le tournoi de golf, ne qualifie pas à titre de programmation culturelle.

Lorsque demandé, M. Pagé a suggéré que la Cité pourrait être impliquée dans la promotion d'événements dans la communauté et dans le choix d'artistes pour son carnaval de Noël. La Cité appuie déjà le groupe en fournissant des infrastructures pour leurs événements.

Nick Stauker – Technicien en son et lumière – bénévole Rhythm N Blues Fest 2009
M. Stauker est un technicien en son et lumière qui œuvre surtout dans le domaine corporatif : événements, conférences et qui a travaillé dans l'industrie du film à Vancouver. Il a récemment déménagé dans la région et est bénévole avec le festival annuel Rhythm N Blues.

Pour M. Stauker, l'art et la culture sont très importants ; il ajoute « cela donne une âme à la communauté » et rassemble les gens. Il croit qu'il serait bien d'avoir une communauté semi-professionnelle de théâtre dans la région. Une autre suggestion pour la communauté est que la Cité de Clarence-Rockland organise plus de festivals extérieurs pour les familles qui tireraient profit des infrastructures extérieures de la région.

Il est de l'avis que la Cité a une obligation de facilitation : aider avec les permis et infrastructures. La Cité doit également trouver ce que la population veut voir et entendre afin de s'assurer que la programmation soit bien organisée du début. La programmation doit respecter les valeurs de la communauté. Par exemple, un concert punk rock n'est peut-être pas approprié pour cette communauté. La Cité doit également être un coordonnateur pour s'assurer que les événements n'aient pas de conflits d'horaire ainsi que d'aider au recrutement de bénévoles. M. Stauker suggère la création d'un comité permanent de bénévoles.

À son avis, un coordonnateur culturel sera définitivement d'une grande aide pour les organismes composés de bénévoles qui n'ont pas beaucoup de temps à dévouer à la programmation culturelle. Il serait bien d'avoir une personne qui serait le point de contact pour la programmation culturelle. M. Stauker provient de la communauté des arts de Vancouver où il a vu la programmation culturelle plafonner à cause du manque

d'un point de contact.

Guy Schryburt – Propriétaire – Bourgetel
Bourgetel est un restaurant bar et bistro à Bourget qui est actif dans la communauté culturelle de la Cité de Clarence-Rockland. Leur salle de banquet est utilisée pour présenter des soupers-théâtre tels que musicaux et souper meurtre et mystère et la section-bar a également abrité les œuvres d'artistes visuels tels que pendant l'exposition Art Tour de Prescott-Russell.

M. Schryburt est intéressé dans la promotion de la culture dans la région et a questionné sa clientèle sur ses besoins culturels dans le passé. Il se sent cependant en compétition avec les autres centres qui produisent de la programmation culturelle telle que le MIFO ainsi qu'avec la nouvelle salle de spectacle et que les organismes à but non lucratifs sont avantagés en ce qui a trait aux coûts et subséquemment aux prix des billets. Cependant, M. Schryburt est ouvert à l'idée d'un partenariat avec les autres centres culturels et artistes locaux et est d'avis que la programmation culturelle serait mieux coordonnée s'il existait moins de conflits entre événements et que le plein potentiel de la programmation culturelle pourrait être atteint.

Bourgetel est principalement utilisé pour des événements privés tels que mariages et ateliers, mais a été utilisé par le passé pour des séances de signatures avec des auteurs locaux ainsi qu'une compétition vocale. Il a également été impliqué dans l'initiative Art en Bourget par le passé. M. Schryburt voit le potentiel de partenariats avec des artistes locaux surtout au niveau de partage de coûts et de risques, mais également pour créer de la visibilité dans la communauté.

Il est d'avis que l'embauche d'un coordonnateur culturel donnera la direction et le leadership nécessaire pour que la programmation culturelle commence du bon pied dans la Cité de Clarence-Rockland. Il mentionne également qu'il est important que la Cité n'oublie pas d'utiliser à son plein potentiel les églises comme infrastructure puisque celles-ci étaient les auditoriums à l'origine de nos communautés.

Karen Gilmore-Thomson – Coordonnateur – C'est ta communauté
C'est ta communauté est une initiative communautaire qui utilise un programme compréhensif de prévention pour adresser des comportements à risque dans différentes communautés. CTC est géré par les Services aux enfants et adultes de Prescott-Russell et est également en service dans les régions de Hawkesbury et Casselman. Afin de mieux comprendre les défis quotidiens des jeunes, un sondage a eu lieu au printemps 2007 auprès de 2200 élèves de 24 écoles de Prescott-Russell. Le comité qui supervise le programme, composé d'intervenants clés et de jeunes, a choisi le programme Clés du succès. Offert avec des ateliers en salle de classe, ce programme aide les jeunes à développer leurs compétences au niveau du processus décisionnel, développer de bonnes relations et gérer des situations difficiles.

Dans le cadre de ses consultations avec les jeunes de Clarence-Rockland, CTC a tenu un forum jeunesse qui incluait des sessions dans les deux langues officielles. Pendant le forum, les jeunes francophones et anglophones ont identifié les mêmes besoins culturels : avoir accès à un studio ou un espace pour la musique, l'art dramatique ou les

arts visuels. Les jeunes sont d'avis que la programmation culturelle dans les écoles est trop axée sur l'éducation ex. pour faire de la musique en anglais, il faut aller à l'école secondaire St-Francis Xavier. Ils sont à l'affût d'une programmation culturelle accessible à tous.

La majeure partie de la programmation de CTC est offerte en salle de classe ou dans les écoles de la région. Ils ont également un partenariat avec des intervenants clés tel le YMCA et utilisent présentement leurs infrastructures au besoin. Pour le forum jeunesse, CTC a utilisé la cafétéria de l'école secondaire L'Escale puisque les autres salles de réunions dans la Cité étaient trop petites. Ils trouvent que la Cité les appuie bien dans leur programmation, en offrant des infrastructures au besoin par exemple la salle du conseil à Clarence-Creek ainsi que le Parc Simon.

Puisque les jeunes de Clarence-Rockland sont d'avis qu'il manque d'espace pour des performances et de la programmation, CTC a hâte à l'ouverture de la salle de spectacle ainsi que de voir quelle sorte de programmation sera disponible pour les jeunes .

Karen Gatien – Célébration
Karen Gatien est une citoyenne de la Cité de Clarence-Rockland qui, en collaboration avec différents organismes culturels de la région, a organisé une activité de cueillette de fonds nommée Célébration. Célébration a recueilli des fonds pour la Société canadienne du cancer et pour des organismes culturels locaux. Cet événement était une chance pour les gens de la communauté qui ne participent pas habituellement aux arts d'y être impliqués. Elle est également active à d'autres activités culturelles de la Cité et a 20 ans d'expérience dans l'organisation de tels événements.

Mme Gatien est d'avis que la Cité a un rôle de leader important à jouer dans la programmation. L'appui de la Cité est essentiel pour la promotion des événements dans la région. Elle croit que la Cité doit dédier plus de financement à la programmation et à la promotion.

Mme Gatien croit que l'embauche d'un coordonnateur culturel aidera au niveau de la centralisation d'informations.

Michel Beauchamp – Directeur – Centre communautaire de Bourget
Le centre communautaire de Bourget est une infrastructure qui fournit des activités de loisirs et est le centre communautaire de la région. Le centre offre différents ateliers tels qu'une programmation pour les jeunes et pour les personnes âgées.

M. Beauchamp voit la Cité de Clarence-Rockland comme un point centre et d'intégration pour la programmation culturelle de la région. Il suggère que la Cité forme des partenariats avec les écoles locales et qu'elle fasse la promotion d'événements locaux.

Un coordonnateur culturel pourrait aider avec la gestion et la coordination de la programmation culturelle et pourrait également centraliser l'information sur la programmation culturelle de la région.

Sandra Potvin – Directrice Hôtel River Rock
L'hôtel River Rock fournit son infrastructure et ses équipements à une variété de groupes culturels tels que de l'espace d'exposition et pour présenter des spectacles dans la communauté. Ils fournissent de l'appui logistique pour ces événements et sont un partenaire officiel des événements suivants : Rhythm N blues Fest, le concert de Noël, Coloris sur la Baie et Art en Bourget.

Mme Potvin est d'avis que la Cité de Clarence-Rockland joue un rôle important dans la planification et la promotion d'événements dans la région et pourrait également établir des partenariats avec la ville d'Ottawa.

Un coordonnateur culturel pourrait aider beaucoup à la coordination de programmation culturelle et à la logistique.

North Easton – Propriétaire – Rockland Music
Rockland Music est une entreprise privée qui donne des leçons de musique à plus de 100 étudiants de façon hebdomadaire. L'entreprise est en affaires depuis 5 ans et ils ont présentement 4 enseignants pour des leçons de guitare, piano, chant, basse, percussions et écriture de chansons ; ces leçons sont données dans les deux langues officielles. Rockland Music a également une salle de répétition et est présentement à construire un studio d'enregistrement. M. Easton a indiqué que son entreprise a connu une croissance rapide au cours des deux dernières années en partie dues au développement économique, mais également à une croissance de notoriété.

Rockland Music donne des récitals et d'autres événements à l'occasion, mais le défi dans le passé a été de trouver un endroit approprié. Ils ont déjà utilisé la salle des Chevaliers de Colomb. Ils vont considérer utiliser la nouvelle salle de spectacle à condition que le prix soit abordable.

M. Easton croit que la Cité pourrait améliorer sa promotion d'événements culturels en créant des forums où les artistes pourraient performer ; par exemple, un festival extérieur, un spectacle de talents locaux et des événements ouverts à tous. La Cité pourrait également faire venir plus de talents de l'extérieur ; il remarque que plusieurs personnes se rendent encore à l'extérieur de Clarence-Rockland pour leurs besoins culturels.

La Cité pourrait également aider en subventionnant la location des infrastructures ou en coupant dans la bureaucratie pour obtenir du financement d'autres sources. La Cité pourrait aider avec la promotion et la logistique. Il soutient que l'embauche d'un coordonnateur culturel est une bonne idée, car les gens sauraient qui contacter pour les différentes questions culturelles.

M. Easton voit d'un bon œil l'accroissement de la visibilité de la musique dans la communauté et a l'intention de rendre son studio d'enregistrement disponible à d'autres groupes. Il est également ouvert à l'idée de former des partenariats avec d'autres fournisseurs de programmations culturelles ; il voit la valeur de redonner à la communauté ; il voit l'importance du réseautage. M. Easton pense à enregistrer un CD d'artistes locaux de Clarence-Rockland et de l'utiliser pour promouvoir le talent qui

existe.

RÉSULTATS – ENTREVUES AVEC LES ÉCOLES LOCALES

La Cité de Clarence-Rockland a fourni à PGF une liste des écoles élémentaires et secondaires de la région, aux conseils catholique et public. PGF a fait des entrevues personnalisées soit avec les directeurs ou les responsables de programmes de musique dans six des neuf écoles primaires et une des quatre écoles secondaires pour déterminer comment la Cité peut aider avec la programmation culturelle, les possibilités de partenariats et si leurs infrastructures sont présentement utilisées par les groupes culturels de la Cité de Clarence-Rockland. Une copie du guide d'entrevues est disponible à l'annexe B.

Sommaire
Les entrevues personnalisées avec les intervenants clés dans les écoles ont identifié certaines observations communes.

- Un défi majeur pour les écoles est le coût du transport associé aux programmes culturels. Plusieurs écoles ont indiqué que la Cité pourrait aider avec les coûts de transport.
- En général, les écoles ont peu de contact avec la Cité et ne sont pas au courant de la programmation culturelle.
- La plupart des écoles ne donnent pas accès à leurs infrastructures aux groupes externes.
- Il existe un potentiel pour des partenariats entre les écoles, la Cité et les pourvoyeurs de programmation culturelle.

Stephen Pankiewicz – Directeur musical – École secondaire catholique St. Francis Xavier
L'école secondaire catholique St. Francis Xavier est reconnue pour son programme musical et des arts, et offre une variété de programmes incluant la fanfare, un ensemble vocal, un ensemble de jazz et de guitare Plusieurs étudiants vont à cette école spécifiquement pour leurs programmes des arts et de musique. En fait, un sur deux élèves sur les 400 étudiants est dans le programme musical.

L'école et plus spécifiquement la fanfare, performent régulièrement à des événements locaux tels que l'ouverture officielle du nouveau complexe récréatif et culturel, ainsi que dans les écoles élémentaires et les églises. Ils ont également donné un spectacle au Festival des Tulipes. Ils ont des partenariats avec Ain't Seen Noth'n Yet et Don Jacobs.

L'école a hâte à l'ouverture de la salle de spectacle, car ils n'ont pas accès à une infrastructure assez grande et d'assez bonne qualité pour leurs spectacles. Présentement, la fanfare doit présenter leurs spectacles dans leur gymnase. L'école anticipe utiliser la nouvelle salle de spectacle pour leurs performances « il n'y a pas de limites ».

M. Pankiewicz a dit que la Cité de Clarence-Rockland ainsi que d'autres intervenants culturels sont de plus en plus actifs dans la programmation musicale de l'école. Don

Jacobs a récemment aidé à promouvoir le programme musical de l'école pour rejoindre plus de gens dans la communauté. La Cité a aidé l'école avec le transport d'équipement et d'instruments, qui peut être une dépense prohibitive pour l'école ; ce qui est probablement le plus gros défi pour l'école. La Cité peut également aider avec la promotion et de l'aide lors des performances à différents endroits.

M. Pankiewicz a dit que l'embauche d'un coordonnateur culturel sera définitivement bénéfique.

Robert Hannigan – Directeur – École élémentaire catholique Pope John Paul II
L'école élémentaire catholique Pope John Paul II possède une programmation culturelle qui comprend un concert du printemps et de Noël.

Présentement, les infrastructures de l'école ne sont pas utilisées par d'autres groupes. L'école utilise présentement des infrastructures à l'école élémentaire St. Patrick. L'école ne prévoit pas utiliser la nouvelle salle de spectacle cependant, ils sont intéressés à être invités à des événements.

L'école n'a pas beaucoup de contact avec la Cité de Clarence-Rockland. Le directeur est d'avis que la Cité pourrait aider en contribuant aux frais de transport de l'école pour leur programmation culturelle. Le directeur croit que l'embauche d'un coordonnateur culturel serait d'une grande aide et entrevoit favorablement des propositions de partenariats.

Nadine Goulet – Directeur – École Ste-Félicité
L'École Ste-Félicité a été construite en 1960 et compte présentement 200 élèves. L'école présente 6 performances annuellement comme la chorale de Noël et un spectacle de talents.

Présentement, aucun groupe de l'extérieur n'utilise les infrastructures pour leur programmation. L'école pourrait possiblement utiliser la nouvelle salle de spectacle selon la programmation qui y sera offerte.

Mme Goulet soutient que le rôle de la Cité dans la programmation culturelle est au niveau de la coordination des infrastructures. La Cité pourrait également promouvoir la programmation de la région ainsi que dans les écoles locales et s'assurer que la programmation est accessible. Elle est intéressée à un partenariat avec la Cité.

Mme Goulet dit qu'un coordonnateur culturel sera un point de contact pour la programmation culturelle et que cela aidera à la distribution de l'information.

Louis P Houle – Directeur – École Sacré-Cœur
L'école Sacré-Cœur fournie de la programmation culturelle à ces élèves, incluant des visites aux musées et à une variété de festivals à Ottawa en plus de présenter des spectacles à l'école. Certains de ces artistes font partie de troupes de théâtre, de groupes musicaux, de chanteurs et de cirque. L'école offre également des activités extracurriculaires artistiques telles qu'une exposition d'art et un concert de Noël.

L'école utilise déjà des infrastructures de la Cité comme leur cour d'école qui est partagée avec la Cité. Ils prévoient utiliser le nouveau complexe récréatif et culturel ainsi que la bibliothèque.

M. Houle dit que la Cité pourrait augmenter son budget aux arts et à la culture pour financer plus de projets et peut-être former plus de partenariats avec la communauté d'affaires ainsi qu'avec les ressources culturelles existantes. La Cité devrait supporter les initiatives locales et maximiser l'utilisation de la nouvelle salle de spectacles, s'assurant qu'elle soit accessible.

M. Houle dit que l'embauche d'un coordonnateurculturel peut être une bonne idée ; cependant, les ressources existantes pourraient être mieux utilisées.

Benoît Boulerice – Directeur – École Ste-Trinité
L'École Ste-Trinité utilise sa programmation culturelle pour renforcer son focus sur le patrimoine et la fierté d'être francophone. Sa programmation inclut la semaine de la francophonie, un festival acadien et un concert de Noël à l'église. L'école a un partenariat avec le Club Optimiste pour produire d'autres spectacles et l'école a un fonds spécial pour financer les arts comme des visites au musée. L'école a un comité pour aider à organiser ce genre d'événements qui inclut la participation des parents.

Présentement, le Chœur du moulin et une troupe de théâtre jeunesse intitulée Les Petits Molière utilisent les infrastructures de l'école pour leurs pratiques. L'école prévoit utiliser le nouveau complexe récréatif et culturel pour certaines activités, mais outre l'église, n'utilise pas d'autres infrastructures dans la communauté.

M. Boulerice est d'avis que la Cité de Clarence-Rockland devrait coordonner les infrastructures et l'information dans la région. Il fait un point de mentionner que la Cité a toujours été actif, et les a toujours appuyés dans la production de leurs événements. Pour promouvoir la programmation culturelle dans la région, la Cité pourrait augmenter son budget pour les arts et la culture et pour la promotion de la francophonie.

M. Boulerice croit que l'embauche d'un coordonnateur culturel est une excellente idée pour la coordination de l'information et pour agir comme liaison entre les écoles et la communauté. Il trouve que la promotion de la francophonie devrait être une responsabilité clé de ce poste.

Chantal Beaudry – Directrice – École St-Mathieu
Lors d'une courte entrevue avec PGF, Mme Beaudry a indiqué que l'école St-Mathieu offre les leçons de musique aux élèves dans le curriculum ; spécifiquement les leçons de guitare et de piano.

Présentement, l'école utilise l'église pour ses performances de plus grande envergure, mais avec l'arrivée récente d'un nouveau prêtre, Mme Beaudry n'est pas certaine si cela sera toujours possible. L'école a un gymnase, mais est d'avis que le complexe est trop éloigné pour leurs besoins. L'école serait intéressée à utiliser le complexe, mais devra sonder les parents pour savoir s'ils sont prêts à se déplacer.

Mme Beaudry croit que l'embauche d'un coordonnateur culturel améliorera la programmation culturelle dans la Cité.

Patricia Rogers – Directrice – Rockland Public Elementary School
L'école Rockland Public a 450 élèves de la maternelle à la 8e année. Pour planifier sa programmation culturelle, Mme Rogers consulte un guide de programme éducatif distribué dans les écoles appelé MASC. Ce guide décrit les artistes et comment les embaucher. L'école consulte également les différents feuillets d'informations qui sont fournis par les ressources culturelles locales. L'école engage des artistes comme des chanteurs et des troupes de théâtre pour supporter son curriculum. La fanfare de l'école St. Francis Xavier performe également annuellement à l'école.

Il y a également des activités qui sont organisées par les enseignants de l'école telle que le club d'art dramatique, la chorale et un spectacle de talents. Malheureusement, l'enseignant de musique est en congé de maladie prolongé et l'école n'a pas de remplacement. Puisque les enseignants du primaire sont généralistes, la programmation culturelle dans les écoles dépend des habiletés des enseignants. L'école a présentement des instruments de musique pour leurs élèves.

Mme Rogers est d'avis que les arts et la culture sont très importants pour la programmation culturelle, mais que cela est restreint pas le budget. Elle aimerait développer ceci dans le curriculum. Dans le passé, un comité de parents a tenté d'obtenir du financement pour une exposition d'arts, mais n'a pas obtenu de succès. Il existe clairement un intérêt à l'école pour ce genre de programmation.

Présentement, les infrastructures de l'école sont utilisées par des groupes sociaux comme les Guides. L'école ne prévoit pas se servir de la salle de spectacle pour sa programmation, car l'école possède son estrade. Elle considérerait l'utiliser s'il existait plus de programmation éducative.

Mme Rogers croit que la Cité de Clarence-Rockland pourrait aider l'école en créant des partenariats dans la communauté pour amener des artistes qui pourraient enrichir la programmation culturelle de l'école. Peut-être que la Cité pourrait fournir une telle liste aux écoles. Elle est également d'avis que la Cité devrait travailler à garder la population dans la Cité pour sa programmation culturelle. Il existe un besoin d'avoir une bonne distribution de l'information. Présentement, l'école ne connaît pas les ressources culturelles autres que par les feuillets d'informations qui sont postés et avec des communications avec les parents. Elle a indiqué être intéressée par un partenariat avec la Cité.

RESULTATS – Réunions publiques

La prochaine section traite des constatations résultant des réunions publiques.

PARTICIPANTS

La première réunion publique a eu lieu le mercredi 21 janvier 2009 à 19h à la salle du conseil au 415 rue Lemay à Clarence Creek. Cette rencontre fut tenue en français. Il y a

eu 19 personnes qui se sont présentées en plus de la Directrice des Services communautaires, de l'Agente de communications de la Cité de Clarence-Rockland et de 3 représentants de PGF.

Les participants représentaient différents aspects de la communauté culturelle de la région tels que des musiciens, interprètes, artistes visuels, groupes sociaux, groupes jeunesses et patrimoniaux. Il y avait également un citoyen qui n'était pas rattaché à un groupe ou un organisme. Les participants à cette rencontre venaient également de plusieurs régions différentes de la Cité de Clarence-Rockland : Bourget, Clarence Creek, Hammond et Rockland.

La deuxième réunion publique a eu lieu le jeudi 22 janvier 2009 à 19h à l'ancienne bibliothèque publique, au 1560, rue Laurier à Rockland. Cette rencontre se déroulait en anglais. Dix-huit (18) personnes étaient présentes, en plus de 4 membres du conseil municipal incluant le maire. Il y a également eu 3 représentants de la Cité : le Directeur général, la Directrice des Services communautaires et l'Agente de communications. Il y avait également un journaliste du Vision. PGF avait deux modérateurs présents à cette réunion.

Les participants à la seconde rencontre provenaient surtout de la communauté des arts visuels et de la scène, mais étaient également composés de citoyens. Plusieurs personnes avaient de plus participé à la réunion de la veille. Les participants de cette soirée provenaient de Rockland et Clarence Creek.

Une liste de présence de ces réunions est incluse à l'annexe C.

SOMMAIRE

Les deux rencontres publiques avaient comme objectif de déterminer quels sont les besoins culturels de la communauté et de donner à tous les résidents de Clarence-Rockland une chance de participer aux consultations. Une présentation PowerPoint a été créée pour assister la modération de la réunion. Une copie des présentations est fournie dans les annexes D et E.

La présentation donnait le contexte et le mandate de l'analyse des besoins culturels et introduisait PGF. Des questions telles que : comment important les arts et la culture sont-ils pour vous ? et, quelle place ont-ils dans la communauté ? ont servi à lancer la discussion sur l'importance des arts et de la culture dans la communauté. Le reste de la présentation était composée de questions ouvertes qui aidaient à guider la discussion vers des sujets identifiés : l'identification des besoins culturels, les attentes envers la Cité de Clarence-Rockland, les améliorations qui pourraient être faites à la programmation culturelle dans la Cité, comment les infrastructures de la région, incluant le nouveau complexe récréatif et culturel, pourraient mieux être utilisées et comment l'embauche d'un coordonnateur culturel aura un impact sur la programmation culturelle dans la Cité.

Puisque la plupart des participants des réunions étaient des intervenants clés de la communauté culturelle de la région, la discussion a commencé très facilement et a bien évolué naturellement de sujet en sujet. Ceci a été plus remarqué dans les sessions

francophones qu'anglophones.

Voici quelques éléments communs des deux réunions:

- La culture est extrêmement importante, car elle identifie une communauté, est instrumentale pour l'éducation et le développement, vois à la promotion, et préserve le patrimoine qui est important pour la survie d'une communauté de langue minoritaire.
- La Cité de Clarence-Rockland a toujours été très intéressée et a toujours appuyé la programmation culturelle par le passé ;
- La programmation culturelle doit être centralisée à un endroit;
- Un réseau d'appui communautaire pour la culture pourrait être mis sur pied pour aider avec la communication et coordination entre les deux groupes ;
- La Cité devrait fournir un coordonnateur qui pourrait travailler avec ce réseau d'appui pour aider à la promotion et la coordination de la programmation culturelle en plus d'agir comme liaison auprès des différents paliers de gouvernements ;
- La Cité devrait augmenter son financement aux arts et à la culture;
- La Cité devrait produire et distribuer un calendrier des activités culturelles de façon mensuelle ou annuelle pour aider à la promotion et à la coordination d'événements ;
- Ceci est une chance d'établir une fondation solide pour la programmation culturelle dans la Cité; et
- La Cité a besoin de s'assurer que les infrastructures de la région soient utilisées à leurs potentiels maximums, incluant le nouveau complexe récréatif et culturel ;

D'autres points d'intérêts étaient :

- La Cité a besoin d'un plan stratégique clair pour la programmation culturelle ; et
- La Cité a besoin de promouvoir des partenariats entre les communautés culturelles, mais également entre les communautés d'affaires

Les participants avaient des différences d'opinions sur les points suivants :

- La Cité devrait faire la promotion non seulement dans la région, mais également à Ottawa et au Québec pour attirer des touristes : et
- il devrait y avoir deux types de frais pour l'utilisation des infrastructures de la Cité, une pour les organismes sans but lucratifs et une pour les organismes à but lucratif.

La section suivante fait un sommaire des discussions des points mentionnés précédemment ainsi que de quelques autres ;

L'importance de la culture dans la communauté

L'art touche à tout

Comme il a été démontré par la participation aux deux réunions publiques, l'art et la culture sont très importants dans la Cité de Clarence-Rockland. Un participant a mentionné que « Les arts préservent le patrimoine » et que les arts et le patrimoine peuvent être promus ensemble. Il a été dit « il faut savoir d'où nous venons pour savoir où nous allons ».

Plusieurs participants ont mentionné que les arts et la culture sont une composante importante du développement et de l'éducation des adultes et personnes âgée, mais plus spécialement des enfants. Il a été remarqué que les enfants d'aujourd'hui sont les artistes et consommateurs d'art de demain et qu'ils doivent être exposés à une variété d'art et de culture. Les jeunes ont besoin d'avoir le choix entre les sports et la culture et d'avoir la chance de développer leurs talents. Alors que les sports sont principalement pour les jeunes, « il y a de la place pour tous dans les arts ». Un participant a mentionné « Nous ne donnons pas d'importance aux arts comme nous le devrions ». Le groupe « C'est ta communauté » a consulté deux groupes de jeunes sur leurs besoins dans la communauté et les deux ont identifié la musique et le théâtre comme besoin culturel.

Non seulement les arts et la culture sont importants pour le développement d'une personne, mais également pour le développement d'une société ; « C'est une façon de s'exprimer, cela lie les générations ».

Un participant a mentionné que les arts et la culture sont « notre identité, c'est ce qui nous identifie comme communauté et comme individu ». Un autre a dit, « la culture est notre âme, indépendante de notre couleur ou langue, elle réunit les gens. » Un participant du groupe anglophone a remarqué que les sports sont compétitifs et un effort individuel alors que la culture est souvent une activité de groupe. Les activités culturelles aident à ralentir le train de vie quotidien ; elles sont des expériences nouvelles qui relaxent. L'art peut être très thérapeutique.

Un autre participant du groupe anglophone a remarqué que « l'art est la seule chose qui a vraiment de la valeur » et qu'avec le développement viennent Walmart et les clubs de hockey.

Besoins culturels

En général, il y a eu 4 thèmes de besoins culturels identifiés lors des réunions publiques : la centralisation, la coordination, la collaboration et la promotion.

Centralisation

Plusieurs participants ont commenté qu'il devrait y avoir un centre culturel dans la Cité de Clarence-Rockland; un noyau qui serait la place où les gens iraient pour la programmation culturelle. Quelqu'un a suggéré que ce centre pourrait être près du kiosque touristique et une autre personne a mentionné que l'on devrait prendre en exemple le Centre des arts visuels d'Orléans. Certaines personnes sont d'avis que ce centre doit être séparé du nouveau complexe récréatif et culturel. Il pourrait également

y avoir un artiste en résidence.

Collaboration : un réseau artistique communautaire
« Nous sommes tous des petits groupes ; nous avons besoin de trouver le lien qui nous unit »,
« Si nous restons chacun de notre côté, nous perdrons notre culture ; nous avons besoin de nous tenir ensemble »,

La Cité doit être le catalyseur qui tient ses groupes ensemble. Il devrait y avoir un comité formé de représentants des groupes culturels de la région qui se rencontrerait 2-3 fois par année et qui travaillerait avec le coordonnateur de la Cité. Ce groupe donnerait au coordonnateur une direction et, de cette façon, le dialogue demeurerait ouvert avec la Cité sur les questions culturelles. Un participant a mentionné que « Si la Cité nous voit organisés, nous aurons plus de poids ».

Différents groupes pourraient collaborer pendant les événements. Il y a déjà de la collaboration de la sorte dans la communauté telle qu'entre Ain't Seen Noth'n Yet et le programme musical de l'école St. Francis-Xavier. Un participant a remarqué que le succès des célébrations du Centenaire pourrait donner lieu à une Journée du patrimoine qui combinerait le patrimoine avec les arts et la culture.

Des groupes pourraient également collaborer à la promotion et à la programmation culturelle. Peut-être même qu'un partenariat avec d'autres centres culturels tels le MIFO à Orléans pourrait être bénéfique.

Des partenariats avec des groupes sociaux pourraient également attirer des bénévoles et aider aux campagnes de financement. Par exemple, les guides sont intéressées à montrer à leurs membres la valeur du bénévolat. Elles pourraient aider avec la programmation des arts et de la culture. Une autre source de bénévoles pourrait être les élèves du secondaire qui ont besoin d'un nombre établi d'heures de bénévoles pour l'obtention de leur diplôme.

À noter : Après les rencontres, les participants se sont attardés pour discuter de collaboration potentielle et après la première rencontre publique, il a été décidé que les informations des participants seraient partagées entre les participants pour aider la collaboration. Il existe clairement un désir de collaboration entre les membres de la communauté culturelle.

Coordination
Les participants ont identifié le besoin d'une meilleure coordination des activités culturelles dans la Cité, car il y a plusieurs groupes qui font des choses similaires et souvent en même temps. Un participant a suggéré que les groupes aient des dates annuelles pour leurs activités. Une meilleure coordination pourrait aider à éviter les conflits d'horaires, non seulement aux infrastructures mais également pour étaler la programmation tout au long de l'année.

Il pourrait y avoir une meilleure coordination entre les écoles et les conseils scolaires pour fournir ou améliorer leur programmation culturelle. Un participant a dit « Nous avons besoin d'éduquer les gens pour les intéresser aux arts ». Les écoles pourraient

également offrir leurs infrastructures pour la communauté culturelle. Cependant, certaines infrastructures, comme l'auditorium de RDHS ne sont pas disponibles.

La communauté culturelle a besoin de quelqu'un qui sait comment gérer. « Nous avons une vision, nous avons besoin de direction ». Un coordonnateur permanent pourrait être guidé par un comité de représentants de la communauté culturelle. Ce coordonnateur pourrait être un agent de liaison avec tous les niveaux de gouvernements et avec les communautés francophones et anglophones. Il a été suggéré qu'il pourrait y avoir un besoin pour plus d'une personne pour gérer la coordination de la programmation culturelle dans la Cité.

Promotion

« Nous manquons de confiance en nos capacités »

Il existe un consensus que « nous devons garder nos gens dans notre communauté pour ne pas qu'elles aillent à Ottawa » pour leurs besoins culturels. Une autre personne a dit : « Nous voulons que la communauté se dise, si je peux avoir de bons programmes ici, pourquoi aller ailleurs? »

Cependant, il existe une différence d'opinions à savoir si la Cité devrait promouvoir la programmation culturelle à l'extérieur de la communauté immédiate. Certaines personnes sont d'avis que « nous avons besoin d'attirer des gens d'Ottawa vers Rockland ». Elles veulent également promouvoir Clarence-Rockland comme un centre culturel. D'autres sont en désaccord, disant que « Si nous ne pouvons promouvoir la culture à nos résidents, pourquoi le faire ? Cela devrait être pour le bénéfice de notre communauté. En réponse, il a été indiqué qu'en encourageant le tourisme culturel, cela aurait des impacts économiques bénéfiques pour la communauté en plus d'accroître la demande pour la programmation culturelle. Cela donnerait donc plus de chances aux résidents de démontrer leurs talents.

La plupart des participants ont indiqué que les coûts de promotion d'activités culturelles peuvent être prohibitifs et que toute aide serait appréciée.

Quelques participants ont indiqué que s'il existait un plan de promotion, avec une distribution standardisée, les résidents sauraient alors où regarder pour des informations concernant la programmation culturelle. Une suggestion a été de distribuer un calendrier mensuel ou annuel des activités culturelles. Quelqu'un d'autre a suggéré que ce calendrier pourrait être publié dans les journaux locaux, à la même page, toutes les semaines. Un autre participant a suggéré que le calendrier pourrait être intégré aux Guides d'activités communautaires. Il a été suggéré que le guide devrait être révisé pour que le format serve mieux la programmation culturelle de la Cité.

Une personne a suggéré que la communauté culturelle pourrait être promue par une meilleure couverture journalistique des médias locaux et régionaux. Une meilleure coordination mènerait vers une meilleure visibilité ce qui accroît le bouche à oreille et, de fait même, accroître l'intérêt de la communauté et de la région.

Un participant a suggéré d'avoir un site web collectif pour la communauté culturelle de la Cité de Clarence-Rockland. D'autres participants ont mentionné que cela devrait faire partie du site web de la Cité de Clarence-Rockland.

Il pourrait y avoir de la promotion par les groupes culturels eux-mêmes. Les groupes ont toujours besoin de bénévoles et de visibilité pour leurs programmes. Un participant a suggéré l'organisation d'une activité porte ouverte où des représentants de tous les groupes culturels pourraient présenter leur organisme, leur programmation et leur besoin de bénévoles. Un autre participant a suggéré que les groupes culturels pourraient offrir des ateliers aux résidents de façon à développer un intérêt. Un groupe a mentionné « Nous devons montrer à la communauté qu'il existe une programmation culturelle de qualité disponible dans la Cité de Clarence-Rockland ! »

Il a également été suggéré que la promotion pourrait faire partie d'un plan stratégique culturel pour la Cité.

Le rôle de la Cité dans la programmation culturelle

Plusieurs personnes ont commenté que la Cité a fait du bon travail par le passé pour appuyer la communauté culturelle avec des équipements, des infrastructures et de la promotion, mais que cela pourrait être amélioré. La Cité pourrait donner plus d'aide au niveau de la promotion, coordination et financement.

Une bonne base

« C'est notre chance de nous organiser, une occasion en or »

Un thème prévalent lors des réunions publiques est qu'il est nécessaire que la programmation culturelle commence bien. Il a été mentionné que « nous ne pouvons faire d'erreur, nous devons commencer du bon pied ». Un participant a suggéré que « nous devons commencer simplement, mais de la bonne façon et ensuite nous pourrons inviter d'autres personnes. » Un autre participant a mentionné que la programmation culturelle dans la Cité « a beaucoup de potentiel », mais qu'il faut faire preuve de patience puisque « Rome ne s'est pas construite en une journée ».

Afin de créer cette base solide, il a été suggéré que la Cité développe une politique culturelle ainsi qu'un plan stratégique pour sa programmation culturelle. Plusieurs participants ont suggéré une consultation avec d'autres centres culturels de la région qui ont du succès comme le MIFO et le centre culturel d'Embrun.

Il a également été souligné que les programmes et infrastructures doivent être financièrement accessibles aux familles. Le maire de la Cité de Clarence-Rockland a mentionné que la Cité a la 8e moyenne d'âge la plus basse de la province.

Qu'est-ce que la Cité peut faire de mieux ?

Il est à noter que la plupart des participants aux deux rencontres publiques ont souligné le fait que la Cité a toujours supporté la communauté culturelle en offrant des ressources, des infrastructures et de la promotion. Tel que mentionné précédemment, la Cité pourrait fournir plus de financement et plus de support d'employés en plus de fournir un coordonnateur culturel.

Le nouveau Complexe récréatif et culturel

Le directeur général de la Cité de Clarence-Rockland a souligné que le nouveau complexe récréatif et culturel a été construit avec l'aide de plusieurs partenaires pour combler aux besoins d'une variété de groupes et d'individus.

Un participant a mentionné qu'afin que le complexe récréatif et culturel fonctionne à son plein potentiel, il faudra plus que les groupes communautaires ne soient pas les seuls à utiliser les infrastructures. Un autre participant a souligné son inquiétude que les petits groupes seraient délaissés aux profits d'artistes professionnels et que les groupes locaux ont besoin de bénéficier du complexe récréatif et culturel. Un artiste professionnel présent a indiqué que selon son expérience avec d'autres centres culturels, que les artistes de l'extérieur ne performent que 5-8 fois et qu'il reste donc beaucoup de place pour les autres groupes intéressés à utiliser les infrastructures. Un participant a suggéré qu'il pourrait y avoir une structure de frais à deux paliers : une pour les organismes sans but lucratifs et une pour les organismes lucratifs. Un représentant a mentionné que même les organismes lucratifs ne sont pas profitables et espère que les frais ne seront pas prohibitifs pour de tels groupes.

La plupart des participants ont exprimé le fait qu'ils ont hâte à l'ouverture de la salle de spectacles pour prendre avantage de cette infrastructure à la fine pointe de la technologie. La communauté des arts de la scène a particulièrement hâte car ils ont eu de la difficulté par le passé à trouver des infrastructures adéquates pour leurs représentations.

D'autres étaient contents d'avoir un endroit pour faire des expositions. Un studio d'art local a déjà utilisé le corridor du nouveau complexe pour le vernissage de ses étudiants sans frais.

Il a été mentionné que cette infrastructure vient avec de grandes attentes de la part de la communauté. Un participant est d'avis que la communauté doit avoir un sens de propriété et d'accessibilité envers le nouveau complexe.

Un autre point est qu'une personne devrait être responsable de l'équipement technique utilisé à la salle de spectacle pour s'assurer de son bon fonctionnement.

Certains ont suggéré que le complexe pourrait être utilisé pour projeter des films ou pour tenir des mariages. Ce genre d'activités pourrait aider à financer le nouveau complexe et la programmation culturelle.

Il a été mentionné qu'il n'y a pas uniquement le complexe comme infrastructure dans la région, mais qu'il existe également les parcs qui pourraient être utilisés à leur plein potentiel et qu'il faut un inventaire des infrastructures ; celles gérées par la Cité ainsi que les autres. Quelqu'un a mentionné qu'il existe de belles infrastructures dans les écoles locales qui ne sont pas disponibles à la communauté culturelle telle que l'auditorium de l'école Rockland District High School.

Inventaire des ressources culturelles existantes au niveau local et régional

Un des objectifs de cette analyse culturelle était de fournir à la Cité de Clarence-Rockland une liste, aussi complète que possible, des ressources culturelles existantes locales et régionales. Cet inventaire servira d'outil de travail à la Cité qui s'en servira à la planification de son Plan maître des loisirs et pour sa programmation culturelle annuelle. Ce document pourra être utilisé dans la formation d'un comité culturel qui assistera la Cité dans la gestion de ses besoins culturels dans la communauté, mais qui identifiera également des partenariats potentiels dans la communauté.

PGF a commencé sa liste de groupes et d'individus qui sont actifs dans les arts, la culture, le patrimoine et les programmes sociaux avec le Guide d'activités communauté et une liste d'intervenants clés fournis par la Cité. Pendant les entrevues avec les intervenants clés, PGF a ajouté à cette liste en se fiant aux suggestions de certains des participants. PGF a également consulté d'autres centres culturels similaires ainsi que des organismes culturels régionaux et nationaux en plus de faire des recherches Internet pour identifier des ressources possibles pour la Cité.

PGF a inclus un inventaire des infrastructures existantes dans la Cité de Clarence-Rockland.

Cet inventaire a été développé en consultant et en consolidant les informations de plusieurs sources :

- La liste d'intervenants clés fournis par la Cité de Clarence-Rockland
- Patrick Bourbonnais – Directeur artistique : MIFO – Mouvement d'implication francophone d'Orléans
- Le Guide d'activité communautaire de Clarence-Rockland
- www.clarence-rockland.com
- Arts Ottawa Est-Est
- Canadian Amateur Musicians
- Alliance nationale de l'industrie musicale
- Association des auteures et auteurs de l'Ontario français
- Association des professionnels de la chanson et de la musique
- Association des théâtres francophones du Canada
- Bureau des regroupements des artistes visuels de l'Ontario
- Conseil des arts du Canada
- Conseil des arts de l'Ontario
- Écho des services en français (ESF)
- Fédération culturelle canadienne française
- Office des affaires francophones
- Réseau Ontario
- Réseau national de développement économique francophone
- Rideau
- Théâtre Action
- Association canadienne-française de l'Ontario
- Suggestions des intervenants clés

L'inventaire est disponible dans un volume à part.

Sommaire des observations

PGF a observé plusieurs besoins culturels qui ont été identifiés par les participants des réunions publiques et par les intervenants clés.

1. **Coordination :** L'embauche d'un coordonnateur culturel sera bénéfique pour la communauté des arts, de la culture et du patrimoine, spécialement pour l'amélioration de la coordination, de la communication et de la collaboration entre les intervenants clés de la communauté.
2. **Promotion :** Un défi de la communauté culturelle de la Cité de Clarence-Rockland est une programmation culturelle adéquate, efficace et abordable. La promotion de cette programmation culturelle doit être plus efficace à engager la communauté locale, mais peut être étendue vers Ottawa ou des régions du Québec.
3. **Financement:** Le coordonnateur culturel pourrait agir à titre de lien entre la communauté culturelle et tous les niveaux de gouvernements, en assistant à obtenir plus de financement pour appuyer les activités culturelles.
4. **Appui de la Cité de Clarence-Rockland:** Bien que les gens étaient généralement en accord pour dire que la Cité de Clarence-Rockland a été un excellent supporteur des arts et de la culture par le passé, fournissant de l'équipement, des infrastructures et des services promotionnels, la Cité devrait accroître le financement aux activités culturelles dans la région, peut-être au même niveau que pour les sports et les activités de loisirs. La Cité pourrait également accroître son appui en augmentant le nombre d'heures des employés dédiés aux activités culturelles.
5. **Partenariats :** Le potentiel de partenariat entre la communauté culturelle, la communauté des affaires, les ressources régionales, les médias, les conseils scolaires et tous les niveaux de gouvernements existent.
6. **Fondation solide** : Afin d'obtenir les effets bénéfiques maximum du nouveau complexe récréatif et culturel, il est essentiel que sa gestion repose sur des fondations solides. Ceci inclus, mais n'est pas limité, au développement d'une politique culturelle par la Cité de Clarence-Rockland, du développement d'un plan stratégique et de la formation d'un comité consultatif qui travaillera en collaboration avec le coordonnateur culturel.

D'autres observations intéressantes :

1. **Inventaire des ressources culturelles :** Une liste maîtresse devrait être créée et mise à la disposition de la communauté culturelle. Ceci aiderait à la collaboration à l'intérieur de la communauté culturelle.
2. **Centre culturel :** Il devrait y avoir un centre culturel dans la Cité de Clarence-Rockland. Il y a des opinions contradictoires à savoir si le complexe récréatif et culturel est adéquat pour ce type de programmes ou si un site distinct devrait être développé.

RECOMMENDATIONS
Voici les recommandations de PGF à la Cité de Clarence-Rockland

1. **L'embauche d'un coordonnateur culturel** : Ce poste devrait être créé et comblé le plus rapidement possible, surtout avec l'ouverture de la salle de spectacle prévue pour septembre 2009 et la programmation culturelle devrait être en place sous peu. Les responsabilités du coordonnateur culturel devraient être :

Création :	d'une programmation culturelle
Coordination :	des infrastructures, groupes et horaires
Promotion :	des événements et de la communauté culturelle
Liaison :	entre tous les niveaux de gouvernements
Communication :	avec les intervenants clés, autres ressources régionales, médias et la communauté
Développement :	de partenariats entre les intervenants clés, les conseils scolaires, les groupes sociaux locaux, les différents niveaux de gouvernements, les ressources culturelles régionales et les autres centres culturels.

1 **Formation d'un comité consultatif** : Ce comité devrait être composé de membres de toutes les facettes de la communauté des arts et de la culture en plus de représentants de toutes les régions de la Cité. Ce comité devrait représenter également les intérêts de la communauté francophone et anglophone de la Cité de Clarence-Rockland.

2 **Développement d'un plan stratégique** : Ce plan devrait être utilisé en conjonction avec la politique culturelle de la Cité pour aider au design, livraison, promotion et communication de la programmation culturelle de la Cité de Clarence-Rockland. D'autres ressources régionales et d'autres centres similaires tels le MIFO d'Orléans devraient être consultés.

ENGINEERING | INGÉNIERIE

2018 Building Condition Assessment

Minimum Modifications Required To Maintain Existing Building Performance Level

Jean Marc Lalonde Arena

Prepared for:

City of Clarence-Rockland
1560 rue Laurier St. Rockland, ON K4K 1P7

Attention:
Jean-Luc Jubinville
Carole Giroux

LRL File No.: 09189.01

December 12, 2018

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1.0 EXECUTIVE SUMMARY

LRL Engineering Ltd. has produced a report detailing the current condition of the Jean Marc Lalonde Arena with the goal of making recommendation as to which building components are required to be repaired or modified in order to maintain the existing building performance level.

It is understood that the ice making capability of the area, is to be eliminated due the age of the refrigeration equipment and the desire to eliminate the risk associated with it's continued operation. The intent is that the rink area will become a multi-use space suitable for year-round use.

1.1 General Description

This is a single pad arena built between 1972 and 1973 according to the NBC 1970 building code. The front entry vestibule enclosure was added later and the roof was replaced in 2000. It is a 2 storey building (3,825 m2) with a the ground floor dedicated to the arena and support areas, and a 2nd floor used a community hall.

1.2 General Physical Condition

The building is in reasonably good condition overall but has many deficiencies. In general, the deficiencies requiring immediate consideration are related to;

a. Site improvements such as pavement and concrete sidewalks.

b. Waterproofing of Exterior Cinder Blocks Wall.

c. Meeting current code requirements with respect to accessibility and safety.

1.3 Assessment Results

Part 4 of this report contains summary of observations onsite where items identified as required by code or needed to support the minimum modifications necessary for the continued use of the area.

2.0 INTRODUCTION

2.1. Survey Team

An inspection team from LRL Engineering Ltd., performed a Property Condition Assessment for the facility July 26, 2018. The Municipal Facility Manager and staff were also onsite to provide access and answer the survey team's questions. The survey is based on the process, scope and intent of the Request for Proposal and Term of Reference – City of Clarence. Each observer has experience commensurate with the subject property type and scope.

2.2. Published Standards and Codes

The following published standards, codes and guidelines were used for the property assessment survey

.1 ASTM E 2018-01 - Standard Guide for Property Assessments: Baseline Property Condition Assessment Process - American Society of Testing Materials International - This guide defines customary practice for conducting a baseline property condition assessment to identify and communicate physical deficiencies to a user in a Property Condition Report.

.2 NFPA 101 Life Safety Code - ASNI/NFPA 101, 2018 Edition - National Fire Protection Association - This code provides minimum requirements, with regard to function, for the design, operation and maintenance of new and existing buildings and structures to protect occupants by providing for safety from fire and similar emergencies.

.3 Ontario Building Codes 2012, Latest Edition

.4 RS Means Building Construction Cost Data, 60th Edition – 2018 - The basis in part for determining unit and construction assembly values for probable costs related to work included in this report.

.5 Ontario Electrical Safety Code, 26th Edition 2015

.6 American Societies of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

.7 NFPA 96 – 2017 Edition, Standard for ventilation control and fire protection for commercial cooking operations. This standard provides the minimum fire safety standards and requirements (preventative and operative) as related to the design, installation, operation, inspection and maintenance of public and private non-residential systems.

.8 Ontario Fire Code, 2015 as further more so referenced to the baseline standard for requirements being the Ontario Building Code of 2012 .

2.3. Property Assessment Survey Requirements

An initial walk-through property assessment survey was conducted during the field observers' site visit of the subject property to ascertain material physical deficiencies of the subject properties and opinions of probable costs for remediation. Additional visits to the sites and investigations within the scope of this report were also done on an as-needed basis. Data obtained from the survey permitted an objective and impartial evaluation of the general condition of the buildings, site, and other improvements at the referenced location.

2.4. Analysis

An analysis of the facilities was required to determine the current physical condition, noting deficiencies, codes violations, and any unusual features and subsequently providing opinions of probable costs of remediation for the building and system component in accordance with appropriate standards and guidelines as listed previously. Replacements are also required as system/components reach the end of their useful life, defective due to maintenance, weather, operating conditions and other factors. This report is based on the evaluators' judgment of the physical condition of the components, their ages, effective age and their expected useful life (EUL). It is understood that the conclusions to be presented shall be based upon the evaluators' professional judgment. The actual performance of individual components may vary from a reasonable expected standard and will be affected by circumstances that occur after the date of the evaluation.

Based upon observations during our site visits and information received from our interviews with building management and service personnel, cost estimates have been provided with the proposed remedy for the deficiencies noted. Such remedies and their associated costs were considered commensurate with the municipalities' position in the market and prudent expenditures. These estimates are for components of systems exhibiting significant deferred maintenance issues, and existing deficiencies requiring major repairs or replacement.

Improvements or modifications required meeting provincial or municipal regulations or by-yaws should be implemented within an appropriate time as determined by the authority having jurisdiction. Photographs have been taken to provide a record of general conditions of the facilities, as well as the specific deficiencies observed.

2.5 Survey Methods

The survey was based on the field observers' visual observations of representative areas and materials while walking through the subject property. The survey included interviews with administrative and facilities personnel, review of available construction documents together with prior assessment reports and records that have been made available.

The survey consisted of non-intrusive visual observations of various external and internal building and system components. These systems included architectural, civil, structural, mechanical, plumbing, life safety, and electrical, which were readily accessible and easily visible. The survey was not technically exhaustive, excluded the operation of equipment and was conducted without the use of special protective clothing. The scope of work did not include removal of materials, testing, or use of equipment, such as scaffolding, metering/testing equipment or other devices.

2.6 Out-of-Scope Considerations

Out of scope considerations include, but are not limited to:

a. Temporary maintenance buildings.
b. Entering crawl or confined spaces.
c. Accessing spaces requiring special training and equipment.
d. Determination of plumbing pressures, flow rates or fixture counts.
e. Observation of flue connections, interiors of chimneys, flues or boiler stacks.
f. Removal of electrical panel and device covers of operating electrical devices.
g. Examination of elevator cables, sheaves, controllers, motors inspection tags or entering pits or shafts.
h. Determining NFPA hazard classifications, except as noted.
i. Classifying, or testing fire rating assemblies, except as noted.
j. Operating appliances, equipments or fixtures.
k. Determining sound transmission coefficient (STC) ratings, flammability issues or regulations.
l. Engineering calculations to determine any system's adequacy or compliance with any specific or commonly accepted design requirements. Obvious deficiencies requiring further investigation have been noted.
m. Kitchen appliances, freezers and coolers.
n. Hockey equipment, nets, rink enclosure, Zamboni vehicle etc.

2.7 Professional Services

The survey is not a professional Architecture or Engineering service and the resulting report and opinion of probable costs is not subject to laws governing the professional practice of Architecture or Engineering. As such, no documents will bear a seal.

2.8 Opinion Probable Construction Costs (OPCC)

The costs associated with each item is based on a Class D opinion of probable construction cost (OPCC) to correct noted deficiencies. These costs may be used for preliminary budgeting purposes.

The sources of cost information utilized have been determined from one or more of the following resources:

a. User provided unit costs;
b. Owner's historical experience costs;
c. Consultant's cost database or cost files;
d. Commercially available cost information such as published commercial data;
e. Third party cost information from contractors, vendors, or suppliers; or
f. A reasonable expectation of the cost of the work.

If the solution to a deficiency is too complex to develop an opinion of probable cost using the quantity and unit cost method, a lump sum opinion of probable costs for that particular line item will be used. In general opinions of probable costs are limited to construction related costs; those types of costs that are commonly charged by contractors who perform the work. In some cases, additional investigation or design work will be required to fully develop solution a solution to a particular deficiency. In this case the cost of such investigation or designs is presented.

3.0 DESCRIPTIONS

This section contains a description of the property and building in general.

3.1 Site

3.1.1 Topography, Groundwater and Storm Water Drainage

a. The prevalence of a large knoll from west to east across the site is indicative of the known rise and fall of the bedrock below.

b. The parking area has minimal cover to bedrock in some places with varying degrees of fill to create proper grading and drainage.

c. The rock to the east face of the arena is as little as 1m below grade and in excess of 3.5m below grade to the northwest.

d. It is reasonable to assume that the descending rock strata proceeding west from the arena to the ball field (150 ft) can be ascertained visually.

e. The evidence of peat soils would suggest historic excavation below the ball park to the west that may require de-watering during and construction work should any construction be considered in this area. This process may affect surrounding properties if not planned and controlled accordingly.

f. Storm water drainage is principally by surface grading to the site perimeter except for the parking lot which has catch basins.

3.1.2. Paving, Curbing, Sidewalks, Steps and Parking

a. The pavement and concrete sidewalks and curbs are generally in poor condition.

b. The existing parking area has a capacity of 172 standard cars and 2 handicap spaces, with an overlap of 2 stalls at the signed loading area.

3.2 Structural Frame and Building Envelope

3.2.1 Foundation & Bearing

a. The North ½+/- of the West foundation wall is located atop a major concrete grade beam set up on substantial diameter concrete piers o.c. The steel frame grid is set to bedrock at depths of up to 3.5m. The depths vary from +/- 2m to less than 1m of soil cover. The remainder is direct to bedrock.

3.2.2 Building Frame

a. The concrete foundations, floors and bleacher assemblies are composed of reinforced concrete.
b. The superstructure consists of a steel frame.
c. The structure is robust given its age but may need reinforcement to comply with current OBC 2012, Part 4 structural requirements. Such analysis is outside of the scope of this report but may be examined independently should circumstances arise.
d. Some rusting was noted on the steel columns and base plates within the westerly rooms below the sloped seating. The corrosion is likely due to a combination of systems, environmental operating conditions and infiltration of winter air at numerous vent fans producing high, humidity levels. Cleaning, preparation and painting is advised.
e. The two storey front section supports a second floor concrete flat slab steel open web joists at roof above. The concrete foundations & floor with load bearing interior and exterior concrete block walls and steel frame system above appear to be performing as anticipated.

3.2.3 Facades & Curtain Wall

a. The exterior wall assemblies at the two storey section are insulated with 2” rigid foam, sandwiched between structural concrete blocks and either interior block veneer or a gyproc facing (R-14 assembly +/-)
b. The exposed 10” structural and infill block work are of both smooth and split-faced units with small sections of veneer block capping steel columns
c. The interior blocks exposed within the insulated walls are 4” veneer units
d. The main arena is nominally un-insulated except for 2” rigid insulation at the roof (R12 assembly +/-)

3.2.4 Roof

a. The current roof was installed in 2000, it is an adhered single ply EPDM (rubber) membrane atop 2” rigid foam insulation mechanically bonded over vapour barrier to the steel roof deck system.

3.3 Miscellaneous Interior Elements

3.3.1 Interior Finishes

a. Paint application is the primary interior finish on cinder blocks exterior wall and interior partition.
b. Suspended T-bar ceiling system is installed in the vestibule, offices, kitchens, stairwell, washrooms, changing rooms, and activity room.
c. Modular carpet tile is installed in the vestibule area; ceramic tiles are installed in the offices, kitchens, stairwell, and activity room. Floor paint is applied in washrooms, changing rooms, and arena seating area.

3.4 Mechanical, Plumbing, and Electrical Systems

3.4.1 Plumbing Supply and Waste Piping

Domestic hot water productions for lavatories, sinks and shower heads;

Two indirect domestic hot water tanks, located in the ground floor boiler room, provide hot water for the lavatories, sinks and shower heads. The source of the hot water is provided by the gas fired hot water heating boilers located in the same room.

3.4.2 Plumbing Fixtures

The plumbing fixtures consist of a number of water closets, lavatories, urinals, sinks and shower heads to satisfy the sanitary requirement of the building. Total numbers of plumbing fixtures installed in the building as follows;

Water Closet:	12 Fixtures
Lavatory:	8 Fixtures
Urinal:	3 Fixtures
Janitor Sink:	1 Fixture
Kitchen Sink:	2 Fixtures

3.4.3 Domestic Hot and Cold Water Piping Distributions:

The domestic hot and cold water distributed throughout the building using copper piping with fibreglass insulation.

3.4.4 Waste Piping

Sanitary and storm drain from plumbing fixtures and roof are connected to municipal sewer by gravity. The piping is made of combination of cast iron and plastic pipes.

3.4.5 Heating Ventilation and Air Conditioning (HVAC)

The space heating and cooling within the building is provided by a combination of rooftop AC units, central gas fired boilers and gas fired infrared heaters. Exhaust fans have been provided to meet the building code requirement and/or for the purpose of cooling.

a. Rooftop HVAC Units

A total of four (4) rooftop air conditioning units have been provided for the second floor multipurpose room cooling system and for the main floor suite of rooms below. Each unit is equipped with a built-in direct expansion cooling coil and air cooled condensing unit.

It appears that the units use the R22 type of refrigerant, which contribute to ozone depletion. Under the terms of the Montreal Protocol, an international environmental agreement, established requirements is to begin the worldwide phase-out of ozone-depleting cfcs (chlorofluorocarbons). By January 2020 the refrigerant manufacturers will no longer be able to produce R-22 to service existing air conditioners and heat pumps.

b. Heaters and Fan Coils

The space heating is provided by a combination of hot water base board, convection heaters, hot water forced flow heaters and electric force flow heaters and fan coil units. Hot water for space heating equipment is produced by central gas fired heating boilers, located in the ground floor boiler room.

c. Natural Gas Fired Infrared Heaters

A total of 6 (six) natural gas fired infrared heaters are installed in the arena spectator seating area, providing space heating directly to the spectators without affecting the ice rink. Additional 1 (one) natural gas fired infrared heater has been installed above the ice rink recently.

d. Kitchen Hood Ventilation Systems

Kitchen hoods are provided over commercial kitchen appliances located at the ground and second floor kitchen. Each kitchen hood is equipped with filters. The kitchen hood located in the ground floor kitchen is made of stainless steel and equipped with a fire suppression system. The kitchen hood located in the second floor kitchen is made of galvanized sheet metal and not equipped with a fire suppression system. Each kitchen hood is connected to roof exhaust fan for cooking fume and vapor/grease removal.

e. Heating Boilers

The facility is equipped with a total of three gas fired hot water heating boilers, which is located in the ground floor boiler room. The boiler is manufactured by “Hydrotherm” model MR900B, heating input capacity of 900MBH and heating output capacity of 700 MBH. The boiler supplies hot water for space heating and domestic hot water. The boiler is connected to the hot water distribution piping. Circulation pumps are used to cycle the hot water to convectors, fan coil units and domestic hot water tanks.

f. Circulation Pumps & Sump Pumps

Circulation pumps are installed in the ground floor boiler room to circulate hot water from the boiler to the domestic hot water tank and space heating equipments throughout the building. Sump pumps are provided in the ground floor mechanical room sump pit.

g. Public Washrooms Exhaust:

A total of 2 (two) centrifugal roof exhaust fans has been provided for the Public washrooms exhaust systems.

h. Hockey Arena Ventilation:

Two wall propeller exhaust fans are installed in the arena to provide ventilation for the occupant in the arena.

i. Garage Exhaust:

A wall mounted centrifugal exhaust fan with aluminum shroud is provided for the garage and vestibule ventilation system.

j. Change & Shower Rooms Exhausts: - West Wall Rooms

Two wall mounted propeller exhaust fans are provided for the ground floor change and shower rooms exhaust facing west.

k. Refrigerant System for Ice Rink

The ice rink is equipped with a central mechanical refrigeration system located in the ground floor mechanical room. The system consists of the following major components: Reciprocating refrigerant compressors, Evaporative air cooled condenser, located outdoor behind the mechanical room exterior wall, Heat exchanger, Cold brine pump, Domestic hot water tank to provide hot water supply to Zamboni, Exhaust fans and air intake damper, Controls, Ice rink distribution piping and headers.
The ice rink facility is no longer used and the system has been abandoned. Due to safety reason, it recommends that the refrigeration system should be decommissioned and remove all the above components from the facility, including the brine solution, except the piping distribution under the concrete slab

l. Walk-in Cooler

Walk-in Cooler in the 2nd floor multipurpose has been in operation beyond the normal life expectancy (25 years). The system is no longer working.

3.4.6 Electrical System

The building is equipped with electrical power provided by Hydro One. The electrical power is distributed throughout the building through electrical distribution panels, protective devices, switches and a cable network.

a. Main Electrical Service

The incoming electrical service for the building is single service with metering and rated at 347/600V, 3-phase, 4-wire. The main electrical distribution equipment consists of a 400A, 600V ITE main fusible disconnect switch feeding multiple disconnects switches.

b. Electrical Power Distribution and Panels

The electrical distribution consists of two types of voltage, 600/347 volts and 120/208 volts. Two step-down transformers provide the 120/208V, 3-phase power that is required within the building. One is located in the main electrical room and the other is located on the 2nd floor storage / electrical room. The electrical power is distributed to each mechanical and electrical device with either a disconnect switch or circuit breaker in the electrical panel.

c. Interior Lighting

The general public area lighting consists mainly of 1’x4’ fixtures with two T8 ALTO lamps. The closed office lighting consists of fluorescent fixtures. The lighting over the ice surface consists of high bay HID fixtures.

d. Exterior Lighting

The exterior lighting consists of wall mount HID fixtures installed on the exterior walls.

3.6.7 Life Safety and Fire Protection

a. Fire Alarm Systems

A single stage fire alarm system is provided for the building in accordance with the OBC. The fire alarm control panel (FACP) is an old conventional type from Simplex. Manual fire alarm pull stations, heat detectors and fire alarm bells have been provided throughout the building.

b. Emergency Lighting

The battery powered battery packs with emergency lighting units and remote heads installed throughout the building interior to provide the emergency lighting during normal electrical power interruption.

c. Exit Signs

The illuminated exit signs are provided throughout the building at the designated exit doors in accordance with the OBC. The exit signs are connected to the emergency battery packs and normal electrical power sources.

4.0 ASSESSMENT RESULTS

This section is provided in the attached Appendix A.

5.0 CLOSING

We trust that this submission provides the requested information, but if you should have any further questions or comments, please do not hesitate to contact the undersigned.

Yours truly,

LRL Associates Ltd.

Stephane Leclerc, P.Eng, Principal.

4.0 ASSESSMENT RESULTS

4.1 Civil

Table 1: Paving and Concrete Sidewalks and Curbs

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Asphalt Pavement	Fair to Poor	Section of the asphalt pavements at the main entrance to the parking lot is in poor condition and will require re-paving in the very short term. The remainder of the asphalt pavement is in fair to good condition and will require patching and maintenance in the short to medium term.	Asphalt repaving at the main entrance. Some patching of sections of the parking lot and regular maintenance (i.e. crack sealing).	$20,000.00	
2	Concrete Curbs and Sidewalks.	Fair to Poor	Curbs, sidewalks and pavers along the east side are in poor condition and will require re-construction in the near future. We recommend that the pavers be removed and that a monolithic cast-in-place sidewalk-curb be poured instead.	Removal and replacement of the entire east side curbs, sidewalk and pavers.	$20,000.00	
				Sub Total	$40,000.00	
				20% Contingency	$8,000.00	
				TOTAL Paving and Concrete Sidewalks and Curbs	$48,000.00	

4.2 STRUCTURAL

Table 2: Foundation and Superstructure

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Foundation.	Good	Exposed portion of foundation walls appears to be in good condition with no visible signs of distress or movement.	None required.	-	
2	Building Frame / Steel Superstructure.	Fair	Exposed portion of the superstructure appears to be performing as intended with minor maintenance required (painting / rust removal).	Rust removal and painting.	$10,000.00	
3	Infill Block Walls	Good	Given the robust nature of materials employed, the building shell is in good condition and sound and will only require regular nominal maintenance.	The seal should be repaired at the 'laddering' in the mortar of the east wall.	$20,000.00	
				Sub Total	$30,000.00	
				20% Contingency	$6,000.00	
				TOTAL Foundation and Superstructure	$36,000.00	

4.3 Architectural

Table 3: Building Envelope and Building Accessibility

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Cinder blocks wall (Vestibule)	Good	In good condition.	None required.	-	
2	Exterior wall surface under one exterior light fixture. (on north facing wall)	Poor	Sign of water penetration and mold growth.	Wash and remove molded area with heavy-duty cleaner	$800.00	

3	Exterior wall surface under drainage pipe (on north wall)	Poor	Clear sign of spalling due to freeze-thaw while saturated with water.	Clean damage surface; Apply a layer of epoxy adhesive and patch the area with concrete. Install downspouts and direct water away from building.	$3,500.00	
4	Exterior wall surface under lighting fixtures and around door lintel	Fair	Sign of water penetration.	Clean surface and apply sealer. Further investigation of door lintel condition is recommended.	$1,800.00 Including investigation	

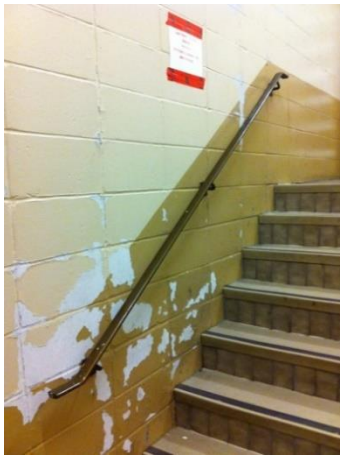
5	Roofing membrane	fair	Water leaks into the building when it rains.	Conduct roof leak investigation to locate the source. Proper repair method will be determined and undertook depending on the finding.	$15,000.00 (for investigation) $80,000.00 (for repairs)	
6	Roof drain (main roof)	fair	Due to clogged roof drain strainers, ponding of water on south side of the main building roof	Unclog drain strainers. Regular cleaning and maintenance is highly recommended to prevent ponding.	$1,500.00	
7	Roof drainage issue (vestibule)	fair	No sign of roof leak in the vestibule. However, ponding of water on north side of the vestibule roof due to insufficient roof slope	Remove existing modified Bitumen roofing (about 8 feet from the north edge) and correct roof slope (min. 2%) with fiberboard. Install new bit-mod roof membrane to match existing.	$8,500.00 (For design and construction)	

8	Front entrance doors barrier-free accessibility	Poor	No barrier-free access to the building.	Install minimum of one power door operator and push buttons in one door leaf on one of the exterior door and one of the vestibule door (two automatic power door operators in total)	$4,500.00	
9	Exterior stairs railing and guard	Poor	Existing railing and guard (height, continuity, guards openings) do not meet current O.B.C. section 9.8.	Remove existing railing and guards. Design and install new railing and guards to meet current building code requirement.	$25,000.00 (For design and construction)	
10	Exit doors (x2) clearance (north side)	Poor	Existing depressed pits for the two exit doors require regular maintenance to maintain adequate clearance of the door swing. Riser and tread dimensions do not meet current code requirement. Danger of blockage from ice or snow creates a hazard for emergency egress	Design and modify existing depressed pits to make the exit doors open onto one step with riser not more than 150mm.	$6,000.00 (For design and construction)	

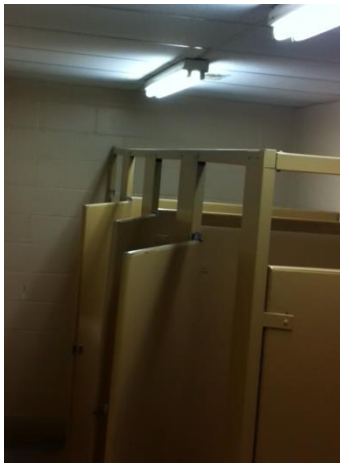
			situations.			
11	Exterior Wall Insulation	Poor	There is no insulation installed in the three exterior walls for the mutlipurpose area. As the concrete blocks wall itself conducts heat to the outside surface, it dramatically increases heating cost for the building.	Install rigid insulation, air barrier, exterior sheathing, metal stud wall with batt insulation, vapor barrier, and drywall panel on the inside face of the exterior walls to prevent water penetration and heat loss.Tape and finish drywall surface. Install new weep holes and flashing in existing concrete block walls. Note: It is recommended that the peeling paint to be removed to avoid blockage of new weep holes.	$480,000.00	
				Sub Total	$ 546,600.00	
				20% Contingency	$ 109,320.00	
				TOTAL Architectural	$ 655,920.00	

Table 4: Interior Finishes and Fixtures

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Interior wall of vestibule at front entrance	Fair	Peeling paint near the base	Prime and apply acrylic latex paint	$500.00	

2	Interior walls (kitchen)	Poor	Paint peeling on all four wall surfaces; direct result of moisture in exterior walls.	Remove existing paint; Prime and apply new paint on all kitchen walls.	$3,000.00	
3	Rusted steel at door frames (north facing stairwell)	Poor	Rusting from water and snow	Replace steel angles and repair damaged concrete blocks	$3,500.00	
4	Paint finish on stairwell wall (south facing stairwell)	Poor	Paint peeling on all four wall surfaces; direct result of moisture in exterior walls	Remove existing paint; Prime and apply new paint	$9,500.00	

5	Paint finish on Community Hall walls (south and east only)	Poor	Paint peeling on all four wall surfaces; direct result of moisture in exterior walls	Remove existing paint; Prime and apply new paint	$26,000.00	
6	Changing room (x4) (men's and women's)	Fair	In fair condition.	Not required.	-	

7	First Floor Washrooms (men's and women's)	Fair	Wall paint is peeling off.	Remove existing wall paint and apply new paint.	$8,500.00	
8	Second Floor Washrooms (Community Hall) (men's and women's)	Fair	Wall paint is peeling off.	Remove existing wall paint and apply new paint.	$8,000.00	
9	Ceiling tiles in community hall, electrical room/storage room, coat check room, and stairwells.	Fair	Water damage of ceiling tile (about 70 tiles).	Replace damaged tiles with new tiles to match existing.	$3,000.00	

10	Janitor room.	Poor	Very poor floor drainage. Bad odor.	See mechanical section for repairs related to damaged plumbing. Clean, prime, and seal floor with epoxy sealer. Prime and pain walls. Install new shelfing, and mop sink.	$5,000.00	
11	Storage Rooms for activity equipment	Poor	Existing storage rooms are constructed of combustible material and without permit.	Remove existing storage rooms.	$3,800.00 (For demolition and waste disposal)	
12	Paint for new wall (Mutlisurface area)	-	Three new walls are required to be painted.	Apply primer and two coats of paint.	$70,000.00	
				Sub Total	$140,800.00	
				20% Contingency	$28,160.00	
				TOTAL Interior Finishes and Fixtures	$168,960.00	

4.4 MECHANICAL

Table 5: Plumbing and Waste Piping

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Two indirect Domestic Hot Water Tanks	Good	Both of the hot water tanks are in good working condition	None required.		
2	All Plumbing Fixtures at ground and 2nd floor	Fair	The water closets and lavatories are in good working condition.	None required.		

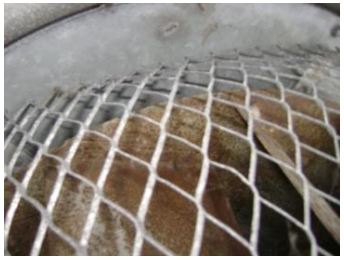
3	Domestic Hot/Cold Water Piping Distributions	Good	There is no double check valve (Backflow preventer) on the main incoming domestic cold water line	Install double check valve on the main incoming domestic water services to meet the OBC Section 7.6.2.6	$ 8,000.00	-
4	Waste Piping	Poor	Underground sanitary drain is backed up to the ground floor janitor room. Recent camera inspection revealed that the pipe broke at 10" downstream from the floor drain. The physical condition of the entire underground waste piping cannot be determined without camera inspection. Due to the age of the pipes, pipe blockages and failures could occur in the near future.	Broken underground sanitary drain must be repaired. Camera inspection is recommended to investigate and analyze the internal condition of the entire underground sanitary piping. The OPCC for repair/replacement for the entire underground sanitary piping will be determined based on the finding from camera inspection	$ 16,000.00 (for camera inspection cost and repair the known broken pipe)	
5	Sanitary drains for kitchen sink in the second floor kitchen.	Poor	The kitchen sink sanitary drain does not equipped with grease interceptor which is required by the OBC section 7.4.4.3	Provide grease interceptor for the kitchen sink	$ 5,000.00	
				Sub Total	$ 29,000.00	
				20% Contingency	$ 5,800.00	
				TOTAL Plumbing and Waste Piping	$ 34,800.00	

Table 6: Heating Ventilation and Air Conditioning (HVAC)

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Four Rooftop HVAC units for the second floor multipurpose room cooling system	Poor	Three out of four units are not functional. One rooftop unit will not provide adequate cooling for the second floor multipurpose room.	Replace all four rooftop HVAC units	$ 80,000.00	
2	All Unit Heaters and Fan Coils in the building, including 2nd floor base board heaters	Good	The unit heaters, base board heaters and fan coil units are in good working condition.	None required.	-	

3	Total of 7 (seven) Natural Gas Fired Infrared Heaters in the hockey arena	Poor	Six out of seven units are not functional. One infrared heater will not provide adequate heating for the arena.	Replace all 6 (six) non functional gas fired infrared heaters with new gas fired infrared heaters.	$ 85,000.00	
4	Kitchen Hood Ventilation system in the second floor multipurpose room	Poor	The second floor kitchen hood is constructed from galvanized steel which appears not to have an adequate thickness (not less than 1.09mm), listed grease filters or a listed label in accordance with NFPA 96. There is no fire suppression system and make up air in the system. The roof exhaust fan and exhaust ductwork for the kitchen hood is not suitable for this type of application and not in accordance with the NFPA 96 requirements	Replace the kitchen hood, exhaust ductwork and exhaust fan with new which will in compliance with the NFPA 96. Provide make-up air unit on the roof with gas fired heater to preheat the outside air. Provide manual pull station, portable fire extinguisher type K and fire suppression system complete, connected to the fire alarm control panel as separate alarm zone.	$ 42,000.00	
5	Kitchen Hood Ventilation system in the ground floor kitchen	Poor	The kitchen hood ventilation system does not have make-up air unit. Negative pressure condition could occur in the main entrance vestibule	Provide make-up air unit on the roof with gas fired heater to preheat the outside air.	$ 25,000.00	-

6	Three gas fired heating boilers	Fair	The boilers are in good working conditions.	None required.	-	
7	Hot Water Heating piping	Fair	There are missing pipe insulation in some pipe sections. Pipe corrosion noted in the mechanical room which should be monitor closely.	Provide pipe insulation on the sections of pipes which have missing insulation.	$ 8,000.00	

8	Circulation Pumps and Sump Pumps	Good	The circulation pumps and sump pumps are in good working condition	Not Required.	-	
9	First Men & Women Public Washrooms Roof Exhaust Fan	Poor	Surface corrosion on the fan impeller.	Replace roof exhaust fan for the public washroom	$ 3,000.00	
10	Two wall mounted propeller exhaust fans for Hockey Arena Ventilation.	Good	The fans are in good working condition.	None required.	-	-
11	Wall mounted centrifugal fan for Garage and vestibule ventilation system.	Fair	The fans are in good working condition.	None required.		

12	Two wall mounted propeller exhaust fans for change and shower room under bleacher.	Fair	The fans are in good working condition.	None required.		
				Sub Total	$ 243,000.00	
				20% Contingency	$ 48,600.00	
				TOTAL HVAC	$ 291,600.00	

4.5 ELECTRICAL

Table 7: Electrical Service

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Main Electrical services: 347/600 Volt, 3-phae 400 Amp Main disconnect switch, and Metering	Good	The components of the main electrical services are in good working condition.	Not required.	-	

2	Electrical Power Distribution and Panels, Disconnect switches, Dry core step-down transformers and panels.	Good	The electrical power distribution components are in good working conditions. Implementing Arch Flash study and safety sign labeling for safeguarding persons or property from hazards associated with electrical installations for shock and arch flash protection is recommended. These requirements indicated on the Ontario Electrical Safety Code 2015, Section 2-306, and CSA Z462-2018, NFPA 70E and ANSI Z535.4.	Perform arc flash study for the electrical distribution system and provide safety signs and labels on all electrical panels and disconnect switches to warn persons of potential electric shock and arc flash hazard present, so employees can be aware of the associated hazards of the equipment and assign appropriate PPE	$ 15,000.00 (Study)	
2a	Ground Floor electrical panel	Poor	Missing bolts on the electrical panel. Clearance in front of the electrical panel is less than 1 meter which is not in compliance with the Ontario Electrical Safety Code.	Relocate the electrical panel.	$ 15,000.00	-
3	Ground Floor Hockey Rink Arena Electrical power distribution relocation	Poor	Plywood enclosure for the existing electrical distribution consisting electrical panels, disconnect switches and dry core transformer will be removed due to combustible property of the enclosure material	The electrical distribution components will be relocated on the concrete exterior wall perimeter of the Hockey rink, approximately 5 meters away from their original location. The existing power conductors will be extended and reconnected to the electrical components at the new location	$ 35,000.00	-
				Sub Total	$ 65,000.00	
				20% Contingency	$ 13,000.00	
				TOTAL Electrical	$ 73,000.00	

Table 8: Life Safety

Item	Element	Condition	Comment	Remediation/Action	OPCC	Photograph
1	Fire Alarm Control Panel (FACP)	Fair	The fire alarm control panel is outdated but it is in good working condition.	None required		
2	Fire alarm devices, i.e.: bell, manual pull station and heat detector	Fair	The fire alarm devices are in good working condition	None Required		
3	Emergency Lighting	Good	The emergency battery pack units with emergency light heads are in good working conditions. Based on the number of emergency lights currently available on site, there are some areas within the building expected to have emergency lighting level below 10 lx which is not in accordance with the Ontario Building Code, Section	New emergency lights should be added to maintain a minimum average lighting level of 10 lx throughout the floors areas, including in the ice rink area.	$ 20,000.00	

			3.2.7.3(1)			
4	Exit Sign	Good	The illuminated exit signs are in good working conditions. The exit signs do not conform to the CSA C860 regulations and to provide energy efficient exit lighting.	Replace existing exit sign with new LED exits sign with “Green Running Man”	$ 6,000.00	
				Sub Total	$ 26,000.00	
				20% Contingency	$ 5,200.00	
				TOTAL Life Safety	$ 31,200.00	

Table 9: Cost Summary

Item	Descriptions	Estimated Total Cost
1	**CIVIL**	
	Paving and Concrete Sidewalks and Curbs	$ 48,000.00
2	**STRUCTURAL**	
	Foundation and Superstructure	$ 36,000.00
3	**ARCHITECTURAL**	
	Building Envelope and Building Accessibility	$ 655,920.00
	Interior Finishes and Fixtures	$ 168,960.00
4	**MECHANICAL**	
	Plumbing & Waste Piping	$ 34,800.00
	Heating Ventilation & Air Conditioning (HVAC)	$ 291,600.00
5	**ELECTRICAL**	
	Electrical Services	$ 73,000.00
	Life Safety	$ 31,200.00
	TOTAL	**$1,339,480.00**

COMMUNITY HUBS IN ONTARIO:

A Strategic Framework & Action Plan

An accessible version of this report is available at:
ontario.ca/communityhubs

Ontario

Dear Premier Wynne,

Thank you for the opportunity to inform the government's approach to moving forward with community hubs as a key element of your vision for Ontario as the best place to work, live and raise a family.

As Special Advisor, I was given the mandate to review provincial policies and develop a framework for adapting existing public properties to become community hubs. With the support of a nine-member Advisory Group and a Cabinet Office Secretariat, I have spent much of the past 90 days immersed in the local 'lived' experience of community hubs. We participated in over 70 stakeholder meetings, read nearly 50 written submissions, reviewed a series of case studies and analyzed hundreds of responses to our online survey. Having been involved in a number of stakeholder engagement processes in the past, I can say I have never before received such a high level of response. The quantity of responses, the substantive thinking that was reflected and the passion behind the submissions was outstanding.

The Province and communities share the perspective that community hubs are vibrant centres of community life that generate economic and social benefits. While the benefits are clear, it is equally clear that one of the barriers to the evolution of community hubs are numerous rules and constraints imposed by the Province, among others. Provincial policies and processes are overly complicated, often fragmented and are driven by ministry-specific requirements rather than being viewed through a lens of community needs and outcomes. This Strategic Framework sets out how the Province can remove its barriers that hinder the adaptation of public properties into community hubs.

It is encouraging to report that we found a significant commitment at every level to drive real change in support of community hubs. All groups, both internal and external to government, have the same goals in mind – fostering strong and vital communities, making services accessible and timely, managing public properties thoughtfully. There are a number of great success stories across the province that have arisen largely due to the work of "local heroes": local champions who have managed to overcome the barriers of jurisdictional and sectoral silos to create delivery models that effectively meet their communities' needs.

In the attached report, we have done our best to accurately and comprehensively represent the wealth of input we received, centred on the question: What can/should the Province do to make community hub development easier and more sensitive to community needs? The report also outlines recommendations and

actions to move the government forward in a co-ordinated manner to empower communities. While many of the issues and ways forward are immediately clear, there are specific policy and process issues that are complex and need detailed thought and analysis. Our work as an Advisory Group must be seen as the beginning of a sustained conversation between communities, municipalities, local groups and the Province.

I cannot close this letter without acknowledging and thanking the Advisory Group – Michelle Baldwin, Michelle DiEmanuele, James Harbell, Richard Joy, Annie Kidder, Lois Mahon, Sevaun Palvetzian, Doug Reycraft, and Enid Slack – for the knowledge, insight and counsel they provided as I developed my report and recommendations. I would also like to thank the Cabinet Office Secretariat on Community Hubs for their ongoing support, tremendous dedication and strategic advice over a very compressed timeline; the hundreds of stakeholders who took the time and energy to contribute meaningful input; and importantly, the Ministers and their staff, Premier's Office staff, the Secretary of Cabinet, Deputy Ministers and their staff for their wealth of knowledge as to how best to leverage the considerable work that is currently underway in the ministries that will support the development and operation of community hubs.

This is a historical and exciting moment for communities, and I look forward to working with you on the implementation of the Action Plan.

Karen Pitre
Special Advisor to the Premier on Community Hubs

Executive Summary

On March 15, 2015, Premier Wynne appointed a Special Advisor on Community Hubs (Karen Pitre) to lead the Premier's Community Hubs Framework Advisory Group. On April 8, 2015, nine individuals were appointed to the Advisory Group, from a cross section of community, municipal government, health care and education sectors (Appendix A: "News Release & Members of the Premier's Community Hub Framework Advisory Group").

The mandate of the Advisory Group is to review provincial policies, research best practices and develop a framework for adapting existing public properties to become community hubs.

Over the past 90 days of its mandate, the Advisory Group has:

- Gathered targeted input from an online survey, written submissions, e-mails and letters
- Consulted with communities and stakeholders to ensure that the framework addresses local needs
- Examined best practices in Ontario and other jurisdictions, and
- Engaged ministries.

We heard from more than 350 organizations and held over 70 meetings with internal and external stakeholders, including sector organizations, local service providers, most provincial ministries and others.

An interactive Community Talk website was launched on April 29, 2015. It was designed to encourage public input, and has since received over 6,000 hits. Ministries notified stakeholders of the online survey, and approximately over 400 responses were received.

Findings from the engagement process indicated an overwhelming interest in and appetite for the development of community hubs. Input provided valuable insights into the challenges and barriers to the development of community hubs, as well as a number of examples of excellent community hubs now in operation across the province.

The Advisory Group's goal is to identify the provincial barriers that stand in the way of the implementation and operation of community hubs so they can be removed. The challenges that community hubs have encountered include: lack of government coordination within the Province and between provincial and municipal governments; conflicting policies; program silos; unco-ordinated

funding; unclear, confusing; time-consuming forms and eligibility criteria; and non-client-focused programs/services.

Issues tend to fall into three general categories:
1. Planning
2. Integrated Service Delivery
3. Community Infrastructure/Public Properties

This report frames these as challenges, but this exercise was really one of exploring opportunities. Key recommendations reflect these opportunities, and are accompanied by suggested concrete actions to achieve each recommendation:
- Provincial Lead for Community Hubs
- Foster Integrated Service Delivery
- Develop a Provincial Strategy for Public Properties
- Remove Barriers and Create Incentives
- Support Integrated and Long-Term Local Planning
- Ensure Financially Sustainable Community Hubs
- Increase Local Capacity
- Evaluate and Monitor Outcomes

Ontario's communities are ready, willing and able to drive change if barriers can be removed at all levels. So while we are extremely pleased to be offering recommendations about how the Province can better enable community hubs, we also hope this will spark change at all levels, and allow for the creation of new partnerships to provide the best service outcomes for Ontarians.

1. Introduction

What is a "Community Hub"?

Community hubs provide a central access point for a range of needed health and social services, along with cultural, recreational, and green spaces to nourish community life. A community hub can be a school, a neighbourhood centre, an early learning centre, a library, an elderly persons centre, a community health centre, an old government building, a place of worship or another public space. Whether virtual or located in a physical building, whether located in a high-density urban neighbourhood or an isolated rural community, each hub is as unique as the community it serves and is defined by local needs, services and resources.

When people think of community hubs, they think of places where people come together to get services, meet one another and plan together. We've heard that community hubs are gathering places that help communities live, build and grow together. No community hub is like another, as each brings together a variety of different services, programs and/or social and cultural activities to reflect local community needs. It is this diversity of activity that allows community hubs to play a critical role in building economic and social cohesion in the community.

1

Why a Community Hub?

Community hubs are a concept that both communities and policy-makers agree make sense. There are currently over 13 million Ontarians, a figure that is projected to increase by 31 percent over the next two decades according to the Ministry of

Finance. Programs and services offered by the government need to keep pace with the complex needs of our growing and diverse population. In addition, the current fiscal environment requires a disciplined focus on finding smarter, better ways to deliver the best possible value for every dollar spent. The Province is faced with both demographic, economic, social and fiscal challenges.

Community hubs offer a number of benefits to respond to these challenges:

- **School-community partnerships** – enhance learning opportunities and well-being for students.
- **Respond to local needs** – community hubs offer a very concrete way that families can access a range of services. The collaboration between different community agencies and service providers puts residents first and is what makes this model truly unique.
- **More efficient and sustainable services** – providing access to local early-intervention programs can also forestall more intensive and costly programs later. Some economies of scale can also be achieved through shared back-office duties. Funders also benefit from co-location of service providers, increasing service access and reducing duplication.
- **Improved access to services and better outcomes for people** – co-locating and/or providing wrap-around services through a community hub provides individuals with access to a broader range of services through increased connectivity leading to improved results. For example, Public Health initiatives in schools can reach 95 percent of children and youth who attend Ontario's 5,000 publicly funded schools (statistics provided by the Ministry of Education).
- **Social return on investment** – integrated service delivery models can save money in other sectors and generate a Social Return on Investment (SROI). There is currently a lack of evidence-based research on community hubs; however, SROI is an emerging model for measuring the social value relative to the resources invested.

Social Return on Investment is a combination of social, financial and environmental value. It's designed to ensure the perspectives of all stakeholders are taken into account. [2]

PARALLEL EXAMPLES TO COMMUNITY HUB MODELS	JURISDICTION	SOCIAL RETURN PER $1 INVESTMENT
Craft Café (Seniors) [3]	Scotland	8.27
Community Champions [4]	Scotland	5.05
Beltline Aquatic & Fitness Centre [5]	Calgary, Alberta	4.84

Minnesota Public Libraries' ROI [6]	United States	4.62
Schools as Community Hubs [7]	Edmonton, Alberta	4.60
Peter Bedford Housing Association [8]	London, England	4.06
Centrepointe Early Childhood Resource Centre [9]	Ottawa	2.39

[Table developed by WoodGreen Community Services]

The benefits of community hubs were validated again and again as we met with and reviewed input from hundreds of organizations and individuals representing a cross section of sectors. What became clear in this exercise is that community hubs embody incredible energy, leadership and creativity at the community level in Ontario. In developing community hubs, these communities are creating unique solutions to issues of accessibility and service delivery at the local level.

The Challenge and the Opportunity

The Province and communities share the perspective that community hubs are vibrant centres of community life that generate economic and social benefits. While the benefits are clear, it is equally clear that there are numerous rules and constraints imposed by the Province, among others. Provincial policies and processes are often complicated, fragmented and are driven by ministry-specific requirements rather than being viewed through a lens of community needs and outcomes.

However, through her mandate letters to ministers and the Speech from the Throne, the Premier has demonstrated the government's commitment to making progress. The good news is that there is already fantastic work that is happening in ministries and in communities across the Province. The challenge will be harnessing and expanding on that good work.

This Strategic Framework sets out how the Province can remove barriers that hinder the adaptation of public properties into community hubs; however, all levels of government and the broader community have a role to play.

2. The Journey So Far

The challenge presented by the Premier was to identify provincial barriers that get in the way of community hub development and to provide recommendations regarding processes and incentives to minimize and/or eliminate these barriers and to capitalize on emerging opportunities.

Our timelines have been very short, the rationale being that there has already been much written, a lot of discussion, and an existing clear and solid understanding as to the value of community hubs.

It did not take long for stakeholders and those involved in community development to find their way to us (See Appendix B: "List of Stakeholder Organizations"). To many, just starting the conversation was a positive signal that the Premier understands that community hubs play a vital role in our communities. The initial response was overwhelming, as it came from all over the Province and from multiple sectors.

While a number of Ministers (Education, Health and Long-Term Care, Municipal Affairs and Housing, Community and Social Services, and Seniors) have community hubs as part of their specific mandate, the interest across government was universal. As part of the process, there were two meetings with the Deputy Ministers' Council, which includes all 24 Deputy Ministers, and further followup with 16 of the Deputy Ministers on specific initiatives to foster the development of community hubs (Appendix C: "List of Ministries Consulted"). All are determined to find a way to assist in the evolution of community hubs. There is a lot of support for better alignment within the government for a cross-ministry approach.

As part of the outreach strategy, ministries informed their stakeholders about the community hubs initiative. We established a designated community hubs website, launched on April 29, 2015 (www.ontario.ca/communityhubs) with a survey and designated email address. The website has received approximately 6,000 hits and over 400 survey responses/submissions to date.

We also received over 50 written submissions with representation across multiple sectors across the province. The quality of the responses is excellent and forms the foundation for both the Strategic Framework and the Action Plan. Clearly people have been thinking about this for a long time.

In addition, individual sectors did their own outreach. This included the Association of Municipalities of Ontario (AMO), Northern Ontario Service Deliverers Association (NOSDA), the Ontario Library Association and Aboriginal representatives. These organizations brought a unique perspective from the north

and rural Ontario. As another example, the Ontario Nonprofit Network (ONN) did a survey of their members. The survey resulted in 545 responses representing a wide cross section of interests with excellent 'lived' experience, information and suggested solutions. In addition, we participated in a webinar with 100 non-profit organizations from across the province.

We also received excellent advice from those who have planned, built, operated and managed community hubs – there is a wealth of knowledge and these community leaders have been an amazing resource.

We have attended numerous conferences and committee meetings, from the Association of Health Centres and the City School Boards Advisory Committee to the Ontario Coalition for Children and Youth Mental Health, as well as others. We also partnered with WoodGreen Community Services and asked them to conduct a review of the evidence base for community hub models (Appendix D: "Building the Evidence").

We attended over 70 stakeholder meetings with sector organizations, ministry officials and local service providers from multiple sectors, including:

- Non-profit
- Municipal
- Health
- Seniors
- Social Services
- Justice
- Education
- Aboriginal
- Francophone

Having said this, we know there are many more organizations that are interested in sharing their experiences and providing advice as to how to build stronger communities. These discussions will continue; this is the start of an ongoing, sustained conversation.

We have also received high-quality written submissions and reports to support our work. We will determine how best to share this information, as there is a wealth of knowledge that we have collected through this process.

3. What We Heard

We have gathered outstanding feedback from a number of rich and diverse communities. In addition, a number of ministries prepared presentations and background materials that provided information on their current programs and mandates. This information provided by ministries reaffirmed that solutions are possible, and, in some cases, work is already underway.

The examples and stories that we heard highlight successful service integration and demonstrate how barriers are overcome with leadership and collaboration. Libraries and daycare are just two of the many successful examples of community hubs:

"Public libraries are an infrastructure already located in many communities. Libraries are considered a friendly, safe space. They already are engaged in assisting people in accessing many of the services/resources that could be delivered through community hubs. They have established community partnerships, offer equity of access, and are staffed with professional information providers/interpreters who are familiar with the communities they serve." - Survey Respondent

Child care in schools is another successful example of a community hub. Access to child care within schools provides family with accessible care and an easier transition when children go onto Full-Day Kindergarten. Child care and early learning are an integral part of serving the needs of families and children. Having child care in schools successfully demonstrates how partnerships can be adapted in schools across the province.

Although barriers do exist, there are currently a large number of community hubs responding to local needs through service integration. We recognize the success stories and outstanding examples of community hubs that currently exist across the province and appreciate the commitment to serving local needs. In the following pages, we have highlighted a few of these examples from across the Province.

Examples of Existing Community Hubs Across the Province

Langs (Cambridge)

Established as an organization in 1978, Langs established a community hub in Cambridge in 2012 that hosts close to 25 service agencies with a wide array of services, including an Early Years Satelite Centre, adult and seniors programs, as well as health and wellness education programs, all within an impressive 58,000 square feet of green space. The Langs Hub co-locates the organization's Community Health Centre with a municipal seniors centre, along with diabetes education, mental health services and social services organizations that housing, employment, education, social support, food security, gender, and environment services to overcome many of the barriers associated with access to care.

The Mount Community Centre (Peterborough)

In August 2013, the Peterborough Poverty Reduction Network, supported by several non- profit community agencies, purchased the Mount St. Joseph convent, which was later renamed "The Mount Community Centre." The building will be transformed into five community hubs, including housing, food, arts and culture, health and social services, and ecology. The Mount Community Centre will provide close to 100 affordable and market- housing units, a performing arts space, a community food service, health and social services, and a community garden. This is a great example of how vacant property can be remodeled into a community asset, with a strong social purpose.

Examples of Existing Community Hubs Across the Province

Fusion Youth Activity and Technology Centre (FYATC) (Ingersoll)

In 2005, the Town of Ingersoll developed a strategic plan for Downtown Revitalization, which focused on addressing the needs of youth over the age of 12. The Town purchased the Sacred Heart Catholic School so that it could be repurposed to serve as the location for the Fusion Youth Activity and Technology Centre (FYATC), for youth between the ages of 12 and 18. This Centre provides various youth programs, including arts, music, sports, cooking, technology, job training, and leadership. The FYATC is municipally owned and operated under the Town's Parks and Recreation department, and is run by an on-site manager.

Le Centre de santé communautaire du Grand Sudbury

Le Centre de santé communautaire du Grand Sudbury (CSCGS) is a model with innovative practices, deep community engagement, and a specific demographic focus. Serving the third largest immigrant francophone population in Canada, CSCGS offers education, employment, and environment services and programs along with its mission to address the social determinants of health. For instance, as per its agreement with the city, CSCGS holds the lead position on homelessness, and in turn coordinates with other service delivery agencies, to avoid service duplication. The four target groups for CSCGS are youth, women, seniors, and hard to reach populations.

Examples of Existing Community Hubs Across the Province

Petawawa

The Town of Petawawa in Eastern Ontario is entering an agreement with the Renfrew County District School Board to cement the concept of community hubs through developing and sharing community recreation facilities. With this agreement, students will have access to curling and hockey rinks, while the town's residents will be able to access gym facilities within the school. A nearby Catholic school will also be able to benefit from this agreement. Working together, these local governments are finding a way to keep administrative burdens low while improving service access for their local citizens.

London Family Centre Service System (City of London)

Family Centres in London, Ontario are community hubs where different service providers can seamlessly offer support to families, under one roof, and in an integrated manner. Here, families not only have easy access to resources and information, they also benefit from parenting and early learning programs, education and child care, public health and wellness, and recreation services. While all Family Centres share the core function of community development and engagement, each centre has also been successful in tailoring its services and programs to reflect its local character and uniqueness.

Examples of Existing Community Hubs Across the Province

The Wequedong Lodge (Thunder Bay)

In 2010, the Wequedong Lodge of Thunder Bay, in partnership with the Ontario Aboriginal Housing Services Corporation (OAHS), acquired and renovated an old school to create 110 units for urban and rural First Nation, Inuit and Métis people accessing health services in Thunder Bay. Wequedong Lodge offers services such as transportation, accommodation, translation and meals. Wequedong Lodge demonstrates how old schools can be repurposed into community infrastructure and create a Social Return on Investment.

Examples of Existing Community Hubs Across the Province

Bathurst-Finch Community Hub (BFCH) (Toronto)

The Bathurst-Finch Hub offers medical as well as community services. On its 16,000 square feet of new build, the hub offers streamlined services to community residents with multiple social services, all in one location. Through a partnership of 11 organizations, with Unison Health and Community Services as the lead, the hub houses a community health centre, a dental clinic, mental health programs, settlement services for newcomers, employment support, and help with legal matters. Moreover, it includes community space, free to the public, where local residents can meet and connect. The Bathurst-Finch Hub is just one of eight community hubs in Toronto, each with its own unique combination of organizations and community space. These eight hubs were developed with financial and organizational support from United Way Toronto.

Strathroy Public Library (Municipality of Strathroy-Caradoc)

The Strathroy-Caradoc Library not only serves as an information, learning and leisure hub for residents, but it also provides office space to Service Canada, Middlesex social services, and may be booked by other community agencies as needed . Middlesex county and the Library Board have partnered to to redesign the way services are delivered to the community, and have trained their librarians to provide enhanced government information. This re-design meets the needs of rural citizens, who may have limited access to public transit and limited ability to visit the closest urban centre.

Despite all these great local examples, stakeholders told us that there are number of barriers that inhibit the development of community hubs. Our stakeholder engagement has been intense over the past 90 days, and has demonstrated there is a real interest and appetite to change the way communities interact with the provincial government. This is what we heard with respect to the challenges:

To assist in understanding the issues that have emerged from the incredibly rich feedback we received, we have organized the responses according to three general categories:

1. Planning
2. Integrated Service Delivery
3. Community Infrastructure/Public Property

The dividing lines between these three categories and the corresponding feedback we received are not hard and fast; the stages and issues overlap. As an example, issues around funding and financing weave through each stage. However, we believe that categorizing the issues in this manner is the right approach to help us move forward.

1. Planning

Stakeholders raised planning time and time again as a central issue. Planning, whether locally or in conjunction with the Province, needs to be co-ordinated, and the right partners need to be at the table. There are two major challenges to co-ordinated planning:

- Need for a provincial community planning table
- Multiple local planning tables

NEED FOR A PROVINCIAL COMMUNITY PLANNING TABLE

The current structure at the Province results in ministry planning that is done vertically, not horizontally. This means that each ministry's planning process is developed for its specific mandate, whether it is Education, Health and Long-Term Care, Children and Youth Services, Aboriginal Affairs, etc. The Premier's Mandate letters to the six ministers to work together to develop a policy that supports the development of community hubs is a first step to bringing the ministries together. These letters, tailored for each minister, contain a list of priorities to be completed over the course of the government's four-year mandate, and each reference to the community hub strategy is slightly different depending on the ministry.

Despite the mandate letters, we have heard that there is currently no single place in government to bring together all community planning that is done at the provincial level, such as planning of infrastructure, long-term care and employment, social supports and training. We also heard that there is a strong support within government to change the way planning is done. But it will require changes in behaviour, policy, and legislation to make it happen. There is a need to remove these barriers and create incentives to make it successful. It will take time and strong leadership.

Leaders of community hubs say they face a daunting landscape of multiple contact points with the Province and a maze of incompatible policies and processes for service delivery integration and capital planning. As a result, agencies report they have to deal with multiple ministries and in some cases, multiple programs within the same ministry - each of which has separate funding agreements and different reporting, accountability and timelines requirements.

MULTIPLE LOCAL PLANNING TABLES

What we heard time and time again is that local communities know best what is needed for their community. Community hubs have developed due to the leadership of "local heroes" based on local needs, and they have faced a variety of challenges.

One of the major challenges identified for local community hubs is leadership and accountability. There is no designated lead for overall community planning; it currently includes municipalities, school boards, social services, health and long-term care agencies, as well as many others. It can be difficult to clarify roles, as community hubs involve these multiple local partners as well as provincial interests. It takes time to determine who should lead the process - "local hero," municipality, non-profit agency or another leader. In cases involving a Community Health Centre, there is a lack of clarity as to whether they are mandated by the Ministry of

Health and Long-Term Care to be the lead agency, but this may or may not be the best role in the local context.

The Local planning is further complicated by the geographical boundaries of school boards, municipalities, Consolidated Municipal Service Managers (CMSM), District Social Services Administration Boards (DSSABs), Local Health Integration Networks (LHINs) and other agencies that do not align. This leads to multiple planning tables, different mandates and complicated relationships. This is also the case when there are geographic boundaries between Northern and Southern Ontario that do not align with the other boundaries. For example, the Parry Sound DSSAB, which is responsible for the management and delivery of human services, must coordinate its local planning for social services across 22 municipalities, two unincorporated territories, and two Local Health Integration Networks. The DSSAB is considered part of Northern Ontario for the purposes of some programs and part of Southern Ontario for others. This is only one such example we heard from municipalities about complicated challenges associated with different provincial boundaries.

Some of the local planning challenges that have also been identified include:

- Lengthy and costly process to:
  - assess the needs of the community
  - identify the services and service providers to meet these needs
  - develop and maintain the partnerships
- Zoning by-laws and differing regulatory regimes conflicting with the establishment of community hubs
- Government funding approval processes that are not aligned and with different eligibility criteria
- School boards with a mandate and a process to look at the education requirements in a community. In the absence of a community lead, they often have the burden to take into consideration the full value of schools as community assets
- No framework to determine the viability of public ownership of surplus property – either for a portion of the site or the entire site
- No inventory of surplus public properties available to local planners and community groups

Currently, the Province is undertaking multiple planning reviews, and it will be important to ensure the provincial interest and local mandate is reflected. There is an opportunity in the context of these reviews to require more integrated local planning.

Some ministries and Infrastructure Ontario (IO) have excellent Geographic Information Systems (GIS) that could be used to enhance capacity to plan community needs. For example, the Ministry of Education's GIS for Early Years programing provides a map that overlays a variety of services and demographics that allows for better service planning.

2. Integrated Service Delivery

Many respondents talked about the importance of going beyond co-location towards truly integrated service delivery. The Province funds several programs and services that could be leveraged or integrated. There are many ministries currently working on integrated service delivery. However, a number of barriers impede the progress towards an integrated service delivery model.

These barriers include:
- Start-up Funding
- Funding Silos
- Transfer Payments and Accountability
- Measuring Inputs, not Outcomes
- Sustainable Funding
- Privacy Legislation
- Local Capacity and Resources

START-UP FUNDING

Despite the demand for integrated services that meet a continuum of need, organizations and agencies face administrative burdens and funding complexities when trying to create a community hub to deliver integrated services. Various organizations have outlined that the costs associated with starting up a community hub do not always account for the costs associated with integrating services.

Some organizations recommend start-up funding to address costs associated with merging services, such as administrative support, leadership roles, long-range planning, service delivery, reporting and accountability, recruitment of staff, training, and ongoing evaluation.

There is recognition that the initial planning stage requires start-up resources. We have identified a few examples where funding is available for this stage of the process. Health Links is an interdisciplinary model of care at the clinical level, which seeks to improve the co-ordination of care for patients, improve patient outcomes and achieve better value for investment. As part of this program, funding was provided for the initial planning stage.

Ontario Trillium Foundation (OTF) has also recognized this as an important requirement for success. OTF is funding seed grants that support projects at the idea or conceptual stage to achieve a priority outcome.

FUNDING SILOS

We heard that individual needs are changing and becoming increasingly complex. Communities require government programs and services that respond to unique individual needs as they evolve and change over time. The continuum of service delivery required in local communities has generated a demand for accessible and integrated services.

Stakeholder feedback and submissions highlight funding silos as a key barrier to partnerships and integration of services with other agencies. Funding silos and their associated complexities have also led to the problem of funding programs rather than outcomes. Government should move away from a one-size fits all approach to service provision and should instead look at streaming clients according to the level and nature of support they require. Standardized approaches to the delivery of services results in ineffective use of program funds.[10]

Funding silos lead to rigid and inflexible funding parameters where agencies and organizations are restricted from integrating services to generate better outcomes. There may also be challenges from the multitude of providers in communities competing for delivery dollars. Often, integration of delivery is seen as leading to job loss as two entities merge resources and staff. Traditional organizations or agencies often take pride in their identity and currently thrive in an environment with specific donations, fundraising activities, or naming rights and prestige. Various groups recommend providing incentives to encourage partnerships between organizations/agencies and eliminate negative perceptions or barriers that prevent groups from coming together to enhance service delivery and outcomes.

Even when partnerships are established, there is still the ongoing challenge of managing the vitality, trust, and communication associated with the partnership. A large number of survey submissions highlight partnerships as an ongoing and complex challenge because each organization/agency has its own culture, identity, structure, priorities, vision, and mandate. Establishing a partnership with a common vision, charter, mandate and priorities, while also allowing space for each individual organization/agency, can be hard to achieve. Various groups suggest that strong leadership and establishing shared agreements between the organizations/agencies from the beginning of a partnership provides a strong and effective way to ensure services are integrated and not just co-located.

Providing greater funding flexibility to community hubs based on outcomes will help address these challenges by removing the program funding requirements that do not allow for service integration. The Province is currently conducting a comprehensive Program Review, Renewal and Transformation of all government programs. This review provides an opportunity for government to review program funding with a view towards supporting greater integration and achieving better client outcomes.

TRANSFER PAYMENTS AND ACCOUNTABILITY

Community hub service providers also face multiple transfer payment agreements and contractual/reporting requirements that can be duplicative and burdensome for the provider. Each program has its own mandate, funding rules, population focus, and delivery structure. In addition, multiple provincial programs from multiple ministries with different reporting timelines, benchmarks and requirements force agencies to spend resources on complicated and time-consuming deliverables that are inconsistent. A predominant theme through our survey feedback was the strong recommendation that consistent and transparent transfer payment agreements should be established across ministries. ONN has suggested the implementation of an integrated umbrella agreement for community hubs that receive more than one provincial funding stream. The government is undertaking a Transfer Payment Administrative Modernization project that is working with ministries to streamline business practices to help reduce administrative barriers for service providers and demonstrate better accountability for public funds.

MEASURING INPUTS, NOT OUTCOMES

In addition, there is no common measurement system. Therefore, even if there are measured outcomes, there is no standardized system that would allow for an analysis of what works and what does not. There is work to be done to develop outcome-focused indicators of success, taking into account the diversity of models and different objectives that apply to community hubs.

As a starting point, the Province has recently undertaken work to develop a framework to support youth outcomes through its Stepping Up Framework that could be used as a model. The Framework outlines a set of 20 outcomes that are designed to support service providers, foundations, community groups, governments, young leaders and families – to better align their work with what research and youth themselves say is important for their success.

SUSTAINABLE FUNDING

While funding in silos can be a problem in terms of community hub development, ongoing funding is also a challenge in terms of sustainability. Many groups have

stated that the long-term viability and flexibility of a community hub depends on its ability to adapt and respond to evolving community needs. This can often involve reallocating resources to achieve better outcomes, such as new integrated programing, data collection/analysis and changes to staffing requirements.

Community hubs are often precluded from including commercial operations to help defray some of their capital and operating costs. Consideration should be given to allowing for commercial space that is compatible with the community hub and serves the local community, and supports the sustainability of the community hubs business model. In addition, there are potential anchor tenants that might be a good fit for a community hub and provide a consistent revenue stream. Provincial opportunities could include Employment Ontario, community courts, Social Justice Tribunals or other provincial service providers that currently lease commercial or standalone space.

PRIVACY LEGISLATION

As organizations/agencies partner and strive towards integrated service delivery, many groups face privacy requirements regarding information sharing. Groups have expressed frustration when trying to provide wrap-around services that have separate guidelines or requirements that keep a client's file/information in separate protected systems for each service the client receives.

We heard that the sharing of personal information among different entities in a community hub can improve services for clients. However, navigating the different rules for protection of personal information can be challenging. We heard from the Ministry of Community Safety and Correctional Services that they are working with the Information and Privacy Commissioner on this issue.

The Ontario Working Group on Collaborative, Risk-driven Community Safety has suggested an approach to improving collaboration between multiple human service entities that could be useful in a community hubs context. Through a Four-Filter Approach to sharing of information, entities are better able to, within existing privacy policy, "identify the need and develop immediate plans for multi-agency interventions…intended to reduce elevated risk situations that, if left unattended, are highly likely to create harm to individuals, families or the community."[11]

LOCAL CAPACITY AND RESOURCES

Organizations and agencies often experience a lack of centralized information or data sharing that would help assess community needs and outcomes. This could serve as an important building block for establishing new community hubs. Many groups would like to see a central place or point of contact that organizations/agencies could go to when considering the development of a community hub.

Many successful community hubs exist across the province and are models that others would like to learn from. Collecting the data and information in one open and transparent place can provide valuable resources and information to those considering a community hub model.

In addition, many groups would go even further than resource sharing. They suggest that a community hubs resource package be developed and include standard template forms for internal community hub operations (e.g., evaluation, planning, and partnership agreements), in addition to application forms that would streamline the funding application process. This could also include multi-stakeholder template agreements for organizations seeking to operate community hubs as partnerships.

While template forms could provide a tangible and consistent process for community hub operations, many groups have identified a need for additional training and resources. Skills training for budget planning, community engagement/consultation, and collaborative partnerships would help groups establish and successfully operate financially sustainable community hubs.

3. Community Infrastructure/Public Properties

Despite the innovation and planning happening on the ground, there are challenges in local communities when it comes to space and infrastructure. In some cases there is excess, underutilized space, and in other cases, there is a lack of space.

The Province has a role to play in this issue as the owner or capital contributor to many public spaces. We have heard about schools in particular, and we know this issue is top of mind for many communities that are facing the difficult decision of whether their school should remain open. While we recognize this issue, in the context of our mandate we see underutilized schools and the community use of schools as part of a larger, systemic planning challenge that requires a multi-pronged approach.

We heard from a number of groups that they had programs ready to offer, and partnerships in place, but could not find appropriate space at the right time. These are the key barriers related to retaining and using public properties for community hubs:

- No Accessible Comprehensive Public Properties Database
- Planning in Silos
- Sale at Fair Market Value (FMV)

- Circulation Process for Surplus Property
- Access to School Space
- Capital Funding for Community Hubs
- Property Management, Liability and Security Issues
- Design of New Buildings

NO ACCESSIBLE COMPREHENSIVE PUBLIC PROPERTIES DATABASE

Many organizations told us they were not aware of public properties that might become available in the future, so they couldn't plan properly to take advantage of the opportunities when they arose. They would like access to an up-to-date inventory of all public properties, including those at the municipal level. Currently the Province maintains a database at Infrastructure Ontario for surplus property, but it does not include a comprehensive inventory that can be accessed by all.

PLANNING IN SILOS

Individual ministries prepare their capital plans based on their ministry needs. This means there is no overall provincial lens to review the inventory of public properties prior to decisions being made to dispose of property that might be surplus to the needs of one ministry. It also means that there is no capital planning that looks at co-location of compatible uses, which could lead to integrated service delivery in a community hub. We also heard that ministries do not have a complete inventory of surplus properties to be used as part of the planning process. One ministry might need what is "surplus" to another ministry, but there is currently no comprehensive inventory of all assets to allow for this level of planning.

SALE AT FAIR MARKET VALUE (FMV)

The current mandate of the provincial government is to sell surplus property at fair market value to ensure taxpayers receive the highest value for the property.[12] Many people and organizations felt that selling public properties at market value does not properly recognize the economic and social value of the services that an asset repurposed for the public good could provide. As it stands now, there is no systematic cost-benefit analysis of the potential value of surplus property from a socio-economic perspective, including the social, recreation, cultural, park land, affordable housing, intensification and health requirements of a community. There is no framework for a comprehensive review to determine the requirement and viability of public ownership of surplus property – either for a portion of the site or the entire site.

Stakeholders told us that in the review of schools, the Province should not discourage the closure of schools altogether. There may be other socio-economic value which is not considered in the current Fair Market Value analysis, and therefore

opportunities may be missed. For example, one organization wanted to buy a school to leverage affordable housing funding, but could not get the financing to pay market value for the school. The need for affordable housing in the community was evident, but there was no way for the property to be "priced" in a way that recognized the broader social value of affordable housing to the community. This planning and broader consideration of socio-economic value is a challenge that should not be borne by the Ministry of Education and school boards alone.

CIRCULATION PROCESS FOR SURPLUS PROPERTY

We heard a number of issues around the circulation of property. There is a limited circulation list and not all potential end users are consistently included (e.g., DSSABs and Aboriginal communities). The other issue is the limited time for review. For schools specifically, we heard that the current process for reviewing schools does not give potential partners/bidders enough time to develop plans and proposals for use of the property.

ACCESS TO SCHOOL SPACE

If a school is being used by a community partner in part of its space, and students are being taught in another part and the school is therefore fully utilized by the community, only the student spaces are funded by the Ministry of Education. Although schools support community use of the space, they often end up subsidizing these uses, and may eventually have to declare the space "surplus" to the needs of education. We heard that it should not fall to the school boards to ensure these community services are being provided and paid for. There needs to be a way to recognize and value these partnerships.

There is no mechanism to assess this space in the school that is used by the community. If permit fees or lease/rent agreements do not fully cover the operating and renewal costs for this community space, it falls to the school board to subsidize the use of this space by community partners. There is a suggestion that a multilateral consultative relationship with the municipality, CMSM/DSSAB, the school boards and the province will provide a way to retain public ownership of schools when there is agreement among the parties that the site should be retained.

This does not mean that some underutilized school properties will not be sold. It does mean that this decision could be made in a more integrated way that allows for the full consideration of the potential school use into the future.

CAPITAL FUNDING FOR COMMUNITY HUBS

We heard from Ontario Nonprofit Network that the provincial government can support community assets by facilitating loans for the non-profit sector. Lending

institutions are often reluctant to loan to non-profits. Infrastructure Ontario already provides a loans program in which organizations in certain nonprofit sectors may qualify. Eligible sectors include narrowly defined community health/social service community hubs and arts training organizations, but many other sectors are excluded.

We heard of many examples where the funding cycles between the ministries were not aligned, and opportunities have been lost because the priority in one ministry is to sell while the other ministry doesn't have funding in the current funding cycle but might need the asset in the future. As an example, one emerging hub told us about losing the opportunity to co-locate a Community Health Centre (CHC) with a school when the CHC's earlier funding year allocation of capital money could not be held to await the new school funding decision.

We heard that the provincial health capital planning process is too long and lacking the flexibility to seize local opportunities as they arise. Once projects exceed a certain cost threshold, other requirements apply, including matching funding, that make it difficult for community hubs to obtain timely funding.

We heard from the Association of Ontario Health Centres that the current rules from the Province that guide the capital process for community health care organizations can be misaligned and too rigid to achieve integrated, person-centred care.

PROPERTY MANAGEMENT, LIABILITY AND SECURITY ISSUES

Once a site is found, we heard that to run a truly integrated community hub that organizations sometime need help finding/funding people to assist with property management. In schools, we heard that there is no one to assume the "property manager" role and it falls to the principal to manage.

"When utilizing schools as community hubs, building management during the months of July and August must be considered, as school principals are the designated site managers. Smaller boards, in particular, do not have large planning departments or the resources to coordinate the community development and ongoing maintenance of substantive hubs."
– Ontario Public School Board Association (Submission)

Many groups, including municipalities and school boards, have noted challenges with forming partnerships in schools. While schools can operate as community hubs, they face significant challenges with security and liabilities associated with community use.

DESIGN OF NEW BUILDINGS

Although many groups talked about repurposing existing public properties, we also heard that assets for the future need to be better designed to respond to the changing needs and demographics of local communities.

For example, while funding is available to integrate child care facilities into new schools, there is often no mechanism to plan for broader community partnerships that might include a multi-use, inter-generational design unless a community partner contributes to the development. Instead, the Province tends to build or fund single-purpose facilities that may not be open in the evenings, on the weekends or during the summer.

POPULATION/GEOGRAPHIC CONSIDERATIONS

We heard clearly that the policy solutions that work for urban and rural settings are very different. Urban settings are subject to increasing density, creating a need for public space to live active, healthy lifestyles. Rural settings are experiencing a decline in population and shifting demographics, which make it more difficult to keep public spaces viable. Access to services is also more difficult in remote, northern and rural communities. Notably, rural communities face the problem of not having access to transportation that could get them to and from the community hub. We heard that it would be helpful to explore the idea that a hub can be a "virtual entity" - a community networking group of people who ensure that all are served well, gaps are identified, and new services are incubated as needed.

It is also important to recognize the specific needs of unique communities including French-language and Aboriginal communities, newcomers, as well as people with disabilities. We heard that French-language communities need a model that is inclusive and of high quality to avoid supporting assimilation.

Similarly, we heard about unique needs and pressures on Ontario's Aboriginal communities. The Aboriginal population in our province is growing at nearly five times the rate of the non-Aboriginal population. Between 2006 and 2011, the total number of people who identify as Aboriginal in Ontario has grown by an estimated 58,935, an increase of 24.3 percent, in comparison to 4.8 percent among non-Aboriginal people. Most Aboriginal people in Ontario live off-reserve, representing 84.1 percent of their total population. This population growth has placed additional service delivery and infrastructure pressures on Friendship Centres to meet the unique needs of urban Aboriginal people.[11]

Seniors are the fastest growing sector of the population. The number of people aged 65 and over is projected to more than double from about 2.1 million, or 15.2 percent of the population, in 2013 to over 4.5 million, or 25.5 percent, by 2041. In 2015, for the first time, seniors will account for a larger share of the population than children aged 0–14.[12]

Many groups indicated that issues of accessibility often prevent access to integrated services in their community – both in terms of physical location as noted above, as well as through the lens of the Accessibility for Ontarians with Disabilities Act (AODA), which aims to achieve accessibility for Ontarians with disabilities by 2025 through a phased approach. The AODA requires all providers of goods and services to comply with customer service standards deigned to ensure people with disabilities can obtain, use, and benefit from them.

4. Strategic Framework

We have learned that each community is unique, with a specific set of resources and a combination of service needs and capabilities. Each successful community hub is therefore a unique solution to local needs. It would be a mistake to attempt to control this community-driven process from the top down. The Province needs to play a collaborative role in facilitating co-ordination and addressing barriers at the provincial level. We have therefore attempted to capture the essence of a community hub in terms of vision, principles and goals. We want these to become a touchstone that provides common ground for continuing conversations and collaboration, as well as direction and guidance to ensure community hubs evolve successfully in Ontario. Based on consultation with community groups and the public service, I am optimistic that there are enormous opportunities available to enhance the role of community hubs in the province.

VISION

"We want Ontario to be the best place to work, live and raise a family, and community hubs are a part of that vision," – Kathleen Wynne, Premier of Ontario

PRINCIPLES

1. Strengthening communities requires provincial leadership
2. Community planning is done locally with strong local leadership
3. Community needs should drive integrated service delivery
4. Community use is an integral part of provincial public property planning
5. Community hubs are built through collaboration and shared responsibility

GOALS

- Co-ordinated Planning: A coordinated system of planning that encourages partnerships and builds on what works
- Client-focused Service Delivery: A delivery system that provides integrated services to people in their communities
- Community Infrastructure/Public Properties: A system that maximizes the use of public properties for community benefit

5. Action Plan

This exercise was really one of exploring opportunities and laying out a plan for action. While we did hear about challenges, one thing was universal – there is overwhelming support for integrated service delivery through community hubs. We see the opportunity to meet some of the challenge with specific fixes that we think can happen relatively quickly. There are also larger systemic challenges that may take longer to implement because they require a change in behaviour and procedures at all levels. In the words of one of the submissions to our website:

"The roots of these barriers may differ, but the first steps to overcoming them are the same: earnest, forward-thinking conversations that build relationships and trust between system partners. These conversations take time, planning and resources."

Overall, this is an exercise in bringing people, groups and processes together.

Based on the feedback we heard and the principles we developed, we propose an Action Plan that allows the Province to have the greatest impact, as an enabler as well as a partner, in achieving our community hub vision. Most of these action items will address issues raised by the full range of community hubs. We have also identified a few actions specific to health and education that we believe can be accomplished quickly.

Our foundational recommendation for provincial leadership is one that is critical for successful implementation of the action plan.

FOUNDATIONAL RECOMMENDATION:
Provincial Lead for Community Hubs

To be successful, there is a requirement for strong provincial leadership to implement the Community Hub Framework and Action Plan. It will be crucial that the government sustain this work in order to generate longer-term benefits to communities throughout the province.

The Provincial Lead would work across ministries to implement the Action Plan and further develop the recommendations. This would require resources and accountabilities to be aligned across ministries to ensure effectiveness of the role, and structural realignment may be necessary.

It will be critical for the Provincial Lead to have relationships with the Treasury Board Secretariat and the Ministry of Finance, as they are responsible for the fiscal plan, ensuring stewardship of public funds, and leading government efforts on accountability, openness and modernization.

Many of our recommendations centre on processes and practices within ministries that were established to deliver services to Ontarians in an effective and accountable way. We know that ministries cannot act alone to solve these issues, and we know that some approaches cannot be changed without a full review of the impact on accountability and the fiscal plan. The Provincial Lead would be responsible for the integration required to implement the Strategic Framework and Action Plan.

Action Item:

- ☐ Formalize a structure to be responsible and accountable within government for overseeing the implementation of the Community Hubs Framework and Action Plan.

1. INTEGRATED SERVICE DELIVERY

Action Items:

- ☐ Establish incentives for agencies/organizations that demonstrate integrated service delivery.
- ☐ Simplify transfer payment accountability requirements to increase funding flexibility and reduce administrative burden for service providers.
- ☐ Work with the Information and Privacy Commissioner to leverage existing work to establish protocols that protect privacy while allowing appropriate sharing of client information.
- ☐ Evaluate the effectiveness of current and planned provincial integrated service delivery projects to examine opportunities as they might apply to community hubs.

2. DEVELOP A PROVINCIAL STRATEGY FOR PUBLIC PROPERTIES

Action Items:

- ☐ Assemble a comprehensive inventory of provincial and provincially supported public property, including those owned by the broader public sector (e.g., Community Health Centres, child care/early learning centres, libraries, elder person centres, affordable housing, schools, hospitals, colleges, universities, etc.).
- ☐ Using this inventory, conduct analysis on opportunities for service delivery integration and co-location.
- ☐ Change the disposition process for surplus public properties to review public needs and explore the feasibility of potential partnerships before a final decision is made.
- ☐ Review the government mandate to require disposition of public properties at fair market value, including those owned by the broader public sector, and develop methodologies for conducting cost-benefit analysis of surplus

properties that consider broader social and economic benefits to the communities.

- ☐ Build a broader and more complete realty circulation list and ensure sufficient time to review surplus properties before disposition.
- ☐ Develop measures to analyze the community use of provincially supported properties to better inform decision-making on surplus space.
- ☐ Implement a short-term strategy for schools (Appendix E: "Short-term Strategy for School Property").

3. REMOVE BARRIERS AND CREATE INCENTIVES

Action Items:

- ☐ Continue to work with stakeholders to identify and find solutions to additional barriers that prevent the establishment of community hubs.
- ☐ Simplify the capital approval process for community health agencies (e.g., Community Health Centres) and offer flexibility in design, funding and operating requirements to enable programming that reflects community needs.
- ☐ Increase Local Health Integration Networks' capital approval authority for community health projects.
- ☐ Review the liability, security, access and property management issues to maximize use of school space by community partners.

4. SUPPORT INTEGRATED AND LONGER-TERM LOCAL PLANNING

Action Items:

- ☐ Require integrated planning to ensure client-focused service delivery regardless of jurisdictional boundaries (provincial, municipal, school board, health and agency).
- ☐ Working with the municipal sector and local stakeholders, explore opportunities to use provincial policy levers and legislation (e.g. Provincial Policy Statement, Growth Plan for the Greater Horseshoe, Growth Plan for Northern Ontario The Municipal Act, and the City of Toronto Act) to strengthen and better enable community hubs.
- ☐ Explore how public buildings can be designed and built with greater consideration for multi-use, inter-generational and long-term requirements to meet the needs of today and tomorrow.

5. ENSURE FINANCIALLY SUSTAINABLE COMMUNITY HUBS

Action Items:

- ☐ Explore the use of innovative financing models for community hubs, including social enterprise, social finance (e.g., Social Impact Bonds), public/private partnerships, and Alternative Financing and Procurement (AFP).

- ☐ Revise the Infrastructure Ontario Loan Program to expand eligibility.
- ☐ Leverage provincial programs (e.g., ServiceOntario and Employment Ontario) as 'anchor tenants' to support community hub establishment and long-term sustainability.
- ☐ Review options to leverage municipal financial tools including business incubators, municipal capital facilities agreements and development charges, to support the creation of new community spaces.

6. INCREASE LOCAL CAPACITY

Action Items:

- ☐ Engage experts and local practitioners to develop a resource centre for service providers to support the establishment of community hubs and provide training for providers.
- ☐ To support local planning activities, and in keeping with the Province's Open Government initiative, make government data such as demographic, GIS mapping, service planning information and the surplus public properties inventory publicly available online.
- ☐ Explore opportunities to support virtual community hubs.

7. EVALUATE AND MONITOR THE OUTCOMES

Action Item:

- ☐ Working with the Treasury Board Secretariat's new Centre of Excellence for Evidence-Based Decision Making, develop an outcomes-based evaluation and measurement structure.

6. Conclusion

This Strategic Framework and Action Plan represents a concrete action plan in expanding community hubs in Ontario. It reflects the consensus of stakeholders that community hubs contribute tremendous value to local residents, value that can be measured and demonstrated in both social and economic terms. It also reflects the variety and depth of stakeholder concerns and identifies possible solutions to many of the barriers that impede the development of community hubs. And finally, it reflects the concentrated effort at the Province, which recognizes the value of delivering services that benefit communities.

It is clear the Province has a crucial role to play in changing the policy and planning environment to facilitate the further development of community hubs. This Strategic Framework and Action Plan offers a way forward, and includes specific actions to provide leadership, remove barriers, build capacity and ensure the success of existing and future community hubs. Once reviewed by government, this Strategic Framework and Action Plan should become an initial road map to guide further planning and implementation of a 'whole of government' approach to support the evolution of community hubs across the province.

[1] Anishnawbe Health Toronto, Aboriginal Hub Design Concepts, Presentation April 22-25, 2015

[2] www.sroi-canada.ca/methodology/calculator.html

[3] www.socialvaluelab.org.uk/2012/03/craft-cafe-sroi-report-launch<http://www.socialvaluelab.org.uk/2012/03/craft-cafe-sroi-report-launch

[4] http://communitychampionsuk.org/wp-content/uploads/2014/08/FullSROIreportCommunityChampions-No-Appendices-FINAL.pdf

[5] Research done by SiMPACT, the SROI-accredited agency working with SROI International www.simpactstrategies.com/LiteratureRetrieve.aspx?ID=171987<http://www.simpactstrategies.com/LiteratureRetrieve.aspx?ID=171987

[6] http://melsa.org/melsa/assets/File/Library_final.pdf

[7] Research done by Leger Marketing Research Intelligence Group from Montreal Mapsab.ca/downloads/events/april/2014/SchoolsAsHUBS.pdf

[8] http://peterbedford.org.uk/wp-content/uploads/2014/09/Peter-Bedford-Housing-Association-Value-for-Money-Statement-2013-14.pdf

[9] Burrett, John. Social Return on Investment: Centerpointe Early Childhood Resource Centre. Unpublished. Haiku Analytics. Ontario (February 2013).

[10] KPMG International and The Mowat Centre. The Integration Imperative: Reshaping the delivery of human and social services. (2013). Retrieved 2015, from http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/integration-imperative.pdf p.22.

[11] Ontario Federation of Indigenous Friendship Centres, June 2014, p. 4.

[12] www.fin.gov.on.ca/en/economy/demographics/projections/

Appendices

Appendix A. News Release & Members of the Premier's Community Hub Framework Advisory Group
Appendix B. List of Stakeholder Organizations
Appendix C. List of Ministries Consulted
Appendix D. Building the Evidence
Appendix E. Short-term Strategy for School Property

Appendix A
News Release & Members of the Premier's Community Hub Framework Advisory Group

Premier Wynne Appoints Community Hubs Advisory Group

Experts to Help Develop Innovative Framework to Revitalize Public Spaces

April 8, 2015 1:00 P.M.

Ontario has appointed nine members to the Premier's Community Hub Framework Advisory Group. The group will work with the Premier's Special Advisor, Karen Pitre, to review provincial policies and develop a framework for adapting existing public properties to become community hubs.

A community hub can be a school, a neighbourhood centre or another public space that offers co-ordinated services such as education, health care and social services.

The nine members announced today have specialized knowledge and expertise in a variety of areas, including education, finance and community building. They will consult widely with community groups and other partners to harness a broad range of perspectives which will inform the government's approach to moving forward with community hubs.

Providing high-quality, accessible and efficient community services is part of the government's plan for Ontario. The four-part plan is building Ontario up by investing in people's talents and skills, building new public infrastructure like roads and transit, creating a dynamic, supportive environment where business thrives, and building a secure retirement savings plan.

QUOTES

"Community hubs are an important part of our efforts to make public services more accessible and efficient for the people of our province. I want to thank all of the members of the advisory group for lending their expertise to this project. With their help, we can ensure our framework will drive economic competitiveness, foster social cohesion and make communities more liveable." - Kathleen Wynne / Premier of Ontario

QUICK FACTS

- The Premier appointed Karen Pitre as Special Advisor on Community Hubs and Chair of the advisory group on March 20, 2015.
- There are different models for community hubs, both in Ontario and other jurisdictions. One of the key activities of the group will be to review experience and evidence from these areas and highlight best practices.
- In her mandate letters, the Premier directed several ministers to participate in the development of a policy on community hubs.

LEARN MORE

- Read more about Karen Pitre, Chair of the advisory group

Members of the Premier's Community Hub Framework Advisory Group

April 8, 2015 12:55 P.M.

KAREN PITRE
Karen Pitre has extensive stakeholder consultation, strategic planning and project management experience. Karen's experience includes working at Metrolinx as the consulting Executive Director of Electrification, a complex project involving stakeholder consultations developed with the input from a Community Advisory Committee[7] . Karen is also a steering committee member of Community Assets for Everyone, which formed in spring 2013 with a vision of creating the appropriate legislative, political and infrastructure environments to establish Ontario's schools as hubs to support and strengthen the health of Ontario communities.

Karen has also worked with the Toronto District School Board-Toronto Lands Corporation where she developed a framework for stewardship of surplus capital assets. In this role, she managed consultations with key stakeholders including the Ministry of Education, Toronto District School Board trustees and staff, as well as community groups. She has worked with all three levels of government, including as part of her work with the Toronto 2008 Olympic Bid and with Waterfront Toronto. Karen was also the Founding Chair of the Toronto Sports Council.

She has a LL.B. from the University of Windsor and a Bachelor of Applied Science in Chemical Engineering from the University of Toronto.

ENID SLACK
Dr. Enid Slack is the Director of the Institute on Municipal Finance and Governance at the Munk School of Global Affairs at the University of Toronto. She has been working in the municipal finance field for over 35 years.
Enid was a member of the Who Does What Panel in 1996 and co-chaired the Learning Opportunities Grant Expert Panel for the Ontario Ministry of Education and Training in 1997. She is currently a member of the Advisory Committee of the Ontario Municipal Performance Measurement Program and the Advisory Committee of the International Property Tax Institute.

Enid received her B.A. in Economics from York University, and an M.A. and Ph.D. in Economics from the University of Toronto. In 2012, Enid was awarded the Queen's Diamond Jubilee Medal for her work.

MICHELLE DIEMANUELE

Michelle DiEmanuele is President and CEO of Trillium Health Partners. She has built a career in both public and private sectors, and is known for her ability to lead large, complex organizations through periods of significant change and cultural transformation. She has expertise in human resources management, information technology, business process reengineering, stakeholder management, strategy development, government relations and operations.

Michelle is in the Hall of Fame of Canada's Top 100 most Powerful Women and has been recognized as a Top 40 under 40. She also serves on a number of Boards and Councils.

DOUG REYCRAFT

Doug Reycraft was a Councillor and Reeve in the Village of Glencoe between 1971 and 1985, and served as a Warden of Middlesex County. From 1985 to 1990, Doug served as a member in the Legislative Assembly of Ontario. Doug also served as Mayor of Southwest Middlesex from 2000 until 2014.

Doug has also served as chair of the Middlesex-London Board of Health, chair of the London Middlesex Housing Corporation, president of the Association of Municipalities of Ontario, chair of the Board of Directors of the Municipal Employers Pension Centre of Ontario and co-chair of the National Municipal Rail Safety Working Group of the Federation of Canadian Municipalities.

MICHELLE BALDWIN

Michelle Baldwin is Executive Director of Pillar Nonprofit Network, and has extensive experience in nonprofit management, social innovation, communications, and fundraising.

Most recently, Michelle has been a key driver of the Social Innovation Shared Space in London. Michelle previously held positions with the Brain Tumour Foundation and Thames Valley Children's Centre. She currently serves on the Board of the Ontario Nonprofit Network, and serves on the London Health Sciences Community Advisory Council and is the Peace Bus Coordinator for Children International Summer Villages. Michelle previously sat on the board of Huron University College where she was the chair of the Campus Community Advisory Committee.

Michelle holds a Masters degree in Educational Psychology, a Bachelor of Arts degree in Psychology, as well as a Communications and Public Relations Professional Certificate from Western University. Michelle also holds a Volunteer Management Certificate from Fanshawe College.

SEVAUN PALVETZIAN
Sevaun Palvetzian is CEO at CivicAction, a Toronto-based group that brings together leaders from all sectors to tackle social, economic and environmental challenges. Before CivicAction, Sevaun held several senior executive roles within the Ontario Government including leading the Ontario Place Revitalization.

Prior to the Ontario government, Sevaun worked at the University of Toronto, the World Bank Group, and Presidential Classroom, a Washington D.C. –based civic education organization. Outside of work, she has been involved in a wide range of civic initiatives serving as Chair of the Board of Directors of Katimavik Youth Services and as a member of the Advisory Board to the University of Toronto's School of Public Policy and Governance. Sevaun currently sits on the Board of Directors of the Toronto Region Immigrant Employment Council and NPower Canada.

Sevaun completed the Ivey Executive Program at the Richard Ivey School of Business and has an M.A. in History from the University of Western Ontario.

ANNIE KIDDER
Annie Kidder is the Executive Director and one of the founders of People for Education, which is an independent organization working to support public education in Ontario's English, Catholic and French schools.

Annie is the recipient of numerous awards and has spoken about public education at conferences across Canada, in Europe and Africa. She is regularly quoted in the media as an expert on education issues.

LOIS MAHON
Lois Mahon was the former Executive Director of Child and Community Resources, a large multi-service non-profit children's service agency serving the whole North district.

During her career, Lois has been involved provincially in the development of new initiatives and advisory groups related to early years, special needs, and autism. Lois was also appointed to the Child and Family Services Review Board and was Chair of the City of Greater Sudbury's Best Start Network.
Lois was on the Transitional Council for the College of Early Childhood Educators and is its founding President. In that role, she currently sits on the Provincial Early Learning Advisory Group and the Minister of Education's Education Partnership Table.

RICHARD JOY

Richard is Executive Director of the Urban Land Institute, a non-profit education and research institute with a mission of providing leadership in the responsible use of land and in sustaining and creating thriving communities worldwide.

He has 20 years of urban leadership across municipal and provincial government and the private sector. Richard was Senior Policy Advisor to the Minister of Municipal Affairs and was the lead advisor on the City of Toronto Act, 2006 and key advisor on numerous major legislative reforms, including the Greenbelt Act and the Planning Act.

Richard has also served as Vice President, Policy and Government Relations for the Toronto Region Board of Trade.

JAMES HARBELL

Jim Harbell is a partner at Stikeman Elliott. He is also co-chair of the firm's Energy Group, member of the National Partnership Board, head of the Toronto Real Estate Department, and senior member of the Public-Private Partnerships/Infrastructure Group.

Jim has considerable experience providing strategic advice in a broad range of matters involving real estate development, mergers and acquisitions in the energy and infrastructure areas, regulatory approvals and related project finance matters.

Jim is a Certified Specialist in Environmental Law by the Law Society of Upper Canada. He has an LL.B. from Osgoode Hall Law School.

Appendix B
List of Stakeholder Organizations

A Child's World
Afghan Association of Ontario
African Community Services of Peel
African Training & Employment Centre
Agincourt Community Services Association
AIDS Committee of Toronto (ACT)
Algoma District Services Administration Board
Amelia Rising Sexual Assault Centre of Nipissing
Andrew Fleck Child Care Services
Anishnabeg Outreach Inc.
Anishnawbe Health Toronto
Annisaa Organization of Canada
Anti-Hunger Coalition Timmins
Applegrove Community Complex
Arnprior Public Library
Arraymusic
ArtsBuild Ontario
Artscape Creative Spaces
Assault Response & Care Centre
Association of Municipalities of Ontario
Association of Ontario Health Centres
Aurora Public Library
Autism service organization
Belka Enrichment Center
Best Start Leeds and Grenville
Bibliothèque publique de Moonbeam
Big Brothers Big Sisters of Leeds and Grenville
Big Brothers Big Sisters of Toronto
Billings Public Library
Birchmount Bluffs Neighbourhood Centre
Bkejwanong First Nation Public Library

Black River-Matheson Public Library
Bloor St. Culture Corridor
Bloordale Community Association
Blue Mountains Public Library
Bonnechere Union Public Library
Braeburn Neighbourhood Place
Brampton Library
Brantford Sign
Brock Community Health Centre
Brockville Public Library
Bruce Grey Child and Family Services
Burk's Falls, Armour & Ryerson Union Public Library
Caledon Community Services
Cambridge Council on Aging
Canadian Council of Muslim Women
Canadian French Education
Canadian Hearing Society
Canadian Mental Health Association
Canadian Mental Health Association, Muskoka Parry Sound Branch
Canadian National Exhibition Association
Canadian Parents for French (Ontario)
Canadian Union of Public Employees (CUPE) 4400
Catholic Crosscultural Services
Catholic Family Services of Durham
Catholic Principals of Ontario
Centennial College, Community Employment Services
Central Community Health Centre
Centre for Education & Training
Centre for Immigrant and Community Services (CICS)
Centre Francophone de Sault Ste. Marie

Chair of Advisory Panel on Toronto District School Board
Champlain Township Public Library
Chatham-Kent Public Library
Chatham-Kent Victim Services
Child & Community Resources
Child Care Algoma
Childreach
Children Services Division Durham Region
Children's Treatment Centre of Chatham Kent
Christian Horizons
Citizens for Affordable Housing York Region
City Council School Board Committee
City of Ottawa Community & Social Services Department
City of Toronto
Civic Action
Clarence-Rockland Public Library
Clearview Public Library
Coalition for Children and Youth Mental Health
Cochrane Child Care Centre
Cochrane Public Library
Community Door
Community Foundation Grey Bruce
Community Heath Centre
Community Innovation Lab
Community Living Campbellford/ Brighton
Community Living Elgin
Community Living Haliburton County

Community Living Huronia and Community Networks of Specialized Care
Community Living Kincardine & District
Community Living Toronto
Community Living York South
Community Opportunity and Innovation Network Inc.
Community Power Northumberland Co-operative Inc.
Compass Early Learning and Care
Conestoga College Career Centre - Employment Ontario Employment Service Provider
Cornerstone Family Violence Prevention Centre
Council of Ontario Directors of Education
Country Roads Community Health Centre
County of Renfrew Child Care
Crossing All Bridges Learning Centre Inc.
Daniels Corporation
Davenport Perth Neighbourhood and Community Health Centre
DeafBlind Ontario Services
Deseronto Public Library
Dilico Anishinabek Family Care
Distress Centre of Ottawa & Region
District of Nipissing Social Services Administration Board (DNSSAB)
Dixon Hall Neighbourhood Services
Doorsteps Neighbourhood Services
Dovercourt Recreation Association

DRIVEN
Drouillard Place
Drum Artz
Dryden Public Library
Dufferin County Community Services
Dundas Community Services
Durham District School Board
Durham Region Employment Network
East Metro Youth Services
Eastminster United Church
Elliot Lake Public Library
Employment for People with Disabilities
Employment Ontario
Englehart Public Library
Epilepsy Halton Peel Hamilton
Essa Public Library
Etobicoke Community Council
Etobicoke Youth Network
Eva Rothwell Resource Centre
Evergreen City Works
Family & Children's Services of Guelph and Wellington County
Family Resource Centre
Family Services Windsor-Essex
Family Space Quinte Inc.
FASworld Toronto
Federation of Ontario Public Libraries
Finance for Good
FOCUS Community Development Corporation
Fort Erie Public Library
Front of Yonge Township Library
Frontier College
Gateway Centre for Learning

Georgian Bay Township Public Library
Glengary Interagency Group
Go Green Cricket & Sports Field
Gravenhurst Public Library
Grey Bruce Public Health
Guelph Community Health Centre
Halton Multicultural Council
Halton Our Kids Network
Hamilton Public Library
Harbourfront Community Centre
Hastings Highlands Public Library
Headwaters Communities in Action
Health Access Centre
Healthy Minds Canada
Heartwood House - Au coeur de la vie
Hesperus Village
Hockley Seniors & Community Hall
Human Services Agency Valoris in Prescott-Russell
Humber College Art Gallery and Collection
Huron County Library
Idea Exchange (formerly Cambridge Public Library)
Infertility Network
Information Orillia
Inn From The Cold
Innisfil Public Library
Institute of Southern Georgian Bay
Inter Faith Homes Group
Interdivisional Team and Inter-agency Team for City School Committee
International Resource Centre for Performing Artists
KCWA Family and Social Services

Kenora Public Library
Keystone - Child, Youth & Family Services
Kirkland Lake Public Library
Kitchener Waterloo Ki Aikido Club
Knollcrest Lodge
Koala Place
La Fondation canadienne pour le dialogue des cultures
LAB B Coworking
Lambton County Developmental Services
Lambton County Library
LAMP Community Health Centre
Langford Conservancy
Langs Community Hub
Lansdowne Children's Centre
l'Assemblée de la francophonie de L'Ontario
Leamington District Memorial Hospital
Learning Disabilities Association of Halton
Learning Enrichment Foundation, The
Leeds and the Thousand Islands Public Library
Legal Aid Ontario
Les services à l'enfance Grandir ensemble
Link Community Connection Centre, Town of Georgina
Local Health Integration Network
Manor Park Community Council
March of Dimes Canada
Markham Public Library
Markham Region Community Health and Social Service Hub

Markstay Warren Public Library
Massey & Township Public Library
Maxville Manor
Maytree Foundation
McGarry Public Library
Mental health agency - Employment Support Agency
Métis Nation of Ontario
Middlesex County Library
Midland Public Library
Miles Nadal Jewish Community Centre
Mississauga First Nation Library
Mothercraft
Mount Community Centre, The
MyWomenSupport.com
Nation Municipality Public Library
National Reading Campaign
New Path Youth & Family Services
New Tecumseh Public Library
Newcomer Centre of Peel
Newmarket Public Library
Niagara Regional Native Centre Adult Literacy
Nipigon Public Library
Noojmowin Teg H.C.
North Algoma Literacy Coalition
North Hastings Children's Services
North Lambton Community Health Centre
North of Superior Counselling Programs
North York Women's Shelter
Northern Ontario Service Deliverers Association
Nourish and Develop

Oak Park Neighbourhood Centre
O'Hara Volunteers Association
Ontario Arts Council
Ontario Association of Children's Rehabilitation Services
Ontario Seniors' Secretariat Liaison Committee
Ontario Association Supporting Individuals with Special Needs
Ontario Catholic Trustees Association
Ontario Coalition for Children and Youth Mental Health
Ontario Early Years Centre Sarnia-Lambton
Ontario Federation of Indigenous Friendship Centres
Ontario Long Term Care Association
Ontario Municipal Social Services Association
Ontario Museum Association
Ontario Native Women's Association
Ontario Network of Employment Skills Training Projects (ONESTEP)
Ontario NonProfit Network
Ontario Psychological Association
Ontario Public School Boards' Association
Ontario Secondary School Literacy Course
Ontario Secondary School Teachers' Foundation
Ontario Trillium Foundation
Ontario Urban Forest Council
Ontario Works - District of Sault Ste. Marie Social Services Administration Board

Ontario Works - Oxford Human Services
Orchestras Canada
Ottawa Community Immigrant Services Organization
Parents for Community Living K-W Inc.
Parks and Recreation Ontario
Parry Sound Public Library
Pathways to Education Canada
Peel Multicultural Council
Peterborough AIDS Resource Network
Peterborough Communication Support Systems
Peterborough County City Health Unit
Peterborough Social Planning Council
Place Interactive
Places for People
Port Colborne Public Library
Port Hope Public Library
Powassan & District Union Public Library
Project READ Literacy Network
Punjabi Cultural Society
Quality in Lifelong Learning Network
Rainy River District School Board
Ralph Thornton Centre
Region of Peel
Registered Nurses' Association of Ontario
Rideau Lakes Public Library
Riverdale Immigrant Women Enterprises
Rural Family Resource Centre/Best Start
Rural Health Solutions

Sarnia Lambton Workforce Development Board
Sault St. Marie Best Start Network
Scarborough Centre for Healthy Communities
Scarborough Swim Club
School of the Photographic Arts: Ottawa
Schroeder & Schroeder Inc.
SD&G County Library
Seneca College
Seniors Network - Blue Mountains
Sibi Employment & Training
Sickle In Me Foundation, The
Simcoe Community Services
Simcoe County District School Board
Sioux Lookout Public Library
Social Justice Tribunals
Social Planning Council Kitchener-Waterloo
Social Planning Council of Kingston and District
Social Planning Council of Sudbury
Social Planning Toronto
Social Services Network
Sound Times Support Services
South Essex Community Council
South Georgian Bay Community Health Centre
South Muskoka Sailing Club
Space Coalition
St. James Town Community Corner
St. Stephen's Community House
The Storefront
Success Beyond Limits
Sudbury Children Services

Supporting Performing Arts in Rural Communities
Tamarack Institute for Community Engagement
Tecumseth Area Historical Society
Teddy Bear Day Care
Temiskaming Shores Public Library
Terrace Bay Public Library
Thames Valley District School Board
The District of Thunder Bay Social Services Administration Board
The Gateway Hub
The Regional Municipality of Durham
The Regional Municipality of York
Thinking Rock Community Arts
Thorncliffe Neighbourhood Office
Thunder Bay Public Library
Tillsonburg and District Multi Service Centre
Tillsonburg Community Services Initatives
Times Change Women's Employment Service
Timiskaming Home Support /Soutien à domicile
Tiny Tots Co-operative Nursery School of Aldborough Inc.
TOPS Club
Toronto Artscape Inc.
Toronto Catholic District School Board
Toronto Centre
Toronto District School Board
Toronto Lands Corp.
Toronto Neighbourhood Centres
Toronto Public Library
Toronto Spartan Volleyball League

Toronto Sports Council
Toronto Youth Cabinet
Township of Russell Public Library
Township of Seguin Public Library
Township of South Algonquin Public Library
Trent Lakes Public Library
Trillium Housing Non Profit
Tweed Public Library
Tyendinaga Township Public Library
Unemployed Help Centre of Windsor Inc.
Unison Health and Community Services
United Church of Canada, The
United Way - Caledon Community Service
United Way Kitchener Waterloo & Area
United Way of Chatham-Kent
United Way Toronto & York Region
United Way of Peel Region
University of Toronto
Valoris for Children and Adults in Prescott-Russell
Vaughan Public Libraries
VCCS Employment Services Inc.
Victim Services Toronto
Waterloo Infant Toddler Daycare Association
Wawa Public Library
Welcome Home Refugee House

Wellington County Learning Centre
Wellington-Dufferin-Guelph Public Health
Wesley Urban Ministries
West Neighbourhood House, formerly St. Christopher House
West Scarborough Neighbourhood Community Centre
Whitchurch-Stouffville Public Library
Women's Rural Resource Centre
WoodGreen Community Services
Woodstock and Area Community Health Centre
Woodstock Public Library
Woodview Management Consultants
WorkInCulture
Working Women Community Centre
YMCA-YWCA of the National Capital Region
Yonge Street Mission, The
York Region Centre for Community Safety
York Region Community Information and Volunteer Centre
Young Men's Christian Association (YMCA) of Niagara
Young Men's Christian Association (YMCA) of the Greater Toronto Area
Young Voices Toronto Children's Choir
Young Women's Christian Association (YWCA) Employment Ontario Centre
Youth Diversion Program

Appendix C
List of Ministries Consulted

Ministry of Aboriginal Affairs
Ministry of Agriculture, Food and Rural Affairs
Ministry of Children and Youth Services
Ministry of Citizenship, Immigration and International Trade
Ministry Community and Social Services
Ministry of Community Safety and Correctional Services
Ministry of Economic Development, Employment and Infrastructure
Ministry of Education
Ministry of Finance
Ministry of Government and Consumer Services
Ministry of Health and Long Term-Care
Ministry of Municipal Affairs & Housing
Ministry of Tourism, Culture and Sport
Ministry of Training, Colleges and Universities
Ontario Seniors' Secretariat
Office of Francophone Affairs
Treasury Board Secretariat

Appendix D
Building the Evidence

Building the Evidence Base: The foundation for a strong community hub

Community hubs are an idea that both community and policy-makers agree make sense. Reports, conferences and symposiums have all addressed some of the many reasons that they do. This appendix will review some of the evidence for this.

METHOD

With the tight timelines set out for this work, WoodGreen Community Services did a rapid evidence review analysis on community hubs case examples and best practices. This approach was appropriate (1) given the general consensus that hubs are a community benefit and (2) the short timelines for the development of the framework. As evidence was collected, it was summarized and fed to the Special Advisor, Cabinet Office and the Advisory Group.

The definition used for "Community hub" was broadly inclusive, crossing government, the non-profit and private sectors, including neighbourhood centres, business incubators and community schools, where multiple services were offered in a single location with the intention of serving multiple or complex needs. Each case example studied incorporated some form of co-ordinated programming and open community access (although some hubs targeted specific populations). Broader public sector organizations, such as libraries and recreation centres, were not included unless they explicitly described a hub model.

The evidence review involved collating examples of hubs already in operation across the province and other jurisdictions through web-based searches and key informant interviews. The compiled evidence was fed back, on key topics such as the elements of successful hubs or their social return on investment (SROI) in the form of document reviews, report summaries, case studies, and presentations of thematic conclusions.

The focus of this review was guided by the questions set out at the start by the Special Advisor:

1. What works?
2. What are the barriers?
3. And what can do the Province do to support this work more systematically?

This appendix provides a summary overview of these findings.

WHAT WORKS?

Across the province and around the world, community hubs have emerged as a policy solution and as an important way to meet critical local needs and preserve community assets. Community hubs are one of those rare interventions driven both by the grassroots and by the "grasstops."

Current Hub Initiatives

A rapid scan of community hubs within the province revealed close to 60 examples in communities across Ontario, in rural, suburban and urban neighbourhoods which are already established or in the planning stages. A preliminary mapping follows:

HUB	CITY	LOCATION	COMMUNITY	SECTOR	BUILDING FORM
Common Roof	Barrie	Central Ontario	Low density (town, suburb)	Community	Rebuild
David Busby Centre	Barrie	Central Ontario	Urban	Community	
W & M Edelbrock Centre	Dufferin County	Central Ontario	Low density (town, suburb)	Community	Rebuild
Bronson Centre	Ottawa	Eastern Ontario	Urban	Other	Rebuild
George Street Hub	Peterborough	Eastern Ontario	Low density (town, suburb)	Community	Rebuild
Hintonberg Hub	Hintonberg	Eastern Ontario	Rural	Health	Rebuild
Hub Ottawa	Ottawa	Eastern Ontario	Urban	Employment/ Entrepreneur	
Petawawa Civic Centre & Renfrew District facilities co-sharing agreement	Petawawa	Eastern Ontario	Low density (town, suburb)	Government	New Build
Prince of Wales Public School	Peterborough	Eastern Ontario	Low density (town, suburb)	Community	
Shannon Park & Rideau Heights Community Centre	Kingston	Eastern Ontario	Low density (town, suburb)	Recreation	Rebuild
The Mount	Peterborough	Eastern Ontario	Low density (town, suburb)	Community	Rebuild

10 Carden	Guelph	GTA large	Low density (town, suburb)	Employment/ Entrepreneur	
Acton Hub – Our Kids Network	Acton (Halton)	GTA large	Low density (town, suburb)	Other	Rebuild
Aldershot Hub - – Our Kids Network	Burlington	GTA large	Urban	Other	Rebuild
Eva Rothwell Centre	Hamilton	GTA large	Low density (town, suburb)	Community	Rebuild
Durham Hub	Durham Region	GTA large	Urban	Education	
Helping Unite Belmont (HUB)	Belmont (Elgin County)	GTA large	Rural	Community	
McQuesten	Hamilton	GTA large	Urban		
Milton Hub – Our Kids Network	Milton	GTA large	Low density (town, suburb)	Other	Rebuild
Social Services Network	Markham	GTA large	Urban	Other	Rebuild
The Link	Georgina	GTA large	Low density (town, suburb)	Community	Rebuild
Wever Community Hub	Hamilton	GTA large	Urban	Recreation	Rebuild
Centre de Santé Communitaire (CHC)	Sudbury	Northern Ontario	Urban	Community	Rebuild
Community Corner	Sault Ste. Marie	Northern Ontario	Urban	Community	Rebuild
Etienne Brule Public School	Sault Ste. Marie	Northern Ontario	Low density (town, suburb)	Education	Rebuild
Evergreen a United Neighbourhood	Thunder Bay	Northern Ontario	Urban	Children & Youth	Rebuild
Gateway Hub	North Bay	Northern Ontario	Urban	Other	Virtual
Bluewater Health	Sarnia Lambton	SW Ontario	Low density (town, suburb)	Health	New Build
Centre Communitaire Francophone Windsor-Essex-Kent	Windsor	SW Ontario	Urban	Other	Rebuild

Chatham Kent Hub	Chatham	SW Ontario	Low density (town, suburb)		New Build
Eagle Place	Brantford	SW Ontario	Low density (town, suburb)	Education	Rebuild
East Ward (Major Ballachey School)	Brantford	SW Ontario	Low density (town, suburb)	Education	Rebuild
Fiddlesticks	Cambridge	SW Ontario	Urban		
Fusion Youth Activity and Training Centre	Ingersoll	SW Ontario	Low density (town, suburb)	Children & Youth	Rebuild
Langs	Cambridge	SW Ontario	Urban	Community	New Build
Northbrae Community Hub	London	SW Ontario	Low density (town, suburb)	Education	New Build
Northside Neighbourhood hub	St. Thomas	SW Ontario	Low density (town, suburb)	Community	Rebuild
Shelldale	Guelph	SW Ontario	Urban	Community	Rebuild
Strathroy-Caradoc Library	Town of Strathroy-Caradoc	SW Ontario	Low density (town, suburb)	Other	New Build
The LDMH (Leamington District Memorial Hospital) Neighbourhood of Care	Leamington (Essex County)	SW Ontario	Low density (town, suburb)	Health	Rebuild
SiG MaRS Hub	Toronto	Toronto	Urban	Employment/ Entrepreneur	
AccessPoint on Danforth	Toronto	Toronto	Urban	Community	Rebuild
Artscape Young Place (formerly Givens-Shaw school)	Toronto	Toronto	Urban	Arts	Rebuild
Bathurst-Finch Hub	Toronto	Toronto	Urban	Community	New Build

Bridletowne Neighbourhood Centre	Toronto	Toronto	Urban	Community	New Build
Centre for Social Innovation	Toronto	Toronto	Urban	Employment/ Entrepreneur	
Dorset Park Hub	Toronto	Toronto	Urban	Community	Rebuild
George Street Hub	Toronto	Toronto	Urban	Community	New Build
Jane Street Hub	Toronto	Toronto	Urban	Health	
Junction Commons	Toronto	Toronto	Urban	Community	Rebuild
Mid-Scarborough Hub	Toronto	Toronto	Urban	Health	Rebuild
Rexdale Hub	Toronto	Toronto	Urban	Health	Rebuild
Victoria Park Hub	Toronto	Toronto	Urban	Community	Rebuild

Leaders from multiple sectors have led these initiatives, including municipalities, school boards, health centres and planners, non-profit, neighbourhood-based agencies and local residents.

Benefits of Hubs

Where community hubs operate, they demonstrate:

- Improved health, social and economic outcomes for individuals
- Demonstrated collective impact at the community level and integrated service delivery at the individual level
- Better social investment
- Protection of public properties
- Stronger communities across Ontario

From the health sector perspective, the Toronto Central Local Health Integration Network worked with the Ryerson University-based Canadian Network for Care in the Community to identify the design features and benefits of a hub-based model for service delivery. These were:

- Shared space using a hoteling concept, with scheduling of various programs offered by different providers to maximize the use of space and to provide extended hours of service
- Provision of Primary Health Care and community based services on-site
- Flexible design, multi-purpose, multi-size areas for programs
- Space designed for current community needs and readily adaptable as community needs change, warranting corresponding program and service changes

- Reduces stigmatization associated with some single-purpose facilities (e.g., mental health or addiction services) through provision of services in a multiple program setting
- Improves patient and client experience through a seamless front-end that:
  - supports coordinated access to on-site services through centralized intake and scheduling
  - reduces the risk of multiple and duplicative assessments
  - improves hand-offs of clients across programs and providers
  - improves access to multiple services in one location
  - reduces the need for multiple visits to access services

In the education sector, schools which co-located with community services also demonstrate improved outcomes for students and families. The Inner City Model Schools within the Toronto District School Board[1] have tracked and demonstrated some of the strongest outcomes, including dimensions of academic achievement and health.

Social Return on Investment

One of the emerging areas of impact analysis is SROI. SROI is cost benefit analysis with a social purpose. Looking over the lifetime of an investment, it identifies a monetary value for the cost and benefits of the provision of human services. This form of analysis creates a strong case proof for the value of many of the elements of community hubs.

Examples from multiservice, place-based delivery of services demonstrate the following investment ratios:

PARALLEL EXAMPLES TO COMMUNITY HUB MODELS	JURISDICTION	SOCIAL RETURN PER $1 INVESTMENT
Craft Café (Seniors) [2]	Scotland	8.27
Community Champions [3]	Scotland	5.05
Beltline Aquatic & Fitness Centre [4]	Calgary, Alberta	4.84
Minnesota Public Libraries' ROI [5]	United States	4.62
Schools as Community Hubs [6]	Edmonton, Alberta	4.60
Peter Bedford Housing Association [7]	London, England	4.06
Centrepointe Early Childhood Resource Centre [8]	Ottawa	2.39

[Table developed by WoodGreen Community Services]

Completed SROI also demonstrated a range of other significant and specific impacts on local residents and communities in the social and health realms. These included lowered crime rates, avoidance of involvement with the youth justice system, higher school completion among youth, fewer falls for seniors, decreased diabetes rates, and higher levels of community trust.

Integrated Service Delivery

If hubs are examined from the program-side, they are most closely aligned with current discussions of Integrated Service Delivery (ISD) . Community hubs provide the opportunity to enhance, coordinate and integrate service delivery to people and communities. ISD provides a sort of wraparound that allows concurrent needs to be met, thereby leading to more effective interventions and impacts.
Reviewed reports refer to an "integrated model of service delivery that looks like an inter-connected web of social services and supports at the community level that are supported by enabling policy frameworks at the systemic level that encourage and support formal planning, and integration activity between organizations"
(A Report of the Community Social Planning Council of Greater Victoria, Albert, Marika, May 2013)

The following themes are useful when examining community hubs:

- "No wrong door" must be the baseline approach
- A regional integrated hub model for a specific geographic area
- Non-linear with multiple entry and exit points, but with a single point of contact for client (i.e., to either provide service or to help client navigate to appropriate one)
- Continuum of care
- Words used to describe power of ISD in reports include: seamless, one-stop shop, wraparound, client-centred, accessible, responsive, "right care, at the right place, at the right time" etc.

Accountability within Integrated Service Delivery Governance and Authorities:

- Cabinet level responsibility
- Clear single line of accountability within each ministry reporting through cabinet level structure (Nova Scotia Schools Plus)
- Lead agency at local or municipal level with partners mandated to be at tables (mentioned in an interview with Simcoe Community and Children's Services that this was highly effective in creation of Best Start Hubs in the region)
- Single funding envelope and/or core funding (George Hull, Centre de santé Communitaire in Sudbury, OHA report)

Key Staff for ISD hub models:

- Right staff in the right places (How District and Community Leaders are Building Effective, Sustainable Relationships, IEL, 2012)
- Coordinators at both regional and local hub levels which are fully funded and recognize coordinators as 'lynchpins' of hub and key to hubs' success
- Centre de santé communitaire in Sudbury has two co-ordinators: Coordinator of Health Promotion identifies and brings in partner agencies, catalyst for synergy in hub, and Co-ordinator of Community Development (partnerships, outreach, capacity building).
- "Back office" support staff (reception, website updates, appointment scheduling, system navigator, etc.); has broad system knowledge of all services available.
- "Key players strategically placed….understanding that if no one is specifically designated and paid to organize/plan/communicate/outreach, etc., the work will not get done" (How District and Community Leaders are Building Effective, Sustainable Relationships, IEL, 2012)

Place-making & Community Building

Community hubs also demonstrate benefits with regards to "place-making" or community revitalization:

- Many community hubs purposefully set out to reinvigorate their local areas; foci can include local economic development, poverty reduction, supports for children and youth and/or seniors, mental health and health services, etc.
- Some hubs aspire to revitalize a particularly underserved community through a "social development lens" (Daniels Corporation and Regent Park project, Artscape Wychwood Barns, etc.)[11]
- This process can unleash a 'dynamic synergy' which helps build community capacity, ultimately strengthening the local community and fostering a sense of ownership and pride of place

Leveraging Partnerships

- Without exception, every report studied identified the critical importance of strong, collaborative partnerships that were leveraged to benefit the target populations of hubs
- Some partnerships involved service delivery (e.g.., public health, mental health programs etc.), while others included private partnerships, proving "private sector can play a pivotal role in addressing social infrastructure deficits in these communities" (Daniels Corporation)
- An imperative to collaborate: Partnerships and collaborations are an effective way to move a project forward, especially when resources are scarce" (Daniels Corp)

- "In times of declining fiscal resources and greater demand for public services, districts have learned that forming partnerships can be fiscally prudent: on average, three dollars from community partners for every dollar they allocate (partners can contribute dollars or in-kind support in the form of access to family programs, health services and more)." (How District and Community Leaders are Building Effective, Sustainable Relationships, IEL, 2012)
- Community Learning Centres (CLCs) have made great strides in assembling a wide array of partnerships. It has to be acknowledged that this is a major component of success for the initiative given that only a few of these partnerships existed prior to the establishment of the CLCs…CLC schools have generated over $10.5 million in contributions (human, material and financial resources) over the last four years (2010-2014) for an estimated 2.13 return on investment." (Fostering Engagement and Student Perseverance Community Learning Centres – Changing Lives and Communities, September 2014, Quebec)

The Value of Being Local

- Many reports identified the importance of hubs being 'local,' i.e., in and of the community and as close to the client/population they serve as possible
- "Improved client access based on a 'care close to home' philosophy" (Local Health Hubs for Rural and Northern Communities An Integrated Service Delivery Model Whose Time Has Come, OHA, 2012)
- Hubs should take into account accessibility (both in terms of public transport and ability), and ensure hubs are located where community and data has *clearly identified a gap/need*
- Local neighbourhood audits or scans (some referred to them as a "needs assessment") are a 'must' and an excellent tool for identifying gaps in services, as well as broader demographic research data allowing hubs to then identify and clearly define their goals collaboratively based on evidence
- Audits/needs assessments can look at both social and physical infrastructure in community using a variety of tools (surveys, consultations, etc.) but must include involvement of *key community players*, especially in minority communities (e.g., Aboriginal, francophone, etc.) according to both the reports surveyed and several interviews (Simcoe County, Sudbury)
- Locally responsive: Hubs which deliver programs that "respond to, and are shaped by, the unique circumstances and needs and assets of their community" is a key characteristic cited in hub studies and interviews (*Study of Community Hubs*, Parramatta, Australia)
- *Shared vision from the ground up*: "A shared vision, set of principles and organizational strategies are a must for any place-based strategies" (*Community Hubs Report,* Parramatta, Australia; SPT Report, Victoria, B.C.; Artscape, etc.)

Common Elements for Community Building in Successful Hubs

In many reports, the value of hubs which are designed by the community for the community, and are therefore responsive to the needs of the community, could not be emphasized enough. As mentioned above, local communities and their inhabitants across Ontario are all unique, so a top down (policy and funding) and bottom up (local input and involvement from the very beginning) are a good way to approach hub development, i.e., "common tools, local design."

- Community connections matter – no matter the focus of the hub: "Community connections ground children and give a sense of belonging that can help counteract challenges in their lives" (Exploring Schools as Community Hubs, Regina, 2011, p. 21)
- "A school might be thought of as a two-way hub when children's learning activities within the school contribute to community development and when community activities contribute to and enrich children's learning within the school." (Ibid, D. Clandfield)
- "...the importance of having clear and focused goals when working with communities, the recognition of the importance of working from the beginning with the whole school community if trying to effect change, and again, the unquantifiable energy that can take place when school, community and partners come together in a common space to achieve a common goal." (OPHEA, The Living School Success Stories, 2004-2008)
- "Successful hubs include a variety of uses and services (including community services, health care, leisure and retail that attract different groups of people at different times of the day and meet a wide range of community needs and support community strengths" (Feasibility Study of Community Hubs, Parramatta, Australia)
- Centre Santé in Sudbury is community inspired and driven; 450 card-carrying members (cards have no value, but reflect community support for Centre), 13,000 volunteer hours per year and a Board of Directors which is "embedded in community" (not hospital-style governance as per many CHCs); "important to recognize that each community and therefore each hub is unique, if you create right conditions and allow hub to evolve with the community, then each site will be a reflection of the unique community in which it is situated" (Executive Director Denis Constantineau)
- "Have a civic quality, sense of stability and level of amenity that marks them [hubs] as an important place in the community…include an inviting public domain that encourages people to interact in the public realm" (Parramatta)

EVALUATION

Theories of change

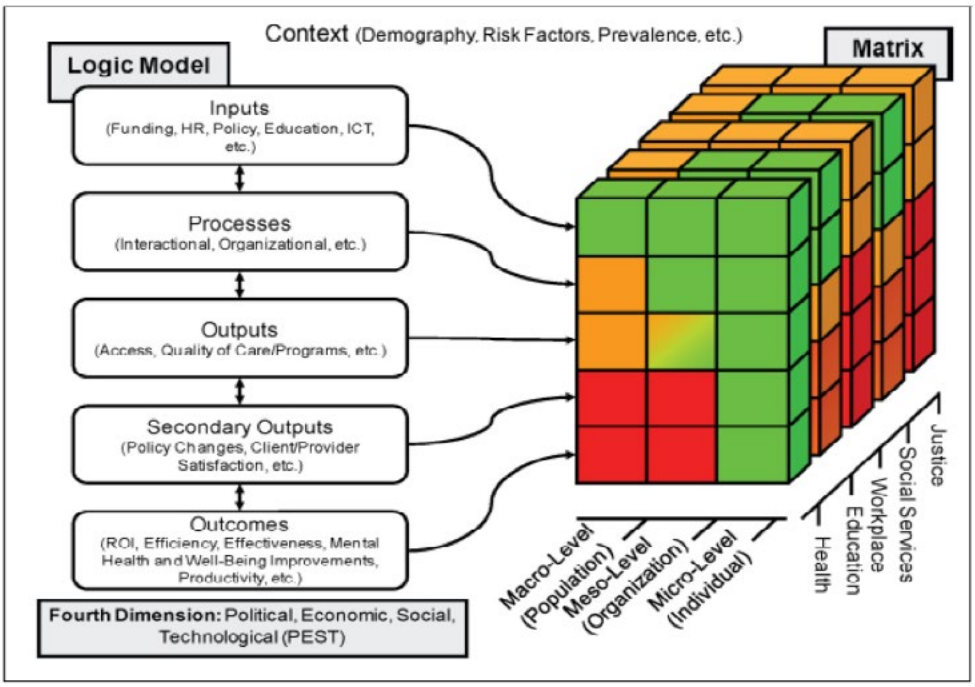
Although hub advocates often describe hubs' benefits using an ingrained sense of their worth, evaluation tools such as Theories of Change and logic models allow more detailed descriptions to emerge. A theory of change should describe why an intervention is being used. A review of hub providers who had developed a theory of change showed common elements are service and space, which lead to community synergy.

A graphic from the Centre for Social Innovation (CSI) depicts this most simply, with the synergy depicted as a wide series of swoops at the top of the theory of change. It is labeled "Innovation." CSI is so committed to this idea of what emerges when community and space are combined that it has also incorporated this pictorially into its organizational logo.

1: Centre for Social Innovation

Transecting a number of fields, hubs are expected to facilitate integrated service delivery and build collective impact. So, other theories of change attempt to capture and enumerate the multiple dimensions across which hubs cut. One mental health model[12] illustrated this complex matrix almost as a Rubik's cube.

Figure 1: Cube/Logic Model for Return on Investment in Mental Health



The 2005 Strong Neighbourhoods Taskforce also identified the complex interplay and importance of a place-based approach to community services and to communities. Subsequently, United Way Toronto developed community hubs in its Strong Neighbourhood Strategy. These are seen as important levers to bring programs to underserviced areas, increasing access to community space.

Virtual hub models, which aim to co-ordinate and increase access to local services, have also emerged in places as wide ranging as North Bay, Ontario and Chicago.[13] These places are using a hub model to co-ordinate service interventions and develop common evaluation standards.

WHAT DOESN'T WORK?

Despite the good work that is being done in the development and operation of hubs, a number of barriers were also identified.

Costs are long-term and broad, but funding is project-driven and siloed

What community hubs do not do is reduce costs. Some cases show, in fact, increased costs in the short term. But what they do instead is increase the efficiency of current program funding, reducing duplication and leveraging new opportunities, and reduce longer-term societal costs, demonstrating a "social return on investment" which makes the economic case for their creation and support.

Hubs also struggle with funding.

- Funding is siloed, so that a single entity reports to several provincial ministries, each with their own accountabilities.
- Funding cycles often do not align, creating additional administrative burdens for organizations.
- Three separate funding streams are necessary to create and operate hubs:
  - Capital dollars for development, often raised through fundraising
  - Capital dollars for sustaining operations, which are scarce
  - Ongoing operating funding for programs, staff and core services.

Examples of tight funding restrictions, put in place by funders' narrow mandates, led in one case review to long-winded negotiations about which program clients might be using a bathroom in the hub.

Complex Legislative and Regulatory Environment

The review identified a range of large-bucket areas where hubs development and operations need to negotiate regulatory boundaries which affect their creation and operation. These include:

- Zoning and Planning
- Building codes, including AODA compliance
- Privacy
- Occupational Health and Safety
- Compliance with local by-laws

Issues of privacy and confidentiality have received some focus as service providers strive to provide wraparound services, meeting the needs of their clients, while respecting their rights under Ontario legislation. Health care service providers carry an additional burden of protections so that cooperation with non-health care providers can be difficult to negotiate. Some hub models have managed this by walling the two service sides off from each other. Compliance is critical but complex.

Condition	Issue	Recommendation
Funding Sources	Precedence of reinvesting city fees/charges and cash-in-lieu of parkland arising from a development locally	Approve funding strategy due to need to revitalize priority neighbourhood.
Construction Costs	Limited cost overrun protection	Report back to Council on whether to proceed with Proposal if fixed price term cannot be met, and if so, with funding sources for any cost overruns.
Securing the Community Benefits	Proposed LC terms inadequate in relation to project cost	More substantial LC be retained until project delivery. Mortgage value in favour of City on 33 King Street to be co-ordinated with LC to provide greater security.
Real Estate Processes	No issues	Sale of 22 John Street and expropriation of 14 John Street to proceed.

Municipal Capital Facilities Designation	Need to determine that use meets bylaw requirements	Confirm that use meets bylaw requirements and secure in Capital Facilities Agreement.
Development Charges Credit	No issues	Council approve DC credit.
Affordable Rental Housing Live/Work Units Community/Cultural Hub	Building condition will be studied in next phase of development	Council approve Investment in Affordable Housing funding. Ensure that Building Condition Assessment is completed for 33 King Street.
Open Space Area	City to retain ownership of Open Space Area	Ensure environmental and jurisdictional issues addressed.
Ownership and Tenure	Lease between Artscape and Woodbourne Capital, the owners of 33 King Street; in event of default, City recourse includes assuming lease or foregoing community benefit	Protect community benefit with conditions of lease reviewed and approved by City.
Tax Arrears	Artscape's Wychwood Barns hub in tax arrears due to MPAC assessment delay	Ensure arrears resolved prior to entering into agreements with Artscape.
City Planning	Securing of access easements and determination of Section 37 benefits	Planning review to be expedited once Rockport has made the necessary applications, following Council-approved Section 37 Implementation Guidelines and process.
Social Return on Investment	No issues	Approve funding strategy to support social, economic and cultural returns for the City and neighbourhood.

The Weston Community/Cultural Hub: Next Steps 15

Site Development and Property Management

The expertise required to develop a community hub is often outside the experience of community service providers and local residents who have responded to the challenge.

One 2011 report, for the ICE Committee, described the long list of demands required during the development of community hubs:

- Partnership-building
- Feasibility studies
- Lease agreements
- Cost-sharing
- Program space design and allocation/hours
- Outreach and communication
- Itinerant partnering
- Protocol development
- Source funding
- Capital dollars fundraising
- Location identification
- Community consultations/needs assessments
- Zoning/permits, design and space allocation
- Visioning
- Service planning
- Governance and administration

Another case reviewed included a list of considerations which had to be worked through before further progress could be made (see figure 2). Hub providers made jokes about the needed heroics to move their projects forward and bewilderment at the extent of them. Re-built, re-purposed and renovated spaces have also been shown to be more complex and more expensive than new builds.

WHAT THE PROVINCE CAN DO?

The Work of Local Heroes

Most of the hubs already established within Ontario are the result of 'local heroes,' individuals, organizations, networks and sectors that have seen a need – or an opportunity – in their community and who have responded to it.

In Hamilton, both the Wever Hub, named after a local community police officer, and the Eva Rothwell Centre at Robert Land, named after the mother of a benefactor, were established in low-income neighbourhoods when local community members recognized a need. They built partnerships with public and private sector organizations and local government over a number of years to create a safe, shared space and set of programs the community could enjoy.

Social purpose real estate has emerged as a new model for self-organizing non-profit enterprises. Common Roof in Barrie and some of Artscape's hubs in Toronto emerged with the recognition of the effectiveness of shared space.

The most important support the province can provide to community hubs is to develop a system which is responsive to local demand, providing it is technical, regulatory and funding supports where needed, and stepping out of the way where not.

Next Steps

The provincial government has a number of policy, regulatory and funding levers with which it can support the continued development of hubs.

One of the more comprehensive summaries of how the province might respond was captured at the May 2014 Community Assets for Everyone Symposium on community hubs. Invited stakeholders identified key components in the development and creation of community hubs at a system (provincial) level.

These included:

- A citizen-focused vision of service delivery
- Provincial leadership and collaboration from the various government partners
- A cohesive legislative framework and mandate to foster co-location and coordination

- Appropriate structures, policies, incentives and resources to sustain the approach and people who will make this work
- Flexibility to support and enable community-driven solutions
- Start with co-location and build towards integration

This review was also able to identify the following areas for potential action by the province:

- *Mapping:* No province-wide mapping has been done, partly because of definitional breath and partly because of service silos. The Ministry of Education has mapped Best Start hubs across the province, while also providing local demographics and service features. The Intergovernmental Committee on Labour Force and Economic Development commissioned a 2011 study of the numerous initiatives underway in Toronto, mapping those.
- *Funding:* Hub operators have identified the numerous funding streams they access and the administrative burden this places on organizations and partnerships which offer multiple services. A common funding portal would ease some of this. Qualifications for capital funding loans, currently offered through Infrastructure Ontario, might also be reviewed in terms of their accessibility for hub developers.
- *Co-ordination Planning and Funding of Hubs:* Hub developers identified a range of overlapping jurisdictions, clashing planning definitions, program priorities, and funding deadlines which they must negotiate in order to create a hub with multiple stakeholder. The province can demonstrate leadership in coordinating these to ease the burden of developing and administering place-based delivery of services.

Some emergent solutions will be low-investment, quick start options. Others will require more consideration and commitment, using a 'whole government' approach. Change at this order will require a change management process with input from all involved stakeholders.

The development of a community hub framework is a strong step towards making the changes needed.

[1] www.tdsb.on.ca/Community/ModelSchoolsforInnerCities/Research.aspx

[2] www.socialvaluelab.org.uk/2012/03/craft-cafe-sroi-report-launch

[3] http://communitychampionsuk.org/wp-content/uploads/2014/08/FullSROIreportCommunityChampions-No-Appendices-FINAL.pdf

[4] www.simpactstrategies.com/LiteratureRetrieve.aspx?ID=171987

[5] http://melsa.org/melsa/assets/File/Library_final.pdf

[6] Mapsab.ca/downloads/events/april/2014/SchoolsAsHUBS.pdf

[7] http://peterbedford.org.uk/wp-content/uploads/2014/09/Peter-Bedford-Housing-Association-Value-for-Money-Statement-2013-14.pdf

[8] Burrett, John. Social Return on Investment: Centerpointe Early Childhood Resource Centre. Unpublished. Haiku Analytics. Ontario (February 2013).

[9] In Ontario, housing, employment and mental health practitioners all use this concept.

[10] Reports reviewed here which include this element and which are cited in this section are: George Hull Centre (Mental Health Hub), Local Health Hubs for Rural and Northern Communities (OHA 2012), Schools as Centres of Community (US, see example of PS 5 The Ellen Lurie School, New York), SchoolPLUS (Saskatchewan), SchoolsPlus (Nova Scotia)

[11] "Artscape Wychwood Barns is a community cultural hub that opened in 2008 where a dynamic mix of arts, culture, food security, urban agriculture, environmental and other community activities and initiatives come together to provide a new lease on life for a century-old former streetcar repair facility." (p. 1 of Hub Report Overview)

[12] Canadian Institute for Health Information, Return on Investment: Mental Health Promotion and Mental Illness Prevention, 2011, p 4.

[13] Chicago Peace Hub: http://peacehubchicago.org/about-us/the-peace-hubs-four-levers-of-change/

Appendix E
Short term Strategy for School Property

Community hubs are an idea that both community and policy-makers agree make sense. The government has been encouraging school boards to right-size given changing demographics and in order to ensure educational program quality. Accordingly, school boards are and should continue to diligently review their short and long term needs. In some cases, this may result in the closure of a school, which could lead to a long-term lease or the potential sale.

To reduce barriers to the formation of community hubs as this work continues, we are recommending that an interim measure be put in place to ensure additional consideration of community and provincial interests when sale of school property is contemplated.

On an expedited basis, we recommend pursuing an interim amendment to O. Reg. 444/98 to extend the 90-day circulation period of surplus property to 180 days. Further, we recommend a limited exemption to the requirement that properties be sold at Fair Market Value (FMV) as outlined below. The Ministry of Education will conduct further consultations and review of this regulation.

This interim change would operate as follows:
Step 1:
As outlined in the Ministry of Education's new Community Planning and Partnership Guideline, municipalities/LHINs/agencies/the Province and other community partners (including Aboriginal and non-profit organizations) should be determining their local space needs to feed into the decision-making process around school buildings or land, before and during any pupil accommodation review that boards undertake to determine how to reorganize schools to best serve student achievement and well-being. Should the school board determine that a school is not needed for educational purposes, the community planning process will have identified if there is a community interest.

We would recommend that the Community Hubs Secretariat work with the Ministries of Education and Municipal Affairs and Housing to monitor this new Guideline to ensure it is meeting the needs that we heard from community organizations in the preparation of this report.

Step 2:
As the school board circulates the property to public entities in accordance with O. Reg. 444/98, where:

- the school is not sold to another school board; and
- there is a viable community plan supported by a strong business case for the purchase of that property for a community hub; and
- FMV is a barrier.

Then, the School Board and community partner(s) can apply to the Province for a limited exemption to the FMV requirement. The Province will determine if it is viable, serves a public purpose, and meets all the other requirements, and will then determine an appropriate purchase price. If approved, the offset for the partial variance on the fair market price would be found by either a revenue tool or through a provincial funding mechanism, to be defined, and the school board would be made "whole." The purchase would need to be subject to a condition that the property could not subsequently be resold for profit.

Step 3:
The Province will change its internal process to more actively connect with ministries to determine if there is any provincial interest in the property. If so, the Province could purchase the site for its own requirements or to sell with a focus on meeting an identified need (e.g., sell to a municipality to provide affordable housing).

Note:
O. Reg. 444/98 currently requires circulation of surplus properties. School boards use Infrastructure Ontario's Realty Circulation Publication website to notify the Ontario government about surplus school property. Infrastructure Ontario, in turn, circulates the information about surplus property to various public entities, including other provincial ministries. This recommendation contemplates a more active process.

Step 4:
If there is no provincial interest or viable community plan, a school board would proceed to sell at FMV.

HOW TO HUB:
COMMUNITY HUB DEVELOPMENT TOOLKIT

A practical guide to support residents in navigating the initial stages of a community hub initiative

SPACE COALITION

Saving Public
Access to Community
Space Everywhere

SOCIAL PLANNING TORONTO

HOW TO HUB:
COMMUNITY HUB DEVELOPMENT TOOLKIT

A practical guide to support residents in navigating the initial stages of a community hub initiative

About the SPACE Coalition

The SPACE (Saving Public Access to Community space Everywhere) Coalition is a strategic outreach and action research coalition, composed of diverse community organizations and networks from across Ontario committed to improving access to public space. The SPACE Coalition advocates for affordable, accessible and equitable access to public space that is welcoming to all residents.

To learn more about the SPACE Coalition, visit spacecoalition.ca

About Social Planning Toronto

Social Planning Toronto is a non-profit, charitable community organization that works to improve equity, social justice and quality of life in Toronto through community capacity building, community education and advocacy, policy research and analysis, and social reporting. Social Planning Toronto is committed to building a "Civic Society," one in which diversity, equity, social and economic justice, interdependence and active civic participation are central to all aspects of our lives — in our families, neighbourhoods, voluntary and recreational activities and in our politics.

To learn more about Social Planning Toronto, visit socialplanningtoronto.org

How to Hub: Community Hub Development Toolkit

A practical guide to support residents, parents and community allies in navigating the early stages of a community hub initiative

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Community hubs are situated on Indigenous land and Dish with One Spoon territory. This is the traditional territory of the Haudenosaunee Confederacy, the Wendat, and the Mississaugas of the New Credit First Nation. The SPACE Coalition gratefully acknowledges these Indigenous nations for their guardianship of this land. To learn more about the importance of land acknowledgements, check out this article entitled "What are land acknowledgements and why do they matter" by Indigenous writer Selena Mills. For more information about treaties, including a map of Ontario treaties visit Treaties on the Government of Ontario website. You can also read about the Truth and Reconciliation Commission of Canada to learn about the injustices faced by Indigenous communities in Canada.

We wish to extend our gratitude to the City of Toronto — Community Projects and Events for providing financial support for this project. Social Planning Toronto would like to acknowledge the ongoing support of its key funders, the City of Toronto and United Way Greater Toronto.

ABOUT THIS TOOLKIT

The "How to Hub: Community Hub Development Toolkit" is a practical guide to support residents, parents and community allies in advocating for a community hub in their neighbourhood. This toolkit offers introductory information on a range of topics relevant to groups that are in the initial stages of developing a community hub or who would like more information before beginning their journey.

According to CommunityHubsOntario, there are five stages to developing a hub:

1. Develop Your Vision
2. Assess Your Community
3. Make a Plan
4. Build Your Hub
5. Sustain and Operate Your Hub[1]

This toolkit is a compilation of information and resources for those in the first two stages of the hub development process.

Throughout the toolkit, there are:

- **orange links to related sections in this document and to definitions in the glossary of terms**,
- blue links to websites and online documents containing more information, and
- footnotes to reference where information came from.

Please note that the electronic version of this toolkit and an internet connection is needed to access the links to external websites. The electronic version is available at spacecoalition.com/hub-toolkit or socialplanningtoronto.org /hub-toolkit.

Helpful hints and samples of commonly used tools are also included to support you in developing your capacity to organize, engage and sustain your project.

It is important to remember that you may not follow the steps outlined in this toolkit in a chronological order. Depending on the unique situation of your group, you may find yourself returning to different sections at various stages in your initiative.

While this toolkit is geared towards those interested in community hubs, many of the learnings will be relevant to people working on other community development initiatives.

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[1] CommunityHubsOntario, n.d.-a

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SECTION 1:
INTRODUCTION TO COMMUNITY HUBS

Why a Community Hub?

The SPACE Coalition believes that a **community hub** is a central point where residents can access a range of services, programs, and/or activities offered by diverse organizations, community groups or individuals depending on the needs of the community. It is a conveniently located space that is recognized and valued by local residents.

Community hubs come in many different shapes and sizes and no two are the same. A community hub may be a repurposed school, a health centre, a place of worship, or even a network with no physical location. They have different funding models, governance structures and may offer a wide-array of programs. Each hub reflects the residents it serves and is shaped by their needs and concerns.

As suburban and rural neighbourhoods are often challenged by a lack of local services, community hubs are growing in popularity as a way to provide a "one-stop shop" to address local needs. Research has found that community hubs offer improved program coordination through service collaboration, cross-referrals and sharing resources.[2] Through co-location and collaboration of tenant organizations, community hubs allow for improved service delivery models and cross-learnings.

Community hubs are places where residents, parents and community members come together to explore new ideas, build creative solutions and develop relationships. They play a vital role in building community cohesion, wellbeing and vibrancy.

Ontario's Community Hub Secretariat

Residents and organizations alike have long valued the benefit of community hubs. The United Way, Community Health Centres, and others have been maximizing the hub model in their initiatives. However, institutional barriers make it difficult for hubs to be developed and sustained.

In March 2015, former Ontario Premier Kathleen Wynne appointed Karen Pitre to be the Special Advisor to the Premier on Community Hubs and chair a Community Hubs Framework Advisory Group. This initiative served to identify provincial barriers to developing a community hub and to provide recommendations for reducing those barriers and supporting community hub development.[3] For many communities, it signaled the Province's recognition that there

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[2] Dyson, 2011

[3] CommunityHubsOntario, n.d.-b

were numerous institutional and structural barriers to developing and sustaining a community hub.

In August 2015, Karen Pitre and the advisory committee released Community Hubs in Ontario: A Strategic Framework and Action Plan which included 27 recommendations to foster hub development in Ontario. The one-year and two-year progress reports outline what advancements have been made to address institutional barriers.

The SPACE Coalition and Community Hubs

In 2000, the SPACE Coalition formed in response to the implementation of new provincial funding formula policies that caused school boards to dramatically increase the fees they charged community groups for the use of school space. With research support from Social Planning Toronto, SPACE conducted projects in 2005, 2007 and 2009 which further demonstrated the impact of the Province's Community Use of Space (CUS) funding, policy and program. In 2009, the SPACE Coalition expanded its mandate to include access to municipal space, such as community centres.

In 2013, SPACE and Social Planning Toronto released a report entitled Public space for public use: A review of community access to school and municipal facilities which highlighted the importance of community hubs and the regulatory barriers that prevent their development.[4] The SPACE Coalition has long recognized that community hubs play a key role in supporting local access to public space.

[4] Queiser, 2013

SECTION 2:
DEVELOPING AND DELIVERING YOUR VISION

Introduction

Community visioning is the process of developing a **consensus** about what the future of the community should look like and what steps are needed to achieve that vision. For a project to be successful, the vision must not only reflect the goals of the core group involved, it must resonate with other stakeholders.

In the context of developing a community hub, the visioning process includes discussing what a hub could mean for the community. A visioning process often results in both a **vision statement** and **mission statement** that anchor all subsequent work. During this phase, it is important to take the time needed to develop a clear vision that can guide your project to completion.

> **"Visioning is the act of imagining the future."**
>
> **— Maine State Planning Office, 2003**

Community Visioning Process

Many people in your community may have great ideas when it comes to service provision and access to community space. So how do you merge all of these ideas to create a shared vision? This involves a visioning process. A visioning process, described below, can be led by a paid facilitator or a local champion or leader. **Section 3: Connecting with Partners** describes some common characteristics that allow for strong, trust-based working relationships that an effective **facilitator** will help to nurture.

Step 1: Get the right people together

All key **stakeholders** should participate in the visioning process. Key people are the ones who are active and engaged in the community. They know the community well and are committed to its advancement. They are from all walks of life — different age groups and genders, large and small businesses, different cultural backgrounds, different faith groups and may speak

different languages. When it comes to visioning, diversity is essential. A diverse range of opinions will create a stronger, better vision than one developed from a narrower audience.[5]

Step 2: Brainstorm various visions

Once you have the right mix of people together, you will need to brainstorm ideas. The brainstorming process involves having an open conversation about everyone's different hopes and dreams for the community. It should be structured in a way that maximizes opportunities for general discussion and does not let any one person monopolize the conversation. For more information on facilitation techniques to help with this see Facilitation for Meetings and Workshops by Seeds for Change.

Some questions to stimulate discussion may include:

- What would our ideal community look like in 10 to 20 years? Be specific.
- What problem does a community hub seek to solve?
- Why do you believe this problem needs to be addressed?
- Does this problem matter to other people?
- What is your dream for our community?
- How would things be different if your dream came true?
- What are the strengths of our community?
- How could a community hub build on these strengths?

For more questions to ask during the visioning process, check out this blog article "14 Questions to ask when facilitating an organizational vision" by Suzanne Hawkes, a well-known management consultant, trainer and facilitator.

When your group is brainstorming ideas for the vision, it is important that the facilitator engages in active and attentive listening (described further in **Listen Actively** in Section 3: Connecting with Partners). The facilitator will need to have a comprehensive understanding of participants' ideas and their meaning in order to identify commonalities.

[5] Maine State Planning Office, 2003

HELPFUL HINT:

During this process, it is likely that participants will present great ideas that are not directly related to developing a vision (i.e. ideas for how to achieve the vision). The facilitator should save those suggestions in an "**idea parking lot**" to return to during a future conversation when it is more relevant.

Step 3: Build consensus and establish goals

Now that you've come up with many great ideas, it is time to focus in on a few. Engage participants in an exercise that will allow you to build agreement on two or three goals. This can be a difficult process because it requires your vision to meet the needs and interests of many people with various perspectives. For more information on how to reach a general agreement, see **Making Decisions and Building Consensus** in Section 3: Connecting with Partners.

Tamarack Institute has developed the Refining Your Ideas tool to help groups clarify their ideas.

Artscape's Creative Placemaking Toolkit also has helpful information to guide you through developing your project vision.

Step 4: Prepare a vision statement

The final step is to write a vision statement. A vision statement is one sentence that clearly describes the long-term change that will result from a group's work or project. The vision statement focuses on the what, not the how. It is sometimes helpful for a small group of people to work on this separately and bring their suggestions back to the group. Choosing the right words can be time-consuming and more difficult if you try to do it with many people.

Whether or not you also develop a mission statement during this process, it is important to know the difference between the two. While a vision statement focuses on what change you hope to bring about, a mission statement describes the purpose of the group or organization. Simply put, the vision is about the future and the mission is about the present.

Here are some examples of vision and mission statements of community hubs in Toronto and Ontario. As you review these statements, consider what you like about it and what stands out for you.

The Central Etobicoke Hub Working Group

Vision: To create a community-based and community-led hub offering multiple services and programs, including community gathering space, that meet the needs of youth and seniors, families and singles living and/or working in central Etobicoke, enabling them to become fully engaged, healthy, socially included, and participating members of the community.[6]

Mission: to serve as a single collective voice for the common vision of developing a community-based and community-led hub in central Etobicoke.

Our Kids Network

Vision: All children thrive

Mission: Healthy development, security and safety of all children, youth and families through collective action. [7]

Langs

Vision: Changed lives, healthy communities.

Mission: Langs is committed to ensuring that every person in our neighbourhoods will have a place to call home for health, wellness and community support.[8]

WoodGreen Community Services

Vision: A Toronto where everyone has the opportunity to thrive.

Mission: WoodGreen Community Services enhances self-sufficiency, promotes well-being and reduces poverty through innovative solutions to critical social needs.[9]

For more examples of vision statements, visit TopNonprofits' 30 Example Vision Statements.

HELPFUL HINT:

Continue to articulate your shared vision as you move through the other steps of your project. This is your group's anchor and you should always find yourself returning to it.

[6] Central Etobicoke Hub Working Group, 2018
[7] Mulligan, 2010
[8] Langs, n.d.
[9] Woodgreen, n.d.

Delivering Your Message

How you deliver your message is just as important as the message itself. Being able to pitch your vision and idea to others will be a key component to ensuring your success. It will allow your group to stay rooted to a common goal, get others on board, and secure resources.

Delivering your message is about more than just repeating your vision, it is about telling your story and communicating the change you want to make.

Here are some tools to help you in this process:

- Six Simple Tips for Communicating About Impact by the Ontario Nonprofit Network
- Elevator Pitch (activity) by the Atlantic Centre of Excellence for Women's Health
- Telling Your Public Story: Self, Us, Now (Worksheet) by Marshall Ganz

SECTION 3:
CONNECTING WITH PARTNERS

Introduction

Communities are diverse. They are composed of people from various backgrounds and with skills in different areas. When these capabilities are combined and people work together, great things are built and your efforts are maximized.

Developing a community hub takes the collective drive and effort of many people. And that requires strong, healthy, trust-based relationships. Working with partners isn't always easy but what can be accomplished is limitless. Teamwork is a powerful force that can do something greater than one individual could ever achieve alone.

In this section, you'll learn how to identify **allies**, some important techniques for fostering healthy relationships, and how to organize a group and have an effective meeting. During this process you will also apply the skills you've learned to effectively deliver your message.

Building Relationships

Start with the People You Already Know

The best place to start is with your existing relationships and connections. You probably know more people in your community than you realize; you just have to think outside the box.

Look around and ask yourself some of the following questions:

- Who else would have an interest in a hub being developed in your community?
- What help do you need to get your idea off the ground? Who do you know with those skills?
- How can you leverage connections in unexpected ways? Do you have a neighbour who knows everyone from walking her dog every day? Do you know any local shop owners who could connect you with the Business Improvement Association (BIA)?

Go for Community Walks

Walking through your neighbourhood is a simple way to identify potential partners and learn more about your community.

Go for a walk and ask yourself the following questions:

- Who is on the street?
- What are people doing?
- Are there things that surprise you?
- What raises your curiosity?
- What creates concern or questions?
- Is there anything that catches your attention and makes you want to ask more questions or get more information?

While walking, take notes or take pictures so that you can remember the answers to these questions. After your walk, go through the pictures or notes and try to identify potential allies, needs, and locations.

Were there any social or cultural "hot spots"? What about places that are easily accessible from all parts of the neighbourhood?

Did you notice anything that needs to be improved? How could a community hub help improve it?

What are the strengths of the neighbourhood? What works well and how could a community hub boost those assets?

Other places to look for partners

- At community meetings, events or festivals
- At your public library, school or community centre
- In a neighbourhood/community newspaper
- At nearby colleges and universities
- Through existing community groups, faith communities or sports organizations
- Online through social media groups, the Community Hubs Ontario connection portal or a Community Innovation Hub
- Browse services by postal code on the 211 Central website

HELPFUL HINT:

Be creative in this process and maximize the outlets available to you. For example, if there is a community event but you can't attend, ask if there is another group willing to display your literature there. Look for places where there is a lot of traffic.

HELPFUL HINT:

Start compiling a contact list right away. At events and meetings, ask people to provide their email and/or phone number to stay up-to-date on your work. This can come in handy down the road when you are promoting your event or project. But remember, you need their permission to contact them. You may want to consider reading up on Canada's Anti-Spam Law.

Engage with Elected Officials

Your area's elected officials could be your greatest allies in advocating for a community hub. A new hub in their riding during their term in office could mean a lot of good publicity with their constituents. Be sure to carefully consider when the best moment is to meet with your elected officials. You want to make sure you have done your homework before the meeting so you can make a strong case.

Find out who your elected officials are and how to contact them:

- Search for your Toronto City Councillor (municipal)
- Search for your Member of Provincial Parliament (MPP) (provincial)
- Search for your Member of Parliament (MP) (federal)

Resources on scheduling a meeting with an elected official:

- How to Communicate with Your City Councillor by the Toronto Youth Food Policy Council
- Meet with Your MPP by the Canadian Mental Health Association
- Tips for meeting with your MPs by Imagine Canada

Ontario for All also has a series of resources to support non-profits in taking action in a nonpartisan way.

Working Together

You've learned a little more about your neighbourhood and you've recruited some allies to help you get your idea off the ground. Now what?

You'll need to do a lot of work, *together*. You'll probably want to develop a work plan that includes a process for getting through the rest of the work that is outlined in this toolkit. Maybe you'll want to continue recruiting other residents. Whatever you decide needs to be done, you need to do it together. Here are some resources to support your multidisciplinary team.

Build Strong, Trust-Based Working Relationships

A key component to building strong groups is having healthy relationships that anchor the community. When working on a group project, like advocating for a hub, strong working relationships are essential. Not only are they needed to get anything done, they also make the job more enjoyable and everyone more productive.

There are several characteristics that make up strong working relationships:

Equity, Diversity and Inclusion: As you know, every person is unique. They come to the table with their own **identity**, **lived experiences** and **values**. Respect for diversity involves appreciating individual and cultural differences, both visible and non-visible. Similarly, equity is about accommodating different needs and removing barriers to more equally distribute opportunities for participation. To start learning more on this very important topic, read this article on "Why Diversity, Equity and Inclusion Matter".

Trust: Trust is about having confidence in a person, in their opinion, and their ability, and it is the foundation of every good relationship. When you have a relationship built on trust, it will help you work more efficiently and effectively and communicate honestly.

Mutual Respect: It is important that you both receive and give respect in your working relationships. When you respect someone, it means you value their input and ideas and it allows you to think more creatively together.

Mindfulness: Being mindful means that you are aware of something. It involves being aware of your actions, your words, and what's going on around you. When you practice mindfulness, you are able to be more attentive to those around you.

Open Communication: When the above attributes are in place, open communication will come more easily. You will feel able to share your own opinions and ideas without fear of judgement, and so will those around you. Whether you are communicating verbally, through email or via text message, take the time to choose the words that allow you to be respectful and caring and accurately reflect what you want to express.

For more information on building partnerships, check out these 6 tips from Parks People in their blog article "Creating Community Partnerships that Work".

Listen Actively

No matter your role within a group, a key to building strong relationships is active listening. This means listening with intent, curiosity and openness. By becoming a better listener, you can improve your productivity, as well as your ability to influence, persuade and negotiate. You'll also be able to manage conflict and avoid misunderstandings.

Active listening is a popular technique which involves listening with all your senses. It is about paying full attention to the speaker and showing the speaker that you are paying attention through verbal and non-verbal cues.[10] This may include maintaining eye contact, nodding your head and smiling, agreeing by saying 'yes', paraphrasing and encouraging them to continue.

Active listening benefits both the speaker and the listener. It gives the speaker the encouragement to continue talking, and it helps the listener to understand and engage with the speaker. This is all fundamental to building a strong relationship through conversation and respect.

Paraphrasing is one of the most important techniques for active listening. Paraphrasing means that you repeat what the speaker said in your own words. It is very helpful because it gives you the opportunity to show you are listening and that you understand what the person is speaking about. It also ensures that your interpretation is accurate.

Watch this video by Optimal Lifestyle to find out more about active listening and five easy steps to start doing it now.

Make Decisions and Build Consensus

When working in and with a group, you will constantly have to make group decisions on a wide-range of issues. How you come to those decisions is an important factor to consider.

Below are four common models of decision-making, listed from less concentration of decision-making power to more. Each model has value and can be appropriate depending on the goals of the group.[11]

- **Consensus:** No decision-maker blocks a resolution / idea from going forward, but no decision-maker has to agree with it.
  Examples can be seen in workplace collectives, social groups, and groupings.

[10] Skills You Need, n.d.
[11] St. Stephen's Community House, 2018

- **Majority:** 50% plus one, two-thirds, etc.
  Examples: legislatures and congresses, boards of directors, in the justice system, and competitions.
- **Minority:** Small group within larger group makes decision**.**
  Examples: sub-committees, task and working groups, and executives of boards.
- **Hierarchy, command:** Superior(s) makes the decision**.**
  Examples: in the justice system, boards of directors, workplace supervision

Consider the following questions when you are choosing a decision-making model:

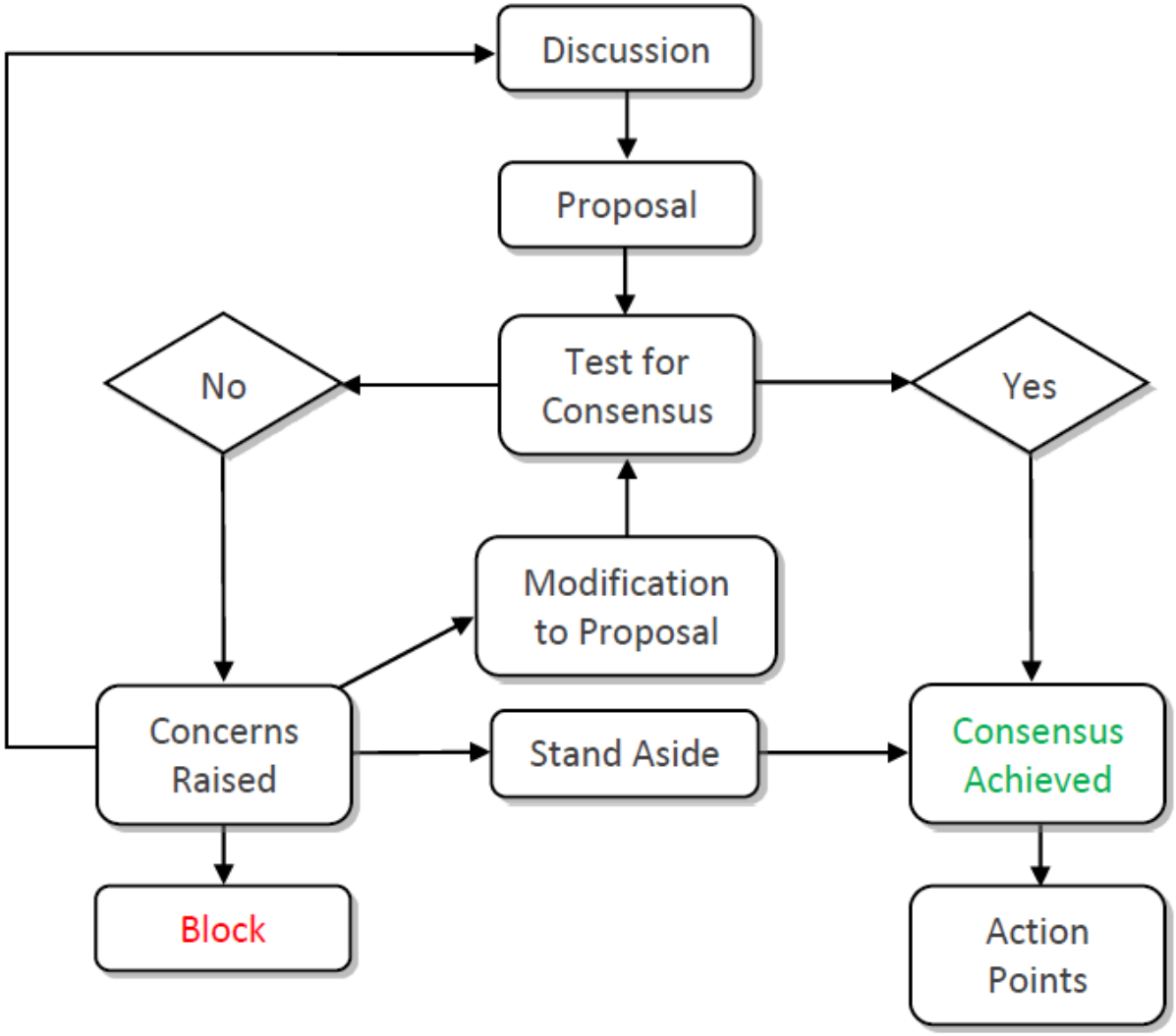
- How are decisions to be made?
- Is the process transparent?
- Is the group committed to this model?
- Does the model support the group's goals?
- How are decisions being recorded and implemented?

The consensus model is used most because it generates a high-level of commitment from those involved. People often think that consensus means that everyone agrees; however, that is not true. Consensus means that everyone has had the opportunity to voice their concerns and share their ideas and the group has done its best to incorporate them.

With a consensus model, some people may choose to disagree, object or refuse to participate. Rather than asking "do you love it?" or "do you agree with it?", you would ask "can you live with it?"[12]

[12] See note 11

The process for reaching consensus looks like this: [13]



Whatever decision-making structure your group decides to use, it should also be included in the **Terms of Reference** (described further below).

Manage Conflict

Conflict is unavoidable but how you manage it makes all the difference. Although our immediate reaction is often to avoid conflict, conflict can be a good thing. It signals engagement and frequently leads to more creative ideas.

Here are some tips to remember when dealing with conflict in a work setting.

[13] Taken from Hartnett, n.d.

Confront the conflict. If you disagree with someone, tell that person. It is better to be upfront than to hold it in or tell other people. Once you confront the person, you can both hear each other out and understand each other's perspectives. When you do this, be sure to listen openly to their side of the story.

Stay calm. No matter how upsetting you find a situation, try your best to keep your cool. Think about what you want to say and how to articulate it clearly before you speak. Avoid attacking the other person and instead focus on yourself and what you can control. If things get too heated, it might be a good time to take a step back and recover.

Pick your battles. Before engaging in a disagreement, take time to consider how pressing the matter is. Consider whether the outcome of the conflict will provide a meaningful contribution or difference in the project. At the same time, remember the end goal. Keep in mind what brought you all together in the first place and what you are trying to achieve together.

Don't take it personally. Above and beyond all else, don't take the disagreement to heart. When you are working together with members of your community, you are going to encounter people with divergent opinions and different ideas. Take those as opportunities to learn and grow, and be mindful not to let them weigh you down.

Additional resources on conflict resolution:

- Conflict Resolution & Training by St. Stephen's Community House
- Conflict Resolution Resource by AORTA (Anti-Oppression Resource & Training Alliance)

Structure a Group

Sometimes it's helpful to give your group a structure so members know their responsibilities. This is especially true with larger groups. Committees, coalitions and even projects normally use **Terms of Reference** (ToR) to do this.

A group's Terms of Reference become a formal document that outlines the purpose, vision, and responsibilities for the group and its members. It may define officer positions (such as chair or co-chairs, secretary or treasurer), the term of office, the selection process, as well as membership and reporting. Most importantly, an effective ToR allows the group to stay focused and on task. A sample **Terms of Reference** can be found in Appendix A. For more information on developing more formal working relationships, see **Formal Partnerships** in Section 5: Getting Resources.

Organize a Meeting

Checklist for planning a meeting:

- Find a date that accommodates the maximum number of people. Doodle is a free, online tool that is easy to use and assists with finding the best meeting time.
- Always provide an option for those who can't make it in person. If you have internet access, there are a number of free services for tele-conferencing or video-conferencing. Some include: Google Hangouts, Skype and Fongo.
- Find a location to hold your meeting. Depending on the group size and formality, you could use a local coffee shop or other business. Places of worship, schools, libraries and community centres also have space; however, space is not always free. See **Finding Meeting Space** in Section 8: Other Important Resources for information on finding meeting space and applying for a **permit**. Also, be sure to consider **accessibility needs** and childcare requirements when choosing a location.
- Communicate the date, time and location to all participants. If you're going to be serving a meal you should also promote this. Asking people to **RSVP** allows you to find out who is going to attend and provides a good opportunity to ask about dietary restrictions (i.e. allergies or food preferences).
- Designate a meeting **chair**. A meeting chair leads the meeting by welcoming attendees, going through the agenda and managing the conversation. The meeting chair may or may not be the same person as the organizational chair.
- Draft an agenda. An agenda is an important tool to make sure the meeting stays on time and on topic and is normally prepared by the meeting chair. If possible, it is good to send the agenda out to participants in advance so they can review it and prepare. Common agenda items include welcome and introductions, approval of agenda, approval of previous meeting notes, and next meeting dates. See Appendix B for a **sample agenda**.
- Prepare any necessary meeting materials. This may include relevant readings or other documents that are needed to progress through the agenda items.
- Send a reminder to participants. It is best to send a reminder one week prior to the meeting and to include notes from the prior meeting.
- If possible, it is always nice to offer refreshments like coffee, water or a healthy snack. If you are scheduling a meeting during a meal hour (for example between 5-7 p.m.) it is usually expected that you will serve a meal. For some ideas on how to get in-kind support for offering food, see **Section 5: Getting Resources**.

On the meeting day:

- Bring printed copies of all the meeting documents: agendas, previous meeting notes and other relevant materials. You may also want to bring name tags.
- Arrive early to set up the space. Consider the agenda and arrange tables and chairs in the most suitable way. For example, if you are doing small group work, it is best to have tables with chairs all around them. If you are listening to a guest speaker, you might want to have the chairs set up in rows without tables, like a theatre.
- Upon arrival, have people sign-in so you can keep track of attendance and follow-up with them after the meeting. See Appendix C for a **sample sign-in sheet**.
- Welcome guests as they arrive, paying close attention to unfamiliar faces. Try to make the meeting a fun and friendly place where people will want to come again.
- Make sure there is a designated note taker. The note taker will record meeting notes, including any decisions that are made or action items that are assigned. See Appendix D for a **sample set of meeting notes**.
- During discussions, be sure to provide space for everyone to contribute, including quieter people and those participating electronically.

Following the meeting:

- Distribute meeting notes soon after the meeting. This will serve as a reminder to those who were assigned action items to follow up. In this message, be sure to thank everyone for their participation and reiterate that their contribution was valued.
- If the next meeting date was decided on, send a reminder or event invite so everyone blocks the time off in their calendar. If it wasn't selected at the end of the meeting, start planning it. Continued engagement is key to keeping your stakeholders committed to the project.

SECTION 4:
ASSESSING YOUR COMMUNITY

Introduction

A **community assessment** is a formal process that determines the strengths and resources, as well as needs, of your community. During this process, you'll systematically examine the assumptions and ideas developed during the visioning stage.[14] A community assessment uses data and input from **stakeholders** to inform decisions regarding the development of a hub. The results of a community assessment can provide you with the facts needed to support your vision.

This section will introduce you to the idea of conducting a community assessment and where you can access data. Preparing a community assessment can be time-consuming and require the expertise of someone who is familiar with data collection techniques. If you don't have someone on board with that skill set, consider partnering with a community organization or academic institution or applying for a seed grant to hire an expert (see **Section 5: Getting Resources**).

The Community Assessment Process

Strengthening Nonprofits: A Capacity Builder's Resource Library outlines a 6-step process for conducting a community needs assessment:

1. Define the Scope
2. Decide to Go Solo or Collaborate
3. Collect Data
4. Determine Key Findings
5. Set Priorities and Create an Action Plan
6. Share Your Findings[15]

Through this process you will determine how far and wide you want to look for data, what the data means, and how you can use the data to inform your recommendations and planning. This stage is about doing research and analyzing the research to make informed decisions.

[14] CommunityHubsOntario, n.d.-c
[15] Strengthening nonprofits: A capacity builder's resource library, n.d., p.5

Some key questions you will ask during the community needs assessment include:

- What is the socio-demographic composition of our community?
- What are the services currently being provided? What are the service needs/gaps?
- Who are the potential service providers that would meet those needs?
- What are the potential barriers?

During this phase you will want to collect both **primary** and **secondary** data. Secondary data is data that has already been gathered by someone else. Primary data, on the other hand, is original data that an investigator collects for a specific purpose. In the case of hub development, this would be data that you collect to inform the development of your community hub.

Research can also be divided into **qualitative** and **quantitative** research. Qualitative research is usually exploratory – it is used to gain an understanding of underlying reasons, opinions, and motivations. In contrast, quantitative research is used to quantify the problem – it is used to generate numerical data like statistics. Usually, quantitative data collection methods are much more structured.

HELPFUL HINT:

For a sample community assessment, check out the **Central Etobicoke Hub Feasibility Study** conducted by Social Planning Toronto in 2017. Using multiple data sources, this study provides an in-depth analysis of assets and deficits of the Toronto neighbourhood.

Online Interactive Data Tools

These days there are countless online tools that allow you to easily access and customize secondary data. Some include:

CommunityHubsOntario's Community Mapper Tool

This mapping tool is a web-based geographic information systems (or GIS) tool that provides you with demographic data, vulnerability data, socioeconomic status data, infrastructure information and analytics. This interactive tool was designed to help users understand the needs of their communities. You can create unique maps and then download them for future use.

Wellbeing Toronto

This City of Toronto app allows you to select a number of datasets at the neighbourhood level and have the results appear instantly as maps, tables and graphs. You can also view services and facilities such as schools, community centres, and libraries. With this tool, you can download your map or other outputs for future reference.

City of Toronto's Neighbourhood Profiles

Toronto is divided into 140 neighbourhoods. Each neighbourhood is unique and reflects Toronto's diversity. The neighbourhood profiles, prepared by the City's Social Policy Analysis & Research Unit, provides detailed information about each neighbourhood, such as changes in population and socio-demographics.

Raising the Village

Raising the Village is an initiative of the Toronto Child & Family Network that focuses on improving the outcomes for children and family. This website has an interactive tool that allows you to compare neighbourhoods across various indicators of child and family wellbeing and map available services.

Toronto Language Map

Developed by Social Planning Toronto, the Toronto Language Map is an interactive resource that allows users to explore Toronto's evolving linguistic diversity over the past decade. Using 2006, 2011 and 2016 census data, this tool reveals the changing linguistic makeup of the city based on the languages that residents speak most often at home.

HELPFUL HINT:

If you have a skilled researcher on your team, you may want to go directly to the data source. **Data Sources** in Section 8: Other Important Resources includes some places you can directly access data sets.

Other places to look for data about the social, political, and economic conditions facing your community may include local newspapers, local government task force/reports, and foundation reports. Some non-profits also collect their own data through annual surveys and other means, such as the Daily Bread Food Bank and People for Education.

Where to Get Help

- Toronto Public Library's Book a Librarian service. A free 30-60 minute one-on-one session with a librarian. They can help you to do research and more!
- Statistics Canada offers free webinars on a wide range of topics from the Census program to navigating the Statistics Canada website. You can also call their toll-free number (1-800-363-1136) to ask questions about StatsCan data and where to find it.

Doing Primary Research

After you've reviewed all the research and data other people have collected, it's time to collect your own. Conducting primary research can be time-consuming and require attention to detail. It should be used to address questions that cannot be answered by existing data or to learn more about a particular issue. Primary research includes questionnaires, observation, focus groups, interviews, and case studies.

Primary research can also be used to gather feedback from the local residents. This may include asking residents what they would like the community hub to look like, where it should be located, what features are nice to have and which are must have, and so on and so forth. Engaging residents in these types of discussions is important in creating a unified vision and ensuring everyone's contribution is sought out and heard.

For further reading on data collection methods:

- Selecting Data Collection Methods by the Centers for Disease Control and Prevention
- Detangling Data Collection: Methods for Gathering Data by the Harvard Family Research Project

Bias is a crucial factor that must be considered when designing a research project and one reason to have an experienced researcher on hand when conducting primary research. Bias occurs when a researcher is interested in achieving a certain result and that desire influences the research study. Bias occurs in all research studies; however, it is important to minimize its impact to ensure the study findings are still reliable.[16] For example, bias can occur when your participants aren't representative of the population you are studying. When conducting a community assessment, it is very important that your sample includes a cross-section of residents that accurately reflects the community.

[16] Smith & Noble, 2014

HELPFUL HINT:

To build your capacity to conduct high-quality research, try partnering with an organization or an academic institution. Conducting a community needs assessment could be a good project for a university student!

SECTION 5:
GETTING RESOURCES

Introduction

A lot of work can be accomplished with the power of volunteers but at some point in the development of a community hub, funding and resources will be needed. The stage during which this becomes essential to your initiative will depend on your group's capacity and what you are trying to accomplish.

This section will explore ideas for accessing in-kind contributions, sponsorship and donations. It will also review places to apply for seed funding and resources for writing a strong grant application.

Now the task is simple for you and your allies — go tell people your story, share your vision and build relationships that can help you reach your dream. You know what you want — share that and listen to what others want. When you find common ground, you have found new allies that can help with the resources needed. Help comes in many ways: volunteers, free pizza, free space for meetings and cash in the form of donations or sponsorships.

In-Kind Contributions

In-kind contributions refer to donations of goods and services *other than cash*. Examples can include goods (like computers), services (like printing) or time (like research advice or coordination support). In-kind contributions can be an important catalyst to get your initiative off the ground.

Start by matching what you need and what an organization can offer. If you need someone to help coordinate meetings, consider approaching a local organization that would also benefit from having the hub developed. If you just need meeting space, consider approaching your local school, library or place of worship. If you need food for your meeting, ask a local restaurant to donate a healthy snack or meal in exchange for promoting their business.

When seeking in-kind contributions, the key is to start local. Local businesses and organizations will be more motivated to offer in-kind contributions because they want to contribute to the community and will benefit from the outcomes of the project. The key to getting in-kind resources will be how well you can pitch your idea.

When you approach someone for an in-kind donation, be sure to emphasize the vision that your group is working towards and what advantages they might gain from helping out. A pizza owner might like the idea of more traffic near the shop or the bank manager may want more exposure to new banking services in the neighbourhood. The owner of a business may have a child and knows there is a lack of opportunities for fun in the neighbourhood.

Be sure to appropriately acknowledge your supporter for their in-kind contribution. For example, if the library allows you access to meeting space for free, start the meeting by publicly thanking the library for their generosity. For larger contributions, you may want to include their logo on your event flyer but you will always want to get the company's approval first.

When asking for in-kind donations, remember that it will become easier the more often you do it. It's all part of the process of developing the skills you need to advocate for your hub.

Commercial Sponsorship

Sponsorship is similar to in-kind donations except there is typically an expectation of commercial return. This means that the business or company expects that their donation will benefit from publicity. This can include improving community relations or increasing brand recognition. Sponsorship is most often seen in sports — Coca Cola was the first commercial sponsor of the Olympic Games in 1928.

Commercial sponsorship is often larger in scale than in-kind donations and includes extensive promotion of the company. When entering into commercial sponsorship agreements, it is very important that both the sponsor and sponsored party have a clear understanding of the relationship. During the initial stages of your hub development journey, you may consider getting a sponsor for your event or activity. Down the line, a sponsor may actually help you build or renovate your facility.

Major sponsorships almost always start with relationships. The next person you meet may know someone who knows someone else who can offer financial support. So, seize every opportunity to share your story. Although you are setting your sights on achievable goals, there is always the possibility that someone might say they would like to jump aboard and help you make it happen. For this reason, it is also helpful to have a ball park idea of what the full cost would be to execute the entire project.

Accessing Seed Funding

The term **seed funding** refers to early investment meant to support a venture until it can secure its own cash flow or is ready for other investment. In terms of community hub development, seed funding can be used to support the visioning process or the community assessment process, amongst other things.

Some foundations have funding streams specifically for this purpose. Two examples include:

Ontario Trillium Foundation's Seed Grant Stream

Ontario Trillium Foundation (OTF) is an agency of the Government of Ontario and offers grants that support healthy and vibrant communities in Ontario.[17] Their Seed Grant stream specifically supports projects at the idea or conceptual stage. These projects must be aligned with one of their priority outcomes.[18]

Community Hubs Facilitation Program

A new program from the Ontario Ministry of Infrastructure, the Facilitation Program provides support to community organizations involved in developing a hub in Ontario. The program provides funding to successful applications to hire a facilitator to assist them in their development process.

Through the Community Investment Funding program, the City of Toronto offers grants to support new and emerging groups, support sector resilience, and encourage resident engagement and leadership development. One of these grants may be suitable to support an event that you are organizing.

HELPFUL HINT:

The **Toronto Sports Council** has compiled an extensive list of funding opportunities. Check out **their guide** for granting and other opportunities. It is updated annually.

HELPFUL HINT:

It is important to note that most funders require the recipient to be an incorporated non-profit and/or registered charity. If your group does not have the necessary status, you could request that another organization acts as your **Trustee**. For more information about working with a Trustee, check the funding guidelines for the grant or foundation. This **Guide** from the City of Toronto provides some general information for working with a Trustee.

[17] Ontario Trillium Foundation, n.d.-a
[18] Ontario Trillium Foundation, n.d.-b

Writing a Grant Application

Here are some high-level tips to keep in mind while you prepare your grant application.

Get started early. Grant applications take time. Thinking through a solid proposal, recruiting partners, gathering research and then writing the application requires a significant amount of time. Depending on the size of the application, you will want to get started at least one month in advance.

Talk to a program manager. Start by running your idea by someone at the foundation or funding body. This is a straightforward way to find out if your proposal fits with their mandate and how you can further refine it.

Get advice from other successful applicants. Grants can sometimes be complicated and time consuming. Knowing people that have done it before or visiting places that have received funding before is very helpful. Funders almost always have past recipients listed on their website or in their reports.

Answer the question being asked. When you are writing your grant application, be sure to only answer the question being asked. Be clear and direct in your response so the person reviewing your application can easily understand what you mean. If you aren't sure what a question means, ask a program manager.

More isn't always better. When you are planning your project, be realistic about what you can deliver. Make sure the activities you outline are realistic given your timeframe and budget. Remember, if your application is successful, you will need to carry out your proposal as you've described it. So, make sure it is achievable!

More resources on writing a successful grant application:

- Top Ten Grant Writing Tips by the Toronto Arts Council
- Grant Writing: Top Tips (video) by ArtReach
- Grant Writing 101 (Toolkit) by ArtReach

Letters of Support

Depending on the funding application, you may want to (or be required to) include a Letter of Support. A Letter of Support can come from a community leader, an organization, or another funder and shows that your funding proposal has merit. A sample **Letter of Support** is included in Appendix E.

Formal Partnerships

A **memorandum of understanding** (or MOU), sometimes called a partnership agreement or collaborative agreement, is an agreement between two or more parties that outlines the terms of a working relationship, including obligations, roles, and responsibilities for each party. Creating an MOU facilitates increased transparency and accountability by those working within it. MOUs have the added benefit of lending legitimacy to a collaborative project. This can be helpful when applying for grants and other sources of funding, as many funders require an MOU as part of their application process. Generally, MOUs are not legally binding, but are sometimes used as a first step towards creating a legal contract. See Appendix F for a list and explanation of the sections commonly found in an MOU.

Community Benefits

Community Benefits Agreements (or CBAs) are negotiated between a development agent and a coalition of community-based groups.[19] The community coalition represents and gives a voice to residents in facility planning and land development. The CBA outlines benefits that the community will enjoy from the project and can include jobs, training or apprenticeships, and other neighbourhood improvements.[20]

Community Benefits Agreements are quite remarkable because they result in more equitable and inclusive development processes that serve to advantage historically marginalized populations. While still a new concept, CBAs are growing in popularity as a way to build more vibrant neighbourhoods. If there is a new development on the horizon in your area, a CBA may help you obtain the space needed for a community hub. However, it should be noted that Community Benefits Agreements are very time sensitive. There is usually only a small window of opportunity to negotiate a CBA with a developer.

The Toronto Community Benefits Network exists to advocate widely across the city for such agreements. They work directly with grassroots organizations to help secure agreements that enhance neighbourhoods.

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[19] Galley, 2015

[20] See note 19

SECTION 6: CASE STUDIES

Introduction

Many community hubs have already been established and there is much to learn from their experiences. In this section, you will have the opportunity to review four case studies of Toronto-based initiatives. These projects all differ in terms of model, approach, and maturity, and highlight the diverse catalysts and strategies that give rise to developing a community hub.

Pop-Up Infrastructure

popupinfrastructure.com

Partner Organizations: Delta Family Resource Centre, Scarborough Arts, African Canadian Heritage Association, Toronto Community Housing Corporation, Giant Container Services, Action for Neighbourhood Change Weston-Mount Dennis/Social Planning Toronto

Governance Model: Consensus model of decision making; no formal terms of reference; regular monthly meetings for approximately a year

Funding Model / Main Sources of Funding: Received a seed grant to conduct feasibility study from the Ontario Trillium Foundation

Date Established: While a community hub has not been established, a portable for youth programming opened in 2014

What is 'Pop-Up Infrastructure'?

Pop-up infrastructure is "… characterized as buildings, structures and spaces that are flexible, mobile, modular, quickly deployed and that can respond to changing needs."[21]

How did your hub get its start? What was the moment that you realized a community hub was needed?

In 2009, residents in the Weston-Mount Dennis area, Action for Neighbourhood Change/Social Planning Toronto and St. Alban's Boys and Girls Club identified the need for community space for youth programming/after-school Boys and Girls Club. There were not many choices

[21] Delta Family Resource Centre, 2017, p. i

available and the group finally settled on an underused parking lot at York Humber High School, which is owned by the Toronto District School Board (TDSB).

It took about 5 years before physical space (a portable) became available for the community's use. The frustration with this lengthy process, along with many lost opportunities to serve youth at a time when they needed programs and services, resulted in dialogue among community partners from the inner suburbs who were all facing the same problem.

During the quest to find and build youth programming space in Weston-Mount Dennis, a loose knit group of partners recognized that despite the many systemic roadblocks of legislation, policies, regulations, and bureaucracy, pop-up infrastructure could be a viable solution for meeting communities' needs for affordable space. With the lead of Delta Family Resource Centre, funding was secured to explore the feasibility of pop-up infrastructure to address community, social, economic and recreation/cultural needs in the inner suburbs.

What steps did you take to lead to the development of a hub?

As mentioned before, a hub has not been developed; however, the initial steps of finding youth programming space could provide some considerations and learnings for developing a hub.

First, residents identified and articulated the need for youth programming and youth space. So, from the beginning, this was very much a resident-led process that involved people who were living in the neighbourhood and who had and saw a true need.

Residents, working with community organizations, then began to search for public land/space; options were very limited. After looking and finding out about different places, they settled on an underused parking lot owned by the TDSB. The group then began navigating the varied processes of securing that space via zoning measures, obtaining permits, environmental assessments, and developing site plans. The TDSB had a lot of red tape to go through since this had never been done before.

After a lot of research, many meetings and consultations, and getting the support of the local councillor and the TDSB, a portable was eventually established on the parking lot. This all took a long, long time. TDSB has also given permission for additional portables to add to the parking lot to increase space.

What was one challenge you faced and how did you overcome it?

There wasn't just one challenge, but a series of challenges. Finding out what space was available was difficult. Finding pathways to information about space was very time consuming. Of those spaces that were available, the group wondered: which did they have a realistic chance of acquiring? Who owned these spaces – the City or the Province? Finding funding was also challenging – one question that loomed top of mind was how could they raise the money needed to redevelop the space? Funding for programming is easier to come by than capital funding.

To overcome these challenges, Pop-Up Infrastructure focused on building relationships and trust, aligning their interests, learning power dynamics in the community, and getting the support of local champions (eg. City Councillor and School Board Trustee).

What advice would you give to someone who is trying to develop a hub?

Make sure you know what you want to do and what the impact will be; *believe* in it. People get disillusioned; projects can seem as though they aren't doable or viable. You need to have the energy to sustain the effort.

Lawrence Heights Sports, Wellness and Achievement Network (SWAN)

schoolweb.tdsb.on.ca/baycrest/Parents/Sports-Wellness-and-Achievement-Network

Partner Organizations: Looking to develop a formal partnership with the Toronto District School Board. Members come from over 20 sports organizations, 5 area schools, Lawrence Heights community organizations, the City of Toronto, Public Health, and funders, particularly Canadian Tire Jumpstart.

Governance Model: 1 lead coordinator and 1 co-coordinator; roughly monthly meetings with core group of members/member organizations ('steering committee'); informal process as yet

Funding Model / Main Sources of Funding: Currently case by case application to charitable organizations, one-time donations; looking towards more sustainable model

Date Established: First general meeting was June 2017

How did your hub get its start? What was the moment that you realized a community hub was needed?

Rather than a 'moment', it was a period of years in the making. Steve Whitaker, a faculty member at Baycrest Public School, began speaking with colleagues in 2014. As a classroom and phys-ed teacher, as well as a coach, Steve had a broad view of his students' overall health. He noticed connections between lack of academic achievement and lack of fitness. This was in turn connected to the fact that most of his students did not participate in sports and wellness programming outside of school due to various socioeconomic factors. He began thinking about what could be done about this at a community level.

What steps did you take to lead to the development of a hub?

Steve started by engaging, engaging, engaging! In speaking with people, first with other school staff during lunch, he started to build connections with other people who shared his concerns. From there, a network started to form. Meetings were held at Steve's school and at other schools in the community.

Can you describe your hub model?

This is very much in development. SWAN is a young organization and hopes to establish a model that can be shared and utilized elsewhere across the city. Currently, SWAN utilizes a flexible and mobile model where services and events are delivered in community settings, primarily the 5 SWAN schools.

How is SWAN structured?

With Steve as the lead coordinator and Jeff Carmichael as co-coordinator, they spend a lot of time communicating with sports providers to arrange events that benefit students from each of our 5 member schools. Meetings occur approximately monthly, attended by roughly 25 members each time (a core group, or steering committee, is forming), and they discuss new opportunities and plan events. They have only had one full year of events thus far (and it was very successful) and are now in the midst of year two. Which will be bigger and better, of course!

What was one challenge you faced and how did you overcome it?

There were (and still are) so many challenges! From where to start; to how to engage the TDSB administration; to finding money, space, help, time, personnel… The key to resolving all of these has been open communication (see below).

What advice would you give to someone who is trying to develop a hub?

Frequent, clear, and open communication is key — both in terms of face to face meetings and via email etc. If you are convinced there is a need for your hub, then likely you are not the only one. Speak, reach out, begin the discussions and see where they lead. You may be surprised, as Steve was, at how much interest is out there! People just need someone with the time and the drive to coordinate things. If they don't have to take the lead themselves, they are often more than happy to pitch in!

Steve recommends using an approach that is never authoritative. He explains what he thinks the needs are and recognizes the expertise and the extremely busy lives of the people he is talking to. In all his connections there is give and take — they support each other. It's about how they can work together to make their community/city/world a better place. Steve has noticed that people seem to really respond well when you listen and sincerely recognize the great work they are already doing, and when you identify ways that you can help them as much as they can help you.

Rexdale Community Hub

rexdalehub.org/

Partner Organizations (present): Albion Neighbourhood Services, Delta Family Resource Centre, Rexdale Community Health Centre, Rexdale Community Legal Clinic**,** Rexdale Employment Services, Rexdale Women's Centre, and Rexdale Community Hub. Initially there were 11 partners; however, some are no longer involved for reasons such as lack of funding and limited organizational capacity.

Governance Model: Charitable non-profit organization; managed by volunteer Board of Directors comprised of 4 tenant representatives (from the Hub), 3 Rexdale residents and 3 community members at large; the City of Toronto is the landlord.

Funding Model / Main Sources of Funding: The City of Toronto purchased the property, a former Catholic school, from the Toronto Catholic District School Board. Funding sources for the redevelopment and establishment of the Hub came from the United Way of Greater Toronto, federal and provincial funding and the Ontario Trillium Foundation. Hub tenants pay rent and operating fees.

Date Established: March 2012

How did your hub get its start? What was the moment that you realized a community hub was needed?

There were a number of moments that informed the need for a community hub. The United Way of Greater Toronto released its report "Poverty by Postal Code" in 2004, which identified increasing poverty, lack of community infrastructure and limited social and recreational services to residents in the inner suburbs, including that of Etobicoke.

In 2005, after the "Summer of the Gun", Jamestown/Rexdale was identified as one of 13 priority neighbourhoods which underscored the need for investment and revitalization. Other reports from the City and the Province and numerous community consultations also highlighted the need for a community hub.

In June 2007, the City of Toronto and United Way Toronto worked with eleven community-based organizations, led by Albion Neighbourhood Services and Rexdale Community Health Centre to develop the business case to create an effective multi-service hub based on identified community needs, the stage was set to find community space and funding to build a community hub.

What steps did you take to lead to the development of a hub?

In December 2008, the Toronto Catholic District School Board notified the City that Father Henry Carr Secondary School at 21 Panorama Court was surplus space. It was agreed that this

would be prime space for a community hub, so the City purchased the building for $4.5 million. Until the hub doors opened in 2012, many meetings, consultations, plans/reports and assessments occurred. Some of these included a building assessment, environmental assessment, business case, approval of capital costs allocation, and construction lasting for two years.

Can you describe your hub model?

As mentioned, the Hub is a charitable non-profit organization managed by a volunteer Board of Directors. Of further note, the Rexdale Hub offers free space to grassroots organizations. Since 2012, over 100 grassroots organizations have made use of the space. Rexdale Hub is not just service based, there is the belief that the community has much to contribute and give back. Community engagement is fundamental to the Hub.

What was one challenge you faced and how did you overcome it?

Convincing funders to finance the Hub and its operations to create a sustainable model was, and still is, a huge challenge. Resident input is key. Getting small grants also helped move the process forward. For example, the Ontario Trillium Foundation provided funds to develop a strategic and business plan.

What advice would you give to someone who is trying to develop a hub?

First, and most importantly, ask the question: *"Why a Hub?"* How would a hub be a solution to the identified problem? A comprehensive and thorough community needs assessment should be a part of answering these questions.

Community Action Planning Group (CAPG)

Future Community HUB and Centre for the Arts

capgyw.wordpress.com/

Partner Organizations: Toronto Community Benefits Network, Jane/Finch Community and Family Centre, City of Toronto, Ontario Trillium Foundation, Metrolinx

Funding Model / Main Sources of Funding: Currently unfunded. CAPG has received some funding to write a feasibility study, a business model, and a governance model. However, their work remains largely possible thanks to the tireless work of volunteers and in-kind support from partner organizations.

Date Established: The hub hasn't been created yet, but CAPG was established in 2012.

What is CAPG and how did it start?

CAPG was created by a small group of residents to address problems with planning in the Jane/Finch community. It currently has three main focuses: the creation of a community hub, other planning proposals in the Jane/Finch community, and anti-black racism in planning. CAPG's mission is to be proactive about planning in the Jane/Finch community.

With excitement over the planning of a community hub, CAPG began to expand. They now have about 120 community members on their mailing list and over 30 active members.

What is the structure of CAPG?

CAPG has a multi-pronged approach with several committees. The Advocacy Committee advocates for a space for the hub and meets with local councillors and Metrolinx representatives on a regular basis. The Resource Development Committee has successfully applied for funding from the Ontario Trillium Foundation to hire a coordinator and complete a feasibility study, and from the City of Toronto to develop a governance model and business plan. The Communications Committee puts out a quarterly report and maintains the website and social media. The Arts Committee determines the needs of the arts community. Finally, the Coordinating Committee consists of a leader from each of the committees and the CAPG Chair, Secretary and Treasurer.

What steps did you take to lead to the development of a hub?

The first time the group met to discuss the possibility of a community hub was when they found out that the City of Toronto was going to transfer a large parcel of land at Jane and Finch to MetroLinx to build a maintenance storage facility for the Finch LRT. Members of the group were horrified when they found out about the intention to build a storage facility right in the heart of the Jane/Finch community. Although the community had long seen the need for a community

hub, it was when they heard about this land transfer and new development project that they saw an opportunity to begin concrete discussions.

Artists have always been part of the push for a hub in the Jane/Finch community, which is why the proposal is for a Community HUB and Centre for the Arts.

Overall, the first step was determining the need for a hub, which the community always knew they had. Next, the availability of a space was critical.

Can you describe your hub model?

CAPG is currently undergoing a project to develop a governance model and business plan. Based on the group's feasibility study, it is likely that their hub model will be similar to a community centre.

What was one challenge you faced and how did you overcome it?

The biggest challenge for CAPG with regard to the hub was that the City of Toronto transferred the land to Metrolinx before allocating a portion of the land for the community hub. As a result, they have had to continuously advocate for the physical space required to build the hub.

What advice would you give to someone who is trying to develop a hub?

Build the capacity of the members of your group. Make sure you're reaching people who reflect the community and are including them in the hub development process. Ask yourself and your community: "What services do you have for your community to access?"

SECTION 7:
OTHER IMPORTANT RESOURCES

Finding Meeting Space

If you are looking for space to hold your meeting or community event, here are some places to consider. While some of these spaces do cost money, partnering with the owner or having them at your table is a good way to ensure ease of access. If you aren't able to partner with the facility owner, try partnering with a non-profit organization. Most facilities offer reduced rates for non-profits.

City of Toronto's Parks and Recreation Facilities

The City owns a variety of facilities including community centres and parks which are available for residents to permit. The City also has 39 Centres Where Programs Are Free that can be permitted free of charge by residents. Non-profits can permit any community centre at no cost.

Toronto District School Board

The Toronto District School Board (TDSB) has classrooms, gyms and other spaces available for permitting. Fees are charged according to an established schedule. However, the Priority School Initiative provides non-profit groups free access to 77 schools.

Toronto Catholic District School Board

The Toronto Catholic District School Board (TCDSB) also offers a range of spaces for permit by community members and groups. The TCDSB offers the Priority Schools Initiative at 23 different sites.

Toronto Public Library

The Toronto Public Library (TPL) has rooms available for rent at several of their branches. All rooms have a cost, however there is a reduced price for non-profits. Events developed through collaboration between TPL and organizations with common goals can take place in the library free of charge. Contact your local branch or call their answer line at 416-393-7131.

Local Places of Worship

Churches, mosques and other places of worship often have spaces available for rent at reasonable rates. Check with your local facility or look up their website online.

HELPFUL HINT:

Keep in mind that places of worship are not accessible for everyone, especially some faith communities. Be sure to consult with various community members before you choose to host an event at a place of worship. It is important to ensure it is a comfortable place for everyone.

Data Sources

If you have a skilled researcher on your team, you may want to go directly to the data source. Here are some **datasets** you may want to check out. This is not a comprehensive list.

Early Development Instrument (or EDI)

A short questionnaire administered by kindergarten teachers to measure a child's development.

Ontario Data Catalogue

Listing of all available datasets released by the Government of Ontario.

City of Toronto Open Data Catalogue

Listing of all available datasets released by the City of Toronto.

Statistics Canada's Census of the Population

Collected by Statistics Canada, the Census of the Population is a survey conducted with Canadians on a range of topics, such as educational attainment, immigration status, languages spoken, and so on. Information is available at many different geographic levels and provides a portrait of the population. Statistics Canada also has many other surveys which may be useful.

Toronto Police Services Public Safety Data Portal

Data on major crime indicators, homicide, traffic, and fatal collisions. Also includes mapping tools.

Toronto District School Board's Parent and Student Census

The TDSB conducts its own system-wide census to better understand the needs, experiences, and demographics of their student population. Data is available through their publications.

Ontario Community Health Profiles Partnership

Ontario-wide data on health and health-related indicators.

Community Data Program

A membership-based program that facilitates access to data products, analytical tools, and services to public, non-profit and community sector organizations. The program has a repository of more than 800 data products from 20 public and private sector data providers offering data at municipal and neighbourhood geographies.[22]

More Resources

- Community Hubs by Design by Vibrant Communities Calgary
- Creative HubKit: made by hubs for emerging hubs by the British Council
- The Little Community That Could, The Story Behind Our Story – Our First Decade of Building Community Together (June 2012) by Cathy Mann. This short book documents the history of the East Scarborough Storefront, an innovative community hub in Toronto
- Pop-up Infrastructure by Delta Family Resource Centre
- Toolkits on a variety of topics from writing a fundraising letter to event planning to evaluation by ArtReach

[22] Community Data Program, n.d.

SECTION 8: GLOSSARY OF TERMS

Accessibility needs

describes what a person requires in order to fully participate in the meeting, event or other activity. Common accessibility needs include translation or supports for mobility, hearing, or vision challenges.

Ally

someone with a common cause or purpose.[23]

Bias

"any influence that provides a distortion in the results of a study."[24]

Chair/Chairperson

the individual who presides over a meeting or group. The person provides leadership and oversight to the business at hand. This role may also be filled by co-chairs when the responsibility is shared by two or more people.

Community assessment

the process by which you systematically evaluate the needs and resources of a community.

Community benefits agreement

"a contract signed by community groups and a real estate developer that requires the developer to provide specific amenities and/or mitigations to the local community or neighbourhood."[25]

Community hub

according to the SPACE Coalition, it is a central point where residents can access a range of services, programs, and/or activities offered by diverse organizations, community groups or individuals depending on the needs of the community.

Consensus

general agreement. It does not mean that everyone agrees but rather that no one strongly disagrees.

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[23] Dictionary.com, n.d.
[24] Galdas, 2017, p. 1
[25] Partnership for Working Families, n.d.

Dataset

a collection of related data.

Facilitator

a neutral person who plans, guides and manages a group meeting to ensure that the group's objectives are effectively met with participation from everyone involved.[26]

Identity

the distinct characteristics belonging to a particular individual. Identity characteristics include, but are not limited to, age, gender, sex, race, ability, place of residence, socio-economic status, culture, and so on.

Lived experience

the knowledge and understanding one gains from living through something. It is often used to challenge traditional, authoritative concepts of knowledge by recognizing and valuing the knowledge that one has from first-hand experiences.

Mission statement

a short explanation for the organization's existence. It describes what the group does and why it has to do it.

Open data

structured data that is freely available for everyone to use, share and re-publish.[27]

Permit

a document that grants authorization or consent for someone to do something. In the case of accessing space, a permit gives the permit holder permission to use the space and outlines the parameters of that use.

Primary data

original data that is collected for a specific reason or purpose.

Qualitative research

seeks to understand a phenomenon, is focused on meaning and may be descriptive. It is often used to answer How and Why questions.[28] Methods include focus groups, in-depth interviews, and reviews of documents for themes.

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[26] Community Toolbox, n.d.
[27] Open Definition, n.d.
[28] McGill Qualitative Health Research Group, n.d.

Quantitative research

seeks explanation or causation. It is often used to answer What, When and Where questions.[29] Methods include surveys, structured interviews and observations, and reviews of documents for numeric information.

RSVP

the French abbreviation which is short for répondez s'il vous plaît which translates to “please respond.” It is a common expression used to ask guests to let the organizer know if they plan to attend or not.

Secondary data

data that has already been gathered by someone else.

Seed funding

early investment meant to support a venture until it can secure its own cash flow or is ready for other investment.

Stakeholder

a person with an interest or concern in something.

Terms of Reference

a document that defines the purpose and structures of a project, committee, meeting, or any similar collection of people who have agreed to work together to accomplish a common goal. It describes how the group will work together and the responsibilities of members.

Trustee

an incorporated not-for profit organization with the financial systems and organizational structure to administer another group's funds.[30] The Trustee organization is usually responsible for administration, reporting and oversight and can charge up to 20% for those services.

Values

“basic and fundamental beliefs that guide or motivate attitudes or actions.”[31] Values help a person determine what is important to them. Examples include honesty, kindness, family, etc.

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[29] See note 28
[30] City of Toronto, 2013
[31] Mintz, 2018

Vision statement

a short description of what the organization hopes to achieve. It is used to guide internal decision-making.

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APPENDIX A: SAMPLE TERMS OF REFERENCE

SPACE Coalition
Terms of Reference
Revised June 2018

1. Vision

We believe that community use of public space is a cornerstone of healthy neighbourhoods and communities.

2. Mission

The SPACE Coalition advocates for affordable, accessible and equitable access to public space that is welcoming to all residents. SPACE will play a leadership role in attaining maximum community use of public space across Ontario, particularly in schools, by:

- Building community connections and engagement;
- Conducting research;
- Assisting in public policy development;
- Providing education and public awareness activities; and
- Engaging in advocacy with the appropriate decision makers.

3. Who We Are

The SPACE Coalition is a diverse group of city and provincial organizations, community groups and individuals that aims to maximize community use of public space.

4. Committee Governance Structure

Membership is open to individuals and organizational representatives bringing perspectives from diverse groups with an interest in public space. SPACE will encourage participation based on affiliations and geography.

Membership is classified as:

- Associate: Members who attend most meetings and can be listed on reports;
- Affiliate: Those who do not generally attend meetings, although they are welcome to do so, but do receive mailings.

5. Leadership Team

The Leadership Team will consist of a Chair or Co-Chairs, Secretary and Treasurer and can include other Associate Members as needed. They will have equal status with regard to agenda

setting and meeting management. The Leadership Team will be responsible for overseeing SPACE's work to ensure that it aligns with our Vision and Mandate.

The role of SPACE Coalition spokesperson will be designated per issue by the Leadership Team.

6. Terms

Associates will cease being Members when they withdraw or request to change to Affiliate status. Affiliates will cease being members when they withdraw, unsubscribe or whose emails consistently bounce back.

The term of office for the Chair/Co-Chairs, Treasurer and Secretary positions shall be one year. Elections will take place annually at the May meeting. The Chair(s), Treasurer and/or Secretary may be re-elected.

7. Quorum

There being no defined number of members, quorum will be deemed as a minimum number of 5 attendees. Teleconference/electronic participation is acceptable.

8. Meetings

Meetings will be held monthly (approximately 9 per year). Occasional meetings may be by conference call/electronic participation, if necessary.

Workgroups, if required, may meet more frequently.

Minutes of meetings and background information should be circulated one week prior to the next meeting.

Meetings shall be organized at times convenient to the majority of the Associate Members.

9. Minutes

Minutes may be recorded by any member in attendance.

Minutes will be made available to SPACE Associates and Affiliates through E-News Updates.

10. Decision Making

Where possible, decisions will be made by consensus.

When votes are necessary, a simple majority will be sufficient.

Financial decisions must be voted on and recorded in the minutes.

11. Annual Plan and Budget

Resources and Terms of Reference will be reviewed annually at the May meeting.

APPENDIX B: SAMPLE AGENDA

SPACE Coalition Meeting
Wednesday, May 18th, 2016, 9:30-11:30 a.m.
Social Planning Toronto, 2 Carlton Street, Suite 1001
Toronto, ON

DRAFT AGENDA

1. Introductions, approval of agenda and reminder of side-bar issues to be noted for later discussion
2. Regrets: Ari Smith
3. Minutes of April 14, 2016 — Corrections/additions, approval
4. Updates
5. Meeting with City Councillor
6. Community Hubs Influencer Series
7. Fall symposium
8. Other business
   a) McNicoll Public School
   b) Facilities Partnership Meeting
9. Group Check-in re. meeting /governance issues/feedback
10. Next meetings and location — June 13 at Social Planning Toronto, Suite 1001, 2 Carlton St.

APPENDIX C:
SAMPLE SIGN-IN SHEET

Project:

Location:

Date:

Time:

	Name (first and last)	Organization	Phone number	Email address
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

APPENDIX D: SAMPLE MEETING NOTES

SPACE Coalition Meeting
Meeting Notes
Wednesday, May 18th, 2016
9:30 a.m. - 11:30 a.m.
Social Planning Toronto, 2 Carlton Street, Suite 1001
Toronto, ON

Meeting Chair: Susan Fletcher

Minutes: Sharma Queiser

Present: Lynn Manning, Mary Hynes, John Ryerson, Sophia Ali, Julie Charlebois

Regrets: Chiara Padovani

1. **Welcome/Introductions**
   - Agenda accepted by consensus
   - Noted that Terms of Reference should be added to next meeting agenda
   - **Action Item:** Lynn will distribute the most recent version of the Terms of Reference
   - Minutes accepted by consensus as amended

2. **Updates:**

   a) Meeting with City Councillor

   - It was supposed to be yesterday and needs to be rescheduled (it since got rescheduled for May 31)
   - This will be an opportunity to discuss City-School Boards Advisory Committee and ask some questions for our Community Hubs Influencer Series

   b) Community Hubs Influencer Series

   - The first edition will be with Karen Pitre
   - Karen will be visiting Susan at Applegrove and completing the interview with her

3. Fall Symposium

- November 18 and November 25 were identified as potential dates
- School cafeteria or a multi-purpose room in a community centre were identified as possible locations
- The group discussed the need for networking, critical discussions and information sharing during the event
- The group decided it should be a morning event and breakfast will be served
- **Action Item:** Lynn to look into catering options for breakfast
- **Action Item:** Sharma to invite Karen Pitre

4. Other Business

a) McNicoll public school

- TDSB is considering the selling of McNicoll School
- This school is not currently utilized as a school but houses many social services
- It will be considered by the TDSB Planning and Priorities Committee on June 15 and go to Board on June 22

b) Facilities Partnership Meeting

- Sahar shared information on a Facilities Partnership meeting that the TDSB is hosting
- **Action Item:** Susan will attend the meeting and report back to SPACE
- All Boards are supposed to host these meetings but this is the first time that the TDSB has

5. Next Meetings

- **June 13th from 9:30 a.m. to 11:30 a.m. at Social Planning Toronto, 2 Carlton Street, Suite 1001**
- Susan noted that she might be away for the June 13th meeting

APPENDIX E:
SAMPLE LETTER OF SUPPORT

November 7, 2018

Attn: Ontario Trillium Foundation
800 Bay Street, 5th Floor
Toronto, Ontario M5S 3A9

Re: Letter of support for All Sports Toronto (AST) - Community Outreach Project

To whom it may concern,

The SPACE Coalition has a long-standing relationship with All Sports Toronto (AST) in the mutual aim of maximizing community use of public spaces across Toronto. The SPACE Coalition enthusiastically endorses AST's proposed outreach project, as it will support local youth to effectively design and utilize recreational spaces in their neighbourhoods.

As a strategic outreach and action research coalition, our work consistently demonstrates that access barriers result in a lack of youth engagement with available community programming. This is especially true for youth in North Etobicoke from households experiencing poverty. We believe AST's outreach initiative has great potential to remove barriers to recreation opportunities for youth in this area.

SPACE Coalition is committed to the following tasks and functions to support this project:

- Membership on the project Advisory Committee,
- Providing community asset mapping resources,
- Actively supporting group development through resources,
- Disseminating event information on our website and social media accounts as appropriate, and
- Offering meeting space in-kind as needed.

Thank you for your consideration of this proposal. If you have any questions, or require further information, please do not hesitate to contact me.

Sincerely,

Sharma Queiser
SPACE Coalition
2 Carlton Street, Suite 1001
Toronto, ON M5B 1J3
416-351-0095 ext. 219

APPENDIX F: MEMORANDUM OF UNDERSTANDING (MOU)

Below you will find many different sections that you may wish to use when you create a comprehensive MOU. Not all sections may be relevant to your work or you may need additional sections — review the list with your partners and include what makes sense to you.[32]

Introduce parties

List the legal names of each party involved in the MOU. For example:

"Memorandum of Understanding between
Social Planning Toronto
and
SPACE Coalition"

Background and scope

Introduce your collaborative project. Be sure to describe each party involved, the issue(s) you are going to address, your goals, and the target population. Example:

"The SPACE Coalition is a diverse group of city and provincial organizations, community groups and individuals that aims to maximize community use of public space.

"SPT is non-profit, charitable community organization that works to improve equity, social justice and quality of life in Toronto through community capacity building, community education and advocacy, policy research and analysis, and social reporting."

Project actions, outcomes, and timelines

Describe how your project will take action, what outcomes you will achieve, and what the expected timelines are. You may include a detailed work plan as an appendix. Example:

"SPT and SPACE Coalition will conduct community-based research to explore the barriers and supports to youth participation in recreation activities. Using an approved research model, surveys will be conducted throughout Spring 2019, with interpretation and public dissemination occurring by August 2019. The end result of this project will illuminate ways in which youth currently access services…"

[32] Adapted from Graham, H. & Mollenhauer, L. (2011). Planning effectively as a community partner: A United Way Toronto toolkit. *United Way Toronto*. Retrieved from https://www.unitedwaygt.org/document.doc?id=232

Collaborative values and principles

Define your mutual values to help guide the collaborative process and keep your work goal-centred. Example:

"All parties will strive to apply an anti-oppression framework within all planning activities and actions in this partnership."

Roles and obligations of all parties

Create a detailed list of each party's roles and responsibilities. Example:

"SPACE Coalition's Obligations:
a) The SPACE Coalition shall identify those groups that should be contacted to participate in a community survey

b) The SPACE Coalition shall review and approve all data collection tools in a timely manner…"

Resource commitments

List the resources that each party commits to providing. These might include staffing, skill sharing, physical space, and in-kind contributions. Example:

"SPT commits to providing the following:

Eight (8) hours of meeting space per month at SPT's head office

Community assessment tools and advisory

Use of printing facilities for outreach materials"

Communication

Describe how parties will communicate with one another. This can include routine meetings and minute taking, as well as informal correspondence. Decide how the group would like to communicate with outside parties and media outlets, if applicable. Example:

"SPT and the SPACE Coalition will maintain routine communication around project activities within a reasonable timeline. Committee meetings will be held every 4-6 weeks, with minute-takers alternating between committee members."

Insurance & risk management

Specify any insurance and/or liability measures that this project will require. Example:

"To minimize risk to the community, all research activities will be approved by SPT's Research Advisory Committee prior to their implementation. Liability insurance will be obtained through SPT's current provider."

Management of funds

Detail specific party roles around how finances will be handled, including who will manage grant money, and who will report to whom. Ensure that you discuss what will happen to funds in case the project dissolves or terminates ahead of schedule. A detailed budget may be included as an appendix. Example:

"As Trustee, SPT will provide financial oversight and the administration of funds…"

Unforeseen challenges

Conflicts inevitably arise when we collaborate with one another. Come to a reciprocal agreement about how conflicts will be handled – for instance, through good faith, a third-party mediator, etc. Example:

"Each party agrees to work in good faith to resolve any unforeseen challenges that may arise during this MOU. Each party agrees to contact the other party, in a timely fashion, should circumstances arise that jeopardize the ability of the party to carry out its activities."

Changes to the collaboration

Briefly describe procedures to be followed if/as group relations are amended. Example:

"Any changes to the collaboration must be submitted in writing to all members of the collaborative partnership. Change should be achieved by consensus; if not that, then quorum (50% of members plus 1) will be sufficient. Changes to the collaboration will require the creation of a new MOU."

Termination

Describe agreed-upon circumstances in which a partner can terminate their involvement in the project. Example:

"Partners must provide two months written notice to terminate their involvement in the project…"

Signatories

Provide places for a representative from each group to sign and date the document.

Appendices

Include supplementary materials (e.g. budget, workplan, Terms of Reference) as an appendix.

SHOP
POLICE

Investing in Canada Infrastructure Program – Community, Culture and Recreation

Funding Stream Ontario Program Guidelines

Overview – Investing in Canada Infrastructure Program

The Investing in Canada Infrastructure Program (ICIP) is a federal program designed to create long-term economic growth, build inclusive, sustainable and resilient communities and support a low-carbon economy. Through the ICIP, the federal government is providing $11.8 billion dollars in federal infrastructure funding to cost-share projects under the following four streams:

- Public Transit
- Green Infrastructure
- Community, Culture and Recreation
- Rural and Northern Communities

The Province of Ontario is a cost sharing partner in these programs. Under this intake of the Community, Culture and Recreation Funding stream, Ontario is supporting community infrastructure priorities across the province. Community infrastructure is defined as publicly accessible, multi-purpose spaces that bring together a variety of different services, programs and/or social and cultural activities to reflect local community needs.

Approximately $407 million in federal funding and $320 million in provincial funding will be available for the Community, Culture and Recreation stream over 10 years starting in 2019-20. At least $30 million of federal funding must be carved out for off-reserve Indigenous projects*.

The following breakdown defines the maximum cost-share percentages of total eligible costs.

	Percentage
Federal Contribution	40.00
Provincial Contribution	33.33
Applicant Contribution	26.67

The following breakdown defines the maximum cost-share percentages of total eligible costs for Indigenous recipients (e.g. First Nations, Indigenous communities and organizations).

	Percentage
Federal Contribution	75.00
Provincial Contribution	18.33
Indigenous Contribution	6.67

** Note: Projects with an Indigenous focus will not be limited to funding from the $30 million federal carve out for off-reserve Indigenous projects. Indigenous applicants will also be eligible for funding under the broader stream.*

Facility Rationalization/Community Hub Project

City of Clarence-Rockland

October 2019

1

JML Arena
1450 du Parc
32,000 sq. ft.
Plan: **TRANSFORM**

2

Clarence-Rockland City Hall
1560 Laurier
10,626 sq. ft.
Plan: **REPURPOSE**

3

Council Chambers
415 Lemay
4,326 sq. ft.
Plan: **DECOMISSION**

4

Chamberland Comm. Centre
1517 Laurier
2128 sq. ft.
Plan: **DECOMISSION**

5

Bandshell
1450 du Parc
700 sq. ft.
Plan: **DECOMISSION**

6

Comm. Serv Garage/
Centre d'aide
2815 Chamberland
6312 sq. ft.
Plan: **SELL**

7

Museum
687 Laurier
6879 sq. ft.
Plan: **SELL**

8

St-Pascal Archives/Garage
2465 St-Pascal
2257 sq. ft.
Plan: **SELL**

9

Former Bourget Fire Station
2163 Russell
2400 sq. ft.(approx)
Plan: **REPURPOSE**

10

Baseball Diamond
1450 du Parc
Plan: **REPOSITION**

New Clarence-Rockland Community Hub

City Administration

Council Chambers

Community Centre

Bandshell

Community Services Garage

Centre d'aide

Clarence-Rockland Museum

Archives

Storage

Baseball Diamond

New Clarence-Rockland Community Hub

1

- **Former JML Arena**
- 36,000 Sq. ft.
- City Administration
- Council Chambers
- Community Centre
- Federal & Provincial services

2

Old Paramedic Station
Landry Road
Plan: **REPURPOSE**

3

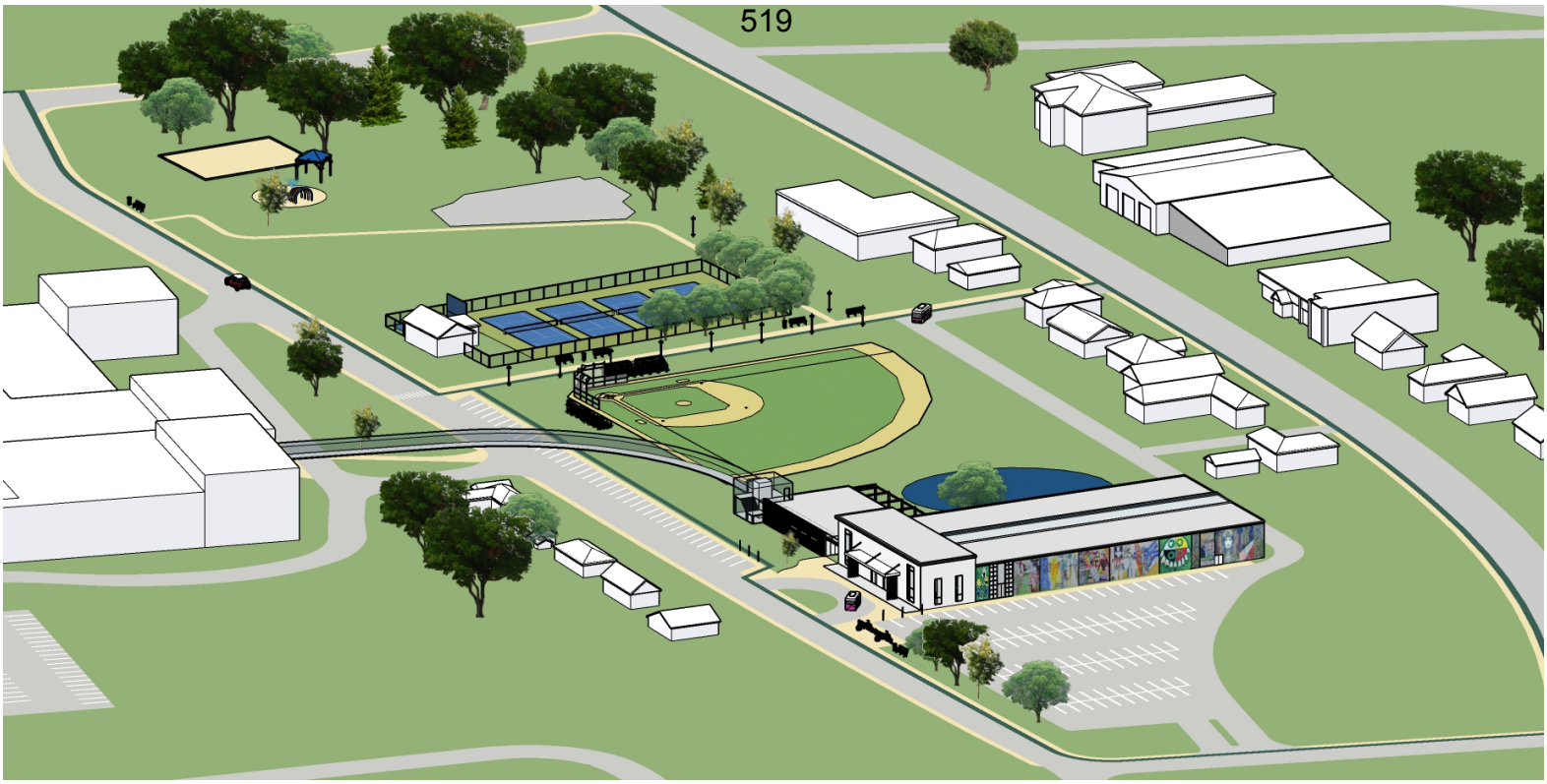
Clarence-Rockland City Hall
1560 Laurier
10,626 sq. ft.
Plan: **REPURPOSE**

4

Former Bourget Fire Station
2163 Russell
2400 sq. ft.(approx)
Plan: **REPURPOSE**

5

Baseball Diamond
1450 du Parc
Plan: **REPOSITION**



Google Maps

Presse Café

Parc Simon, Rockland

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Attachment V

Operating Budget projected SavingsRationalization

#	Property	Current Activity	Net Budget	#	After Activity	Net Budget	NOTES
1	JML	Vacant	108,342	1	Community Hub Chamber comm centre Council Chambers	150,000	Estimate
2	1560 Laurier	City Hall	255,000	2	Centre d'aide Museum Archives	155,700	Keep maintenance &snow
3	Chamberland Street	Recreation Operations Centre d'aide	48,500		Sell	0	New tax revenue
4	Chamberland Community Centre	Valoris 3 year contrcat	13,300		Decommission	0	
5	Museum		17,000		Sell	0	
6	415 Lemay	Council Chambers	79,000	3	Downsize	40,000	Keep Maintenance
7	Bandshell		0	4	Re-locate	0	
8	Landry Building		0	5	Comm Sers Ops	40,000	
9	St Pascal	Archives	12,000		Sell	0	
10	Former firestation 1	Empty	0		Store PW equipment and spare Fire truck	0	
11	Baseball Diamond		0	11	Baseball Diamond	0	
Grand Totals			533,142			385,700	

Net SAVINGS	147,442

City of Clarence-Rockland
Council/Board Accounts Payable Report by Department
September 9th, 2019 to October 20th, 2019

	DPT Code	Department Name	Vendor Code	Vendor Name	Invoice Number	Invoice Description	GL Account	GL Account Name	Amount
1	25	TAXES RECEIVABLE	CHCLE002	C.H.CLEMENT CONSTRUCTION INC	19SEP2019	MPAC PROP.TAX ADJUSTMENT 01602118525	1-1-0025-0115	Temporary Adjustments - Taxes	10,313.95
2	25	TAXES RECEIVABLE	CHCLE004	C H CLEMENT CONSTRUCTION INC	16SEP2019 555	MPAC PROP.TAX ADJUSTMENT PRAN 01602118555	1-1-0025-0115	Temporary Adjustments - Taxes	7,881.65
3	25	TAXES RECEIVABLE	MCAPZ001	MCAP SERVICE CORP	OFORI	OVERPAYMENT PROP.TAX 02100410969 OFORI	1-1-0025-0115	Temporary Adjustments - Taxes	5,961.38
4	65	PAYABLES - PAYROLL	GREWE001	GREAT-WEST LIFE ASSURANCE COMP	3OCT2019 DIV1	PREMIUMS POLICY NO. 136826 DIV 1	1-2-0065-0251	G.W.L.	27,346.50
5	65	PAYABLES - PAYROLL	GREWE001	GREAT-WEST LIFE ASSURANCE COMP	3OCT2019 DIV3	PREMIUMS POLICY NO. 136826 DIV 3	1-2-0065-0251	G.W.L.	62,488.61
6	65	PAYABLES - PAYROLL	GREWE001	GREAT-WEST LIFE ASSURANCE COMP	3OCT2019 DIV5	PREMIUMS POLICY NO. 136826 DIV 5	1-2-0065-0251	G.W.L.	6,509.64
7	65	PAYABLES - PAYROLL	MINFI004	MINISTER OF FINANCE/EHT	26SEP2019	PAY 19 & 20	1-2-0065-0242	Employer Health Tax	19,336.58
8	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	10OCT2019	PAY 21	1-2-0065-0244	C.P.P.	20,879.70
9	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	10OCT2019	PAY 21	1-2-0065-0243	Income Tax	58,335.55
10	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	10OCT2019	PAY 21	1-2-0065-0245	E.I.	7,565.62
11	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	12SEP2019	PAY 19	1-2-0065-0244	C.P.P.	21,027.58
12	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	12SEP2019	PAY 19	1-2-0065-0243	Income Tax	55,222.05
13	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	12SEP2019	PAY 19	1-2-0065-0245	E.I.	7,187.95
14	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	26SEP2019	PAY 20	1-2-0065-0244	C.P.P.	20,198.44
15	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	26SEP2019	PAY 20	1-2-0065-0243	Income Tax	56,358.59
16	65	PAYABLES - PAYROLL	REVCA001	RECEIVER GENERAL - CANADA REVE	26SEP2019	PAY 20	1-2-0065-0245	E.I.	7,316.86
17	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	10OCT2019	PAY 21	1-2-0065-0243	Income Tax	11,391.44
18	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	10OCT2019	PAY 21	1-2-0065-0244	C.P.P.	7,214.76
19	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	13SEP2019	PAY 19	1-2-0065-0243	Income Tax	21,466.72
20	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	13SEP2019	PAY 19	1-2-0065-0244	C.P.P.	6,960.22
21	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	26SEP2019	PAY 20	1-2-0065-0244	C.P.P.	6,261.00
22	65	PAYABLES - PAYROLL	REVCA002	RECEIVER GENERAL - CANADA REVE	26SEP2019	PAY 20	1-2-0065-0243	Income Tax	9,896.68
23	65	PAYABLES - PAYROLL	WORSA001	WORKPLACE SAFETY & INSURANCE B	26SEP2019	PREMIUM REPORTING SEPT 1-30/19 ACCNT 1624385	1-2-0065-0252	W.C.B.	22,000.08
24	70	GUARANTY DEPOSITS PAYABLE-PLANNING	10378001	10378194 CANADA INC.	2018-334	REFUND PERFORMANCE DEPOSIT 2018-334	1-2-0070-0262	Performance Deposits	5,000.00
25	70	GUARANTY DEPOSITS PAYABLE-PLANNING	CARIS001	CARRIERE ISABELLE & BENOIT	2019-047	REMB. DEPOT DE PERFORMANCE 2019-047	1-2-0070-0262	Performance Deposits	5,000.00
26	70	GUARANTY DEPOSITS PAYABLE-PLANNING	LAKZI001	ZINEB LAKHDAR	11SEP2019	REFUND GUARANTY DEPOSIT-SITE PLAN (D-11-172-02)	1-2-0070-0264	Guaranty Deposits - Planning	5,582.20
27	1000	Capital	CLEWA001	CLEAN WATER WORKS INC.	W80651	PP #2 REPAIRS ON SANITARY SEWAGE BASIN NO. 2	2-4-1000-1000	Capital projects	47,742.50
28	1000	Capital	COICO001	COINAMATIC COMMERCIAL LAUNDRY	EINV-19914	2X OPLS-PAN040 (EXTRACTORS STN1)	2-4-1000-1000	Capital projects	21,583.00
29	1224	City Clerk - Materials	LARAD002	LARABIE DENIS	31110-042133 MAF	SETTLEMENT CLAIM L02-LAR	1-4-1224-3390	Liability Claims	7,500.00
30	1363	Human Ressources - Materials	QUEEN001	QUEEN'S UNIVERSITY	11820-LK-24842	NEGOTIATION SKILLS (C.VACHON)	1-4-1363-3660	Staff Training	6,209.35
31	2123	Fire-fighting - Materials	DALFI001	DALMATIAN FIRE EQUIPMENT	403511	18X SCBA BOTTLES	1-4-2123-3010	Air	8,000.00
32	2354	O.P.P. - Contracted Services	MINFI006	MINISTER OF FINANCE	110509191056044	MCSCS-OPP (LSR) JULY/19	1-4-2354-4170	O.P.P. Services	279,732.00
33	2354	O.P.P. - Contracted Services	MINFI006	MINISTER OF FINANCE	113009191450409	MCSCS-OPP (LSR) AUG/19	1-4-2354-4170	O.P.P. Services	279,732.00
34	3813	Street lights - Materials	HYDON001	HYDRO ONE NETWORKS INC.	200070197756 20SEP19	HYDRO	1-4-3813-3300	Hydro	14,523.13
35	7254	Parks - Contracted Services	MOUTU001	MOUNTAINVIEW GOLF & ATHLETIC T	66542	7X ATHLETIC FIELDS MAINTENANCE	1-4-7254-4200	Other Maintenance Contracts	11,865.00
36	65	PAYABLES - PAYROLL	26SEP2019	CUPE - LOCAL 503	26SEP2019	PAY 19 & 20	1-2-0065-0254	Union Dues	6,366.14
37	65	PAYABLES - PAYROLL	26SEP2019	OMERS	26SEP2019	PAY 19 & 20	1-2-0065-0250	O.M.E.R.S.	130,084.54
38	1000	Capital	011515	ACCENT FURNITURE	011515	FRIGI RANGE & FRIDGE, MAYTA WASHER&DRYER	2-4-1000-1000	Capital projects	5,101.95
39	1000	Capital	0000148011	A. J. STONE COMPANY LTD.	0000148011	READY RACK SECTIONS (BUNKER GEAR LOCKERS)	2-4-1000-1000	Capital projects	30,148.40
40	1000	Capital	2019-3467	1351150 ONTARIO INC. - ARNCO C	2019-3467	PP#3 POULIOTTE & GAREAU W/M PO535	2-4-1000-1000	Capital projects	178,583.94
41	1000	Capital	2019-3467	1351150 ONTARIO INC. - ARNCO C	2019-3467 PO699	PP#3 POULIOTTE & GAREAU W/M PO699	2-4-1000-1000	Capital projects	38,030.70
42	1000	Capital	2019-3467	1351150 ONTARIO INC. - ARNCO C	2019-3467 PO700	PP#3 POULIOTTE & GAREAU W/M PO700	2-4-1000-1000	Capital projects	34,687.33
43	1000	Capital	31AUG2019	ASCO CONSTRUCTION LTD.	31AUG2019	PP #16 BOURGET & ROCKLAND FS/EMS	2-4-1000-1000	Capital projects	245,626.28
44	1000	Capital	31AUG2019	ASCO CONSTRUCTION LTD.	31AUG2019	PP #16 BOURGET & ROCKLAND FS/EMS	2-4-1000-1000	Capital projects	18,397.53
45	1000	Capital	31AUG2019	ASCO CONSTRUCTION LTD.	31AUG2019	PP #16 BOURGET & ROCKLAND FS/EMS	2-4-1000-1000	Capital projects	29,300.82
46	1000	Capital	31JUL2019	ASCO CONSTRUCTION LTD.	31JUL2019 HB BOURGET	PP #15 10% HB RELEASE BOURGET PORTION	2-4-1000-1000	Capital projects	358,523.97
47	1000	Capital	1807976	ATREL ENGINEERING LTD.	1807976	MORRIS VILLAGE PARK JUNE23-JULY27/19	2-4-1000-1000	Capital projects	12,204.00
48	1000	Capital	1907978	ATREL ENGINEERING LTD.	1907978	INDUSTRIELLE STREET JUNE23/19-JULY27/19	2-4-1000-1000	Capital projects	6,636.35
49	1000	Capital	1907980	ATREL ENGINEERING LTD.	1907980	W/M REPLACEMENT GAREAU-POULIOTTE JUNE23-JULY27/19	2-4-1000-1000	Capital projects	28,306.50
50	1000	Capital	1907982	ATREL ENGINEERING LTD.	1907982	VERDON SUBDIVISION JUNE23/19-JULY27/19	2-4-1000-1000	Capital projects	8,888.30
51	1000	Capital	1907983	ATREL ENGINEERING LTD.	1907983	WALLACE ST. JUNE23-JULY27/19	2-4-1000-1000	Capital projects	6,104.26
52	1000	Capital	68343	A.L. BLAIR CONSTRUCTION LTD.	68343	PPC #2 INDUSTRIELLE-ROAD WIDENING	2-4-1000-1000	Capital projects	19,989.65
53	1000	Capital	14826	CAPITAL FENCE & WIRE LTD	14826	SUPPLY & INSTALL 6' FENCE @ LANDFILL	2-4-1000-1000	Capital projects	30,538.25
54	1000	Capital	TP 002055	COMTES-UNIS PRESCOTT-RUSSELL	TP 002055	HOT MIX PAVING (SCRATCH COAT OLD HWY 17)	2-4-1000-1000	Capital projects	127,531.58
55	1000	Capital	11302	DUQUETTE ELECTRIQUE LTEE.	11302	LED LIGHTS BOURGET WALKWAY (181 LEVIS)	2-4-1000-1000	Capital projects	6,110.01
56	1000	Capital	42342	FOTENN CONSULTANTS INC.	42342	EXPANSION LANDS SECONDARY PLAN TO JULY31/19	2-4-1000-1000	Capital projects	12,374.47
57	1000	Capital	8728	HAWKESBURY TRANSPORT & EXCAVAT	8728	PPC #2 MORRIS PARK DEVELOPMENT	2-4-1000-1000	Capital projects	136,014.43
58	1000	Capital	C1853-4	HEMSON CONSULTING LTD.	C1853-4	C1853 - DC STUDY APR1/19-JULY31/19	2-4-1000-1000	Capital projects	14,934.90
59	1000	Capital	29204	JP2G CONSULTANTS INC	29204	LACROIX CULVERT TO JUNE29-JULY26/19	2-4-1000-1000	Capital projects	5,650.00
60	1000	Capital	3968	LANDROCK EXCAVATION INC	3968	PP #1 VERDON SUBDIVISION	2-4-1000-1000	Capital projects	60,462.18
61	1000	Capital	3023	STEPHANE POUPART DEVELOPMENT L	3023	SINKHOLE REPAIR LACROIX RD.	2-4-1000-1000	Capital projects	12,215.30
62	1000	Capital	3024	STEPHANE POUPART DEVELOPMENT L	3024	CULVERT BOUVIER RD. PO 635	2-4-1000-1000	Capital projects	10,460.98
63	1000	Capital	3024 PO573	STEPHANE POUPART DEVELOPMENT L	3024 PO573	CULVERT BOUVIER RD. PO 573	2-4-1000-1000	Capital projects	35,316.90
64	1000	Capital	3195	STEPHANE POUPART DEVELOPMENT L	3195	PP #1 REHABILITATION OF VINETTE RD. PO523	2-4-1000-1000	Capital projects	176,987.34
65	1000	Capital	2016.1087	STONESHARE INC.	2016.1087	RECORDS MNGMNT ENVRNMNT DESIGN IMPLEMENTATION	2-4-1000-1000	Capital projects	67,800.00
66	1000	Capital	71477119-0	SUNBELT RENTALS OF CANADA INC.	71477119-0006	VAC PUMP & HOSES RENTAL (LACROIX CULVERT)	2-4-1000-1000	Capital projects	5,999.54
67	1000	Capital	SAJ/2019/1	TERAFLEX LTD.	SAJ/2019/1611	C-R STREETLIGHT UPGRADE PROJECT (LED)	2-4-1000-1000	Capital projects	118,318.59
68	1224	City Clerk - Materials	IN00001034	FRANK COWAN COMPANY LIMITED	IN000010340	CLAIM P1810394 M.GUIBAULT (L02-GUI INTERIM)	1-4-1224-3390	Liability Claims	5,735.54
69	1324	Computers - Contracted Services	IN19606	INTEGRA NETWORKS CORPORATION	IN19606	I.T. SUPPORT JUNE/19	1-4-1324-4154	Consulting - Projects	13,644.75
70	1324	Computers - Contracted Services	IN19638	INTEGRA NETWORKS CORPORATION	IN19638	I.T. SUPPORT JULY/19	1-4-1324-4154	Consulting - Projects	12,422.66
71	1324	Computers - Contracted Services	IN19663	INTEGRA NETWORKS CORPORATION	IN19663	I.T. SUPPORT AUGUST/19	1-4-1324-4154	Consulting - Projects	10,678.50
72	1500	Transfers	10SEP2019	COMTES-UNIS PRESCOTT-RUSSELL	10SEP2019	3e VERSEMENT IMPOSITION GENERALE 2019	5-4-1500-5000	Transfers UCPR	3,078,894.00
73	2113	Administration - Materials	49947	HALPENNY INSURANCE BROKERS LTD	49947	PREMIUM-FIREFIGHTER VFIS	1-4-2113-3400	Life Insurance	21,997.44
74	2123	Fire-fighting - Materials	7459	PPE SOLUTIONS INC.	7459	14X STARFIELD FLAMEFIGHTER BUNKER SUITS	1-4-2123-3585	Protective Clothing	33,206.18
75	2316	External Transfers	1OCT2019	BIBLIOTHÈQUE PUBLIQUE DE CLARE	1OCT2019	PYMNT 4 OF 4 - CONTRIBUTION TO LIBRARY	1-4-2316-5550	Contribution to Library	52,439.14
76	2500	Transfers	10SEP2019	UPPER CANADA DISTRICT SCHOOL B	10SEP2019	3rd INSTALLMENT SCHOOL SUPPORT ALLOCATION	5-4-2500-5000	Transfers - EP	674,510.00
77	3123	Public Works - Materials	14443	COENCORP CONSULTANT INC.	14443	LICENSE RENEWAL 2019/20-FUEL MODULE & SUPPORT	1-4-3123-3316	Internet Fees	7,042.16
78	3224	Rural Storms - Contracts	2019-2401	1351150 ONTARIO INC. - ARNCO C	2019-2401	HB RELEASE PP #3 CLARK RD. DITCH REHABILITATION	1-4-3224-4201	Contract -Capital a opération	15,989.15
79	3224	Rural Storms - Contracts	DR19-01	McWILLIAMS CONSTRUCTION LIMITE	DR19-01	PP #1 DITCH PROFILLING & CULVERT-BOUVIER RD	1-4-3224-4200	Contracts	14,291.39
80	3233	Emergency measures	287336	VALLEY VIEW VENTURES	287336	138 000 SANDBAGS (RESALE)	1-3-3233-0574	Sandbags sale	54,096.00
81	3500	Transfers	10SEP2019	CONSEIL DES ÉCOLES PUBLIQUES D	10SEP2019	3e VERSEMENT SUPPORT SCOLAIRE	5-4-3500-5000	Transfers - FP	116,082.00

	DPT Code	Department Name	Vendor Code	Vendor Name	Invoice Number	Invoice Description	GL Account	GL Account Name	Amount
82	3914	Transit - Contracts	170	LEDUC BUS LINES LTD.	170	TRANSPORT EN COMMUN AOUT/19	1-4-3914-4200	Contracts - Bus	87,349.00
83	4500	Transfers	10SEP2019	CDSBEO	10SEP2019	3rd INSTALLMENT SCHOOL SUPPORT ALLOCATION	5-4-4500-5000	Transfers ES	172,154.00
84	5500	Transfers	10SEP2019	C.S.D.C.E.O.	10SEP2019	3e VERSEMENT SUPPORT SCOLAIRE	5-4-5500-5000	Transfers - FS	532,623.00
85	7253	Parks - Materials	20190814	TROVE TREE SERVICE	20190814	TREE REMOVAL IN VARIOUS PARKS	1-4-7253-3335	Landscaping Materials	9,550.00
86	7254	Parks - Contracted Services	1631	BOURGET LAWN AND SNOW CARE	1631	CONTRAT COUPE DE GAZON AOUT/19	1-4-7254-4190	Contracts - Grass Mowing	5,401.40
87	7254	Parks - Contracted Services	2019_297	J.W. BASTIAN CONTRACTING INC.	2019_297	GRASS CUTTING NORTH SECTION (PARKS, BLDGS)+EXTRAS	1-4-7254-4190	Contracts - Grass Mowing	12,462.54
88	7423	Arena - Clarence - Materials	90680571	CIMCO REFRIGERATION	90680571	REFRIGERATION SYSTEM MAINTENANCE (CC ARENA)	1-4-7423-3430	Mechanical Repairs	13,864.44
89	7434	Recreational Complex - Contracts	004538	YMCA-YWCA	004538	ADMIN FEES AUG/19	1-4-7434-4290	Contract - Rec. Complex - YMCA	10,000.00
90	9114	Water Treatment - Contracted Services	INV0001148	ONTARIO CLEAN WATER AGENCY	INV000114819	OPERATIONS & MAINT. JULY/19	1-4-9114-4610	Contract - OCWA - Basic Maintenance	48,267.27
91	9114	Water Treatment - Contracted Services	INV0001156	ONTARIO CLEAN WATER AGENCY	INV000115613	OPERATIONS & MAINT. AUGUST/19	1-4-9114-4610	Contract - OCWA - Basic Maintenance	48,267.27
92	9123	Water Distribution - Materials	0000158533	EVANS UTILITY AND MUNICIPAL PR	0000158533	30X E-CODERS (WATER METERS)	1-4-9123-3445	Meters	12,982.01
93	9123	Water Distribution - Materials	0000158655	EVANS UTILITY AND MUNICIPAL PR	0000158655	30X 5/8X3/4 T10 E-CODERS (WATER METERS)	1-4-9123-3445	Meters	12,982.01
94	9124	Water Distribution - Contracts	INV0001148	ONTARIO CLEAN WATER AGENCY	INV000114819	OPERATIONS & MAINT. JULY/19	1-4-9124-4610	Contract - OCWA - Basic Maintenance	14,704.18
95	9124	Water Distribution - Contracts	INV0001156	ONTARIO CLEAN WATER AGENCY	INV000115613	OPERATIONS & MAINT. AUGUST/19	1-4-9124-4610	Contract - OCWA - Basic Maintenance	14,704.18
96	9314	Sewers Collection - Contrated Services	INV0001148	ONTARIO CLEAN WATER AGENCY	INV000114819	OPERATIONS & MAINT. JULY/19	1-4-9314-4610	Contract - OCWA - Basic Maintenance	20,219.32
97	9314	Sewers Collection - Contrated Services	INV0001149	ONTARIO CLEAN WATER AGENCY	INV000114995	ROCK.WWC-FLUSHED LINES, DIKE REMOVAL AT TD BANK	1-4-9314-4620	Contract - OCWA - Repairs & Maintenance	8,372.81
98	9314	Sewers Collection - Contrated Services	INV0001156	ONTARIO CLEAN WATER AGENCY	INV000115613	OPERATIONS & MAINT. AUGUST/19	1-4-9314-4610	Contract - OCWA - Basic Maintenance	20,219.32
99	9324	Sewers Treatment - Contracted Services	INV0001148	ONTARIO CLEAN WATER AGENCY	INV000114819	OPERATIONS & MAINT. JULY/19	1-4-9324-4610	Contract - OCWA - Basic Maintenance	45,489.11
100	9324	Sewers Treatment - Contracted Services	INV0001149	ONTARIO CLEAN WATER AGENCY	INV000114993	ROCK WWC -CLEAN BASKET AT SPS1	1-4-9324-4620	Contract - Repairs & Maintenance	9,226.46
101	9324	Sewers Treatment - Contracted Services	INV0001156	ONTARIO CLEAN WATER AGENCY	INV000115613	OPERATIONS & MAINT. AUGUST/19	1-4-9324-4610	Contract - OCWA - Basic Maintenance	45,489.11
102	9514	Garbage Collection - Contracts	0000290756	TOMLINSON ENVIRONMENTAL SERVIC	0000290756	CURBSIDE WASTE AUG/19	1-4-9514-4200	Contracts	47,830.47
103	9514	Garbage Collection - Contracts	0000290757	TOMLINSON ENVIRONMENTAL SERVIC	0000290757	COMMERCIAL WASTE AUG/19	1-4-9514-4200	Contracts	15,511.85
104	9534	Recycling - Contracts	0000290755	TOMLINSON ENVIRONMENTAL SERVIC	0000290755	CURBSIDE RECYCLING AUG/19	1-4-9534-4200	Contracts	76,696.65
105	9534	Recycling - Contracts	0000290758	TOMLINSON ENVIRONMENTAL SERVIC	0000290758	COMMERCIAL RECYCLING AUG/19	1-4-9534-4200	Contracts	6,669.80
							Invoices paid Greater or Equal to $5,000		**8,551,350.97**
							Invoices paid Less or Equal to $4,999		**535,271.22**
							MasterCards September 2019		**8,881.10**
							Grand Total AP Council Report - October 28th, 2019		**9,095,503.29**

Transactions de carte de crédit
Septembre 2019

#	Détenteur de carte	Date	Marchant	Description	GL	Montant	Sous total par carte
1	BELANGER, MARIE EVE	12/09/2019	CDN TIRE STORE #00623	PICKS (CARL ET JONATHAN)	1-4-8113-3675	$90.39	
2	BELANGER, MARIE EVE	18/09/2019	LAMOUREUX HM HWR#1243-	MEASURING WHEEL (CARL ET JONATHAN)	1-4-8113-3675	$135.59	**$225.98**
3	BOUCHARD, ANNE MORRIS	01/10/2019	APL* ITUNES.COM/BILL	ICLOUD SUBCRIPTION (DAYCARES)	1-4-6113-3435	$1.46	
4	BOUCHARD, ANNE MORRIS	09/09/2019	QUALITY CLASSROOMS	PROGRAM SUPPLIES - ROCKLAND PUBLIC	1-4-6153-3185	$163.68	
5	BOUCHARD, ANNE MORRIS	09/09/2019	QUALITY CLASSROOMS	PROGRAM SUPPLIES - ST-PATRICK	1-4-6143-3185	$197.26	
6	BOUCHARD, ANNE MORRIS	18/09/2019	AMZN MKTP CA*PF30V6823	BANDES DE TABLEAU	1-4-6203-3185	$52.50	
7	BOUCHARD, ANNE MORRIS	18/09/2019	AMZN MKTP CA*RN0N34F23	BANDES DE TABLEAU	1-4-6203-3185	$67.99	
8	BOUCHARD, ANNE MORRIS	25/09/2019	AMZN MKTP CA*UH87M46G3	BANDES DE TABLEAU	1-4-6203-3185	$12.53	**$495.42**
9	BOUCHER, PIERRE	04/09/2019	EASTERN PARTITIONS LTD	WASHROOM PARTITIONS - CLARENCE CREEK ARENA LOBBY	2-4-1000-1000	$2,171.86	
10	BOUCHER, PIERRE	10/09/2019	MGCS SO CERTIFICATES	50 MARRIAGE LICENCES	1-4-1105-3420	$2,400.00	
11	BOUCHER, PIERRE	11/09/2019	WWW.OSG.CA	FORMATION SIMDUT (ÉTUDIANTS & CONCIERGES)	1-4-7253-3660	$310.75	
12	BOUCHER, PIERRE	26/09/2019	THE SOURCE #53710	PHONE CASE (S GRIGNON)	1-4-7113-3500	$79.09	**$4,961.70**
13	COLLIER, HELEN	05/09/2019	LAVIOLE FLOWERS	OPENING CEREMONY OF THE FIRE HALL IN BOURGET	1-4-2113-3657	$194.81	
14	COLLIER, HELEN	06/09/2019	CHAMBRE DE COMMERCE	GOLF TOURNAMENT - MAYOR, HELEN, PCORMIER, PBOUCHER	1-4-1223-3005	$500.00	
15	COLLIER, HELEN	06/09/2019	CHAMBRE DE COMMERCE	GOLF TOURNAMENT-SCARDARELLI DBOUCHARD CGRIMARD MIRWIN	1-4-1223-3005	$500.00	
16	COLLIER, HELEN	11/09/2019	FRIENDLY RESTAURANT	LUNCH WITH MAYOR - SETTING COUNCIL AGENDA	1-4-1223-3440	$33.79	
17	COLLIER, HELEN	16/09/2019	FRIENDLY RESTAURANT	MEAL - COUNCIL MEETING	1-4-1223-3440	$363.77	
18	COLLIER, HELEN	16/09/2019	PARENT'S YIG 2693	DECAF COFFEE FOR COUNCIL MEETINGS	1-4-1223-3440	$6.99	
19	COLLIER, HELEN	25/09/2019	AIR CAN	FLIGHT TO LONDON CHANTAL VACHON - TRAINING	1-4-1363-3660	$1,007.11	**$2,606.47**
20	COUSINEAU, MICHEL	30/09/2019	AMZN MKTP CA*0V0Q64MS3	COMPUTER SUPPLIES	1-4-1323-3150	$98.73	**$98.73**
21	DESNOYERS, FREDERIC	12/09/2019	DEERHURST RESORT	MFOA CONFERENCE (2 ROOMS AT 50%)	1-4-1233-3160	$569.42	**$569.42**
22	LENHART, JULIAN	05/09/2019	WAL-MART #1060	PUBLIC WORKS - STAFF BBQ	1-4-3123-3175	$128.98	
23	LENHART, JULIAN	06/09/2019	CHEZ L'BOULANGER CAFE	CHEZ L'BOULANGER - PW BBQ	1-4-3123-3175	$30.00	
24	LENHART, JULIAN	06/09/2019	TIM HORTONS #7658	PUBLIC WORKS - STAFF MEETING	1-4-3123-3175	$74.28	
25	LENHART, JULIAN	11/09/2019	MECP-HWIN WEB	HAZARDOUS MATERIAL (HWIN)	1-4-3143-3270	$5.00	
26	LENHART, JULIAN	19/09/2019	MECP-HWIN WEB	HAZARDOUS WASTE REMOVAL (HWIN)	1-4-3143-3270	$6.50	
27	LENHART, JULIAN	22/09/2019	AMZN MKTP CA*QE9DD1RS3	PHONE CHARGER FOR THE ROAD PATROL CELL PHONE	1-4-3123-3425	$20.32	**$265.08**
28	ROUSSELLE, YVES	18/09/2019	ONTARIO PUBLIC BUYERS	DISTANCE LEARNING COMPETITIVE BIDDING	1-4-1313-3743	$169.50	
29	ROUSSELLE, YVES	25/09/2019	AIRLIFT SERVICES LIMIT	TAXI - OPBA ANNUAL CONFERENCE	1-4-1313-3743	$27.00	
30	ROUSSELLE, YVES	25/09/2019	HYDRO ONE	CREDIT LIGHT FIXTURE ON ST-JEAN (ELAPSE PERMIT)	2-4-1000-1000	-$1,308.81	
31	ROUSSELLE, YVES	25/09/2019	MARRIOTT	MARRIOTT BISTRO - OPBA ANNUAL CONFERENCE	1-4-1233-3160	$40.00	
32	ROUSSELLE, YVES	26/09/2019	A4U TAXI	TAXI - OPBA ANNUAL CONFERENCE	1-4-1233-3160	$21.00	
33	ROUSSELLE, YVES	26/09/2019	FIONN MACCOOL'S 3323	DINNER - OPBA ANNUAL CONFERENCE	1-4-1233-3440	$26.13	
34	ROUSSELLE, YVES	26/09/2019	OTTAWA INTERNATIONAL A	PARKING - OPBA ANNUAL CONFERENCE	1-4-1233-3160	$48.00	
35	ROUSSELLE, YVES	27/09/2019	MARRIOTT	HOTEL - OPBA ANNUAL CONFERENCE	1-4-1233-3160	$227.24	**-$749.94**
36	ROY, YVES	07/09/2019	PIE COLLINGWOOD	AGM COLLINGWOOD -YVES ROY	1-4-2413-3440	$50.67	
37	ROY, YVES	07/09/2019	SHELL	GAS - CAR RENTAL (AGM)	1-4-2413-3772	$51.00	
38	ROY, YVES	07/09/2019	TIM HORTONS #4332	AGM - COLLINGWOOD YVES ROY	1-4-2413-3440	$15.28	
39	ROY, YVES	07/09/2019	WYNDHAM	GEORGIAN BAY HOTEL - AGM COLLINGWOOD MARC BOUGIE	1-4-2413-3160	$181.53	
40	ROY, YVES	08/09/2019	EGGSMART #4056	AGM COLLINGWOOD (MARC BOUGIE & YVES ROY)	1-4-2413-3440	$32.24	
41	ROY, YVES	08/09/2019	GUSTAV CHOP HOUSE BAR	AGM COLLINGWOOD (MARC BOUGIE & YVES ROY)	1-4-2413-3440	$80.00	
42	ROY, YVES	08/09/2019	WYNDHAM	GEORGIAN BAY HOTEL-AGM COLLINGWOOD YVES ROY	1-4-2413-3160	$628.28	
43	ROY, YVES	09/09/2019	GUSTAV CHOP HOUSE BAR	AGM COLLINGWOOD YVES ROY	1-4-2413-3440	$47.67	
44	ROY, YVES	09/09/2019	SP * ASP INC	REFUND ASP INSTRUCTOR CERTIFICATION SECURITY DEPOSIT	1-4-2413-3660	-$33.78	
45	ROY, YVES	10/09/2019	MUCHO BURRITO	AGM COLLINGWOOD MARC BOUGIE & YVES ROY	1-4-2413-3440	$36.67	
46	ROY, YVES	10/09/2019	ST. LOUIS BAR GRILL	AGM COLLINGWOOD MARC BOUGIE & YVES ROY	1-4-2413-3440	$38.65	
47	ROY, YVES	12/09/2019	BURGER KING HK TRAVEL	AGM COLLINGWOOD MARC BOUGIE & YVES ROY	1-4-2413-3440	$27.78	
48	ROY, YVES	12/09/2019	ONROUTE #01172	FUEL RENTAL CAR - AGM COLLINGWOOD M.BOUGIE & Y.ROY	1-4-2413-3440	$49.00	
49	ROY, YVES	17/09/2019	CITY OF OTTAWA - LOT 6	PARKING - BEM COURSE	1-4-2413-3450	$18.00	
50	ROY, YVES	17/09/2019	ORIENT HOUSE SHAWARMA	BEM COURSE YVES ROY	1-4-2413-3440	$21.02	
51	ROY, YVES	18/09/2019	CITY OF OTTAWA - LOT 6	PARKING - BEM COURSE YVES ROY	1-4-2413-3450	$18.00	
52	ROY, YVES	18/09/2019	EVENTBRITE	REFUND BASIC EMERGENCY MNGMNT COURSE - BEM	1-4-2413-3660	-$93.01	
53	ROY, YVES	18/09/2019	JOHNNY FARINA RESTAURA	BEM COURSE YVES ROY	1-4-2413-3440	$11.43	
54	ROY, YVES	19/09/2019	AMZN MKTP CA*SV9U024H3	CELLPHONE CASES X3	1-4-2413-3150	$36.79	
55	ROY, YVES	22/09/2019	MUNICIPAL LAW ENFORCEM	MLEO CERTIFICATION APPLICATION B DICAIRE	1-4-2413-3435	$113.00	
56	ROY, YVES	25/09/2019	AMZN MKTP CA*MA69G7LY3	USB CONVERTER FOR CELL PHONE	1-4-2413-3150	$17.77	**$1,347.99**
57	WILSON, BRIAN	06/09/2019	BAM*CDN ASSOC FIRE CH	REFUND CAFC CONFERENCE BRIAN WILSON	1-4-2113-3160	-$939.75	**-$939.75**
	Total					$8,881.10	**$8,881.10**

AMÉ-19-91-R

Date	28/10/2019
Soumis par	Marie-Eve Bélanger
Objet	Modification à la résolution pour le balcon du presbytère de la Paroisse Très-Sainte-Trinité
# du dossier	2178-2180 rue Laurier

RAPPORT N°

1) **NATURE / OBJECTIF :**

Ce rapport a pour bût de faire approuver les nouveaux plans pour la reconstruction du balcon du presbytère, qui démontre des balustrades de 42 pouces au premier et deuxième étage.

2) **DIRECTIVE/POLITIQUE ANTÉCÉDENTE :**

Résolution 2019-17 approuvé le 4 février 2019

ATTENDU QUE le balcon situé au presbytère de la Paroisse Très-Sainte-Trinité (2178-2180 rue Laurier) est en très mauvais état et doit être reconstruit; et
ATTENDU QUE le presbytère est désigné comme ayant une valeur sur le Plan du patrimoine culturel;
et
ATTENDU QUE la reconstruction du balcon du presbytère, tel qu'il est bâti présentement, s'avère trop couteuse;
QU'IL SOIT RÉSOLU QUE le conseil approuve les modifications au balcon du presbytère, tel que présenté par les plans de Michanie Construction daté du 31 aout 2018.

3) **RECOMMANDATION DU SERVICE:**

ATTENDU QUE le conseil a approuvé la résolution 2019-17 afin d'approuver les modifications au balcon du presbytère de la Paroisse Très-Sainte-Trinité;

ATTENDU QUE les plans de construction ont été modifiés afin de démontrer une hauteur de 42 pouces pour les balustrades au premier et deuxième étage, tel que discuté dans le rapport AMÉ-19-17-R;

QU'IL SOIT RÉSOLU QUE le conseil approuve les modifications au balcon du presbytère, tel que démontré par les plans de Gascon Engineering and Structural Design Inc., révision 4, daté du 16 octobre 2019, ainsi que par les spécifications soumis à l'annexe C du rapport AMÉ-19-91-R.

WHEREAS Council approved Resolution 2019-17 in order to approve modifications to the balcony of the Très-Sainte-Trinité presbytery.

WHEREAS the building plans were modified to reflect the 42-inch balcony height for the first and second floor, as discussed under report AMÉ-19-17-R.

BE IT RESOLVED THAT Council approves the changes to the Presbytery balcony, as demonstrated on the plans submitted by Gascon Engineering and Structural Design Inc., revision 4, dated October 2019, as well as the specifications submitted under Annexe C of report AMÉ-19-91-R.

4) **HISTORIQUE :**
Le 4 février 2019, le conseil a approuvé la résolution 2019-17, suite au rapport AMÉ-19-17-R (Annexe A). Le but du rapport était de faire approuver des modifications au balcon du presbytère de la Paroisse Très-Sainte-Trinité. Le conseil a approuvé les modifications à la hauteur des balustrades afin de respecter le code du bâtiment.

5) **DISCUSSION :**
La résolution qui a été approuvé par le conseil faisait référence à des plans datés du 31 août 2018. Par contre, ses plans ne démontraient pas la hauteur proposée des balustrades. Les nouveaux plans soumis en Annexe B ainsi que les spécifications en annexe C sont les plans qui doivent être approuvés par le conseil. Les balustrades seront de 42 pouces de hauteur afin de respecter le code du bâtiment.

6) **CONSULTATION :**
N/A

7) **RECOMMANDATION OU COMMENTAIRES DU COMITÉ :**
N/A

8) **IMPACT FINANCIER (monétaire/matériaux/etc.):**
N/A

9) **IMPLICATIONS LÉGALES :**
N/A

10) **GESTION DU RISQUE (RISK MANAGEMENT) :**
N/A

11) **IMPLICATIONS STRATÉGIQUES :**
N/A

12) **DOCUMENTS D'APPUI:**
Annexe A : Rapport AMÉ-19-14-R

Annexe B : Plans
Annexe C : Spécifications pour les balustrades

Clarence-Rockland

RAPPORT N° AMÉ-19-14-R

Date	21/01/2019
Soumis par	Marie-Eve Bélanger
Objet	Modifications au balcon du presbytère de la Paroisse Ste-Trinité
# du dossier	2178-2180 Laurier

1) **NATURE / OBJECTIF :**
La nature de ce rapport est d'approuver les rénovations nécessaires au balcon du presbytère situé au 2178-2180 rue Laurier à Rockland.

2) **DIRECTIVE/POLITIQUE ANTÉCÉDENTE :**
N/A

3) **RECOMMANDATION DU SERVICE:**
ATTENDU QUE le balcon situé au presbytère de la Paroisse Ste-Trinité (2178-2180 rue Laurier) est en très mauvais état et doit être reconstruit; et

ATTENDU QUE le presbytère est désigné comme ayant une valeur sur le Plan du patrimoine culturel; et

ATTENDU QUE la reconstruction du balcon du presbytère, tel qu'il est bâti présentement, s'avère trop couteuse.

QUE le comité plénier recommande au conseil d'approuver les modifications au balcon du presbytère, tel que présenté par les plans de Michanie Construction datés du 31 aout 2018.

WHEREAS the balcony located at the Paroisse Ste-Trinité Presbytery (2178-2180 Laurier Street) is in very bad shape and must be reconstructed; and

WHEREAS the Presbytery is designated as being of cultural heritage value; and

WHEREAS the reconstruction of the Presbytery's balcony, as it is constructed today, would be too costly;

THAT the Committee of the Whole recommends that Council approve the alterations to the presbytery balcony, as described on the plans prepared by Michanie Construction dated August 31, 2018.

4) **HISTORIQUE :**

Le règlement 2008-58 a été approuvé en 2008 afin de cité l'église et le presbytère de la Paroisse Ste-Trinité de Rockland comme ayant une valeur patrimoniale. Le balcon, son belvédère et ses garde-corps en béton décoratifs font partit des principaux attributs du presbytère.

5) **DISCUSSION :**

L'article 33 de la Loi sur le patrimoine de l'Ontario stipule que nul propriétaire d'un bien désigné au termes de l'article 29 ne doit transformer un bien si celle-ci aura une incidence sur les attributs patrimoniaux du bien, énoncés dans la description des attributs patrimoniaux, sauf s'il en fait la demande au conseil et reçoit un consentement écrit pour procéder à la transformation.

En janvier 2017, le comité paroissial a commencé les démarches afin de refaire les balcons du presbytère, soit en béton. La facture s'élevait à plus de 400 000,00 $ pour refaire les balcons ce qui était beaucoup trop élevé pour la Paroisse.

En mai 2018, Michanie Construction a été engagé par la Paroisse afin d'évaluer et conceptualisé le projet de réparation des balcons. Lors de l'investigation, Michanie a découvert que la structure est érodée et n'est plus bien ancré avec l'édifice ce qui rend l'accès non-sécuritaire pour les locataires. La façade de l'édifice supporte difficilement le poids de la structure existante. Il est important d'agir rapidement pour des raisons de santé et sécurité.

Puisque c'est un bâtiment patrimonial, il est important de garder l'aspect visuel identiques ou similaires.

Michanie Construction propose l'utilisation de bois pour refaire les plancher, recouvert d'une membrane qui aura l'aspect du ciment. Ceci sera beaucoup plus léger pour le support de la structure. Il propose également de remplacer les rampes et les balustrades de béton par du bois peinturer blanc. Il recommande également d'installer des colonnes en bois structural qui seront soit peinturer ou recouvertes en aluminium.

En remplaçant les balcons et les balustrades avec du bois, il sera moins couteux et plus viable. C'est également une question de santé et sécurité.

Il est important de mentionner que la hauteur des balustrades du balcon est présentement de 29 pouces. Le Code du bâtiment requiert 42 pouces. Puisque le bâtiment est existant, le Code du bâtiment permet une reconstruction avec la même hauteur existante des balustrades. Le comité paroissial, de son côté aimerait aller de l'avant avec des balustrades de 42 pouces pour fins de sécurité de ses locataires. Puisque le presbytère est à une certaine distance de la rue, la différence de hauteur des balustrades sera minime.

6) **CONSULTATION :**

Suite à quelques rencontres avec des gens du comité paroissial ainsi qu'avec Michanie Construction, il fut établi que les balustrades en bois ainsi que les colonnes auront le même aspect que ceux qui sont existants. Le but est de garder le cachet du bâtiment et celui-ci sera conservé.

Le comité consultatif a été consulté et a vérifié les plans soumis des rénovations. Des membres du comité ont également rencontré un représentant du presbytère ainsi que Michanie Construction qui ont fait le design du nouveau balcon.

7) **RECOMMANDATION OU COMMENTAIRES DU COMITÉ :**
Le comité consultatif du patrimoine est d'accord avec les plans et recommandations de Michanie Construction.

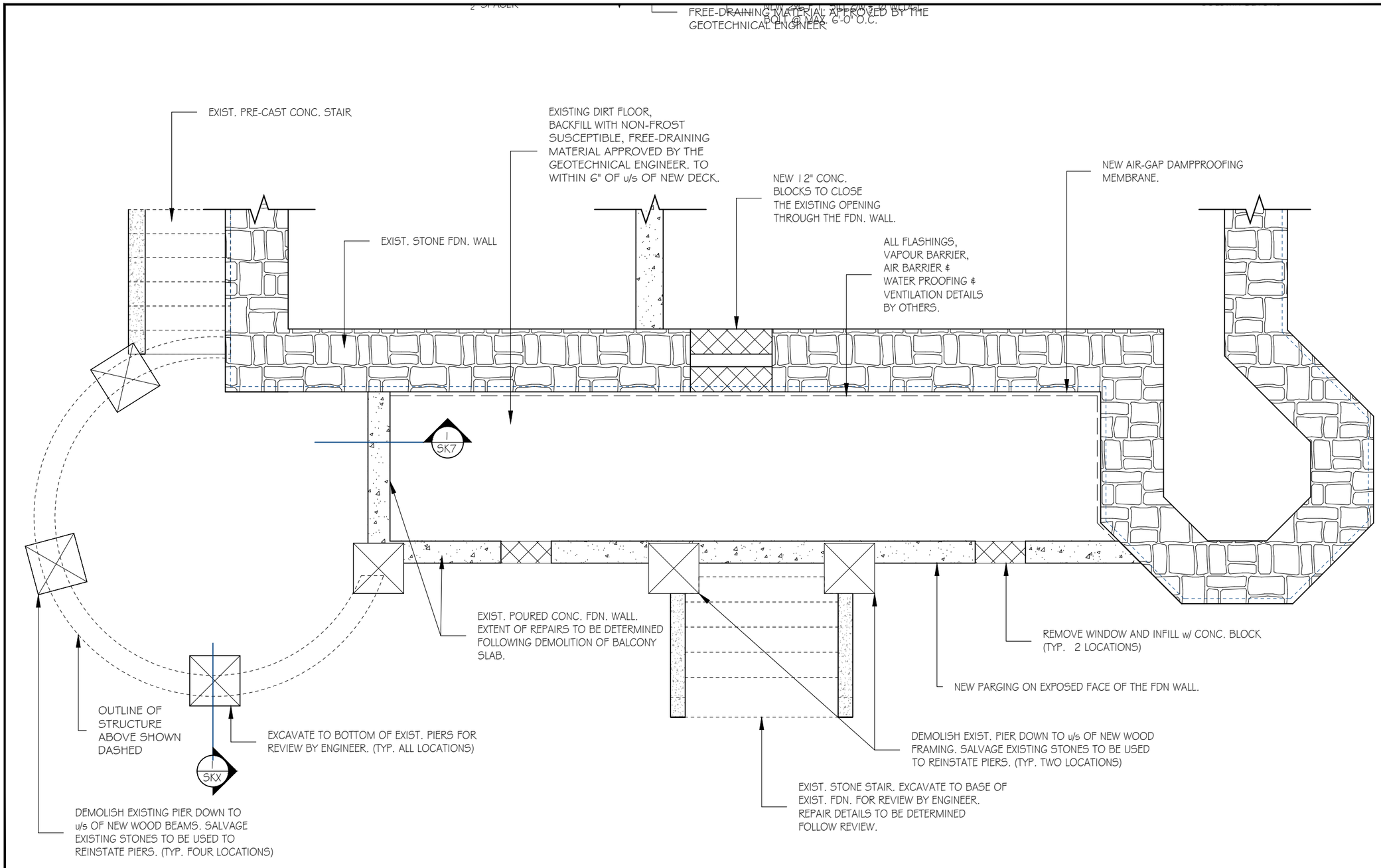
8) **IMPACT FINANCIER (monétaire/matériaux/etc.):**
N/A

9) **IMPLICATIONS LÉGALES :**
N/A

10) **GESTION DU RISQUE (RISK MANAGEMENT) :**
L'approbation de balustrade plus haute réduira le risque d'accident.

11) **IMPLICATIONS STRATÉGIQUES :**
N/A

12) **DOCUMENTS D'APPUI:**
Règlement 2008-58
Plans de rénovations



1 / SK1 FDN. PLAN SCALE 1/4"=1'-0"

GASCON ENGINEERING & STRUCTURAL DESIGN INC.

TEL: 343.999.4373
NOEL.GASCON@ROGERS.COM
WWW.GASCONESD.COM

CLIENT
Michanie Construction

LICENSED PROFESSIONAL ENGINEER
N.C.A. GASCON
90546920
16-Oct-19
PROVINCE OF ONTARIO

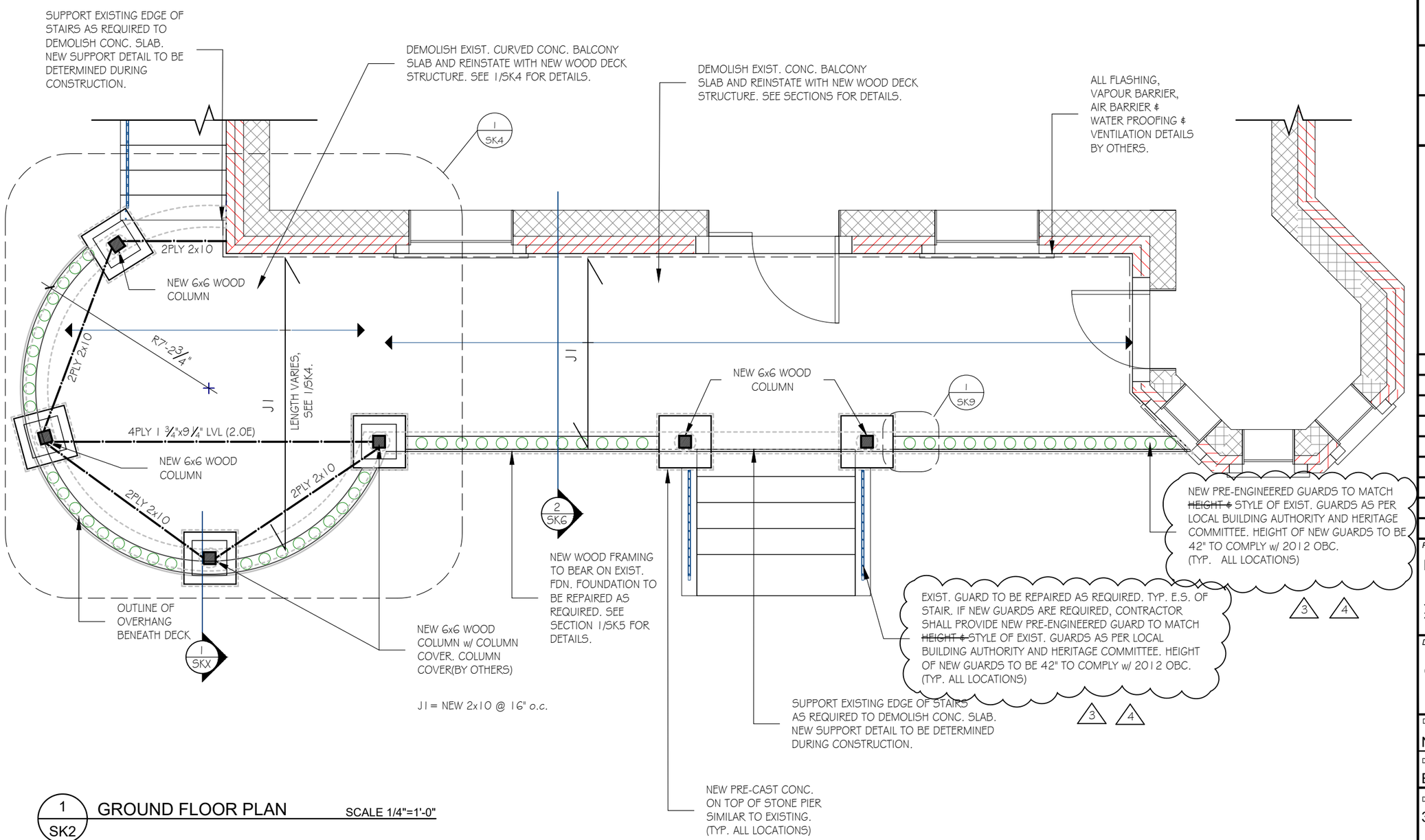
NO	REVISION	DATE
1	ISSUED FOR REVIEW	8/31/2018
2	ISSUED FOR PERMIT	10/11/2018
3	FOR CITY REVIEW	10/10/2019
4	AS PER CITY REVIEW	16/10/2019

PROJECT / LOCATION
BALCONY SLAB REPLACEMENT

2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
FOUNDATION PLAN

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK1



1 / SK2 GROUND FLOOR PLAN SCALE 1/4"=1'-0"

GASCON ENGINEERING & STRUCTURAL DESIGN INC.

TEL: 343.999.4373
NOEL.GASCON@ROGERS.COM
WWW.GASCONESD.COM

CLIENT
Michanie Construction

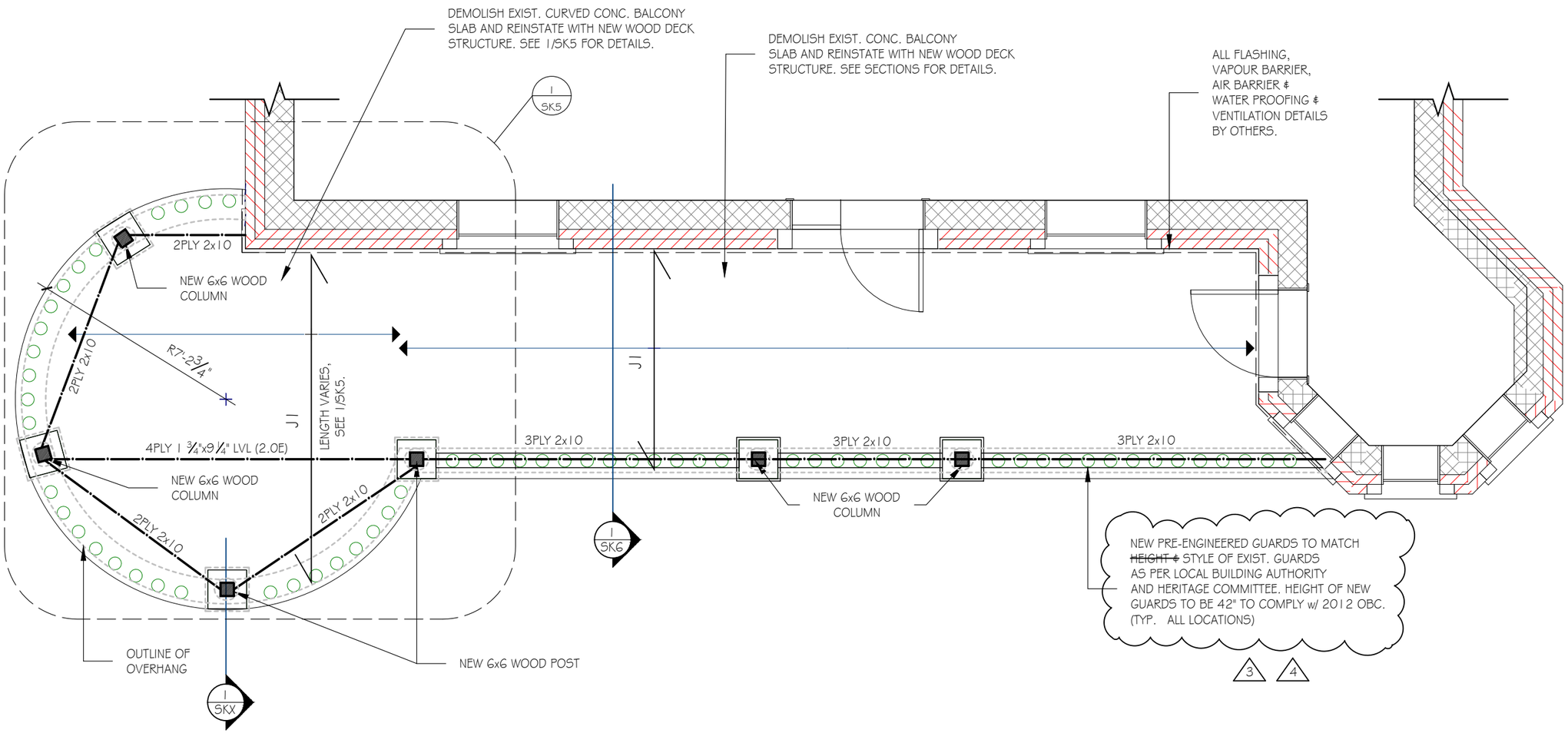
LICENSED PROFESSIONAL ENGINEER
N.C.A. GASCON
90546920
16-Oct-19
PROVINCE OF ONTARIO

NO	REVISION	DATE
1	ISSUED FOR REVIEW	8/31/2018
2	ISSUED FOR PERMIT	10/11/2018
3	FOR CITY REVIEW	10/10/2019
4	AS PER CITY REVIEW	16/10/2019

PROJECT / LOCATION
BALCONY SLAB REPLACEMENT
2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
GROUND FLOOR PLAN

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK2



J1 = NEW 2x10 @ 16" o.c.

1 / SK3 SECOND FLOOR PLAN SCALE 1/4"=1'-0"

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Michanie Construction

LICENSED PROFESSIONAL ENGINEER
N.C.A. GASCON
90546920
16-Oct-19
PROVINCE OF ONTARIO

NO	REVISION	DATE
1	ISSUED FOR REVIEW	8/31/2018
2	ISSUED FOR PERMIT	10/1/2018
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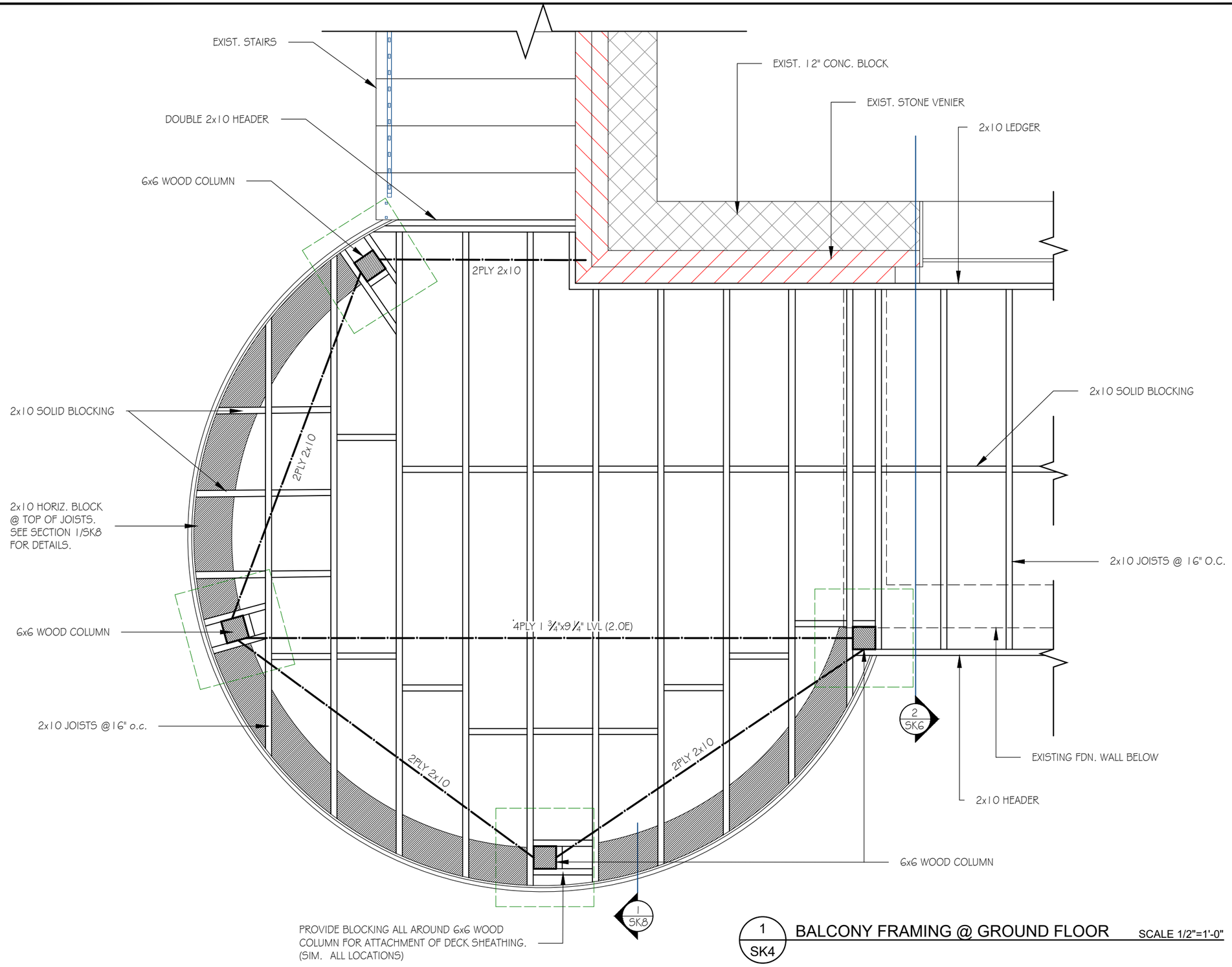
4	AS PER CITY REVIEW	16/10/2019

PROJECT / LOCATION
BALCONY SLAB REPLACEMENT

2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
SECOND FLOOR PLAN

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK3



1 SK4 BALCONY FRAMING @ GROUND FLOOR SCALE 1/2"=1'-0"

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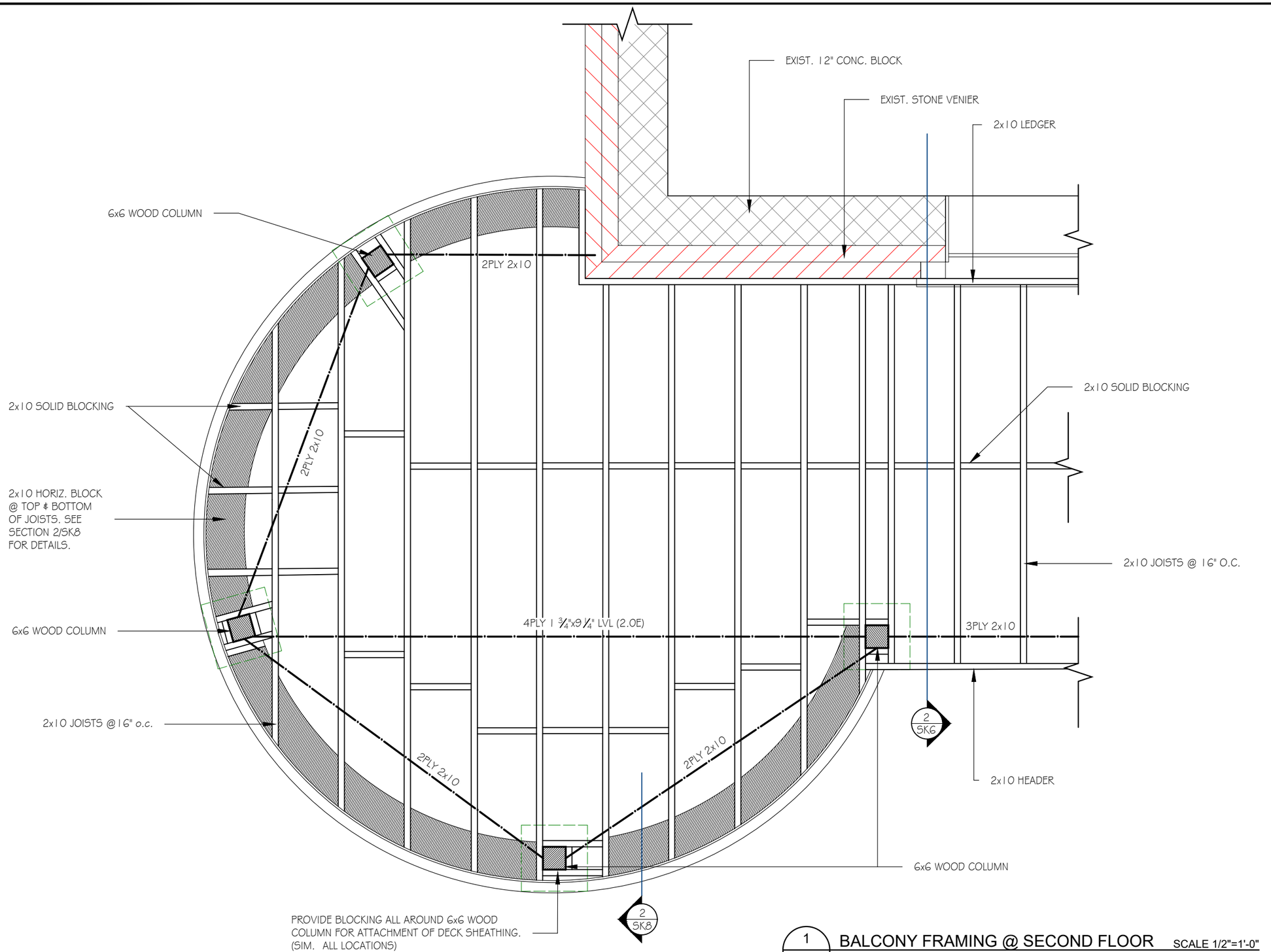
PROJECT / LOCATION
BALCONY SLAB REPLACEMENT
2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
BALCONY FRAMING@ GROUND FLOOR

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY	SCALE
EA	1/2"=1'-0"
DATE	
31-AUG-2018	
PROJECT NO.	SHEET NO.
2018-070	SK4



1 / SK5 BALCONY FRAMING @ SECOND FLOOR SCALE 1/2"=1'-0"

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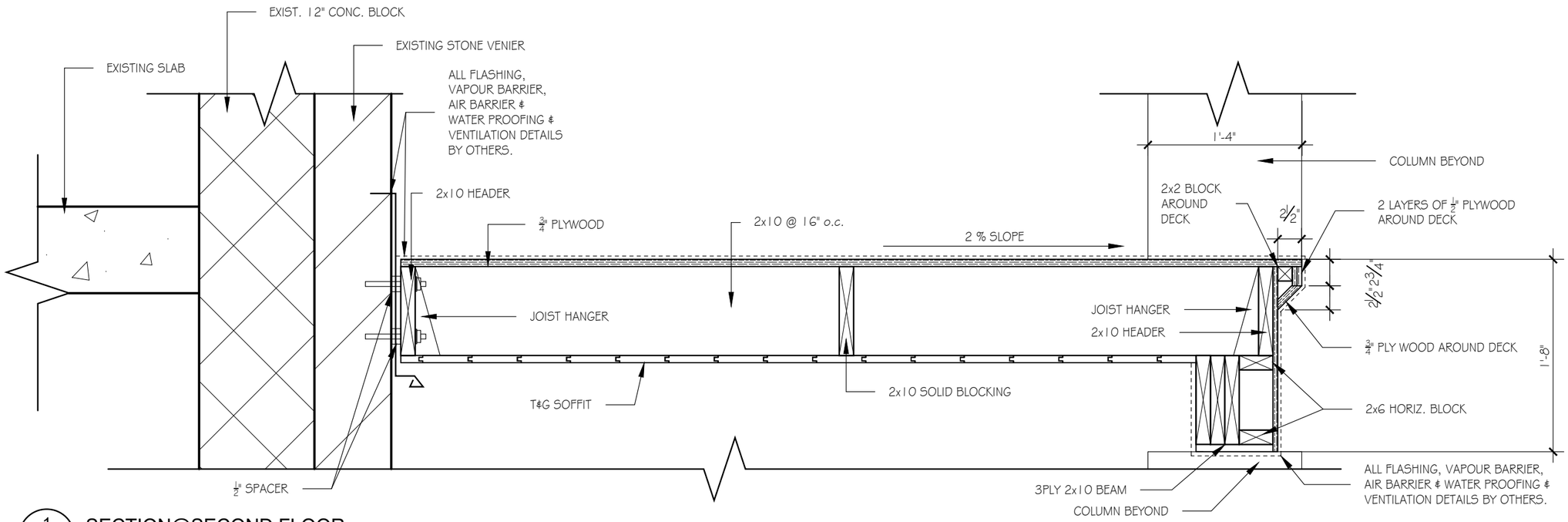
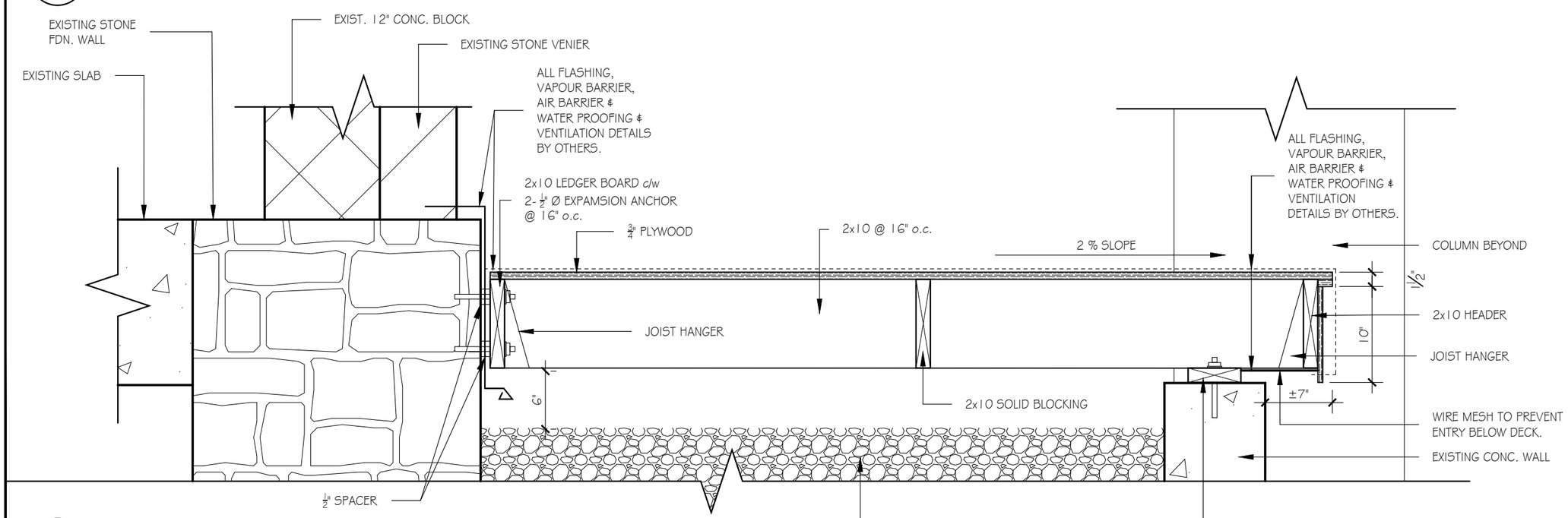
PROJECT / LOCATION
BALCONY SLAB REPLACEMENT
2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
BALCONY FRAMING@ 2ND FLOOR

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: 1/2"=1'-0"
DATE: 31-AUG-2018	
PROJECT NO.: 2018-070	SHEET NO.: SK5



1 / SK6 SECTION@SECOND FLOOR SCALE 1"=1'-0"



2 / SK6 SECTION@GROUND FLOOR SCALE 1"=1'-0"

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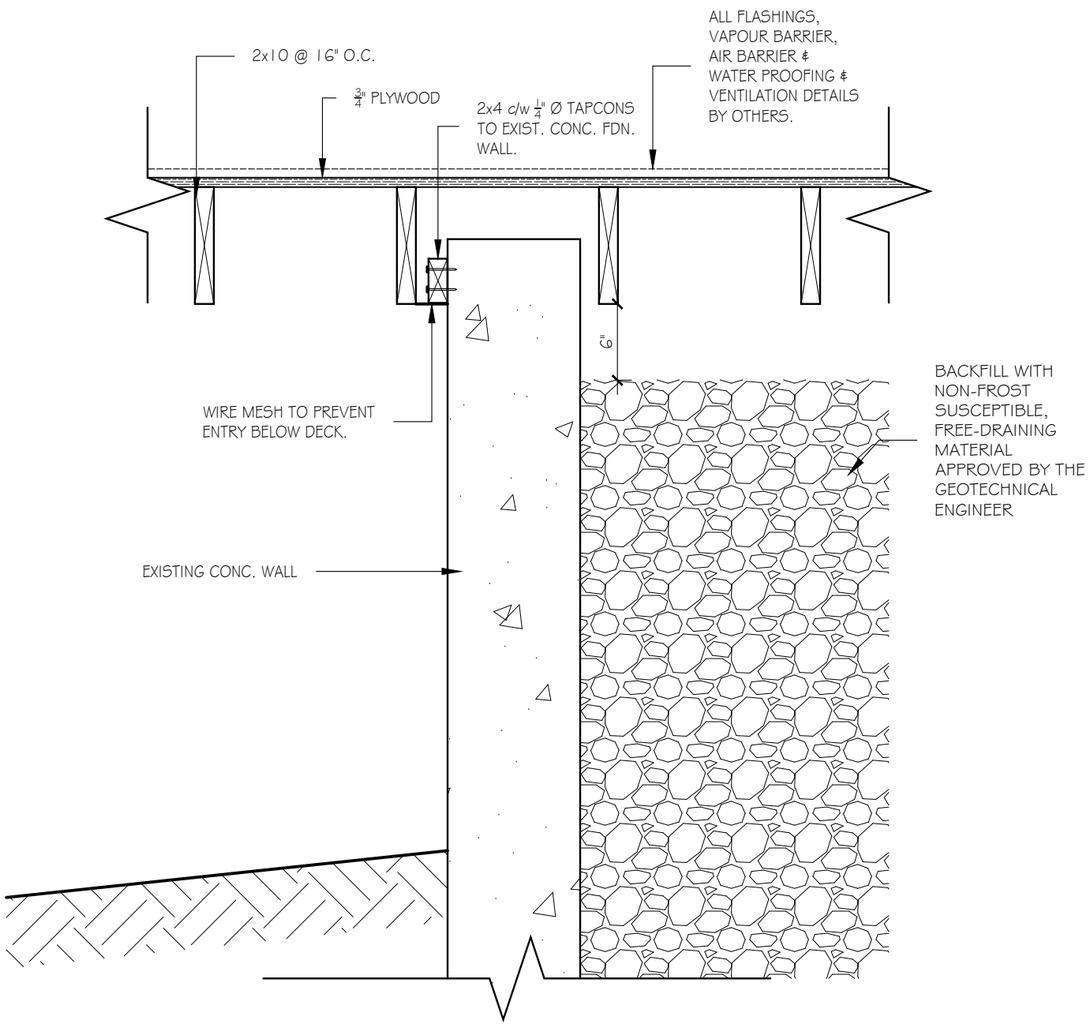
PROJECT / LOCATION
BALCONY SLAB REPLACEMENT

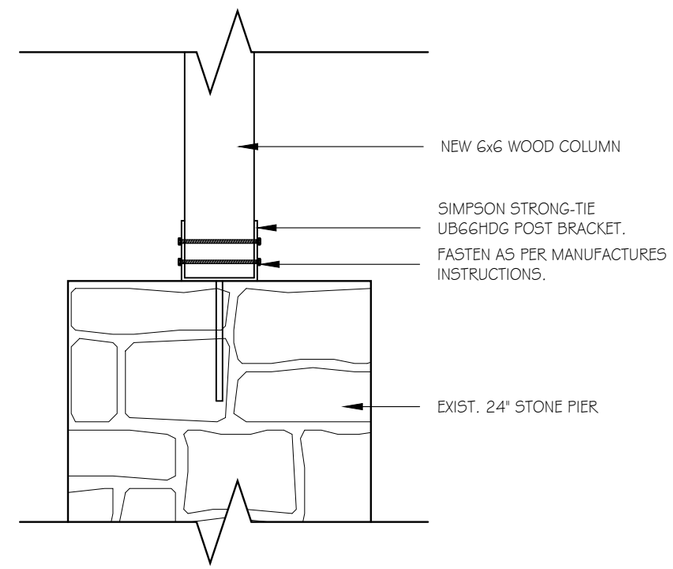
2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
SECTIONS

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: 1"=1'-0"
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK6



1 / SK7 SECTION SCALE 1"=1'-0"



2 / SK7 WOOD COLUMN CONNECTION TO PIER SCALE 1"=1'-0"

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PROJECT / LOCATION
BALCONY SLAB REPLACEMENT

2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
SECTION

DESIGNED BY	APPROVED BY
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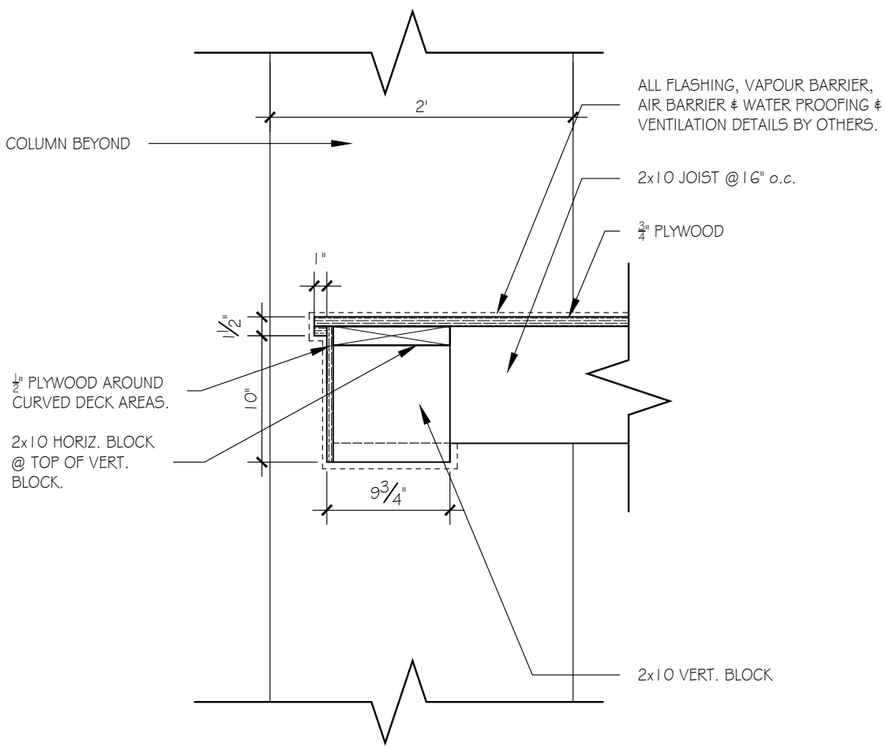
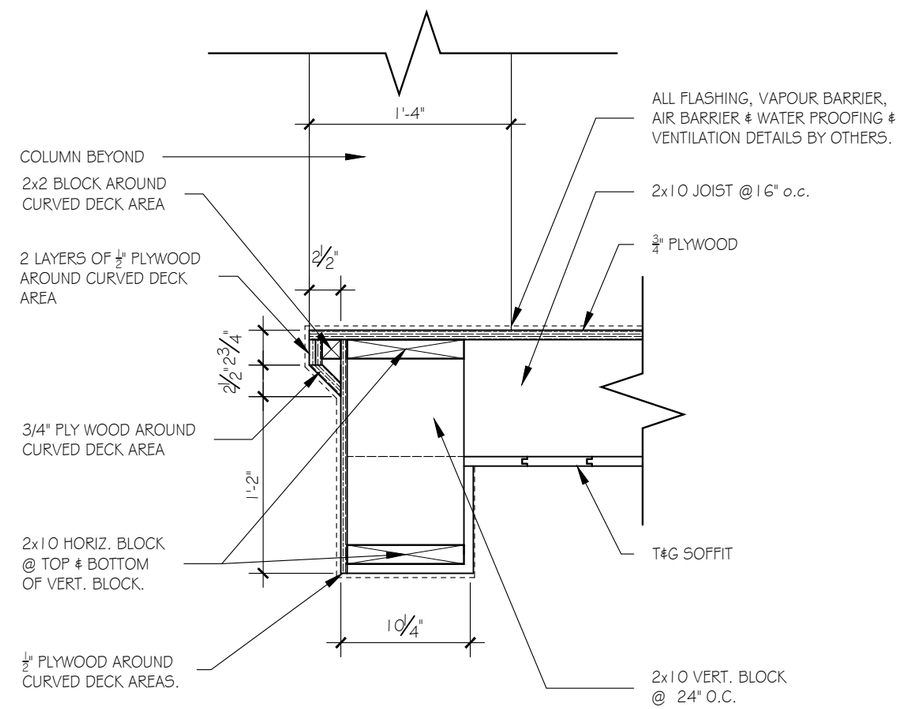
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO.: 2018-070	SHEET NO.: SK7



1 / SK8 GROUND FLOOR HANGOVER DETAIL@ CURVERD BALCONY SCALE 1"=1'-0"



2 / SK8 SECOND FLOOR HANGOVER DETAIL@ CURVERD BALCONY SCALE 1"=1'-0"

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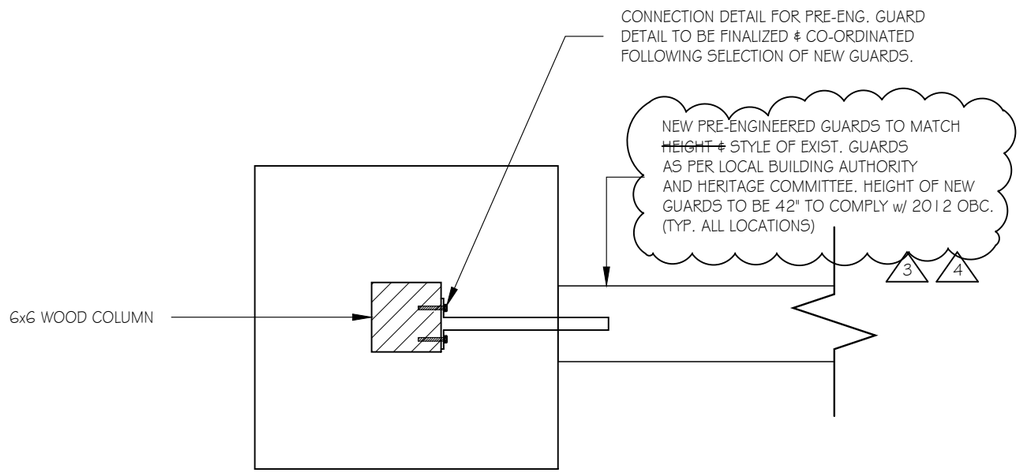
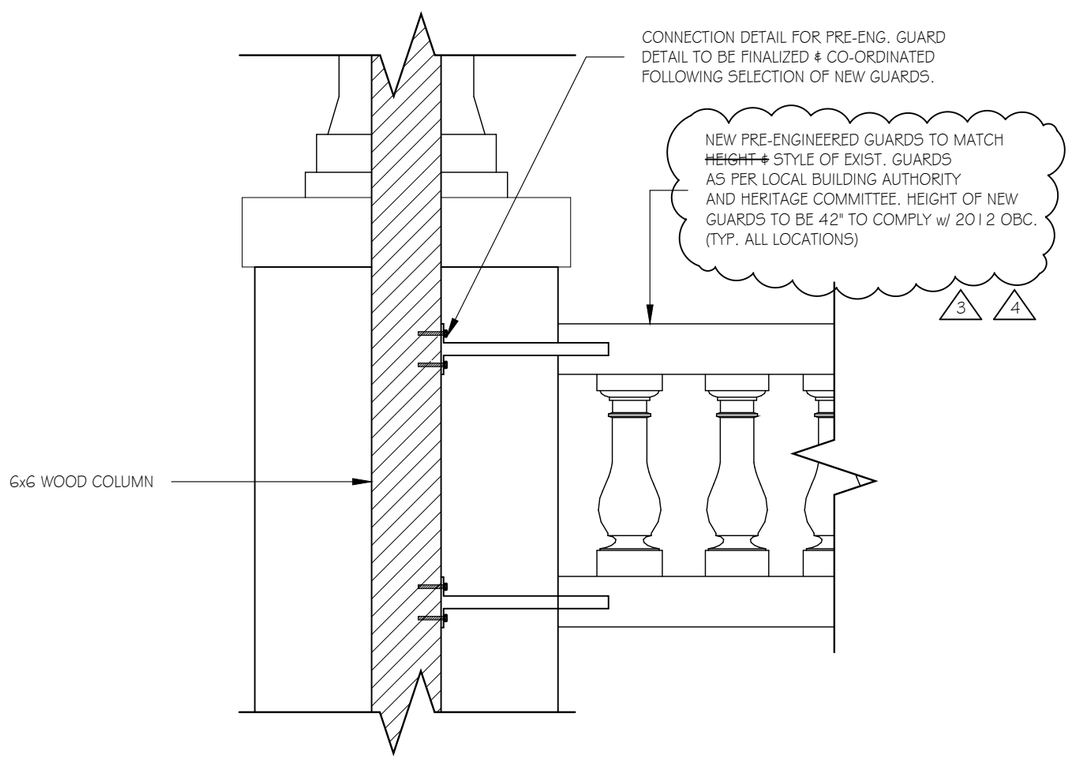
PROJECT / LOCATION
BALCONY SLAB REPLACEMENT

2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
SECTION

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK8





1 / SK9 GUARD'S CONNECTION DETAIL SCALE 1"=1'-0"

GENERAL NOTES:

1) ANY DEVIATION FROM CONDITIONS SHOWN ON THESE DRAWINGS, SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH WORK.

2) DESIGN LOADS:
ROOF = 15 PSF (D) 36 PSF(S)
2ND FLOOR = 10 PSF (D) 100 PSF (L)
1ST FLOOR = 10 PSF (D) 100 PSF (L)

3) CONTRACTOR TO VERIFY EXISTING SERVICES AND SUPPORT AS REQUIRED. AS REQUIRED PRIOR TO EXCAVATION.

4) MATERIALS:
- A) WOOD TO BE SPF NO.2 OR BETTER.
- B) CONCRETE TO BE 20 MPA (3,000 PSI) @ 28 DAY STRENGTH.
- C) STRUCT. STEEL TO CSA G40.20/G40.21 -GRADE 350W
  CHANNELS GRADE 350W
  ANGLES GRADE 300W
- D) WELDING TO CSA W47.1 & W59
- E) CONC. BLOCK: f'_m= 15 MPA

5) ALL WORK TO BE IN CONFORMANCE WITH ONTARIO BUILDING CODE 2012

6) CONTRACTOR RESPONSIBLE FOR PROVIDING TEMPORARY SHORING TO COMPLETE WORK.

7) ALL PRE-MANUFACTURED PRODUCTS TO CONFORM TO & BE INSTALLED AS PER THE MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS.

8) SITE REVIEW OF STRUCTURAL ITEMS, AS NOTED ON THESE DRAWINGS, SHALL BE COORDINATED WITH GASCON ENGINEERING & STRUCTURAL DESIGN INC THROUGH THE DURATION OF THE PROJECT.

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PROJECT / LOCATION
BALCONY SLAB REPLACEMENT
2178 Laurier Ave
ROCKLAND, ONTARIO

DRAWING
GUARD'S CONNECTION DETAIL
GENERAL NOTES

DESIGNED BY	APPROVED BY
Noel Gascon	NG
DRAWN BY: EA	SCALE: AS NOTED
DATE: 31-AUG-2018	
PROJECT NO. 2018-070	SHEET NO. SK9

Exova
2395 Speakman Dr.
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E: sales@exova.com
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Testing. Advising. Assuring.

PERFORMANCE EVALUATION OF SUPERIOR PLASTIC PRODUCT'S "5000 SERIES (VINTAGE) GUARDRAIL SYSTEM" IN ACCORDANCE WITH THE NBCC 2010 / OBC 2006 GUARD REQUIREMENTS

Report to:	Superior Plastic Products, Inc. 260 Jayln Drive New Holland, PA. 17557
Attention:	Mr. John Morrison
Telephone: Email:	(717) 371-2952 jmorrison@superiorplastic.net
Report No.:	12-06-M0309-2 4 Pages, 1 Appendix
Proposal No.:	12-006-05222
Date:	November 11, 2012

1.0 INTRODUCTION

At the request of Superior Plastic Products, Inc., Exova was retained to conduct a performance evaluation of a guard system identified as the "5000 Series (Vintage) Guardrail System" in accordance with the National Building Code of Canada (NBCC) 2010 and the Ontario Building Code (OBC) 2006 requirements for guards as outlined in Proposal Number 12-006-05222.

Upon receipt, the sample was assigned the following Exova Sample Number:

Client Sample Description	Exova Sample No.
3000 Series Guardrail System	12-06-M0309-2

Style:	PVC, 2-Post, Single Upper Rail, Single Lower Rail
Baluster Type:	5000 Series Vintage Turned Baluster / Denver Square Baluster
Baluster Spacing:	133.35 mm O/C (Spacing Between Balusters)
Length of Upper Rail:	2450.0 mm
Rail Reinforcement:	6005-T Alloy Aluminium (Top & Bottom, Die No. OC-3545)
Spacing of Posts:	2670.0 mm (Between Posts O/C)
Post Type:	PVC surrounding a wood core, 203.2 mm (deep) x 203.2 mm (wide)
Post Height:	1371.6 mm (high)
Post Anchors Used:	19 mm x 254 mm Galvanized Steel Threaded Rod *(1 anchor & 8 screws per post)*
Setting Method:	Wood Joist (See Appendix A)

* Comparison flexure testing was conducted between the Vintage Turned Spindle and the Denver Square Baluster to determine the weakest baluster. The baluster with the weakest flexure properties *(Vintage Turned)* was used in all physical guard rail tests in the intent that the stronger baluster *(Denver Square Baluster)* will also comply with the loads required for the guardrail system to sustain the NBCC 2010 and OBC 2006 requirements as outlined in this report.

2.0 PROCEDURE

The Building Performance Centre at Exova evaluated the above guardrail systems in accordance with the loads and locations (including 1.5 x factored load requirements) as specified in NBCC 2010 / OBC 2006 codes:

- National Building Code of Canada Section 4.1.5.14.1 (c) , 4.1.5.14.2, 4.1.5.14.4
- Ontario Building Code Section 4.1.5.15.1(c), 4.1.5.15.2, 4.1.5.15.4

Note: All testing was performed in triplicate.

3.0 RESULTS

Table 1 – Summarized Guard Testing Results
Exova Sample Number: 12-06-M0309-2

Loading Description	Specified Load	Minimum Design Load Required	1.5 x Factored Load Required	Test Result (Pass / Fail)
Ontario Building Code (2006) Section 4.1.5.15.1(c) / NBCC (2010) 4.1.5.14.1(c)– 0.75kN/m or 1.0kN Applied at Any Point				
Concentrated load applied at the midpoint of the rail in a horizontal direction	1.0 kN (225 lbf)	1.0 kN (225 lbf)	1.5 kN (338 lbf)	Pass
Concentrated load applied at end of the rail in horizontal direction	1.0 kN (225 lbf)	1.0 kN (225 lbf)	1.5 kN (338 lbf)	Pass
Concentrated load applied at the midpoint of the rail in vertical down direction	1.0 kN (225 lbf)	1.0 kN (225 lbf)	1.5 kN (338 lbf)	Pass
Concentrated load applied at the end of the rail in vertical down direction	1.0 kN (225 lbf)	1.0 kN (225 lbf)	1.5 kN (337.5 lbf)	Pass
Concentrated load applied at the midpoint of the rail in vertical up direction	1.0 kN (225lbf)	1.0 kN (225 lbf)	1.5 kN (338 lbf)	Pass
Concentrated load applied at the end of the rail in vertical up direction	1.0 kN (225 lbf)	1.0 kN (225 lbf)	1.5 kN (338 lbf)	Pass
Uniformly distributed load applied in the vertical direction	0.75 kN/m (51 lbs/ft)	0.75 kN/m (51 lbs/ft)	612 lbf	Pass
Uniformly distributed load applied in the horizontal direction	0.75 kN/m (51 lbs/ft)	0.75 kN/m (51 lbs/ft)	612 lbf	Pass
Ontario Building Code (2006) Section 4.1.5.15.2 / NBCC (2010) 4.1.5.14.2 – 0.5 kN/100 mm^2 Applied to Elements Within the Guard				
Concentrated load applied to individual spindles (balusters)	0.5 kN (113 lbf)	0.5 kN (113 lbf)	0.75 kN (170lbf)	Pass
Ontario Building Code (2006) Section 4.1.10.1.4 / NBCC (2010) 4.1.5.14.4 – 1.5 kN/m Applied Vertically at the Top of Every Guard				
Uniformly distributed load applied in vertical down direction	1.5 kN/m (103 lbf/ft)	2.90 kN (652 lbf)	1236 lbf	Pass
Uniformly distributed load applied in vertical up direction	1.5 kN/m (103 lbf/ft)	2.90 kN (652 lbf)	1236 lbf	Pass

Note: A "pass" is given if there are no cracks, breaks or permanent deformation to the element tested after the factored loads were released. Each load was maintained for 1 minute.

4.0 MODIFICATIONS

No modifications were made to Exova Sample Number: 12-06-M0309-2 to achieve the results stated in this report.

5.0 CONCLUSIONS

Based on the results of the testing summarised in Table 1, the "5000 Series (Vintage) Guardrail System" *(Exova Sample No.: 12-06-M0309-2)* met the following requirements:

National Building Code of Canada Section 4.1.5.14.1 (c) , 4.1.5.14.2, 4.1.5.14.4
Ontario Building Code Section 4.1.5.15.1(c), 4.1.5.15.2, 4.1.5.15.4

Reported by:

Jordan M. Church, B.Tech, Technologist, Ext. 546
Supervisor, Fenestration / Walls
Products Testing Division

Reviewed & Authorized by:

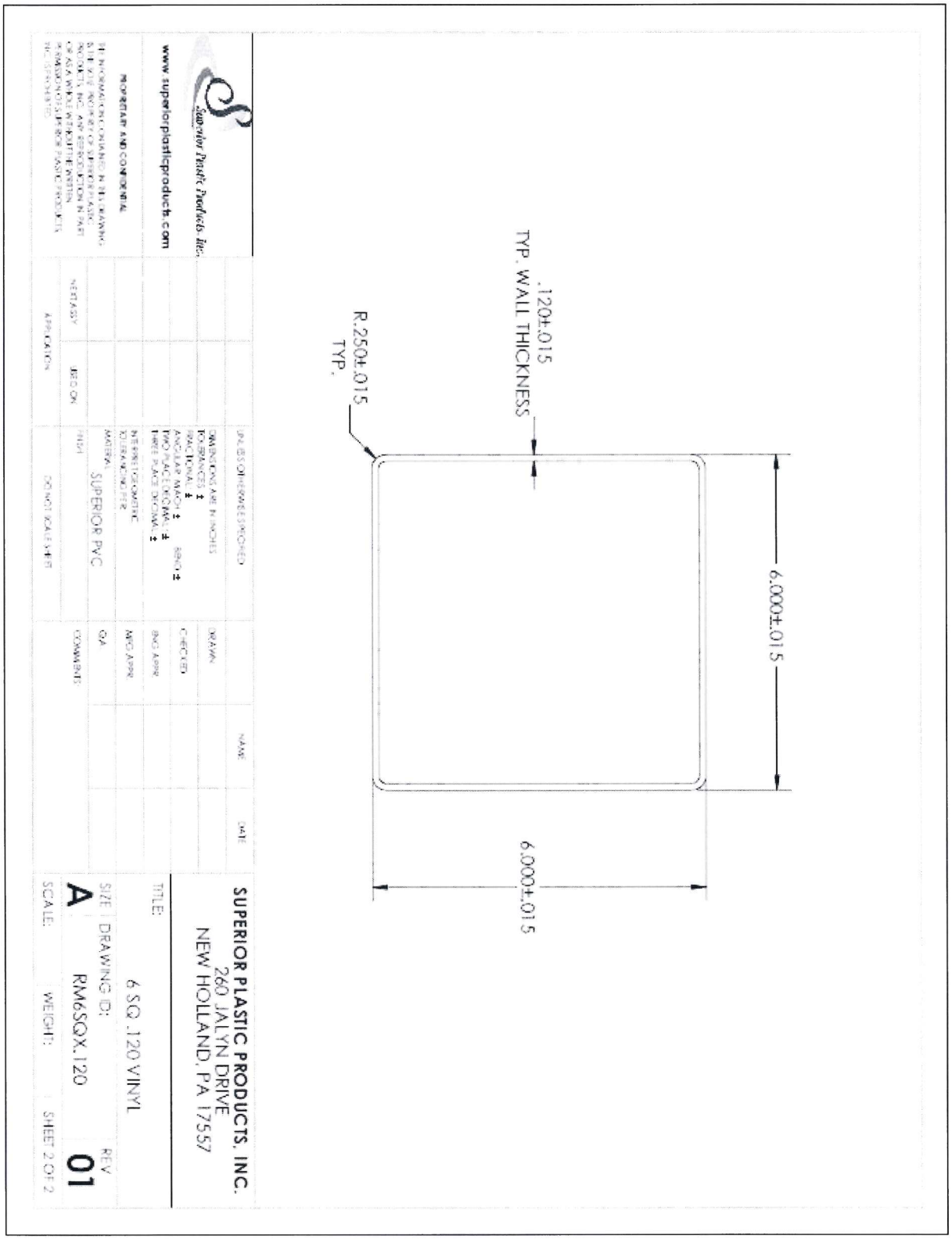
David W. Bailey, P.Eng, Ext. 307
Technical Director
Product Testing Division

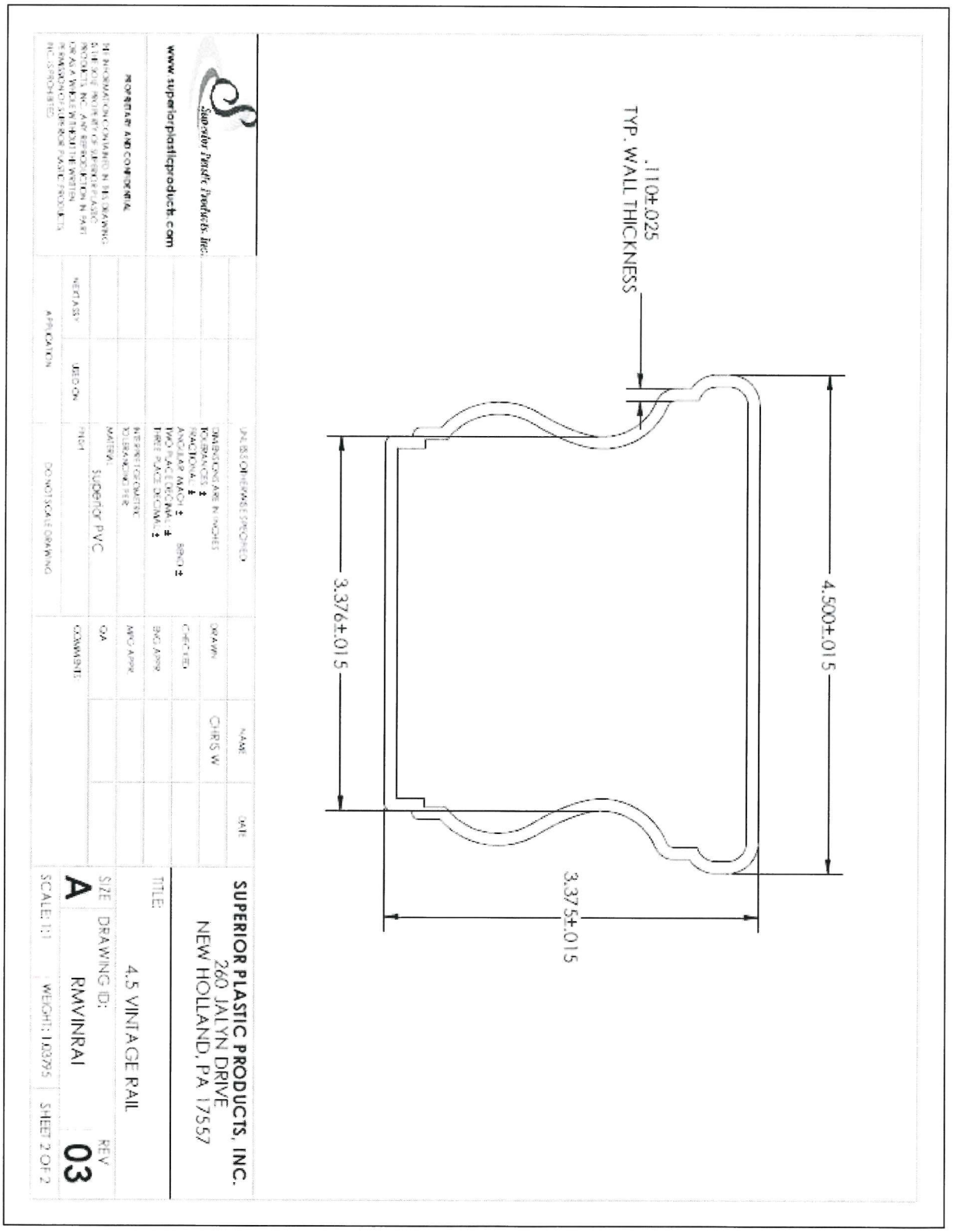
This report and service are covered under Exova Canada Inc's. Standard Terms and Conditions of Contract which may be found on our company's website www.exova.com, or by calling 1-866-263-9268

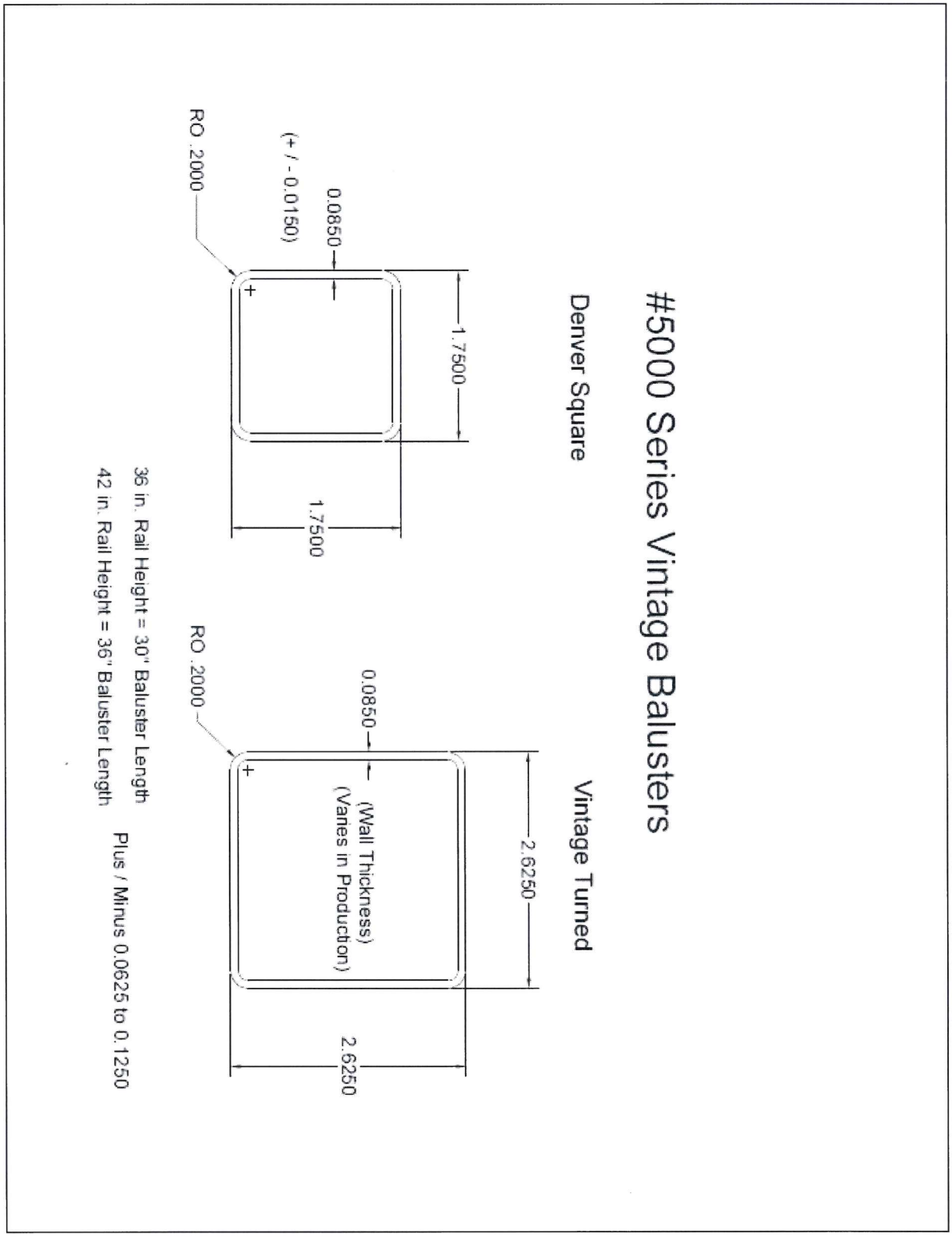
APPENDIX A

System and Setup Details for the "5000 Series (Vintage) Guardrail System"

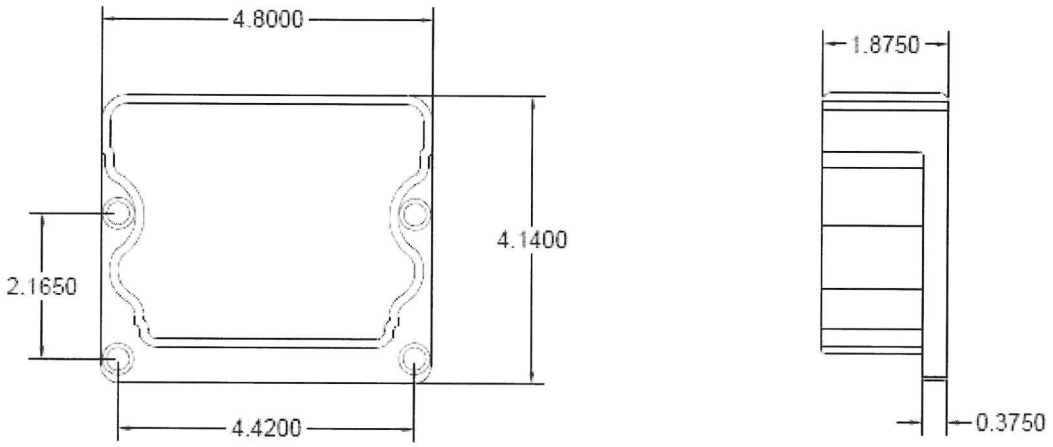
(10 Pages)


.120±.015
TYP. WALL THICKNESS
R.250±.015
TYP.
6.000±.015
6.000±.015
SUPERIOR PLASTIC PRODUCTS, INC.
260 JALYN DRIVE
NEW HOLLAND, PA 17557
TITLE:
6 SQ .120 VINYL
SIZE
A
DRAWING ID:
RM6SQX.120
REV
01
SCALE:
WEIGHT:
SHEET 2 OF 2
SUPERIOR PVC
www.superiorplasticproducts.com
PROPRIETARY AND CONFIDENTIAL

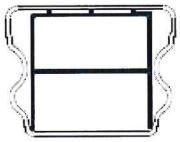

.110±.025
TYP. WALL THICKNESS
4.500±.015
3.376±.015
3.375±.015
Superior Plastic Products, Inc.
www.superiorplasticproducts.com
PROPRIETARY AND CONFIDENTIAL
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ±
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±
INTERPRET GEOMETRIC
TOLERANCING PER:
MATERIAL SUPERIOR PVC
FINISH
DO NOT SCALE DRAWING
NAME
DATE
DRAWN CHRIS W
CHECKED
ENG APPR
MFG APPR
QA
COMMENTS:
NEXT ASSY
USED ON
APPLICATION
SUPERIOR PLASTIC PRODUCTS, INC.
260 JALYN DRIVE
NEW HOLLAND, PA 17557
TITLE:
4.5 VINTAGE RAIL
SIZE A
DRAWING ID: RMVINRAI
REV 03
SCALE: 1:1
WEIGHT: 1.03795
SHEET 2 OF 2

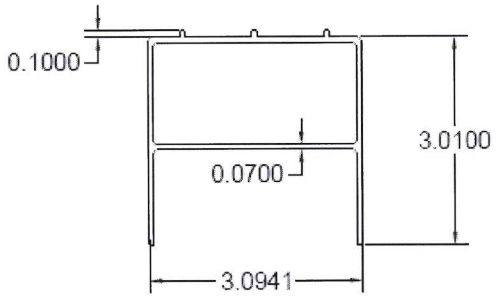

#5000 Series Vintage Balusters
Denver Square
Vintage Turned
1.7500
0.0850
(+ / - 0.0150)
1.7500
RO .2000
2.6250
0.0850
(Wall Thickness)
(Varies in Production)
2.6250
RO .2000
36 in. Rail Height = 30" Baluster Length
42 in. Rail Height = 36" Baluster Length
Plus / Minus 0.0625 to 0.1250

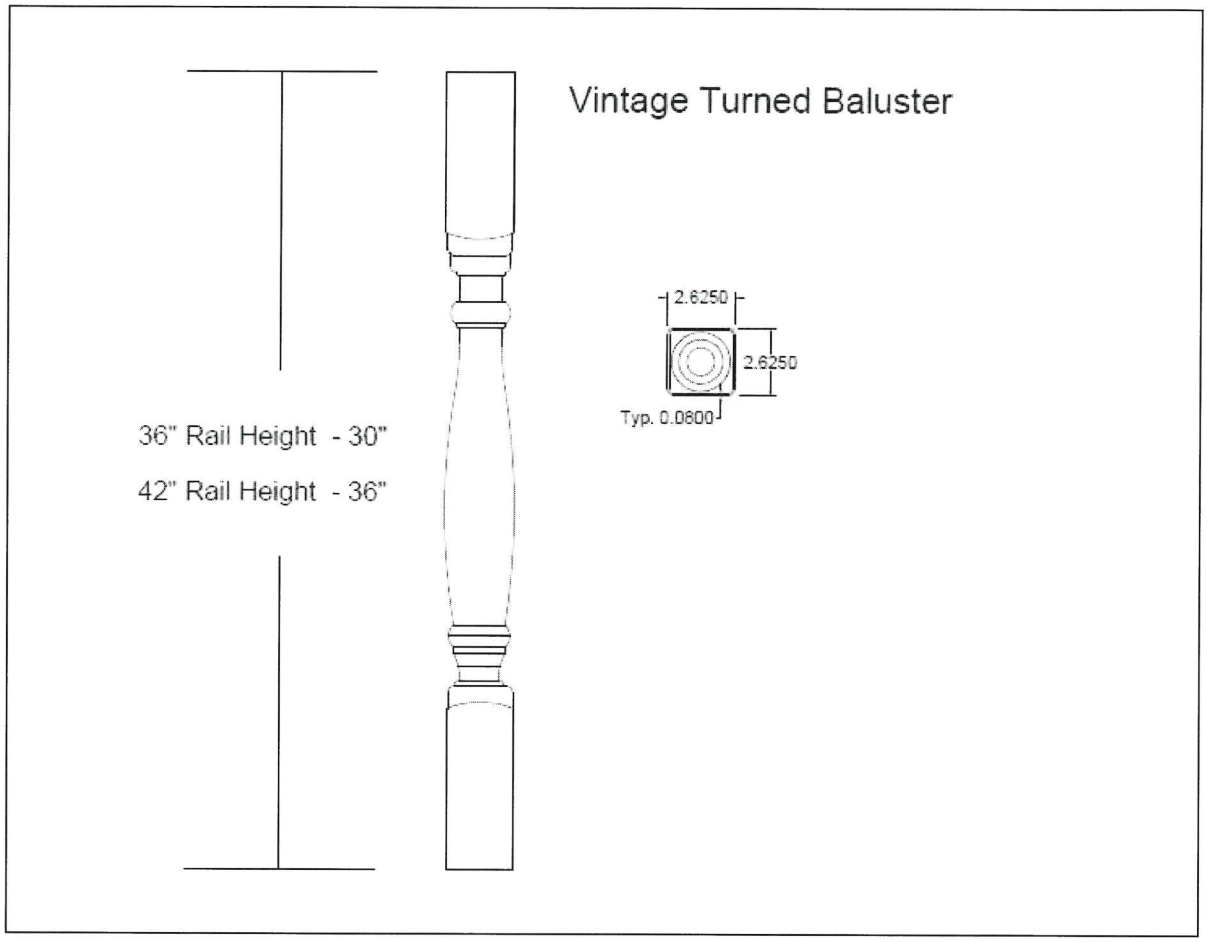
Vintage Top & Bottom Mounting Brackets

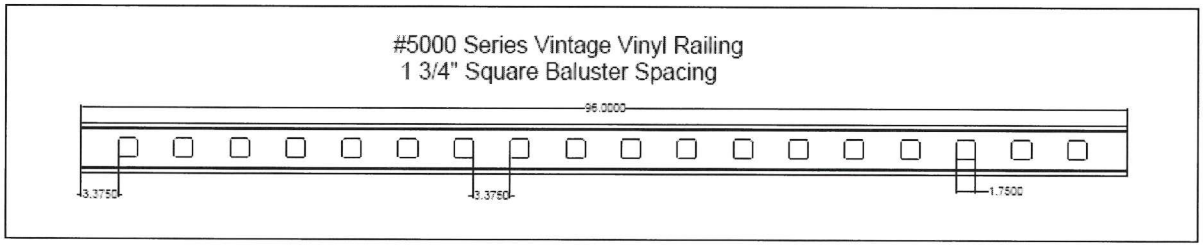


Vintage Top & Bottom Aluminum Insert
#6005-T Alloy Aluminum
Wall Thickness +/- .00500



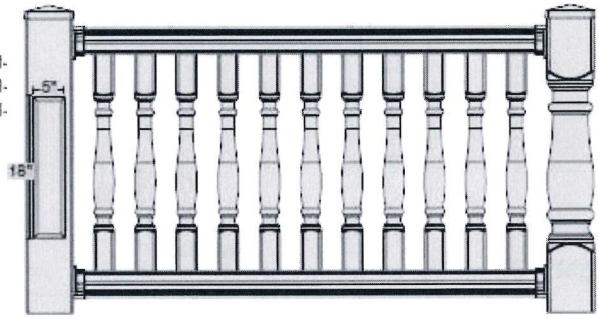



Vintage Turned Baluster
2.6250
2.6250
Typ. 0.0800
36" Rail Height - 30"
42" Rail Height - 36"


#5000 Series Vintage Vinyl Railing
1 3/4" Square Baluster Spacing
96.0000
3.3750
3.3750
1.7500

5000 Series Balustrade

5236 = 36" High Vintage
5242 = 42" High Vintage
5324 = 24" High Denver Sq.
5336 = 36" High Denver Sq.
5342 = 42" High Denver Sq.



Vintage shown
2¾" spacing

Denver

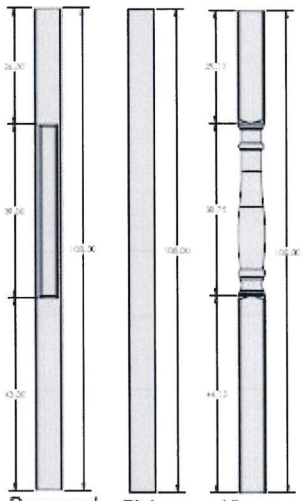
3¾" spacing
1¾" square

Large 4½" Top and Bottom Rail

Meets ICC Code Standards

With $2^5/_8$" sq. turned balusters, 6" Newel posts and 4½" wide top and bottom rails, it is perfect for installations requiring larger railing systems. The 6" square Newel posts come in three styles, turned, plain, or recessed panel, and are available in lengths of 38" and 54" long. Available in up to 10' section length.
Colors available: White, Tan, Clay

6" x 108" Porch Post Options
Load Rated 20,000 lbs. (max.)
Uplift 1,275 (max.)



Recessed Panel | Plain | Vintage

4½" Top & Bottom Bracket

Universal Step Rail Bracket

8" - 10" - 12" Round Column Wedge Sets (Step)

45° Wedge Adaptor

New York Flat Cap

New England Flat Cap

Federation Cap

8" - 10" - 12" Round Column Wedge Sets (Regular)

6" x 6" Post Trim

6" x 6"Classic One Piece Post Trim

37" or 43" Galvanized Pipe w/ S.S. Base Plate Available for 4" & 5" Plain and Design Newel Posts

S.S. Balustrade Bracket (37" High)

Step Rail Brackets
8" - 10" - 12" Round Column Wedge Sets (Regular)
8" - 10" - 12" Round Column Wedge Sets (Step)
45° Wedge Sets
8" 1-pcs. Trim
Stainless Steel Bracket

Note: Step railing sections include Sleeve-Over Trim cut to the angle of your step pitch.

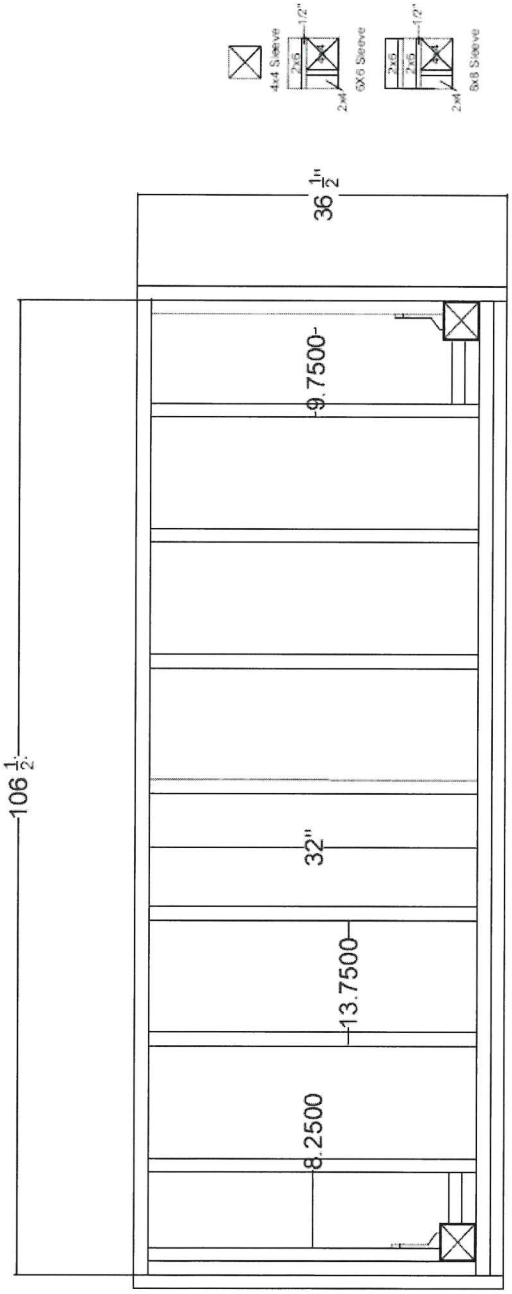
Available in 4' Radius Sections, See price sheet.
Also Special Radiuses Available.

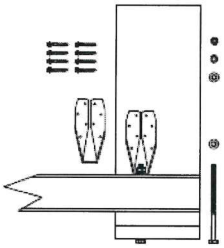
Top

Bottom

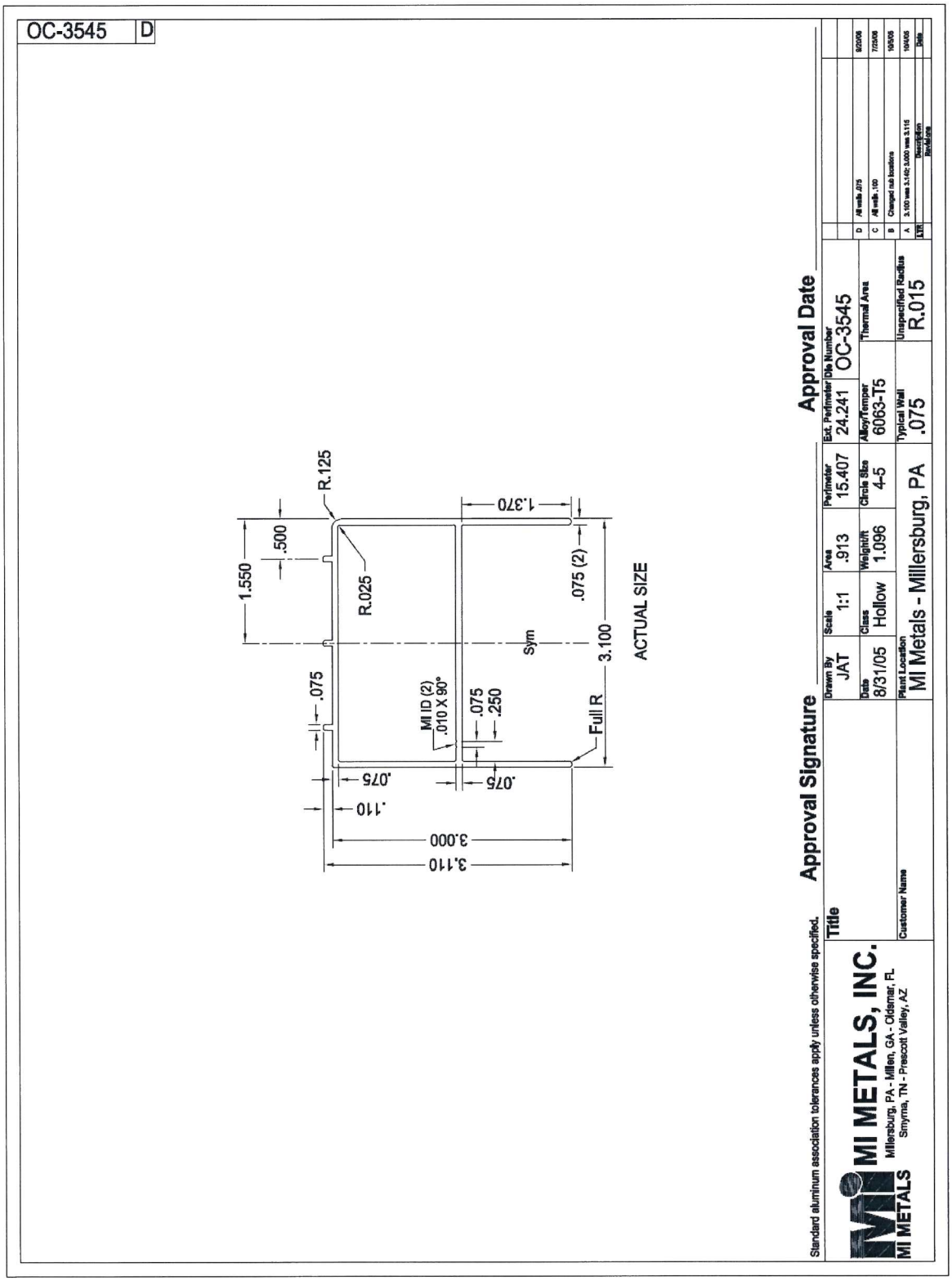
External Step Brackets
32" - 36"

38





6 - 4 x 4 x 5'
9- 2 x 10 x 32"
2- 2 x 10 x 28"
2- 2 x 10 x 40 1/2"
3- 2 x 10 x 106 1/2"
18- LUS 28Z 2x8-10 Joist Hangers
2 - DTT2Z Deck Tension Tie
2 - 1/2"x 10" Bolts
4 - 1/2" Flat Washers
2 - 1/2" Lock Washers
2 - 1/2" Nuts
12 - 1/4"x 2" lag Bolts (Supplied w/ DTT2Z)


OC-3545
D
R.125
1.550
.500
R.025
1.370
.075 (2)
Sym
3.100
ACTUAL SIZE
.075
MI ID (2)
.010 X 90°
.075
.250
Full R
.075
.075
.110
3.000
3.110
Approval Date
Approval Signature
Standard aluminum association tolerances apply unless otherwise specified.
Title
Drawn By JAT
Scale 1:1
Area .913
Perimeter 15.407
Ext. Perimeter 24.241
Die Number OC-3545
Date 8/31/05
Class Hollow
Weight/ft 1.096
Circle Size 4-5
Alloy/Temper 6063-T5
Thermal Area
Typical Wall .075
Unspecified Radius R.015
Customer Name
Plant Location MI Metals - Millersburg, PA
MI METALS
MI METALS, INC.
Millersburg, PA - Milten, GA - Oldsmar, FL
Smyrna, TN - Prescott Valley, AZ
LTR Description Date
A 3.100 was 3.140; 3.000 was 3.115 10/24/05
B Changed rub locations 10/5/05
C All walls .100 7/22/05
D All walls .075 9/20/06

Superior Plastic Products, Inc.

Bracket Attachment
Fastening Schedule

Systems	Connections	Fasteners	Qty.
#3000 Series Newport Rail	Top Rail Brk. To Post	#14 x 1 in. Self- Starting Pan-Head S.S. Screws	4 ea.
	Top Rail Brk. To Rail	#8 x 1 in. Self-Starting Pan-Head S.S. Screw	2 ea.
	Bottom Rail Brk. To Post	#8 x 1 in. Self-Starting Pan-Head S.S. Screw	6 ea.
	Bottom Rail Brk. To Rail	#8 x 1 in. Self-Starting Pan-Head S.S. Screw	1 ea.
#5000 series Vintage Top & Bottom Brk.	Top & Bottom Brk. To Post	#14 x 1 in. Self- Starting Pan-Head S.S. Screws	4 ea.
	Top & Bottom Brk. To Rail	#8 x 1 in. Cap-Head S.S. Screw	2 ea.
#7000 series Belmont Top & Bottom Brk.	Top & Bottom Brk. To Post	#14 x 1 in. Self- Starting Pan-Head S.S. Screws	4 ea.
	Top & Bottom Brk. To Rail	#8 x 1 in. Cap-Head S.S. Screw	2 ea.

REPORT N° AMÉ-19-89-R Secondary Plan

Date	09/10/2019
Submitted by	Marie-Eve Bélanger
Subject	Secondary Plan – 2nd public meeting
File N°	D-09-83

1) **NATURE/GOAL :**
The nature of this report is to present the Secondary Plan of the Expansion Lands, being Amendment No. 13 to the urban area of the City of Clarence-Rockland.

2) **DIRECTIVE/PREVIOUS POLICY :**
Following the submission of a Comment letter from SANCORE, the Planning Committee requested that the letter be reviewed by the City, prior to making a recommendation.

3) **DEPARTMENT'S RECOMMENDATION :**
THAT the Planning Committee recommends to Council the approval of By-law 2019-72, being the Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland (Secondary Plan for the Expansion Lands).

QUE le comité d'aménagement recommande au conseil l'approbation du règlement 2019-72, soit l'amendement no. 13 au Plan Officiel de la Cité de Clarence-Rockland (plan secondaire).

4) **BACKGROUND :**
On September 5th, 2019, the City presented the Secondary Plan to the Planning Committee. The owner SANCORE submitted a comment letter at the end of the public meeting. Consequently, staff was asked to review the letter in order to provide a response. The file was deferred to October 9th to allow enough time to review the letter.

5) **DISCUSSION :**
The discussion included under the report AMÉ-19-80-R, that was presented to the September 5th Planning Committee meeting, is still valid and will be considered to form part of this report.

As indicated in my previous report, the Expansion Lands Secondary Plan will promote a sustainable urban development that will accommodate Clarence-Rockland's projected growth over the next 20 years. The Expansion Lands is a vast area and will become a small community on its own. Our consultants completed a Market Study and multiple engineering studies to support the project. They carefully

planned for low, medium and high residential as well as planned for the collector roads, parks location and commercial/community areas. The basis of the secondary plan is to plan for the long-term and to maximize the infrastructure to reduce the maintenance cost in the future. A Secondary Plan is a detailed planning document, which contains specific policies and guidelines for a precise study area.

Under the Secondary Plan, a 5-hectare park is proposed adjacent to the existing fish habitat and future stormwater pond. The consultant is proposing a bigger park to service a wider community. A commercial block is also proposed near Caron Street and future Street No. A. As stipulated above, a market study was completed to determine if this new community would require a commercial hub. As such, it was determined that the amount of population in the Expansion Lands and in the vicinity would benefit from a commercial area. The intent of providing commercial land uses is to ensure the creation of a community where people are able to meet some, or all, of their everyday needs in proximity to their homes.

To conclude, Council has decided to invest more than $140,000 into this project in 2017. We have been working on this plan for over a year and have had multiple open houses and a few meetings with SANCORE to try to provide as much flexibility in the plan as we can. We need to focus on the goal and basis of the Secondary Plan, being a more detailed plan for the development of the Expansion Land's community. This plan removes the piecemeal development that we have been seeing in the last 10 years as it provides a framework for a more efficient and orderly growth. The well-defined grid-network will promote a strong connectivity throughout the neighbourhood while providing a safe access to amenities, including parks and schools.

6) **CONSULTATION:**

The City met with SANCORE and its consultant planner on September 25th, 2019 to discuss the letter that was submitted at the September 5th Planning Committee meeting. The City's consultant, Fotenn, as well as the Senior Planner from the United Counties attended the meeting with the City to provide some advice on the comments received.

The comment letter from SANCORE is included under Schedule A of this report. The Department also prepared with its consultant a table to address the comments (See Schedule B). The table was not submitted to the developer but was discussed point by point at the meeting.

After working with SANCORE, we believe that the final version of the Secondary Plan provides a lot of flexibility under Section 9.5.1 "Minor

Amendment" of the Plan. We have made changes that provides them with the proper tools to design and plan their Subdivision accordingly.

7) **RECOMMENDATIONS OR COMMENTS FROM COMMITTEE/ OTHER DEPARTMENTS :**
n/a

8) **FINANCIAL IMPACT (expenses/material/etc.):**
n/a

9) **LEGAL IMPLICATIONS :**
n/a

10) **RISK MANAGEMENT :**
n/a

11) **STRATEGIC IMPLICATIONS :**
n/a

12) **SUPPORTING DOCUMENTS:**
Amendment No. 13
By-law 2019-72
Report AMÉ-19-80-R
Schedule A : Comments from SANCORE – Sept 5, 2019
Schedule B : Response from the City
Schedule C: Comments from the United Counties of Prescott-Russell
Schedule D: Comments from SANCORE- Oct 9, 2019
Vision, Guiding Principales and Objectives Report
Existing Conditions Report
Environmental Constraints Report
Master Servicing Study
Transportation Impact Assessment
Retail Market Study

RÈGLEMENT Nº 2019-72

Amendant le Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland

Corporation de la Cité de Clarence-Rockland

Plan Secondaire pour les terrains qui ont été ajouté à l'aire urbaine

rédigé par

Cité de Clarence-Rockland
1560, rue Laurier
Rockland (Ontario)
K4K 1P7
(613) 446-6022

BY-LAW Nº 2019-72

Amending the Official Plan of the Urban Area of the City of Clarence-Rockland

Corporation of the City of Clarence-Rockland

Expansion Lands – Secondary Plan

prepared by

City of Clarence-Rockland
1560 Laurier Street
Rockland, Ontario
K4K 1P7
(613) 446-6022

LA CORPORATION DE LA CITÉ DE CLARENCE-ROCKLAND

RÈGLEMENT Nº 2019-72

RÈGLEMENT AFIN D'ADOPTER L'AMENDEMENT Nº 13 AU *PLAN OFFICIEL DE L'AIRE URBAINE DE LA CITÉ DE CLARENCE-ROCKLAND;*

RÉF: Amendement numéro 13 au Plan officiel conformément aux dispositions de l'article 22 de la *Loi sur l'aménagement du territoire*, R.S.O. 1990, tel qu'amendé.

ATTENDU QUE le *Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland* est en vigueur depuis le 30 septembre 2014;

ET ATTENDU QUE l'amendement numéro 13 au *Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland* représente des bonnes pratiques d'aménagement et est en conformité avec les intentions du *Plan officiel des Comtés unis de Prescott et Russell* et de la *Déclaration de principes provinciale*;

IL EST RÉSOLU QUE le Conseil de la Corporation de la Cité de Clarence-Rockland donne force de loi à ce qui suit:

Article 1 : L'amendement numéro 13 au *Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland*, composé de texte et cédule ci-jointe, est par la présente, adopté.

Article 2 : Conformément à l'article 17 (23) de la *Loi sur l'aménagement du territoire*, le greffier est, par la présente, autorisé à aviser les personnes ou les organismes publics de l'adoption de cet amendement. La Cité de Clarence-Rockland entend aussi aviser et soumettre une application auprès des Comtés unis de Prescott et Russell pour l'approbation de l'amendement numéro 13 au *Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland*.

Article 3 : Ce règlement entrera en vigueur et prendra effet le jour de son adoption finale.

FAIT ET ADOPTÉ EN RÉUNION PUBLIQUE, CE 28ième JOUR D'OCTOBRE, 2019.

Guy Desjardins, Maire	**Monique Ouellet, greffière**

THE CORPORATION OF THE CITY OF CLARENCE-ROCKLAND

BY-LAW NO. 2019-72

BEING A BY-LAW TO ADOPT AMENDMENT NO. 13 TO THE *OFFICIAL PLAN OF THE URBAN AREA OF THE CITY OF CLARENCE-ROCKLAND;*

REF: Official Plan Amendment No. 13 pursuant to Section 22 of the *Planning Act*, R.S.O. 1990, as amended.

WHEREAS the *Official Plan of the Urban Area of the City of Clarence-Rockland* has been in effect since September 30, 2014;

AND WHEREAS Amendment No. 13 to the *Official Plan of the Urban Area of the City of Clarence-Rockland* represents good planning and conforms with the intent of the *United Counties of Prescott and Russell Official Plan* and the *Provincial Policy Statement*;

NOW THEREFORE, the Council of the Corporation of the City of Clarence-Rockland enacts as follows:

Section 1: Amendment No. 13 to the *Official Plan of the Urban Area of the City of Clarence-Rockland*, consisting of the attached text and schedule is hereby adopted.

Section 2: In accordance to Section 17 (23) of the *Planning Act*, the Clerk is hereby authorized to notify persons or public bodies for the adoption of the Amendment. The City of Clarence-Rockland also intends to notify and submit an application to the United Counties of Prescott and Russell for approval of Amendment No. 13 to the *Official Plan of the Urban Area of the City of Clarence-Rockland*.

Section 3: This By-law shall come into force and take effect on the day of the final passing thereof.

DATED AND PASSED IN OPEN COUNCIL, THIS 28th DAY OF OCTOBER, 2019.

Guy Desjardins, Mayor	**Monique Ouellet, Clerk**

AMENDMENT NUMBER 13 TO THE OFFICIAL PLAN OF THE URBAN AREA OF THE CITY OF CLARENCE-ROCKLAND

Prepared by
the Infrastructure and Planning Department
of the City of Clarence-Rockland
1560 Laurier Street
Rockland (Ontario)
K4K 1P7
(613) 446-6022

October 2019

AMENDMENT NO. 13 TO THE OFFICIAL PLAN OF THE URBAN AREA OF THE CITY OF CLARENCE-ROCKLAND

TABLE OF CONTENTS

STATEMENT OF COMPONENTS

Part A - The Preamble does not constitute part of the Amendment

i. Purpose
ii. Lands Affected
iii. Basis

Part B - The Amendment consisting of the following text constitutes Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland

1. Introduction
2. Details of the Amendment
3. Schedules and Document to Amendment No. 13 – Official Plan of the urban Area of the City of Clarence-Rockland

Part C - Implementation and Interpretation

PART A - THE PREAMBLE

i. Purpose

The purpose of the proposed Official Plan Amendment No. 13 is to implement the Expansion Lands Secondary Plan (ELSP). The ELSP provides a planning framework to ensure that future development within the Expansion Lands occurs in an efficient, orderly and sustainable manner.

ii. Land affected

The lands affected by this Amendment include certain lands bounded to the north by David Street and to the east by the Clarence Creek. The Expansion Lands are situated primarily east of Caron Street with the exception of an area of approximately 23 hectares on the west side of Caron Street in the southwest corner. In total, the Expansion Lands study area comprises approximately 133.5 hectares of land.

iii. Basis

Background

The Expansion Lands were identified for development during the 2015 United Counties Official Plan review. The review identified a localized shortage of residential land supply in the City of Clarence-Rockland and resulted in the addition of approximately 133.5 hectares of development land to the Rockland urban area – known as the Expansion Lands.

The Expansion Lands are currently designated "Urban Policy Area" in the United Counties of Prescott and Russell (UCPR) Official Plan and have not previously been designed in the Official Plan of the Urban Area of the City of Clarence-Rockland. The lands are currently zoned "Special Study Area (SSA)" pursuant to Zoning By-law 2016-10.

The City initiated the Expansion Lands Secondary Plan (ELSP) in 2017 to establish a policy framework for the lands and to provide the basis for future development to ensure the efficient use of the land and infrastructure. The Secondary Plan establishes a connected network of streets and pathways to increase connectivity and guide future development.

Rationale

The Urban Policy Area designation of the UCPR Official Plan applies to cities, towns, and villages with populations of 1,000 or more and which have been developed primarily on the basis of municipal water and sewer systems. The Urban Policy Area is intended to accommodate a significant portion of future growth in the United Counties.

The Expansion Lands Secondary Plan is a new Secondary Plan that will be added to Section 8 of the Official Plan of the Urban Area for the City of Clarence-Rockland. The ELSP will provide area-specific policy direction to guide development within the Expansion Lands Area over the next 20 years and ensuring that future growth occurs in an efficient, orderly, and sustainable manner.

Amendment No. 13 will revise the Official Plan schedules to add the Expansion Lands to the Official Plan of the Urban Area of the City of Clarence-Rockland.

PART B - THE AMENDMENT

1. Introduction

This part of the document in its entirety, entitled **PART B - THE AMENDMENT**, consisting of the following text and schedules, constitute Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland, as amended, and shall be known as the "Expansion Lands Secondary Plan".

2. Details of the Amendment

The Official Plan of the Urban Area of the City of Clarence-Rockland is hereby amended as set out in the table below and in the attached schedules and documents:

<table>
<tr><th>Item</th><th>Section</th><th>Details of Amendment</th></tr>
<tr><td>1</td><td>1.3 – The Official Plan</td><td>Amend 1.3 – The Official Plan by:

• Modifying the first sentence of "Section 1.3" to add "Document 1" after "Schedule B".

• Adding the following paragraph at the end of "Section 1.3":

"Document 1 – Expansion Lands Secondary Plans is the document that provides policies specific to the Expansion Lands Area."</td></tr>
<tr><td>2</td><td>7.3.2 – Policies – Major Collector Roads</td><td>Amend 7.3.2 – Policies – Major Collector Roads by:

• Adding Street A and moving Caron Street to the Major Collector table in sub-section 4 as follows:

<table><tr><th>Street Name</th><th>From – To</th></tr><tr><td>Street A (Expansion Lands)</td><td>Caron Street to David Street</td></tr><tr><td>Caron Street</td><td>Baseline Road to County Road No. 17</td></tr></table></td></tr>
<tr><td>3</td><td>7.3.3 – Policies – Minor Collector Roads</td><td>Amend 7.3.3 – Policies – Minor Collector Roads by:

• Adding Street B and David Street in the table in sub-section 4 as follows:

<table><tr><th>Street Name</th><th>From – To</th></tr><tr><td>Street B (Expansion Lands)</td><td>David Street to Urban Boundary</td></tr><tr><td>David Street</td><td>Caron Street to Tucker Road</td></tr></table>
• Remove Caron Street from the table in sub-section</td></tr>
</table>

4	8 – Special Study Area	Amend 8 – Special Study Area by: • Amending the title of Section 8 from "Special Study Area" to "Secondary Plans and Special Study Areas" • Amending the title of Section 8.1 from "Special Study Area 1" to "Special Study Areas" and moving the title to be before the first paragraph of Section 8. • That the current Section 8.1 (titled "Special Study Area 1") be renumbered to Section 8.1.1. • That the current Section 8.1.1 (titled "Development Plan") be renumbered to Section 8.1.1.1.
5	8.2 (new section)	Amend Section 8 of the Official Plan by: • Adding a new section following 8.1.1.1 – Development Plan, as follows: **8.2 Secondary Plans** Secondary plans provide specific policies for areas identified within an Official Plan as requiring more detailed direction on topics such as land use, infrastructure, the natural environment, transportation and urban design. Listed below are the secondary plans **8.2.1 Expansion Lands Secondary Plan** The Expansion Lands Secondary Plan provides area-specific policy direction to guide development within the Expansion Lands over the next 20 years. The Plan is intended to ensure that future growth occurs in an efficient, orderly, and sustainable manner. The Expansion Lands Secondary Plan forms part of this Official Plan and is attached as "Document 1" hereto.
6	Schedule A – Land Uses and Constraints (amended schedule)	Schedule A to the Official Plan of the Urban Area of the City of Clarence-Rockland is hereby amended by adding the lands described as the "Expansion Lands" to the Urban Area and including the following notation on the Expansion Lands "See Schedule A1 – Expansion Lands Land Use and Road Network", as shown in Item 3, Schedule A of Part B.

7	Schedule B – Road Network and Community Linkages (amended schedule)	Schedule B to the Official Plan of the Urban Area of the City of Clarence-Rockland is hereby amended by adding the lands described as the "Expansion Lands" to the Urban Area, as shown in Item 3, Schedule B of Part B.
8	Document 1 – Expansion Lands Secondary Plan (new document)	Document 1 – Expansion Lands Secondary Plan, included as Item 3, Document 1 of Part B, is hereby added to the Official Plan of the Urban Area of the City of Clarence-Rockland. The Secondary Plan provides area-specific policy direction to guide development within the Expansion Lands over the next 20 years. The Document is to be inserted following the last Schedule of the Official Plan of the Urban Area of the City of Clarence-Rockland.
9	Schedule A1 – Expansion Lands Land Uses and Road Network (new schedule)	Schedule A1 – Expansion Lands Land Uses and Road Network, included as Item 3, Schedule C of Part B, is hereby added to the Official Plan of the Urban Area of the City of Clarence-Rockland.

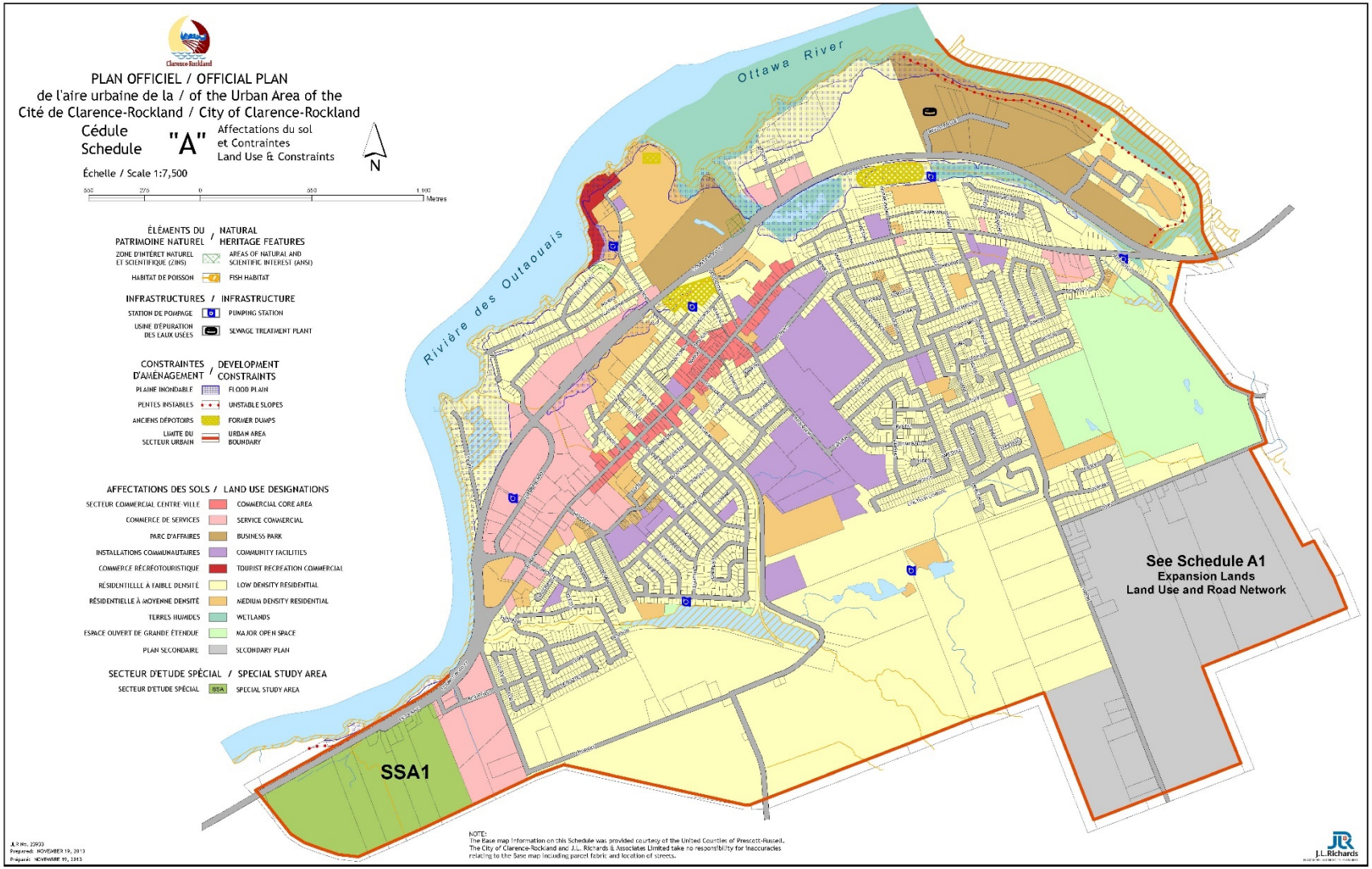
3. Schedules and Document to Amendment No. 13 – Official Plan of the Urban Area of the City of Clarence-Rockland

The following schedules A and B support the amendment to Schedules A and B of the Official Plan of the Urban Area of the City of Clarence-Rockland.

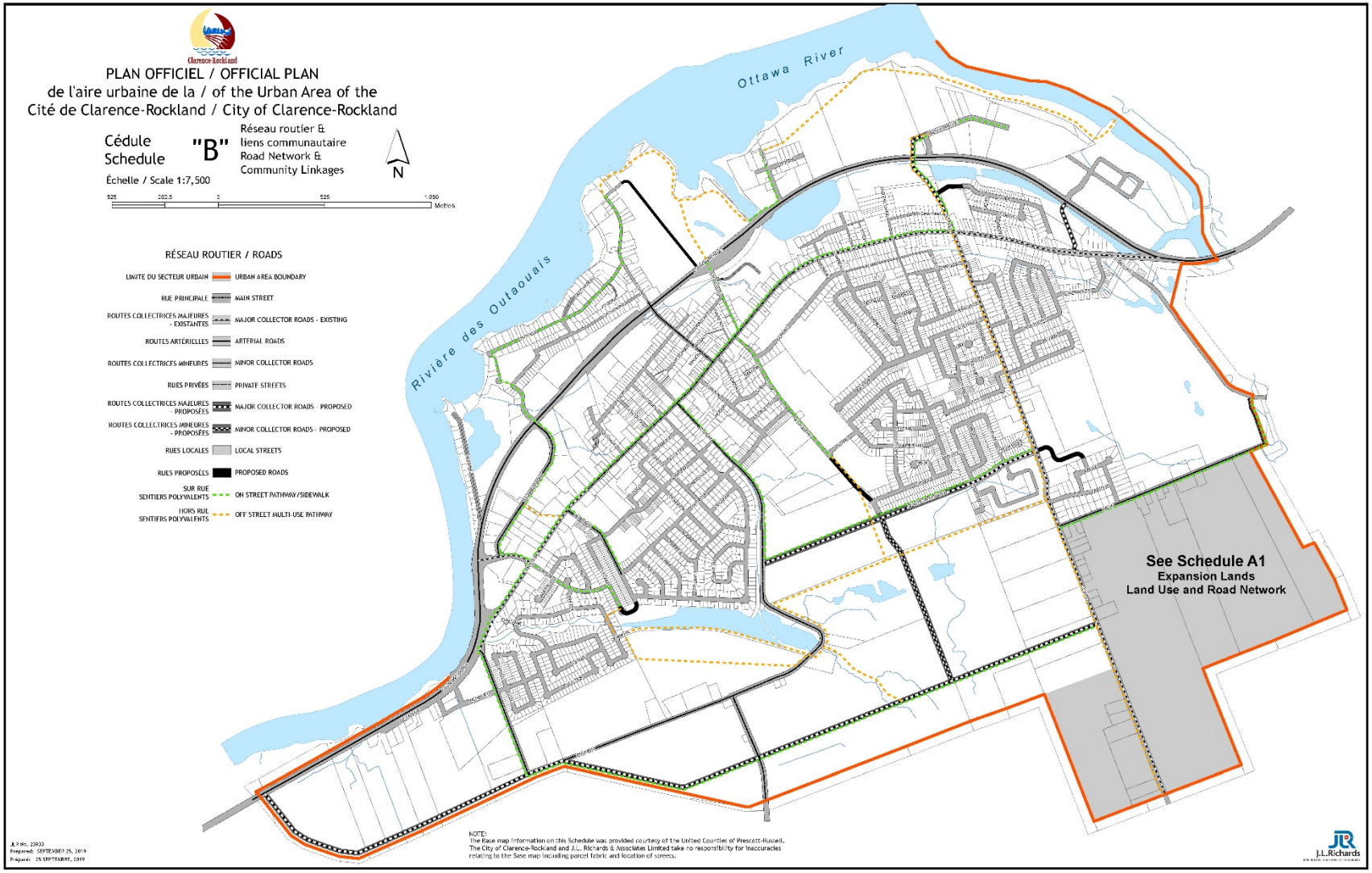
Schedule C is a new schedule to be added to the Official Plan of the Urban Area of the City of Clarence-Rockland as Schedule A1. The new schedule is specific to the Expansion Lands Secondary Plan area and will provide land use and road network information.

Document 1 is the Expansion Lands Secondary Plan and provides an area-specific development framework to guide development within the Expansion Lands. The new Document 1 will be added to the Official Plan of the Urban Area of the City of Clarence-Rockland.

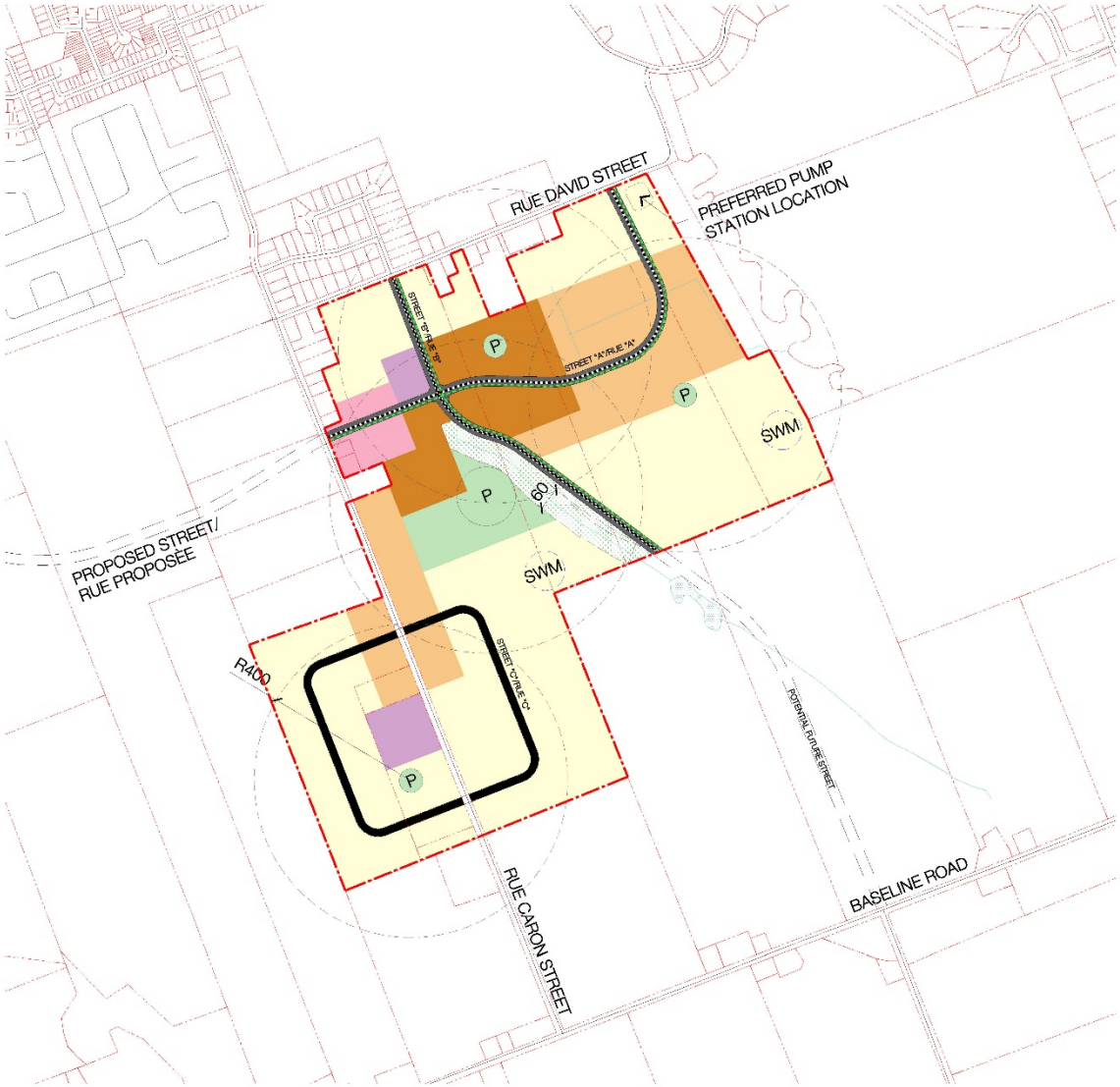
Schedule A of Amendment No. 13 – Amended Official Plan Schedule A – Land Use and Constraints



Schedule B of Amendment No. 13 – Amended Official Plan Schedule B - Updated Road Network and Community Linkages



Schedule C of Amendment No. 13 – New Schedule A1 to the Official Plan - Expansion Lands Land Uses and Road Network



NOTES

1. The base plan (lot lines, existing roads and surrounding areas) is based on the City's Open Data and aerial images. The site area is approximate and all dimensions need to be confirmed by a proper survey.

2. Assume 30.0m setback from centreline of stream.

3. Assume road ROW for Street "A" and "B" of 26.0m. Assume road ROW for Street "C" of 20.0m.

4. A second sanitary pump station is permitted in the Expansion Lands, subject to a development application, to address phasing and/or interim conditions.

EXPANSION LANDS SECONDARY PLAN

SCHEDULE A1 - EXPANSION LANDS LAND USE AND ROAD NETWORK

LEGEND/LÉGENDE

- LOW DENSITY RESIDENTIAL/ RÉSIDENCES À FAIBLE DENSITÉ
- MEDIUM DENSITY RESIDENTIAL RÉSIDENCES À DENSITÉ MOYENNE
- HIGH DENSITY RESIDENTIAL RÉSIDENCES À HAUTE DENSITÉ
- COMMERCIAL COMMERCES
- COMMUNITY FACILITIES INSTALLATIONS COMMUNAUTAIRE
- ENVIRONMENTAL PROTECTION AREA ZONE DE PROTECTION ENVIRONNEMENTALE
- WATER EAU
- P OPEN SPACE/PARKLAND PARCS ET ESPACES OUVERTS
- SWM APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)
- PROPOSED LOCAL ROAD
- PROPOSED MAJOR COLLECTOR ROAD
- PROPOSED MINOR COLLECTOR ROAD

0 125m 250m 500m

No.	REVISION	DATE	BY
13	REVISIONS	2019.09.30	BL
12	REVISIONS	2019.09.27	BL
11	REVISIONS	2019.08.02	BL

CLIENT
CITY OF CLARENCE/ROCKLAND

FOTENN Planning + Design

223 McLeod Street, Ottawa ON K2P 0Z8
613.730.5709 www.fotenn.com

DESIGNED	BL
REVIEWED	UMG
DATE	2018.11.20

A1

Document 1 of Amendment No. 13 – Expansion Lands Secondary Plan

1.0 Introduction

The City of Clarence-Rockland Expansion Lands Secondary Plan is a land use planning policy document adopted by City Council under authority of Section 16 of the Planning Act. The purpose of this Secondary Plan is to provide area-specific policy direction to guide development within the Expansion Lands Area over the next 20 years.

The Expansion Lands were identified for development during the 2015 United Counties of Prescott and Russell (UCPR) Official Plan. The review identified a localized shortage of residential land supply in the City of Clarence-Rockland and to address the shortage, added approximately 133.5 hectares of land to the Rockland Urban Policy Area. These lands became known as the “Expansion Lands.”

Following the addition of the lands to the Urban Policy Area designation, the City of Clarence-Rockland rezoned the lands to “Special Study Area (SSA)”. The intent of the SSA zone is for lands to be developed in accordance with the results and recommendations of a Secondary Plan. In the interim, existing uses are permitted to continue, but no new uses are permitted.

The Secondary Plan is intended to ensure that future growth occurs in an efficient, orderly, and sustainable manner. Section 2 of this Plan described the Planning Area where these policies will apply. Section 3 outlines the vision and guiding principles for the Expansion Lands area. The plans and policies pertaining to land use, built form, servicing, and transportation are in Section 4, 5, and 6. Design guidelines are contained in Section 7. Finally, the Plan including policies for its interpretation and implementation in Sections 8 and 9.

Key components of the Secondary Plan include goals, objectives, policies and guidelines that provide direction for applying the high-level policies of the Official Plan at a local scale. Development applications in the Expansion Area will be required to conform with the policies of the Secondary Plan, as well as the City of Clarence-Rockland Official Plan and the United Counties of Prescott and Russell (UCPR) Official Plan.

1.1 Integrated Municipal Class Environmental Assessment

A critical element of the Expansion Lands Secondary Plan process was the integration of the planning process under the Official Plan with the Class Environmental Assessment (Class EA) process for proposed infrastructure projects. The objective of an integrated process is to create a set of guiding documents that will shape the development of a healthy, vibrant, and livable community.

Combining the Secondary Plan process with the Class EA creates an opportunity to coordinate the approval requirements of the Environmental Assessment Act and the Planning Act and provides an integrated approach to the planning and development of all aspects of the community.

The integrated process is efficient because background studies and existing conditions reports can be shared between the two processes; stakeholders and advisory committees are able to consider all aspects of planning and servicing; and the public review and approval processes can be consolidated and simplified.

2.0 Planning Area

This Secondary Plan applies to the Expansion Lands, an irregularly shaped parcel comprising 133.5 hectares of land southeast of Rockland’s existing Urban Area Boundary. The area is bounded to the north by David Street and to the east by Clarence Creek. The Expansion Lands are situated primarily east of Caron Street, except for an area of approximately 23 hectares on the west side of Caron Street in the southwest corner.

3.0 Vision & Guiding Principles

Balancing rural charm with urban vitality, the Expansion Lands Secondary Plan promotes sustainable urban development that will accommodate Clarence-Rockland's projected growth over the next 20 years, while protecting and enhancing the natural character and established woodlots that define the area.

As the City evolves, new growth and development will enhance the quality of life for both current and future residents, and will reinforce a vibrant, active community for people of all ages and abilities. A mix of housing options, including single and semi-detached, townhouses and apartment buildings, will promote diversity, increase access to affordable housing, and provide additional density to support local commercial uses and alternative modes of transportation.

Founded on a well-defined grid-network, the Expansion lands Secondary Plan will promote strong connectivity throughout the neighbourhood, and to adjacent destinations via Caron Street and David Road. A mix of Local and Collector Roads will provide safe, direct access to neighbourhood amenities, including parks and schools, for all users, including pedestrian, cyclists and drivers.

A mix of open spaces and amenities, located within close walking distance of all residents, will provide convenient and exciting places to gather and socialize, while supporting and promoting community events and broader City activities.

Through high quality urban design, the Expansion Lands will be a pillar of urban design in the City of Clarence-Rockland, and a place that new residents and visitors will be proud to call home.

3.1 Guiding Principles

1. Promote sustainable and contemporary development that respects and enhances the existing rural and natural fabric of the Expansion Lands.
2. Ensure new development responds to the surrounding context, including streets, development patterns, dwelling styles, topography and natural heritage features.
3. Establish strong connections throughout the community, and to the broader City, through the creation of a strong grid network, and short, permeable blocks.
4. Create a complete community with a mix of residential typologies, community amenities, and parks and open spaces that will provide opportunities to live, work and play.
5. Provide a variety of housing types and tenures to support affordable housing options and promote a diverse and vibrant community.
6. Protect and celebrate the natural setting through careful links to a safe, highly visible and well-connected network of parks, trails and public spaces.
7. Promote active transportation, including walking, cycling and transit, through compact development with a continuous network of sidewalks, cycling facilities and trails.
8. Ensure all elements of the public realm, including streets, parks, trails, and public destinations are welcoming and accessible for people of all ages and abilities.

4.0 Land Use and Built Form

The Land Use Plan for the Expansion Lands, shown in Schedule A1, illustrates the approximate location of Collector Roads, development areas, environmental protection, and stormwater management infrastructure.

The Land Use Plan is premised on the direction established in the Vision and Guiding Principles, with the goal of creating a balanced, complete community. The Plan reserves land for a range of uses, providing living, shopping, and recreation opportunities within the Expansion Lands Area.

4.1 Land Use Designations

The following land use policies refer to Schedule A1 – Expansion Lands Land Use and Road Network and provide specific directions for various land use character areas. These policies, together with the design guidelines outlined in section 7.0, the Official Plan, and other Council-approved planning documents, will ensure that the final build-out of the Expansion Lands is an attractive, liveable, and healthy community composed of well-designed structuring elements.

The policies of Section 4.0, 5.0 and 6.0 are specific and should be considered compulsory in future subdivision design. The Design Guidelines of Section 7.0 are less specific and, although every effort should be made to achieve them, there is an understanding that this is not possible in all instances through future subdivision design. Policies are numbered to provide ease of reference, and there is no implied precedence of any policy based on numbering.

4.1.1 Residential Areas

Lands designated residential will permit the development of a wide range of housing types to accommodate the needs of future residents and households.

In all Residential Area designations, the following policies apply:

1. Access from Local Roads to Collector Roads will be restricted.
2. Rear-lotting and associated fencing is discouraged. Notwithstanding Section 7.3.2(3) of the Official Plan, residential lots will be permitted to front on Collector Roads except in proximity to major intersections.
3. A variety of housing densities and designs will be encouraged to enhance the streetscapes in the Expansion Lands.
4. Front entrances should generally face and be visible from the street.
5. Building designs shall reduce or avoid projecting garages.
6. Stormwater management facilities may be permitted within the Residential designations.
7. Minimum densities are provided in each designation. The densities should be interpreted as a minimum density, not a target. Higher densities of permitted building types in each designation shall be encouraged, provided that servicing and transportation capacity is confirmed through the Plan of Subdivision process.

4.1.1.1 Low Density Residential

A significant portion of the Expansion Lands are designated Low Density Residential. This designation is intended to act as a transition between the adjacent low-rise neighbourhoods and the core of the Expansion Lands community that features a mix of uses and higher densities.

In the Low-Density Residential designation, the following policies apply:

1. Permitted uses include single detached dwellings, semi-detached dwellings, doubles, and duplex dwellings. Secondary dwelling units are also permitted subject to the provisions of the Zoning By-law.
2. Residential land uses in the Low-Density Residential designation shall be provided at a minimum density of 16 units per net hectare.
3. The Zoning By-law will permit the envisioned land uses and specify the zone provisions through a special exception of the Urban Residential First Density (R1) zone.

4.1.1.2 Medium Density Residential

The Medium Density Residential designation generally abuts collector roads and is intended to provide a transition between the Low-Density Residential Designation and the higher densities within the Expansion lands community.

In the Medium Density Residential designation, the following policies apply:

1. Permitted uses include semi-detached dwellings, duplex dwellings, linked dwellings, townhouse dwellings, three-unit dwellings, and group homes.
2. Residential land uses in the Medium Density Residential designation shall be provided at a minimum density of 35 units per net hectare.
3. The Zoning By-law will permit the envisioned land uses through a special exception of the Urban Residential Second Density (R2) zone.

4.1.1.3 High Density Residential

The High-Density Residential designation is intended to contribute to the creation of a community core within the Expansion Lands, offering opportunities for people to walk to retail uses and community facilities.

In the High-Density Residential designation, the following policies apply:

1. Permitted uses include townhouse dwellings, back-to-back townhouse dwellings, stacked townhouse dwellings, apartment dwellings, and group homes.
2. Residential land uses in the High-Density Residential designation shall be provided at a minimum density of 75 units per net hectare for apartments and 55 units per hectare for all other permitted uses.
3. High-density residential buildings shall be set back an appropriate distance from the public street to maintain a consistent streetscape and ensure safety for users and motorists.
4. The Zoning By-law will permit the envisioned land uses through application of the Urban Residential Third Density (R3) zone.

4.1.2 Commercial

The Commercial designation is intended to permit small-scale, community-serving commercial land uses and mixed-use development.

The following policies apply to the Commercial designation:

1. Permitted uses generally include retail stores, food stores, restaurants, offices, personal service businesses, and other small-scale commercial land uses.
2. Stand-alone retail buildings are permitted.
3. Mixed-use buildings will be encouraged within the Commercial area. Non-residential uses, including apartments and offices, will be permitted above the ground floor in mixed-use buildings.
4. A maximum building height of four (4) storeys is permitted.
5. The City will encourage buildings to front onto public streets to create more active streetscapes.
6. Entrances will be clearly defined and visible from the street.
7. Where applicable, ground floor spaces of commercial buildings facing the street will have windows and an active door which faces directly onto the street.

4.1.3 Community Facilities

The Community Facilities designation is intended to accommodate community-serving institutional land uses, such as schools, libraries, places of worship, and small-scale office uses.

1. Permitted uses in the Community Facilities designation include a full range of public and/or community non-profit uses such as parks, schools, clubs, religious institutions, places of worship, government offices, arenas, or other indoor recreational facilities, community centres, museums, and other similar uses.
2. Main entrances to buildings will be encouraged to face a public street.
3. Where multiple institutional uses are developed on the same or adjacent lots, co-location and pedestrian linkages will be encouraged to enable better connections for users.

4. The Zoning By-law will permit the envisioned land uses through the application of the Community Facilities Zone.
5. If there is no interest from any qualified parties to development the designated Community Facilities lands, then the alternative policy area designation will be Medium Density Residential.

4.1.4 Environmental Protection Area

The Environmental Protection Area designation is intended to provide a 60-metre protection buffer around the tributary to Clarence Creek. Development within this designation will be restricted to maintain water quality in the creek.

1. No development, except for a low impact trail network shall be permitted within the Environmental Protection Area designation.
2. The environmental protection policies of the Official Plan shall apply to development adjacent to the Environmental Protection Area.
3. Subject to the policies of the Official Plan, an application for Plan of Subdivision, Zoning By-law Amendment, or Site Plan Control may require an Environmental Impact Study (EIS) to confirm that there will be no negative impacts on the creek.
4. Environmental Protection Areas will be acquired by the City through the Plan of Subdivision process and will not be considered as parkland dedication.
5. The Zoning By-law will regulate development within the Environmental Protection Area designation through application of the Conservation (CON) Zone.

4.1.5 Open Space

The Open Space designation is intended to identify areas reserved for active and passive recreation activities within the Expansion Area community. General park locations are indicated on Schedule A1, including three Neighbourhood Parks and one larger Community Park. Parks are strategically located to ensure that the majority of residents in the Expansion Lands community are within a 400-metre walking distance of parks and open space.

1. Permitted uses within the Open Space designation include community parks, neighbourhood parks, open space linkages, sports and recreation facilities, conservation uses, and similar uses supportive of active and passive recreation activities.
2. The Community Park identified on Schedule A1 should have a minimum area of 2.0 hectares while Neighbourhood Parks identified on Schedule A1 should have a minimum area of 0.5 hectares.
3. Open Space/Parkland should include a variety of active recreation facilities, as determined through the Plan of Subdivision process. Examples of facilities include sports fields, public washrooms, picnic facilities, splash pads, and seating areas. All facilities shall be located in safe and functional areas.
4. Development along the Open Space/Parkland designation shall provide a minimum of two (2) public frontages to enhance access, visibility, and safety. Road frontages along the designation shall be landscaped with street trees to provide a natural interface between the open space/park and the urbanized area.
5. Where direct street frontage is not provided, development adjacent to the Open Space/Parkland designation shall provide opportunities for direct pedestrian access to the open space and parkland.
6. The Zoning By-law will regulate development within the Open Space/Parkland designation through application of the Parks and Open Space (OS) Zone.

5.0 Transportation

The intent of the transportation network within the Expansion Lands area is to provide an integrated, multi-modal transportation network that is safe, convenient, and affordable.

5.1 Street Network

1. The proposed Collector Road (Streets A and B) network within the Expansion Lands area is identified on Schedule A1. A Local Road (Street C) is also proposed for servicing connections.
2. The ultimate location of the Collector Roads and Local Roads is to be determined through the Plan of Subdivision process. Minor adjustments to the location and alignments of Collector Roads and Local Roads will not require an amendment to the Secondary Plan.
3. Collector Roads (Streets A and B) within the Expansion Lands should have a right-of-way width of 26 metres and include sidewalks on both sides and dedicated cycling facilities.
4. Local Roads (Street C) within the Expansion Lands should have a right-of-way width of 20 metres.
5. David Street shall be upgraded to a Minor Collector with a right-of-way width of 26 metres with sidewalks on both sides and dedicated cycling facilities.
6. Caron Street shall be upgraded to a Minor Collector between David Street and Baseline Road with a right-of-way width of 26 metres and an extension of the sidewalk and multi-use pathway condition that currently exists north of David Street.
7. Traffic control at the intersection of Street A and Street B within the Expansion Lands will be encouraged in the form of a single-lane roundabout. A minimum 40 metre wide right-of-way should be protected for single-lane roundabouts at the intersection of Collector Roads.
8. Public streets will be constructed in accordance with City of Clarence-Rockland standards.
9. On Local Roads, sidewalks should be provided to support pedestrian movements within the community (i.e. to/from Commercial areas, parks, etc.)
10. Along Commercial, Open Space/Parkland, and Community Facilities Designation frontages, on-street parking should be considered.

5.2 Cycling and Walking

1. The City of Clarence-Rockland will expand the cycling network in the Expansion Lands community with the extension of cycling and pedestrian facilities along Caron Street.
2. Collector Roads (Streets A and B) shall include pedestrian sidewalks and dedicated cycling facilities on both sides of the street.
3. Opportunities for pathway connections in the Environmental Protection Area and to existing surrounding communities should be explored.

6.0 Servicing and Infrastructure

A Master Servicing Study has been completed as part of the Secondary Planning process. The study indicates that the major infrastructure in the area is expected to support the projected development build-out of the Expansion Lands community, subject to planned upgrades to the City's Water Treatment Plant. It is expected that servicing requirements can be managed on a property by property basis through the normal development review process.

1. All development in the Expansion Lands community shall be undertaken in accordance with the Expansion Lands Master Servicing Study and shall conform to all other applicable standards of the City of Clarence-Rockland.
2. Where possible, locate stormwater management facilities adjacent to parks and integrate pathways into a common network.
3. Stormwater Management Facilities are permitted in all Residential and Commercial land use designations. Stormwater facilities are not considered as parkland dedication.
4. Low-Impact Development (LID) techniques are encouraged in the Expansion Lands community. Where LIDs are proposed, the City may require development proponents to demonstrate that soil conditions are appropriate to accommodate the alternative stormwater management processes.

7.0 Design Guidelines

The following community design guidelines are intended to complement the compulsory policies by providing design guidance for select elements of the community. While achievement of the guidelines is not mandatory, they provide a tool for evaluation of development applications.

7.1 Guidelines for Residential Development

7.1.1 General

1. Dwellings should be designed to individually and collectively contribute to the character of the various neighbourhoods within the community.
2. Individual dwellings should have appropriate façade detailing, materials and colours consistent with its architectural style.
3. For corner units, both street facing elevations should be given a similar level of architectural treatment. Main entries for these dwellings are encouraged to be oriented to the flanking lot line.
4. Dwelling designs with covered front porches or porticos are encouraged, where appropriate to the architectural style.
5. Attached street-facing garages should be incorporated into the main massing of the building to ensure they do not become a dominant element within the streetscape. Street-facing garage sizes should be in relation to lot size as follows:
    a. Dwellings on lots with frontage less than 10.5 metres should be restricted to a single-car garage or 1-1/2 car garage; and
    b. Dwellings on lots with frontage of 10.5 metres or greater will be permitted to have up to a two-car garage.
6. Variations in the siting of residential dwellings will be encouraged for variety and visual interest.
7. Building facades should provide visual interest through use of materials, colours, ample fenestration, sophisticated wall articulation and style-appropriate architectural detailing.
8. The use of high quality, durable building materials should be selected as the main cladding materials to support the intended architectural character of buildings.
9. Two to three exterior materials per building should be used to introduce texture and visual diversity to building surfaces.
10. Streetscapes should provide a variety of colours in simple and effective ways that will contribute to a vibrant and rich residential neighbourhood. The overuse of similar colours is not permitted.
11. Front building projections such as porches, canopies, and stairs are encouraged as transitional elements that provide access, amenity space, weather protection, and visual interest from the street.
12. Front entries of single storey buildings should be emphasized with gables, dormers, or other roof and entry treatments
13. Front porch dimensions should be large enough to accommodate furnishings, seating areas, and active use (minimum depth of 1.5 metres).
14. Driveways should be designed to avoid conflict with the driveways of adjacent uses, such as schools, parks, and commercial blocks.
15. Separate driveway locations to enable at least one street parking space between private approaches.
16. Where possible, pair driveways to maximize on-street parking capacity and provide ample space for street trees.
17. Where possible, utility elements and equipment should be located away from publicly exposed views and are discouraged from being located in the front yard or flanking yard. Where provided, utilities should be screened with landscaping or similar mechanisms.

7.1.2 Semi-Detached Dwellings

1. Both halves of semi-detached dwellings should be compatible in terms of design expression. Elevations may be symmetrical or asymmetrical.

2. Semi-detached dwellings should have 2 storey massing. Bungalow forms are generally discouraged for this housing type.
3. Semi-detached dwellings should be fully attached above grade.

7.1.3 Townhouse Dwellings

1. Townhouse block sizes may range from 3 to 8 units and should be no longer than 40 metres.
2. Individual Townhouse blocks should be separated by public streets or mid-block connections. A mix of townhouse block sizes along the street helps to provide visual diversity in the streetscape.
3. Townhouse and Semi-detached dwellings should be fully attached above grade.
4. Enliven façades and the roofs of buildings with decks and private outdoor amenity areas for residents to inhabit.
5. Articulate the massing and materiality of Townhouses to express each individual unit.
6. Activate the transition zone between private living spaces and the public realm with stoops, stairs, yards and porches.
7. Locate the main façade parallel to the street and set it in line with adjacent buildings.
8. Dwellings should typically be sited in close relation to the street with minimal setbacks, wherever feasible.
9. Townhouses should have a walkway linking the front door to the public sidewalk.

7.1.4 Apartment Buildings

1. The design of the building should consider the overall form and rhythm of building elements to create a consistent and attractive building street facade that reinforces a human scale environment.
2. Building setbacks should be minimized to maintain a strong relationship with the street and sidewalk while allowing sufficient space for a comfortable pedestrian zone and landscape opportunities
3. All façades exposed to public view should be highly articulated and detailed.
4. Main entrances should be design as a focal point of the building and should face the street. They should be recessed or covered and provide visibility to interior lobbies to allow for safe and convenient arrival and departure from the buildings.
5. The provision of semi-private amenity spaces (i.e. courtyards, plazas, etc.) at ground level is encouraged.
6. Residential apartments are encouraged to include covered private open space (i.e. balconies/terraces) where feasible to enhance the private living environment of residents
7. Parking should be provided in a non-obtrusive manner. Surface parking areas should be screened from street view through the use of landscaping or building location.
8. Avoid straight long frontages that exceed 40 metres. For longer frontages, buildings should be designed to appear as if they are composed of small parts using step backs or vertical breaks.

7.2 Guidelines for Community Facilities and Commercial Uses

1. Buildings should generally be sited to align with streets, parks and accessible open spaces, framing these areas with building mass.
2. For Commercial frontages, 50% of wall surface on the ground floor fronting the public street should be occupied by windows.
3. Ground levels should be free of any significant grade changes to promote barrier-free access and retail activity.
4. The scale of buildings should be compatible with adjacent development.
5. Provide pedestrian and cycling connections to sites and to surrounding sidewalks.
6. Surface parking areas should be located at the side or rear of the buildings. Where located adjacent to public streets, surface parking areas should be screened with landscaping.
7. Surface parking areas should be organized into small bays, rather than large surface lots. Planting strips, landscaped traffic islands and/or paving articulation should be used to define

vehicle routes and smaller parking courts that provide pedestrian walkways, improve edge conditions and minimize the aesthetic impact of surface parking.
8. Driveway widths and corner radii should be minimized to reduce vehicle speed, while accommodating expected vehicles.
9. Bicycle parking should be located in convenient and visible locations.
10. Loading, waste facilities and other service functions and utilities should be located away from the street and screened from public view.

7.3 Parks and Open Space Guidelines

1. Community Parks should include a range of passive and recreational uses and may include sports fields, tennis courts, multi-purpose courts, ice rinks, skateboard parks, splash pads, children's play areas, open play spaces, pedestrian walkways, and seating areas.
2. Neighbourhood Parks should include a range of active and passive recreation opportunities which may include shade structures, seating, play equipment, a multi-purpose court, a splash pad, an outdoor rink, mini sports fields or similar facilities.
3. Access points to designated park spaces should be well connected to surrounding transportation networks such as sidewalks, pedestrian pathways and cycling routes.
4. Locate parks facilities such as playing fields and surface parking lots to facilitate the sharing of facilities.
5. Where possible, provide view corridors terminating at the parks in street network design.
6. Incorporate shade trees, greenery, and shade structures into park design.

7.4 Streetscape Guidelines

1. All streets should include enhanced landscape design through tree planting and landscaping in the public and private right-of-way.
2. Collector Roads should ensure a high proportion of tree planting. Closely spaced (6 to 8 metres apart, or double rows) will emphasize the urban tree canopy along these streets and walkways.
3. Street trees should be planted with appropriate soil volume in continuous tree trenches to allow for full growth and to ensure their long-term viability.
4. Street trees should generally be located within the boulevard and should be offset a minimum of 1.5 metres from the curb to accommodate snow storage, large vehicle movements and minimize salt damage. Where this is not possible, street trees should be located between the sidewalk and the public right-of-way.
5. Where possible, the principles of low impact development (LID) shall be implemented to control stormwater on-site and minimize discharge to the sewer system.
6. Parallel on-street parking is permitted on Collector Roads throughout the community.
7. Sidewalks should be at least 1.8 metres wide.
8. Collector Roads will facilitate direct pedestrian, vehicle, and cyclist links between the major parks and natural features in the community.
9. They will be 'green streets' that accommodate the transportation function of the road while also incorporating high-quality landscaping and innovative stormwater management facilities.
10. Local Roads will generally have a 20 metre right-of-way and accommodate a wider 4.25 metre shared lane in each direction.
11. Continuous trees along the boulevard of local streets are encouraged to reinforce a strong urban tree canopy and augment front-yard trees on private property.

7.5 Stormwater Management Facilities Guidelines

1. Design the stormwater management ponds with naturalized features, such as slopes and contours.
2. Edges of stormwater management areas may feature hard edges as part of a public realm plan that incorporates stormwater ponds as a water feature in a public space.
3. Stormwater ponds should be designed with native plants materials, where possible.

4. Where possible, provide safe and accessible pathways around the stormwater management pond.

8.0 Interpretation

1. The boundaries of land use designations in this Secondary Plan are flexible and subject to minor variation without amendment to the Official Plan. The location of land uses and rights-of-way are included to represent the facilities and services required and are not intended to represent exact locations.
2. Where lists of examples of permitted uses are provided in this Secondary Plan, they are intended to illustrate the possible range and type of uses that are to be considered. Specific uses that are not listed but are considered by the City to be similar to the listed uses and to conform to the general intent of the applicable land use category, may be recognized as a permitted use in the implementing Zoning By-law.
3. Interpretation of the Expansion Lands Secondary Plan will be made having regard to all applicable policies established in the City of Clarence-Rockland Official Plan.

9.0 Implementation

The policies of this Secondary Plan provide a framework for the future development and transformation of the Expansion Lands community. The success of these policies depends on effective implementation. This section reinforces and augments the implementation policies of the Official Plan and describes the principal tools and actions that the City intends to use to implement the objectives and policies of the plan. The principal mechanisms include:

- An implementing Official Plan Amendment;
- Guidance on the interpretation of the Secondary Plan; and,
- Process to amend the Secondary Plan and Environmental Assessments.

9.1 Official Plan Amendment

The Expansion Lands Secondary Plan will be approved by Council as an Amendment to the City of Clarence-Rockland Official Plan. The Amendment will address the following matters:

- Schedule A – Amend the Schedule to add the Expansion Lands into to the urban boundary and add a notation on the Expansion Lands “See Schedule A1 – Expansion Lands Land Use and Road Network”;
- Schedule B – Amend the Schedule to add the Expansion Lands into to the urban boundary;
- Amend Section 7 to add the road designation changes to the appropriate sections;
- Amend Section 8 to address Special Study Areas and Secondary Plans, and to reference the Expansion Lands Secondary Plan;
- Add the Secondary Plan policies as “Document 1 – Expansion Lands Secondary Plan”;
- Add “Schedule A1 – Expansion Lands Land Use and Road Network” to the Official Plan;

9.2 Development Approvals

While implementation of the Secondary Plan will be multi-faceted in approach, traditional land use planning processes, including zoning, plan of subdivision, and site plan processes, will be the primary method of implementing the policies of this Secondary Plan.

1. The goals, objectives and policies of this Secondary Plan will direct all development applications within the Expansion Lands. The urban design guidelines will be used by the City to inform the development review process and provide specific guidance but are not considered policy.
2. All development applications shall include a description and/or illustration as to how the development proposal meets the policies of this Secondary Plan, Master Plans, and related design guidelines.

3. Development approvals for lands within the Secondary Plan area will generally proceed by Plan of Subdivision to secure the necessary road network, servicing infrastructure and parkland dedication. Development applications shall include all information required under the Official Plan.
4. All development in the Expansion Lands community is subject to site plan control in accordance with the City's Site Plan Control By-law.
5. The City will impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to:
    a. Parks, open space and environmental features;
    b. Water, wastewater collection, and stormwater management facilities;
    c. Construction of streets and infrastructure;
    d. Road widenings and the provision of daylight triangles; and
    e. Other utilities.
6. Zoning By-law Amendments will be required to permit the development established by the Land Use Plan in conjunction with Plan of Subdivision and/or Site Plan approval. It is anticipated that Zoning By-laws will amend the zoning to the zones indicated in the policies for each respective land use policy designation. The City may also use Holding Zones to specify the future uses of lands that, at the present time, are considered premature for development due to inadequate road, servicing or community facilities infrastructure being available within a reasonable period.

9.3 Phasing

The overall phasing plan for development will be determined by a number of factors, including:

- Transportation capacity;
- Water system capacity;
- Sanitary sewer capacity;
- Installation of a new sanitary pump station and upgrades to existing Wastewater Treatment Plant;
- Installation of the stormwater management facilities required;

It is anticipated that within each individual phase, development will occur incrementally through Plans of Subdivision with associated infrastructure and services being installed.

Where smaller, individual properties are located within a development phase, such properties shall not be required to be developed with the balance of the lands in that phase. However, through the implementation of plans of subdivision within each phase, provision shall be made to accommodate the potential integration of these individual properties at a future date through overall subdivision design, lot patterns, road layouts and infrastructure plans.

All public utilities should be contacted early in the planning process regarding the area servicing of development.

Infrastructure Requirement	**Development Capacity**
Servicing	
Caron Street Booster Station (Water)	To be evaluated on prior to the approval of each phase of development
Expansion Lands Pump Stations (Sanitary)	Prior to the first phase of development
Upgrades to Pump Station 1 (Sanitary)	Prior to the first phase of development
Upgrades to the Wastewater Treatment Plan (Sanitary)	Prior to the first phase of development
Stormwater Management Facilities (Stormwater)	On a sub-watershed basis

Infrastructure Requirement	Development Capacity
Transportation	
Caron/CR17 – Turn movement upgrades	352 residential units
Caron/CR17 – Widen westbound through movement to two lanes	991 residential units
Caron/Françoise – Implement Traffic Signal Control	991 residential units
Caron/Cote/Potvin – Implement Traffic Signal Control	991 residential units

9.4 Parkland and Greenspace Acquisition

The network of community and neighbourhood parks are identified on Schedule A1. The majority of greenspace will ultimately be dedicated to the City for public ownership.

1. Schedule A1 identifies the general location of all proposed public parkland within the Expansion Lands. The City will acquire this parkland through a variety of measures, including:
    a. Parkland and/or open space dedication through the development approvals process;
    b. Conveyance of completed stormwater management facilities; and,
    c. Conveyances of other open spaces through the development approvals process.
2. Lands utilized for stormwater management facilities, designated environmental protection area, or lands within the floodplain will not be taken as part of the parkland dedication requirement as per the Planning Act.
3. Parks are to be built concurrently with the development of the lands that the parks are intended to serve.
4. Should any subdivision or site plan application result in a decrease in total units anticipated, no compensation will be given for over dedication. Should any subdivision or site plan application result in an increase in the total units from what was anticipated, the corresponding additional parkland will be an obligation of, and is to be dealt with by, the landowner through the dedication of additional parkland or cash-in-lieu contribution to the City.
5. Cash in lieu of parkland collected within the Expansion Lands will be used to develop the parks identified on Schedule A1.

9.5 Amendments

The Secondary Plan and the accompanying Master Plans were prepared through an extensive process involving technical analysis and public consultation. Development should proceed in a manner that is consistent with the policies, plans, guidelines, and recommendations contained in the documents.

However, it is not possible to anticipate every circumstance or issue that may arise over the course of the development of the lands. Accordingly, there must be a mechanism to permit landowners to make amendments, as deemed necessary.

The amending process distinguishes between minor and major changes. A substantive design change will require approval by City Council and external agencies, as necessary, and may necessitate the completion of an amendment to the Environmental Assessment (EA). A minor change would not require these amendments and may be made at the discretion of the Planning Department.

9.5.1 Minor Changes

Minor design changes are changes which do not appreciably change the expected net impacts or outcomes associated with the Secondary Plan.

Minor changes to Schedule A1 such as:

- A minor realignment of the network of Collector Roads or Local Roads;
- The location of parkland;
- The location, size, shape and/or area of Residential Land Use Designations, provided it can be demonstrated that the target for 70% low, 20% medium, and 10% high density residential can still be achieved;
- The location, size, shape and/or area of Community Facilities or Commercial blocks; or
- The location of stormwater management facilities.

These minor modifications will generally be made through Plan of Subdivision or Site Plan Control applications. Affected landowners and appropriate stakeholders will be notified of any proposed modifications through the standard application circulation process established in the Planning Act.

9.5.2 Major Changes

Major changes are those which change the intent of the EAs or appreciably change the expected net impacts or outcomes associated with the project. Major changes to the Land Use Plan or changes requiring amendments to schedules of the Official Plan, such as:

- A major realignment in the network of Collector Roads or Local Roads;
- A reduction in the number of parks;
- A change to the location of the proposed sanitary Pumping Stations;
- A change to the number of proposed sanitary Pumping Station resulting in there being three (3) or more pump stations within the Expansion Lands; or
- A change to the number of stormwater management facilities resulting in there being three (3) or more stormwater management facilities within the Expansion Lands.

Such major modifications will be subject to an Official Plan Amendment process under the Planning Act.

Major modifications may require an addendum to the Master Plans to document the change, identify the associated impacts and mitigation measures to allow related concerns to be addressed and reviewed by the appropriate stakeholders.

Major changes should be supported by a Planning Rationale and any technical documents to provide justification for the proposed change and to assist the City and the public in the review of the proposal.

9.6 Affordable Housing

Affordable housing will be accommodated in accordance with the United Counties of Prescott and Russell Official Plan, and the City of Clarence-Rockland Official Plan. The Expansion Lands Secondary Plan encourages affordable housing through the provision of a range of housing types.

1. Encourage a minimum of 10% of new residential units to be affordable housing units.
2. Where 25 or more single and/or semi-detached dwelling units or 50 or more multi-family dwelling units are proposed, encourage an affordable housing component within the project.
3. Ensure cost-effective development within the Expansion Lands to reduce the costs associated with housing.
4. Alternative housing types including garden suites and secondary (accessory) dwelling units are permitted within all residential designations in the Expansion Lands.

10.0 Schedules

Schedule A1 – Expansion Lands Land Use and Road Network

Part C - Implementation and interpretation

Implementation and interpretation of this Amendment shall be made having regard to all applicable policies set out in the Official Plan of the Urban Area of the City of Clarence-Rockland.

Clarence-Rockland

REPORT N° AMÉ-19-80-R

Date	05/09/2019
Submitted by	Marie-Eve Bélanger
Subject	Secondary Plan – OP Amendment No. 13
File N°	D-09-83

1) **NATURE/GOAL :**
The nature of this report is to present the Secondary Plan of the Expansion lands, being Amendment No. 13 to the urban area of the City of Clarence-Rockland.

2) **DIRECTIVE/PREVIOUS POLICY :**
1

3) **DEPARTMENT'S RECOMMENDATION :**
THAT the Planning Committee recommends to Council the approval of By-law 2019-72, being the Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland (Secondary Plan for the Expansion Lands).

QUE le comité d'aménagement recommande au conseil l'approbation du règlement 2019-72, soit l'amendement no. 13 au Plan Officiel de la Cité de Clarence-Rockland (plan secondaire).

4) **BACKGROUND :**
In April 2016, a new Consolidated Official Plan of the United Counties of Prescott and Russell came into effect. The Consolidated Official Plan (OP) sets out the long-term vision to the year 2035. The new Official Plan identified an area for the urban expansion of Rockland, which will accommodate additional new urban development required to meet the projected growth over the planning period. This area is located to the south of Rockland on both sides of Caron Street.

The Zoning by-law of the City of Clarence-Rockland was approved in May 2016 following the approval of the UCPR OP. The lands known as the expansion lands were included in a Special Study Area (SSA) Zone. It is the intent of this Zone that lands so zoned will ultimately be developed or redeveloped in accordance with a Secondary Plan. The Secondary plan is intended to ensure that future growth occurs in an efficient, orderly and sustainable manner.

A contract was issued to Fotenn Consultants for the elaboration of a Secondary plan.

5) **DISCUSSION :**

The Secondary plan applies to the Expansions Lands, an irregularly shaped parcel comprising 133.5 hectares of land southeast of Rockland's existing Urban Area Boundary. The area is bounded to the north by David Street and to the east by the Clarence Creek. The Lands are situated primarily east of Caron Street, except for an area of 23 hectares on the west side of Caron Street.

The Expansion Lands Secondary Plan promotes sustainable urban development that will accommodate Clarence-Rockland's projected growth over the next 20 years, while protecting and enhancing the natural character and established woodlots that define the area.

The Secondary Plan was founded on a well-defined grid-network that will promote a strong connectivity throughout the neighbourhood and to adjacent destinations. A mix of Local and Collector roads will provide safe, direct access to neighbourhood amenities, including parks and schools for all users, including pedestrian, cyclists and drivers. A mix of open spaces and amenities, located within close walking distance of all residents, will promote convenient and exciting places to gather and socialize.

The proposed Secondary Plan, included as Document 1 under the Official Plan Amendment No. 13, is divided into 10 Sections. The plans and policies pertaining to land use, built form, servicing and transportation are in Section 4, 5 and 6. Design guidelines are contained in Section 7.

As indicated under Section 4 of the Secondary Plan, specific policies applies to Residential areas, Commercial Areas, Community Facilities, Open space and Environmental protection area. Schedule C of the OP Amendment No. 13 shows the proposed land uses.

Under Section 5 of the Plan, the transportation network is proposed. The intent of this network is to provide an integrated multi-modal transportation network that is safe, convenient and affordable. The proposed collector street network is identified on Schedule C of the OP Amendment. Minor adjustments to the location and alignment of the collector streets will not require and amendment to the Plan.

Under Section 7, there are some design guidelines that are proposed for the Expansion Lands. As such, they are intended to compliment the compulsory policies of Section 4, 5 and 6. They are not mandatory but they provide a tool for evaluation of development applications.

Provincial Policy Statement:

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. Municipalities are required to "be consistent with" the PPS with respect to any planning decisions.

Section 1.1.1 states that healthy, liveable and safe communities are sustained by:

a. Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
b. Accommodating an appropriate range and mix of residential (including second units, affordable housing and housing for older persons), employment (including industrial and commercial), institutional (including places of worship, cemeteries and long-term care homes), recreation, park and open space, and other uses to meet long-term needs;

   …

Policy 1.1.2 requires that sufficient land shall be made available to accommodate an appropriate range and mix of land uses to meet projected needs for a time horizon of up to 20 years.

Policy 1.1.3 requires that settlement area shall be the focus of growth and development, and their vitality and regeneration shall be promoted.

Policy 1.6 requires that infrastructure be provided in a coordinated, efficient and cost-effective manner that considers impacts from climate change while accommodating projected needs.

Policy 1.6.6.1 requires that planning for sewage and water services shall:

a. Direct and accommodate expected growth or development in a manner that promotes the efficient use and optimization of existing municipal sewage services and municipal water services.

Policy 1.6.6.7 states that planning for stormwater management shall:

a. Minimize, or, where possible, prevent increases in contaminant loads;
b. Minimize changes in water balance and erosion;
c. Not increase risks to human health and safety and property damage;
d. Maximize the extent and function of vegetative and pervious surfaces; and
e. Promote stormwater management best practices, including stormwater attenuation and re-use and low-impact development.

Policy 1.6.7 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. Transportation and land use considerations shall be integrated at all stages of the planning process.

Official Plan of the United Counties of Prescott and Russell:

The Official Plan of the United Counties of Prescott and Russell provides guidance for development, while stimulating economic growth and protecting the environment and public health. As the Upper-Tier municipality, all land use planning decisions in the City of Clarence-Rockland are required to be consistent with the County OP.

The expansion lands are identified as Urban Policy Area on Schedule A of the OP. The designation applies to City, Towns and Villages with populations of 1,000 or more and which are developed primarily on the basis of municipal water and sewer systems.

Policy 4 of Section 2.2.6 requires that zoning regulations be designed to provide for a mix of 70% low-density residential development, 20% medium density residential development and 10% high-density residential development in the Urban Policy Area. The Secondary Plan proposes a mix of 69% low-density residential, 21% of medium density residential and 10% of high density residential. Au such, this policy of the Official is respected.

Section 7.6 requires that local Councils provide for affordable housing by enabling a full range of housing types and densities to meet projected demographics and market requirements of current and future residents of the United Counties. Policies include:

- Ensuring a minimum 10-year supply of residential land at all times.
- Consider building small lot singles, linked bungalows, maisonettes, quad/six-plexes, and other affordable housing forms.

Section 7.6.3.2 of the OP clarifies that the County encourages the permission of second residential units within all single detached, semi-detached, and rowhouses dwelling units.

Official plan of the Urban Area of the City of Clarence-Rockland

The Official plan came into full force and effect on September 30, 2014 and it intended to direct the future development of the Urban Area of the City of Clarence-Rockland for a period of approximately 20 years to 2033.

The Expansion Lands are located outside of the urban area of

Clarence-Rockland, as shown on Schedule A of the OP. As the intention of the Secondary Plan is to include the lands inside the urban boundary, this section summarizes the policies for lands under urban designations.

Section 4.20 of the OP contains policies pertaining to servicing requirements. It specifies that looping of the water distribution system shall be a priority of Council in order to ensure sufficient pressure and flow in all areas of Rockland.

Policy 1 of Section 4.20.3 stipulates that future development within Rockland must proceed on the basis of full municipal services.

Section 5.6 contains policies for the Residential land use designations, which are anticipated to apply to the majority of the expansion lands. The designation encourages a mix of housing types and tenures, such as single ownership, cooperatives, condominiums and rental.

Section 7.14 contains policies for active transportation and the pedestrian and bicycle network. The existing pedestrian and bicycle network will be maintained and expanded through the creation of additional pedestrian walkways, trails and bikeways with adequate signage. Sidewalks are encouraged, where feasible, to create pedestrian connections between neighbourhoods and major destinations.

Clarence-Rockland Zoning By-law 2016-10

The study area is currently zoned Special Study Area (SSA) Zone. The intent of the zone is to preserve land for development or redevelopment in accordance with the results and recommendations of a Secondary Plan. The only permitted uses on the SSA Zone are those which were in existence on the date of passing of the By-law and any other uses may be authorized by the Committee of Adjustment or City Council under the provision of the Planning Act.

6) **CONSULTATION:**

The City and the consultants held the following meetings:

March 1, 2018: Meeting with the affected residents only in order to explain the Secondary plan process

August 8, 2018, Open House No. 1: Meeting to introduce the project to the public.

January 8th, 2019, Open House No.2: Meeting to present three concepts in regards to roads and land use.

June 12, 2019, Open House No. 3: Meeting to present the final concept plan based on comments received. The supporting studies (Transportation, Master Servicing, Environmental) were presented as well.

7) **RECOMMENDATIONS OR COMMENTS FROM COMMITTEE/ OTHER DEPARTMENTS :**

The consultant organized a total of five Technical Advisory Committee (TAC) Meeting throughout the project. The TAC was composed of a planner from the South Nation Conservation, a planner from the United Counties, the Manager of Development of the City, the Engineer of the City and the consultant (CIMA and Fotenn).

During those meetings, the technical reports were reviewed as well as the land use maps.

No other comments were received from other departments or agencies.

8) **FINANCIAL IMPACT (expenses/material/etc.) :**

n/a

9) **LEGAL IMPLICATIONS :**

n/a

10) **RISK MANAGEMENT:**

n/a

11) **STRATEGIC IMPLICATIONS:**

The Secondary Plan study was initiated in order to provide the City with a concept plan of the Expansion Lands. This concept plan will remove the "piecemeal" effect that the City has been having over the years. This is a more effective approach to planning as the entire area of the Expansion Lands are considered as a whole.

12) **SUPPORTING DOCUMENTS:**

OP Amendment By-law 2019-72
OP Amendment No.13
Environmental Constraints Report
Existing Conditions Report
Master Servicing Study
Transportation Impact Assessment

Commentaires, inquiétudes, questions et objections
présentés par SANCORE Development Inc. (7075863 Canada Inc.)
auprès du Comité d'urbanisme de la Cité de Clarence-Rockland
5 septembre 2019.

Comments, concerns, questions and objections
presented by SANCORE Development Inc. (7075863 Canada Inc.)
before the Council of the City of Clarence-Rockland on Thursday
September 5th, 2019

Amendment Number 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland.	**Modification Numéro 13 au Plan Officiel du Secteur Urbain de la Cité de Clarence-Rockland.**
Comments, concerns, questions and objections presented by SANCORE Development Inc. (7075863 Canada Inc.), before the Planning Committee of the City of Clarence-Rockland on Thursday, September 5th, 2019.	Commentaires, inquiétudes, questions et objections présentés par SANCORE Development Inc. (7075863 Canada Inc.), auprès du Comité d'urbanisme de la Cité de Clarence-Rockland le jeudi, 5 septembre 2019.
1. Schedule A of Amendment No. 13 – Amended Official Plan Schedule A – Land Use and Constraints VS Schedule C of Amendment No. 13 – New Schedule A1 to the Official Plan – Expansion Land Uses and Road Network:	1. Annexe A de la modification No. 13 – Annexe A amendée au Plan Officiel – Utilisations du sol et Contraintes VS Annexe C de la modification No. 13 – Nouvelle Annexe À1 au Plan officiel – Utilisations du sol et réseau routier - Secteur d'expansion:
Schedule A illustrates the various land uses which reflects the currently existing land occupations within the Urban Area of the City of Clarence-Rockland.	L'Annexe A illustre les différentes utilisations du sol qui correspondent aux occupations du sol actuellement existantes sur le territoire du secteur urbain de la Cité de Clarence-Rockland.
SANCORE Development Inc. wishes to emphasize the fact that most of the remaining vacant lands along the southern limit of the urban area, which extends from Poupart Road in the west to Caron Street in the east, is identified under the "Low Residential Density" designation. The other designations are not identified on Schedule A for this portion of the territory.	*SANCORE Development Inc. tient à souligner que la majeure partie du territoire encore vacante située le long de la limite sud de l'aire urbaine, qui s'étends du chemin Poupart à l'ouest jusqu'à la rue Caron à l'est, est identifiée sous l'affectation « Résidentiel Faible Densité ». Les autres affectations du sol ne sont pas identifiées à l'Annexe A pour cette partie du territoire.*
However, all land uses identified for the Expansion zone are delineated fairly precisely in Appendix C. This schedule appears to be more like a schedule for a zoning by-law than one for an Official Plan Amendment.	*Cependant, toutes les utilisations du sol identifiées pour la zone d'expansion sont délimitées de façon relativement précise à l'Annexe C. Cette annexe apparaît plus comme étant une annexe à un règlement de zonage qu'à un amendement au Plan officiel.*
Furthermore, schools, institutions, parks, open spaces and stormwater retention ponds are identified under the "Community Facilities" on Schedule A while the parks are identified under the "Open Space/Parkland" designation on Schedule C.	*De plus, les écoles, les institutions, les parcs, les espaces verts et les bassins de rétention des eaux de surface sont identifiés sous l'affectation « Installations communautaires » à l'Annexe A tandis que les parcs sont identifiés sous l'affectation « Espaces verts/Parcs » à l'Annexe C.*

Objections and Comments:	**Objections et commentaires:**
SANCORE Development Inc. is of the opinion that the land uses for the expansion area should be symbolically identified on Schedule C in order to provide as much flexibility as possible in terms of land development and avoid further amendments to the Official Plan.	*SANCORE Development Inc. est d'opinion que les utilisations du sol pour l'aire d'expansion devraient être identifiées à l'Annexe C de façon symbolique afin d'offrir plus de flexibilité en termes de développement et éviter d'autres amendements au Plan officiel.*
SANCORE Development Inc. objects to the fact that Schedule C accurately identifies the areas allocated to the various land use designations and their location within the expansion area.	*SANCORE Development Inc. s'objecte au fait que l'Annexe C identifie avec précision les superficies attribuables aux différentes affectations du sol ainsi que leur localisation à l'intérieur de l'aire d'expansion.*
The areas and ultimate boundaries of the various land use designations can be determined with precision at the conclusion of the approval process for the draft plan of subdivision and the proposed zoning by-law amendment.	*Les superficies ainsi que les limites définitives des différents secteurs de développement pourront être établies avec précision à la conclusion du processus d'approbation du plan préliminaire de lotissement et du projet de modification au règlement de zonage.*
SANCORE Development Inc. also objects to the following facts:	*SANCORE Development Inc. s'objecte également aux faits suivants:*
a) Identifying specific areas intended for low, medium and high densities residential designations. *This exercise compares with the establishment of zoning by-law and does not provide the latitude and flexibility for a development proposal. SANCORE Development Inc. wishes to obtain this flexibility since it was indicated that once the amendment is adopted, no new request for an amendment to the Official Plan would be considered for the next three years;*	a) À l'identification de secteurs spécifiques destinés aux affectations de faible, moyenne et forte densité résidentielle. *Cet exercice se compare à l'établissement des zones d'un règlement de zonage et n'offre pas de latitude et de flexibilité pour une proposition de développement. SANCORE Development Inc. souhaite obtenir cette flexibilité puisqu'il a été indiqué qu'une fois l'amendement adopté, aucune nouvelle demande d'amendement au Plan officiel ne serait considérée pour les trois prochaines années;*
b) Identifying part of the property under the "Commercial" designation. *SANCORE Development Inc. is of the opinion that a sector intended for commercial development for the expansion area is premature. The commercial sector on Laurier Street, County Road 17 and Richelieu Street (Walmart and RoNa) can*	b) À l'identification d'une partie de la propriété sous l'affectation « Commerciale ». *SANCORE Development Inc. est d'opinion qu'un secteur destiné au développement commercial pour l'aire d'expansion est prématuré. Le secteur commercial de la rue Laurier, celui de la route 17 et de la rue Richelieu (Walmart et RoNa) répond*

accommodate the needs of the community. The attraction of Walmart is still very strong on consumers in the region. In addition, the municipality intends to encourage commercial development in the western sector of the urban area (SSA1) and the volume of traffic on Caron Street is not sufficient to justify the establishment of new businesses, a new gas station or a convenience store by the oil companies. Finally, during the last review of the UCPR Official Plan, it was demonstrated that there was sufficient land for commercial development to meet the needs of the next 20 years. If a corporation wishes to establish itself in the Expansion Area, it may submit an application for an amendment to the Official Plan and the Zoning By-law when the time comes.	*aux besoins de la communauté. L'attraction exercée par le Walmart est encore très forte sur les consommateurs de la région. De plus, la municipalité se propose d'encourager le développement commercial dans le secteur ouest de la zone urbaine (SSA1) et le volume de circulation sur la rue Caron n'est pas suffisant pour justifier l'implantation de commerces, d'une nouvelle station d'essence ou d'un dépanneur par les pétrolières. Enfin, lors de la dernière révision du Plan officiel des CUPR, il a été démontré qu'il y avait suffisamment de terrains destinés au développement commercial pour répondre aux besoins des 20 prochaines années. Si une corporation souhaite s'établir dans le secteur de l'aire d'expansion, elle pourra soumettre une demande d'amendement au Plan officiel et au règlement de zonage le moment venu.*
c) The preferred pumping station location at the northeast corner of the expansion zone. *The choice of this preferred location involves the establishment of an easement on neighboring properties, the construction of a sanitary sewer line at a depth and at a significant distance from SANCORE's property and the construction of a sanitary sewer forcemain extending from the east end of David Street all the way west to Caron Street. In addition, this preferred location is in contradiction with the study produced in 2013 by engineering consulting firm Genivar concerning the location of pumping stations and their catchment area.* *This topic was discussed with representatives of the City at a meeting held on August 27th last. SANCORE Development Inc. has obtained clarifications and assurances that a pumping station could be proposed on its property as part of the application for approval of its draft plan of subdivision without the need to amend the Official Plan.*	c) À la localisation préférée pour la station de pompage au coin nord-est de l'aire d'expansion. *Le choix de cette localisation préférentielle pour la station de pompage implique l'établissement d'une servitude sur les propriétés voisines, la construction d'une conduite d'égout sanitaire à une profondeur et sur une distance importante depuis la propriété de SANCORE et à la construction d'un égout sanitaire sous-pression depuis l'extrémité est de la rue David jusqu'à la rue Caron. Cette localisation préférée est en contradiction avec l'étude produite en 2013 par la firme d'ingénieurs-conseils Genivar concernant la localisation des stations de pompage et leurs bassins de desserte.* *Ce sujet a été discuté avec les représentants de la Cité lors d'une réunion tenue le 27 août dernier. SANCORE Development Inc. a obtenu des clarifications et des assurances qu'une station de pompage pourrait être proposée sur sa propriété dans le cadre de la demande d'approbation du plan préliminaire de lotissement sans qu'il soit requis d'amender le Plan officiel.*
d) The affection of a large area intended for "Park" purposes in the center of the property.	d) À l'affection d'une grande superficie destinée aux fins de « Parc » au centre de sa propriété.

The location and area intended for park purposes will be negotiated during the approval process of the draft plan of subdivision in accordance with the provisions and requirements of the Planning Act;	*La localisation et la superficie destinée à des fins de parc pourront être négociés lors du processus d'approbation du plan préliminaire de lotissement conformément aux dispositions et aux exigences prévues à la Loi sur l'aménagement du territoire;*
e) The establishment of a 60-meter-wide strip under the "Environmental Protection" designation. SANCORE Development Inc. objects to this 60 meter wide strip.	e) À l'établissement d'une bande de 60 mètres de large inscrite sous l'affectation « Protection environnementale ». *SANCORE Development s'objecte à cette bande de 60 mètres.*
f) The identification of a portion of the land under the "Community Facilities" allocation. *SANCORE Development Inc. is of the opinion that a sector intended for Community Facilities for the expansion area is premature. If a corporation wishes to establish itself in the Expansion Area, it may submit an application for an amendment to the Official Plan and the Zoning By-law when the time comes.*	f) À l'identification d'une partie de terrain sous l'affectation « Installations communautaires ». *SANCORE Development Inc. est d'opinion qu'un secteur destiné au développement d'installations communautaires pour l'aire d'expansion est prématuré. Si une corporation souhaite s'établir dans le secteur de l'aire d'expansion, elle pourra soumettre une demande d'amendement au Plan officiel et au règlement de zonage le moment venu.*
g) The location of the stormwater retention ponds for the expansion area. *SANCORE Development Inc. will be required to develop a stormwater retention pond on its property as part of the approval for its draft plan of subdivision. According to the report, the location of the stormwater retention pond will not involve an amendment to the Official Plan, but an amendment will be required if the number of ponds is changed downward or upward. This topic was discussed with representatives of the City at a meeting held on August 27th last.* *SANCORE Development Inc. has obtained clarifications and assurances that the symbol identifying the location of the stormwater retention pond on Schedule C would be enlarged onto SANCORE's property and that its final location could be determined as part of the application for approval of the draft plan of subdivision.*	g) La localisation des bassins de rétention des eaux de surface de l'aire d'expansion. *SANCORE Development Inc. devra aménager un bassin de rétention des eaux de surface sur sa propriété dans le cadre de l'approbation de son plan préliminaire de lotissement. Selon le rapport, la localisation du bassin n'impliquera pas d'amendement au Plan officiel mais un amendement sera requis si le nombre de bassin est modifié à la baisse ou à la hausse. Ce sujet a été discuté avec les représentants de la Cité lors d'une réunion tenue le 27 août dernier.* *SANCORE Development Inc. a obtenu des clarifications et des assurances que le symbole identifiant la localisation du bassin de rétention des eaux de surface sur l'Annexe C serait élargie pour toucher à la propriété de SANCORE et que sa localisation définitive pourrait être déterminée dans le cadre de la demande d'approbation du plan préliminaire de lotissement.*

2. The third paragraph of Section 3 entitled “Vision & Guiding Principles”, states the following: “Founded on a well-defined grid-network, the Expansion lands Secondary Plan will promote strong connectivity throughout the neighborhood, and to adjacent destinations via Caron Street and David Road. A mix of Local and Collector Roads will provide safe, direct access to neighbourhood amenities, including parks and schools, for all users, including pedestrians, cyclists and drivers.” *SANCORE Development Inc. is seeking clarification as to the meaning and scope of the words "well-defined grid network". Do these words mean that there will be no possible alternative or modification for the proposed road links as shown on Schedule C?* *According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. All additional requirements for the construction and facilities of a collector road (additional granular, asphalt, sidewalks, bicycle path, etc) and the necessary width for its right-of-way (26 meters) are the responsibility of the municipality.*	2. Au troisième paragraphe de la Section 3 rapport intitulée « Vision & Guiding Principles », il est indiqué ce qui suit: « Founded on a well-defined grid-network, the Expansion lands Secondary Plan will promote strong connectivity throughout the neighborhood, and to adjacent destinations via Caron Street and David Road. A mix of Local and Collector Roads will provide safe, direct access to neighbourhood amenities, including parks and schools, for all users, including pedestrians, cyclists and drivers. » *SANCORE Development Inc. souhaite obtenir des précisions quant à la signification et la portée des mots « well-defined grid network ». Est-ce que ces mots signifient qu’il n’y aura pas d’alternative ou de modification possible quant aux tracés des liens routiers proposés tel qu’ils apparaissent à l’Annexe C?* *En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d’assumer les coûts de construction des voies locales à l’intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction et l’aménagement d’une voie collectrice (granulaire, asphalte, trottoirs, piste cyclable, etc.) et la surlargeur nécessaire pour son emprise sont à la charge de la municipalité.*
3. Point 3 of Section 3.1 entitled “Guiding Principles”, states the following: “Establish strong connections throughout the community, and to the broader City, through the creation of a strong grid network, and short, permeable blocks.” *SANCORE Development Inc. is seeking clarification as to the meaning and scope of the words "the creation of a strong grid network, and short, permeable blocks”.*	3. Le point 3 de la Section 3.1 intitulée « Guiding Principles », il est indiqué ce qui suit : « Establish strong connections throughout the community, and to the broader City, through the creation of a strong grid network, and short, permeable blocks. » *SANCORE Development Inc. souhaite obtenir des précisions quant à la signification et la portée des mots « the creation of a strong grid network, and short, permeable blocks ».*
4. Point 7 of Section 3.1 entitled “Guiding Principles”, states the following:	4. Le point 7 de la Section 3.1 intitulée « Guiding Principles », il est mentionné ce qui suit :

« Promote active transportation, including walking, cycling and transit, through compact development with a continuous network of sidewalks, cycling facilities and trails. » *According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads. All additional requirements for the construction of sidewalks, cycling facilities and trails are the responsibility of the municipality.*	« Promote active transportation, including walking, cycling and transit, through compact development with a continuous network of sidewalks, cycling facilities and trails. » *En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales. Toutes les exigences additionnelles pour la construction de trottoir, de piste cyclable et de sentier sont à la charge de la municipalité.*
5. The first paragraph of Section 4.0 entitled "Land Use and Built Form", states the following: "The Land Use Plan for the Expansion Lands, shown in Schedule B, illustrates the <u>approximate</u> location of arterial and collector streets, development areas, environmental protection, and stormwater management infrastructure." *The text of the first paragraph of Section 4 refers to Schedule B of Amendment No. 13 to the Official Plan but this schedule is entitled "Updated Road Network and Community Linkages" for the City's Urban Area. The text should refer to Schedule C.*	5. Au premier paragraphe de l'article 4.0 intitulé « Land Use and Built Form », il est stipulé ce qui suit : « The Land Use Plan for the Expansion Lands, shown in Schedule B, illustrates the <u>approximate</u> location of arterial and collector streets, development areas, environmental protection, and stormwater management infrastructure. » *Le texte du premier paragraphe de l'article 4.0 réfère à l'Annexe B de l'amendement No. 13 au Plan officiel mais cette annexe est intitulée « Réseau routier révisé et liens communautaires » pour l'aire urbaine de la Cité. Le texte devrait faire référence à l'Annexe C.*
Other mentions appear in the report contradict the previous text. For example, the text appearing in the second paragraph of Section 4.1: "The policies of Section 4.0 are specific and should be considered compulsory in future subdivision design." *This topic was discussed with representatives of the City at a meeting held on August 27th last.* *SANCORE Development Inc. understands but objects to the proposed model of development that the Infrastructure and Planning Department wishes to implement for the Expansion Area. This model does not reflect the reality of the real estate market within the urban area of the City of Clarence-Rockland.*	D'autres mentions apparaissent au rapport qui contredisent la mention précédente. Par exemple, le texte apparaissant au deuxième paragraphe de la Section 4.1: « The policies of Section 4.0 are specific and should be considered **compulsory** in future subdivision design. » *Ce sujet a été abordé avec les représentants de la Cité lors d'une réunion tenue le 27 août dernier.* *SANCORE Development Inc. comprends mais s'objecte au modèle de développement que le Service des Infrastructures et de l'Urbanisme souhaite implanter pour l'Aire d'expansion. Ce modèle de développement ne reflète pas la réalité du marché immobilier à l'intérieur de l'aire urbaine de la Cité de Clarence-Rockland.*

This model requires the construction of collector roads whose façades will be intended for the development of certain types of medium and high-density housing only (e.g. triplex, group homes, apartment, etc.) in order to limit the number of driveway lanes fronting these public roads.	*Ce modèle commande la construction de voies collectrices dont les façades seront destinées à l'implantation de certains types d'habitation de moyenne et forte densité uniquement (ex. bâtiments de type triplex, de groupe, appartement, etc.) afin de limiter le nombre d'allées charretières (driveway) qui bordent ces voies publiques.*
Low and medium-density residential buildings (e.g. single-family, semi-detached, linked, row buildings) will need to be built on adjacent local roads. Lots backing onto collector roads (rear-lotting) is discouraged.	*Les bâtiments d'habitation de faible et moyenne densité (ex. unifamilial, jumelé, lié, en rangée) devront être construits sur les voies locales adjacentes. Les terrains adossés aux voies collectrices sont découragés.*
The development model recommended for the Expansion Area by the Infrastructure and Urban Planning Department represents an average land use per hectare which is typically as follows:	*Le modèle de développement préconisé pour l'Aire d'Expansion par le Service des Infrastructures et de l'Urbanisme représente une occupation du sol moyenne par hectare qui s'établit typiquement comme suit :*
For one hectare of land (10,000 m^2), 5% (500 m^2) is allocated for park purposes, 40.8% (4,080 m^2) is allocated for public road rights-of-way (collector and local) and 54,2% (5,420 m^2) is allocated for the construction of residential buildings.	*Pour un hectare de terrain (10,000 m^2), 5% (500 m^2) est alloué aux fins de parc, 40.8 % (4,080 m^2) est alloué aux emprises des voies publiques (collectrice et locale) et 54.2% (5,420 m^2) est alloué aux fins de construction des bâtiments d'habitation.*
According to this model, the developer would need to build a collector road and one local road on both side of the collector road (66 meters wide right-of-way) before being able to create lots intended for the construction of residential buildings.	*Selon ce modèle, le promoteur serait requis de construire une voie collectrice et une voie locale de chaque côté de la voie collectrice (emprise de 66 mètres de largeur) avant de pouvoir créer des lots destinés à la construction des bâtiments résidentiels.*
The development model advocated by the Infrastructure and Urban Planning Department provides for the widening of David and Caron Streets (collector roads) and the construction of four new collector lanes within the Expansion Area.	*Le modèle de développement préconisé par le Service des Infrastructures et de l'Urbanisme prévoit l'élargissement des rues David et Caron (voies collectrices) et la construction de quatre nouvelles voies collectrices à l'intérieur de l'Aire d'Expansion.*
Three of these four new collector roads occupy and traverse, in whole or in part, SANCORE Development Inc.'s property.	*Trois de ces quatre nouvelles voies collectrices occupent et traversent, en tout ou en partie, la propriété de SANCORE Development Inc.*

The model proposed by SANCORE Development Inc. has an average land use per hectare, which is typically as follows:	*Le modèle que SANCORE Development Inc. présente une occupation du sol moyenne par hectare qui s'établit typiquement comme suit :*
For one hectare of land (10,000 m^2), 5% (500 m^2) is allocated for park purposes, between 20% (2,000 m^2) is allocated for local public road rights-of-way and 75% (7,500 m^2) is allocated for the construction of residential buildings.	*Pour un hectare de terrain (10,000 m^2), 5% (500 m^2) est alloué aux fins de parc, entre 20% (2,000 m^2) est alloué aux emprises des voies publiques locales et 75% (7,500 m^2) est alloué aux fins de construction des bâtiments d'habitation.*
The model proposed by SANCORE Development Inc. allocates half as much area for public roads compared to the model recommended by the Infrastructure and Urban Planning Department.	*Le modèle proposé par SANCORE Development Inc. alloue deux fois moins de superficie pour les voies publiques comparativement au modèle préconisé par le Service des Infrastructures et de l'Urbanisme.*
SANCORE Development Inc. proposes to develop its property with local streets that would connect to Caron street.	*SANCORE Development Inc. propose de développer sa propriété avec des rues locales qui se raccorderaient a la rue Caron (voie collectrice).*
SANCORE Development Inc.'s property covers an area of over 72 hectares (178.4 acres) of which 51.4 hectares (127 acres) are within the boundaries of the Expansion Area.	*La propriété de SANCORE Development Inc. couvre une superficie de plus de 72 hectares de terrain (178.4 acres), dont 51.4 hectares (127 acres) sont situés à l'intérieur des limites de l'Aire d'Expansion.*
SANCORE Development Inc. wishes to indicate that the extent of the urban area bounded by Laurier Street to the north, Morris and Jasper Crescent to the west, Docteur Corbeil Boulevard to the south and Caron Street to the east, covers an area of 52.6 hectares (130 acres) and contains approximately 900 dwelling units of various types. This sector is not occupied or crossed by collector roads. The latter are located around its perimeter (Laurier, Caron and Dr. Corbeil).	*SANCORE Development Inc. tient à indiquer que le quadrilatère du secteur urbain délimité par la rue Laurier au nord, les rue Morris et Jasper Crescent à l'ouest, le boulevard Docteur Corbeil au sud et la rue Caron à l'est, couvre une superficie de 52.6 hectares (130 acres) et renferme au-delà de 900 unités d'habitation de types variés. Ce secteur n'est pas occupé ou traversé par des voies collectrices. Ces dernières sont situées au pourtour du quadrilatère (Laurier, Caron et Docteur Corbeil).*
Ultimately, SANCORE Development Inc.'s property could contain nearly 1,000 housing units of various types (single-family, semi-detached, linked, duplex, row, triplex and apartment) that could be built in phases under a horizon of 20 to 40 years if all conditions of the real estate market are favorable.	*Ultimement, la propriété de SANCORE Development Inc. pourrait contenir près de 1,000 unités d'habitation de types variés (unifamilial, jumelé, lié, duplex, en rangée, triplex et appartement) qui pourront être construites en plusieurs phases en vertu d'un horizon de 20 à 40 ans si toutes les conditions du marché immobilier sont favorables.*

The real estate market in the City of Clarence-Rockland urban area differs from that of the City of Ottawa in having a purchase cost of approximately $100,000 less for a single-family dwelling house. *If the Expansion Area is developed according to the model proposed by the Infrastructure and Planning Department, this advantage could be lost.*	*Le marché immobilier de l'aire urbaine de la Cité de Clarence-Rockland se distingue de celui de la Ville d'Ottawa par un coût d'achat inférieur de $100,000 approximativement pour une maison d'habitation de type unifamilial.* *Si l'Aire d'Expansion est développée selon le modèle proposé par le Service des Infrastructures et de l'Urbanisme, cet avantage risque d'être réduit à néant.*
6. Points 1, 2 and 7 of Section 4.1.1 entitled « Residential Areas », states the following: 1.: « Access from local roads to arterial and collector roads will be restricted. »; 2.: « Rear-lotting and associated fencing is discouraged. Residential lots will be permitted to front on collector roads except in proximity to major intersections. » and 7.: «Higher density of permitted building types in each designation <u>shall</u> be encouraged, provided that servicing and transportation capacity is confirmed through the Plan of Subdivision process. *SANCORE Development Inc. objects to the development model that the Infrastructure and Planning Department intends to implement for the Expansion Area. This model does not reflect the reality of the real estate market within the urban area of the City of Clarence-Rockland (see comments issued previously in this document).* *SANCORE Development Inc. also objects to the use of the word "shall" which express an obligation. This word should be replaced by the word "should" which provides more flexibility.*	6. Les points 1, 2 et 7 de la Section 4.1.1 intitulée « Residential Areas », indiquent ce qui suit: 1.: « Access from local roads to arterial and collector roads will be restricted. »; 2 : « Rear-lotting and associated fencing is discouraged. Residential lots will be permitted to front on collector roads except in proximity to major intersections. » et 7.: «Higher density of permitted building types in each designation <u>shall</u> be encouraged, provided that servicing and transportation capacity is confirmed through the Plan of Subdivision process.» *SANCORE Development Inc. s'objecte au modèle de développement que le Service des Infrastructures et de l'Urbanisme souhaite implanter pour l'Aire d'expansion. Ce modèle de développement ne reflète pas la réalité du marché immobilier à l'intérieur de l'aire urbaine de la Cité de Clarence-Rockland (voir commentaires émis précédemment dans ce document).* *SANCORE Development Inc. s'objecte également à l'utilisation du mot "shall" qui signifie une obligation. Ce mot devrait être remplacé par le mot « should » qui offre plus de flexibilité.*
7. In the first paragraph of Section 4.1.1.1 entitled "Low Density Residential", it is stated that: "This designation is intended to act as a transition between the adjacent low-rise neighbourhoods and the core of the Expansion Lands community that features a mix of uses and higher densities. *SANCORE Development Inc. objects to this statement. The ultimate location of the low, medium and high density areas*	7. Au premier paragraphe de l'article 4.1.1.1 intitulé « Low Density Residential », il est mentionné: « This designation is intended to act as a transition between the adjacent low-rise neighbourhoods and the core of the Expansion Lands community that features a mix of uses and higher densities. » *SANCORE Development Inc. s'objecte à cette mention. La localisation ultime des secteurs destinés à la faible, moyenne et forte densité devraient être déterminés lors du processus*

should be determined during the draft plan of subdivision approval process and zoning bylaw.	*d'approbation du plan préliminaire de lotissement et du règlement de zonage.*
8. In the first paragraph of Section 4.1.1.2 entitled "Medium Density Residential", it is stated that: "The Medium Density Residential designation generally abuts collector roads and is intended to provide a transition between the Low Density Residential designation and the higher densities within the Expansion lands community." *SANCORE Development Inc. objects to this statement. The ultimate location of the low, medium and high density areas should be determined during the draft plan of subdivision approval process and zoning bylaw.*	8. Au premier paragraphe de l'article 4.1.1.2 intitulé « Medium Density Residential », il est mentionné: « The Medium Density Residential designation generally abuts collector roads and is intended to provide a transition between the Low Density Residential designation and the higher densities within the Expansion lands community. » *SANCORE Development Inc. s'objecte à cette mention. La localisation ultime des secteurs destinés à la faible, moyenne et forte densité devraient être déterminés lors du processus d'approbation du plan préliminaire de lotissement et du règlement de zonage.*
9. In the first paragraph of Section 4.1.1.3 entitled "High Density Residential", it is stated that: "The High Density Residential designation is intended to contribute to the creation of a community core within the Expansion Lands, offering opportunities for people to walk to retail uses and community facilities." *SANCORE Development Inc. objects to this statement. The ultimate location of the low, medium and high density areas should be determined during the draft plan of subdivision approval process and zoning bylaw.* *SANCORE Development Inc. wishes to be able to build a variety of low, medium and high density buildings within the expansion area that will contribute to the creation of a community core for this area of the municipality.*	9. Au premier paragraphe de l'article 4.1.1.3 intitulé « High Density Residential », il est mentionné: « The High Density Residential designation is intended to contribute to the creation of a community core within the Expansion Lands, offering opportunities for people to walk to retail uses and community facilities. » *SANCORE Development Inc. s'objecte à cette mention. La localisation ultime des secteurs destinés à la faible, moyenne et forte densité devraient être déterminés lors du processus d'approbation du plan préliminaire de lotissement et du règlement de zonage.* *SANCORE Development Inc. souhaite pouvoir construire une variété de bâtiments de faible, moyenne et forte densité à l'intérieur de l'aire d'expansion qui contribueront à la création d'un noyau communautaire pour ce secteur de la municipalité.*
10. Sections 4.1.2 and 4.1.3 respectively entitled "Commercial" and "Community Facilities". *SANCORE Development Inc. objects to the identification of a "Commercial" and a "Community facilities" designation within*	10. Les articles 4.1.2 et 4.1.3 intitulés respectivement « Commercial » et « Community Facilities ». *SANCORE Development Inc. s'objecte à l'identification d'un secteur destiné à l'affectation « Commerciale » et d'un secteur destiné à l'affection « Installations communautaires »*

the Expansion Lands. See comments provided previously at items b) and f) of this document.	*à l'intérieur de l'aire d'expansion. Voir les commentaires émis précédemment aux points b) et f) de ce document.*
11. Sections 4.1.4 and 4.1.5 respectively entitle "Environmental Protection Area" and "Open Space". *SANCORE Development Inc. objects to the identification of these designations given the facts that these designations do not appear in the legend of Schedule A of the Urban Area. The parks and the stormwater retention ponds are identified under the "Community Facilities" designation on Schedule A.* *The size and location intended for park and stormwater retention pond purposes can be determined through the draft plan approval process.*	11. Les articles 4.1.4 et 4.1.5 intitulés respectivement « Environmental Protection Area » et « Open Space ». *SANCORE Development Inc. s'objecte à l'identification de ces affectations compte tenu du fait que ces affectations n'apparaissent pas à la légende de l'Annexe A de l'aire urbaine. Les parcs et les bassins d'épuration des eaux de surface sont identifiés sous l'affectation « Installations communautaires » à l'Annexe A.* *La dimension et la localisation du parc et du bassin de rétention des eaux de surface pourront être déterminées dans le cadre du processus d'approbation du plan préliminaire de lotissement.*
12. Section 5.0 entitled "Transportation ", states: "The intent of the transportation network within the Expansion Lands area is to provide an integrated, multi-modal transportation network that is safe, convenient, and affordable." *SANCORE Development Inc. is seeking clarification as to the meaning and scope of the words "integrated, multi-modal transportation network that is safe, convenient and affordable."*	12. À la Section 5.0 intitulée « Transportation », il est mentionné: « The intent of the transportation network within the Expansion Lands area is to provide an integrated, multi-modal transportation network that is safe, convenient, and affordable. » *SANCORE Development Inc. souhaite obtenir des précisions quant à la signification et la portée des mots : « integrated, **multi-modal** transportation network that is safe, convenient, and affordable. »*
13. Section 5.1 entitled "Street Network", states at the following items: 1. "The proposed Collector Street network within the Expansion Lands is identified on Schedule A1." *The text should be corrected to refer to Schedule C.*	13. À la Section 5.0 intitulée « Street Network », il est mentionné aux points: 1. « The **proposed** Collector Street network within the Expansion Lands is identified on Schedule A1. » *Le texte devrait être corrigé pour faire référence à l'Annexe C.*

Furthermore, SANCORE Development Inc. objects to the development model that the Infrastructure and Planning Department intends to implement for the Expansion Area. *This model does not reflect the reality of the real estate market within the urban area of the City of Clarence-Rockland.*	*De plus, SANCORE Development Inc. s'objecte au modèle de développement que le Service des Infrastructures et de l'Urbanisme souhaite implanter pour l'Aire d'expansion.* *Ce modèle de développement ne reflète pas la réalité du marché immobilier à l'intérieur de l'aire urbaine de la Cité de Clarence-Rockland.*
2. "The ultimate location of the collector streets and local streets is to be determined through the Plan of Subdivision process. Minor adjustments to the location and alignments of collector streets will not require an amendment to the Secondary Plan." *SANCORE Development Inc. objects to the development model that the Infrastructure and Planning Department intends to implement for the Expansion Area. This model does not reflect the reality of the real estate market within the urban area of the City of Clarence-Rockland.*	2. « The ultimate location of the collector streets and local streets is to be determined through the Plan of Subdivision process. Minor adjustments to the location and alignments of collector streets will not require an amendment to the Secondary Plan. » *SANCORE Development Inc. s'objecte au modèle de développement que le Service des Infrastructures et de l'Urbanisme souhaite implanter pour l'Aire d'expansion. Ce modèle de développement ne reflète pas la réalité du marché immobilier à l'intérieur de l'aire urbaine de la Cité de Clarence-Rockland.*
4. "Collector Streets within the Expansion Lands should have a right-of-way width of 26 meters and include sidewalks on both sides and dedicated cycling facilities." *According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. All additional requirements for the construction and facilities of a collector road (additional granular, asphalt, sidewalks, bicycle path, etc) and the necessary width for its right-of-way (26 meters) are the responsibility of the municipality.*	4. « Collector Streets within the Expansion Lands should have a right-of-way width of 26 meters and include sidewalks on both sides and dedicated cycling facilities. » *En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales avec à l'intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction et l'aménagement d'une voie collectrice (granulaire, asphalte, trottoirs, piste cyclable, etc.) et la surlargeur nécessaire pour son emprise (26 mètres) sont à la charge de la municipalité.*
5. "Traffic control at the intersection of Street A and Street B within the Expansion Lands will be encouraged in the form of a single-lane roundabouts at the intersection of collector streets."	5. « Traffic control at the intersection of Street A and Street B within the Expansion Lands will be encouraged in the form of a single-lane roundabouts at the intersection of collector streets. »

According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. All additional requirements for the construction of a single-lane roundabout are the responsibility of the municipality.	*En vertu de la Loi sur les Redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales à l'intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction d'un carrefour giratoire sont à la charge de la municipalité.*
6. "The cross-section of David Street shall be upgraded to a right-of-way width of 26 meters and include sidewalks and on both sides and dedicated cycling facilities."	6. « The cross-section of David Street shall be upgraded to a right-of-way width of 26 meters and include sidewalks and on both sides and dedicated cycling facilities. »
According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. David Street is an existing road located outside the limits of the draft plan of subdivision, any required upgrades (acquisition of an additional 6 meters right-of-way, stormwater sewers, sidewalks, etc.) to redesign this local street into a collector street are to be assumed and acquired by the municipality.	*En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales à l'intérieur de son plan de lotissement. La rue David est une voie locale existante située à l'extérieur des limites du plan préliminaire de lotissement. Toutes les améliorations requises (acquisition d'une surlargeur de 6 mètres de largeur pour son emprise, l'égout pluvial, trottoirs, etc.) afin de transformer cette voie locale en voie collectrice devront être assumées et acquises par la municipalité.*
City Council should reconsider the idea of changing David Street into a collector. The David Street was conceived as a local road with ditches on both sides of its right-of-way. It has twenty single detached residential units fronting along its course and ends at the intersection of Montée Outaouais and Tucker Street.	*Le Conseil municipal devrait reconsidérer l'idée de transformer la rue David en voie collectrice. La rue David a été conçue comme une voie locale avec des fossés de part et d'autre de son emprise. Elle compte vingt unités d'habitation de type unifamilial en façade et se termine à l'intersection de la Montée Outaouais et de la rue Tucker.*
7. "The cross-section of Caron Street shall be upgraded to a right-of-way width of 26 meters and extend the existing sidewalk and multi-use pathway south from David Street to the edge of the urban boundary."	7. « The cross-section of Caron Street shall be upgraded to a right-of-way width of 26 meters and extend the existing sidewalk and multi-use pathway south from David Street to the edge of the urban boundary. »
Caron Street is an existing collector road located outside the limits of the draft plan of subdivision, any required upgrades (acquisition of an additional 3 meters right-of-way on both sides of the ,current right-of-way, sidewalks, and multi-use pathway, etc.) to extend this collector street from David Street	*La rue Caron est une voie collectrice existante située à l'extérieur des limites du plan préliminaire de lotissement. Toutes les améliorations requises (acquisition d'une surlargeur de 3 mètres de largeur de chaque côté de l'emprise existante, trottoirs, sentier multi-usage, etc.) afin de prolonger cette voie collectrice depuis la rue David jusqu'à la*

to the edge of the urban boundary are to be assumed and acquired by the municipality.	*limite de l'aire d'expansion devront être assumées et acquises par la municipalité.*
8. "On local streets, sidewalks should be provided to support pedestrian movements within the community (i.e. to/from Commercial areas, parks, etc.)."	8. « On local streets, sidewalks should be provided to support pedestrian movements within the community (i.e. to/from Commercial areas, parks, etc.). »
SANCORE Development Inc. objects to this requirement. If the municipality wishes to provide local streets with sidewalks, the costs of their construction must be borne by the municipality.	*SANCORE Development Inc. s'objecte à cette exigence. Si la municipalité souhaite pourvoir les rues locales avec des trottoirs, les coûts de leur construction devront être assumés par la municipalité.*
9. "Along Commercial, Open Space/Parkland, and Community Facilities Designation frontages, on-street parking should be considered."	9. « Along Commercial, Open Space/Parkland, and Community Facilities Designation frontages, on-street parking should be considered. »
SANCORE Development Inc. is of the opinion that this requirement should be removed considering the previous comments provided in this document.	*SANCORE Development Inc. est d'avis que cette mention devrait être soustraite compte tenu des commentaires émis précédemment dans ce document.*
14. At point 2 of Section 5.2, it is stated that: "Collector Streets shall include pedestrian sidewalks and dedicated cycling facilities on both sides of the street."	14. Au point 2 de la Section 5.2, il est mentionné: « Collector Streets <u>shall</u> include pedestrian sidewalks and dedicated cycling facilities on both sides of the street. »
According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. All additional requirements for the construction and facilities of a collector road (additional granular, asphalt, sidewalks, bicycle path, etc.) and the necessary width for its right-of-way (26 meters) are the to be acquired and assumed by the municipality.	*En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales a l'intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction et l'aménagement d'une voie collectrice (granulaire, asphalte, trottoirs, piste cyclable, etc.) et la surlargeur nécessaire pour l'emprise nécessaire (6 mètres) devront être acquises et assumées par la municipalité.*
15. Point 1 of Section 6.0 entitled "Servicing and Infrastructure", states the following: "All development in the Expansion Lands community shall be undertaken in accordance with the Expansion Lands Master Servicing Study and shall conform to all other applicable standards of the City of Clarence-Rockland."	15. Au point 1 de la Section 6.0 intitulée « Servicing and Infrastructure », il est mentionné ce qui suit : « All development in the Expansion Lands community **shall** be undertaken in accordance with the Expansion Lands Master Servicing Study and **shall** conform to all other applicable standards of the City of Clarence-Rockland. »

SANCORE Development Inc. objects to this paragraph and proposes the following text: *"The Expansion Lands Master Servicing Study and all other applicable standards of the City of Clarence-Rockland are to be considered when submitting a development proposal within the Expansion Lands community."*	*SANCORE Development Inc. s'objecte à cette mention et propose le texte suivant:* *« The Expansion Lands Master Servicing Study and all other applicable standards of the City of Clarence-Rockland are to be considered when submitting a development proposal within the Expansion Lands community. »*
16. Point 4 of Section 9.2 entitled "Development Approvals" states the following: "All development in the Expansion Lands community is subject to site plan control in accordance with the City's Site Plan Control By-Law." *SANCORE Development Inc. requires that the text be modified as follow: "Development proposals for residential dwelling houses containing three or more units, for row dwelling houses, and for apartment dwelling houses, for commercial and for institutional buildings in the Expansion Lands community shall be subject to Site Plan Agreement in accordance with the City's Site Plan Control By-Law."*	*16. Le point 4 de la Section 9.2 intitulée « Development Approvals» stipule ce qui suit: « All development in the Expansion Lands community is subject to site plan control in accordance with the City's Site Plan Control By-Law. »* *SANCORE Development Inc. demande à ce que le texte soit modifié comme suit: « Development proposals for residential dwelling houses containing three or more units, for row dwelling houses, and for apartment dwelling houses, for commercial and for institutional buildings in the Expansion Lands community shall be subject to Site Plan Agreement in accordance with the City's Site Plan Control By-Law. »*
17. Point 5 of Section 9.2 states the following: "The City will impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to: a. Parks, open space and environmental features; b. Water, wastewater collection, and stormwater management facilities; c. Construction of streets and infrastructure; d. Road widenings and the provision of daylight triangles; and e. Other utilities." *SANCORE Development Inc. asks that the words "in compliance with the Planning Act, the Development Charges Act and all other applicable statutes." be added at the end of the first sentence of item 5 of Section 9.2, after the words "Site Plan Control process."*	17. Le point 5 de la Section 9.2 stipule ce qui suit : « The City will impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to: a. Parks, open space and environmental features; b. Water, wastewater collection, and stormwater management facilities; c. Construction of streets and infrastructure; d. Road widenings and the provision of daylight triangles; and e. Other utilities. » *SANCORE Development Inc. demande à ce que les mots «in compliance with the Planning Act, the Development Charges Act and all other applicable statutes. » soient ajoutés à la fin de la première phrase du point 5 de la Section 9.2, après les mots « Site Plan Control process. »*

18. Section 9.5.2 entitled "Major Changes" states the following: *"Major changes are those which change the intent of the EAs or appreciably change the expected net impacts or outcomes associated with the project. Major changes to the Land Use Plan or changes requiring amendments to schedules of the Official Plan, such as:* *- A major realignment in the network of collector streets;* *- A reduction in the extent of overall parkland or open space;* *- A change to the location of the proposed sanitary Pumping Stations;* *- A change to the number of proposed sanitary Pumping Stations; or* *- A change to the number of stormwater management facilities."* *This topic was discussed with representatives of the City at a meeting held on August 27th last. SANCORE Development Inc. has obtained clarifications and assurances that a pumping station could be proposed on its property as part of the application for approval of its draft plan of subdivision without the need to further ament the Official Plan and that the stormwater management pond symbol would be enlarge to touch SANCORE's property.* *Nevertheless, SANCORE Development Inc. objects to this article since, once adopted, it will not be possible to submit an application to amend the Official Plan for the next three years.*	*18. La Section 9.5.2 intitulée « Major Changes » indique ce qui suit :* *« Major changes are those which change the intent of the EAs or appreciably change the expected net impacts or outcomes associated with the project. Major changes to the Land Use Plan or changes requiring amendments to schedules of the Official Plan, such as:* *- A major realignment in the network of collector streets;* *- A reduction in the extent of overall parkland or open space;* *- A change to the location of the proposed sanitary Pumping Stations;* *- A change to the number of proposed sanitary Pumping Stations; or* *- A change to the number of stormwater management facilities. »* *Ce sujet a été discuté avec les représentants de la Cité lors d'une réunion tenue le 27 août dernier. SANCORE Development Inc. a obtenu des clarifications et des assurances qu'une station de pompage pourrait être proposée sur sa propriété dans le cadre de la demande d'approbation du plan préliminaire de lotissement sans qu'il soit requis d'amender à nouveau le Plan officiel et que le symbole du bassin de rétention des eaux de surface serait élargi de façon à toucher à la propriété de SANCORE.* *Néanmoins, SANCORE Development Inc. s'objecte à cet article étant donné, qu'une fois adopté, il ne sera plus possible de soumettre de demande d'amendement au Plan officiel pour les trois prochaines années.*

Expansion Lands Secondary Plan
Response to Comments from Planning Committee Meeting

Comment (General)	Response
Too much detail on the Land Use Plan. There should be more flexibility.	The intention of a Secondary Plan is to provide a more specific plan for the development of an area. This has always been the intent of the study. The Secondary Plan has been written to provide significant flexibility while still striving to ensure the initial direction of Council and desire for development, committed to as part of the urban boundary expansion, is achieved. The implementation section addresses that these land use designations can be adjusted and will be finalized through the draft plan of subdivision and/or site plan processes.
Parks are identified differently on the Land Use Plan than in the Official Plan (where they are Community Facilities)	Noted. The intent of a Secondary Plan is to provide a more specific development concept for an area and identifying the park locations was part of this process.
Should not identify areas for low, medium and high density residential designations	The intent of a Secondary Plan is to provide a more specific development concept for an area. The location of each of the land use designation has been developed through public consultations and in consideration of the vision and guiding principles that were developed as part of this process.
Commercial land use designation is inappropriate	As part of the background work, a Retail Market Demand Study was completed by Shore-Tanner and Associates. The report concluded that there was sufficient market for addition commercial uses in the Expansion Lands. The commercial lands shown are in response to these findings. The intent of providing the commercial land use area is to ensure the creation of a community where people are able to meet some, or all, of their everyday needs in proximity to their homes.
Pump Station Location	The preferred location by the consultants (CIMA+) and the City is in the northeast corner. Language has been added to the servicing report and the Secondary Plan to offer flexibility to allow for a second, and/or interim pump station within the Expansion Lands to facilitate phased development.
Park Location	Noted. The park is intended to service the wider community. Per the implementation section of the Secondary Plan, it is expected that the final size and shape will be determined through the Plan of Subdivision process. The City prefers to maintain opportunities to tie the park into the environmental protection corridor around the creek and to offer future expansion opportunities when adjacent properties develop.
Object to the Environmental Protection Area Designation	This is an Official Plan requirement. As per the Official Plan policies (section 4.21), this setback may be reduced through an Environmental Impact Statement, if appropriate.
Location of the Community Facility	The proposed community facility is intended to support a complete community on the Expansion Lands. Should there be no interest in such a facility at the time of development, the Secondary Plan notes that this land could revert to Medium Density residential
Location of the Stormwater Ponds	The location of the ponds has been determined through a comprehensive study of the Expansion Lands. The location of the two stormwater facilities (ponds) has been proposed to facilitate phasing. As per the implementation

Comment (General)	Response
	section, the location of the ponds can change, however the number of ponds (maximum 2) cannot increase.
Identified Road Locations, Vision for a Grid Network	The location of the identified Collector Roads has been developed through the consultation process. Modifications to the location of the connections were made based on comments received, opportunities for future planned (and desired) connections, and spacing between proposed intersections. Per the Implementation section of the Secondary Plan, the road network will be refined through the Plan of Subdivision and/or Site Plan processes. The vision and principles are not policies and therefore are intended to provide context and inform the Secondary Plan.
Collector Road Construction	The intent of the Secondary Plan is to permit and encourage driveways and units fronting onto the Collector Roads. The policies have been revised to clarify this intent. There is no intention for the construction of “window streets” adjacent to the Collector Roads.
Clarification as to the meaning and scope of the words "the creation of a strong grid network, and short, permeable blocks”.	The intent is to avoid long blocks that make a community unwalkable. This is an urban design best practice and should be incorporated into all developments. Guiding principles are not policy and are intended to provide context for and to inform the Secondary Plan.
Reference to Schedule B in Section 4.0	Noted. This reference has been revised.
Perceived Requirement for “Window Streets”	The Secondary Plan does not require, window streets. The Secondary Plan encourages units and driveways to be accessed directly from the network of Collector Roads shown on the Land Use Plan.
Clarify “integrated, multi-modal transportation network that is safe, convenient, and affordable”	The intent is to provide a transportation network that does not only serve cars, but also provides options for active transportation (walking, cycling) that are safe, convenient and affordable.
Section 5.1 reference to Schedule A1	This is correct as written. Schedule C of Official Plan Amendment No. 13 is Schedule A1 of the Secondary Plan.
David Street should be a Collector Road	The Amendment has been revised to include the designation of David Street as a Minor Collector between Caron Street and Tucker Road.
Widening of Caron Street	The Amendment has been revised to include the designation of Caron Street as a Minor Collector between David Street and Baseline Road.
Sidewalks on Local Roads	The language in the Secondary Plan states that local streets “should” include sidewalks. This is best practice. A Plan of subdivision may propose an alternative, which can be considered by the City. Sidewalks may be appropriate in specific areas.
Required Conformity with the Master Servicing Study	The language is clear as proposed.
Required Conformity with the Site Plan Control By-law	The language is clear as proposed. The Site Plan Control by-law regulates what forms of development are required to obtain Site Plan approval. There is no need to restate this in the Secondary Plan.

Comment (General)	Response
Section 9.5(5) - Compliance with the Planning Act	Approvals are always required to be consistent with the Planning Act. As such, this does not need to be restated.
Restrictions on Amendments to the Secondary Plan for 3 years	The restriction to amendments to the Secondary Plan is for 2 years per Section 22 of the Ontario Planning Act. The proposed Secondary Plan contains considerable flexibility without requiring an amendment to the Plan.

Prescott Russell
Urbanisme et Foresterie

30 septembre 2019

Madame Marie-Eve Bélanger
Gestionnaire du développement
Cité de Clarence-Rockland

Envoyé par courriel à : mbelanger@clarence-rockland.com

OBJET : Plan secondaire – Modification n° 13 au Plan officiel de l'aire urbaine de la Cité

En 2015, la modification n° 27 au Plan officiel des Comtés unis de Prescott et Russell (CUPR) a permis un agrandissement d'une superficie d'environ 133,5 hectares de l'aire urbaine de Rockland afin d'accueillir une part importante de la croissance future des CUPR. Rapidement en 2016, la Cité a modifié son règlement de zonage afin d'inclure ces terres à l'intérieur d'une « Zone d'étude spéciale (SSA) ». Depuis maintenant plus d'un an, la Cité planche sur le Plan secondaire des terrains visé par l'agrandissement afin d'établir un cadre stratégique, d'accroître la connectivité et de guider le développement futur.

Le département d'Urbanisme et Foresterie des CUPR félicite la Cité de Clarence-Rockland d'avoir maintenu son engagement à réaliser un plan secondaire. Tout au long de l'élaboration de ce Plan secondaire, les CUPR ont participé au processus par l'entremise du comité consultatif technique.

La modification n° 13 proposée au Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland vise à mettre en œuvre le Plan secondaire proposé. Cette modification permettra d'ajouter les terrains de l'agrandissement au Plan officiel de l'aire urbaine de la Cité.

Le Plan secondaire et les documents de supports qui l'accompagnent ont été préparés selon une analyse technique et une consultation publique. Puisqu'il n'est pas possible d'anticiper toutes les circonstances ou questions pouvant survenir au cours de la mise en œuvre du plan, nous apprécions le mécanisme de flexibilité intégré au Plan secondaire. Cet outil permettra su service de l'Aménagement de la Cité de travailler en collaboration avec les développeurs tout en maintenant la vision prévue pour ce secteur.

Nous sommes d'avis que la modification n° 13 au Plan officiel de l'aire urbaine de la Cité de Clarence-Rockland qui inclut le Plan secondaire est conforme à la Déclaration de principes provinciale 2014 et respecte les politiques du Plan officiel des CUPR.

Veuillez agréer, l'expression de mes sentiments les meilleurs.

Dominique Lefebvre
2019-09-30

Dominique Lefebvre, MICU, RPP
Urbaniste senior

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SANCORE Development Inc. (7075863 Canada Inc.)

Commentaires, inquiétudes, questions et objections

Présentation devant le Comité d'urbanisme
Cité de Clarence-Rockland

9 octobre 2019.

SANCORE Development Inc. (7075863 Canada Inc.)

Comments, concerns, questions and objections

Presented before the Planning Committee
City of Clarence-Rockland

October 9th, 2019

Amendment Number 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland.	Modification Numéro 13 au Plan Officiel du Secteur Urbain de la Cité de Clarence-Rockland.
Comments, concerns, questions and objections presented by SANCORE Development Inc. (7075863 Canada Inc.), before the Planning Committee of the City of Clarence-Rockland on Wednesday, October 9th, 2019.	Commentaires, inquiétudes, questions et objections présentés par SANCORE Development Inc. (7075863 Canada Inc.), auprès du Comité d'urbanisme de la Cité de Clarence-Rockland le mercredi 9 octobre 2019.
1. Schedule C of Amendment No. 13 – New Schedule A1 to the Official Plan – Expansion Land Uses and Road Network:	1. Annexe C de la modification No. 13 – Nouvelle Annexe A1 au Plan officiel – Utilisations du sol et réseau routier - Secteur d'expansion:
Objections and Comments:	**Objections et commentaires:**
SANCORE Development Inc. is of the opinion that Schedule C of Amendment #13 for the Expansion Area should be designated as a concept plan in order to provide as much flexibility as possible in terms of land development and avoid further amendments to the Official Plan.	*SANCORE Development Inc. est d'opinion que l'Annexe C de l'Amendement #13 de l'Aire d'expansion devraient être identifiée à titre de plan concept afin d'offrir plus de flexibilité en termes de développement et éviter d'autres amendements au Plan officiel.*
The ultimate boundaries of the various land use designations can be determined with precision at the conclusion of the approval process for the draft plan of subdivision and the proposed zoning by-law amendment.	*Les limites définitives des différents secteurs de développement pourront être établies avec précision à la conclusion du processus d'approbation du plan préliminaire de lotissement et du projet de modification au règlement de zonage.*
SANCORE Development Inc. wishes to obtain as much development flexibility as possible since it was indicated that once the amendment is adopted, no new request for an amendment to the Official Plan would be considered for the next two years;	*SANCORE Development Inc. souhaite obtenir le plus de flexibilité possible en terme de développement puisqu'il a été indiqué qu'une fois l'amendement adopté, aucune nouvelle demande d'amendement au Plan officiel ne serait considérée pour les deux prochaines années;*
SANCORE Development Inc. is of the opinion that a sector intended for commercial development for the expansion area is premature. The commercial sector on Laurier Street, County Road 17 and Richelieu Street (Walmart and RoNa) can	*SANCORE Development Inc. est d'opinion qu'un secteur destiné au développement commercial pour l'aire d'expansion est prématuré. Le secteur commercial de la rue Laurier, celui de la route 17 et de la rue Richelieu (Walmart et RoNa) répond aux*

accommodate the needs of the community. The attraction of Walmart is still very strong on consumers in the region. In addition, the municipality intends to encourage commercial development in the western sector of the urban area (SSA1) and the volume of traffic on Caron Street is not sufficient to justify the establishment of new businesses, a new gas station or a convenience store by the oil companies.	*besoins de la communauté. L'attraction exercée par le Walmart est encore très forte sur les consommateurs de la région. De plus, la municipalité se propose d'encourager le développement commercial dans le secteur ouest de la zone urbaine (SSA1) et le volume de circulation sur la rue Caron n'est pas suffisant pour justifier l'implantation de commerces, d'une nouvelle station d'essence ou d'un dépanneur par les pétrolières.*
The location and area intended for park purposes will be negotiated during the approval process of the draft plan of subdivision in accordance with the provisions and requirements of the Planning Act;	*La localisation et la superficie destinée à des fins de parc pourront être négociés lors du processus d'approbation du plan préliminaire de lotissement conformément aux dispositions et aux exigences prévues à la Loi sur l'aménagement du territoire;*
SANCORE Development Inc. is of the opinion that a sector intended for Community Facilities for the expansion area is premature. If a corporation wishes to establish itself in the Expansion Area, it may submit an application for an amendment to the Official Plan and the Zoning By-law when the time comes.	*SANCORE Development Inc. est d'opinion qu'un secteur destiné au développement d'installations communautaires pour l'aire d'expansion est prématuré. Si une corporation souhaite s'établir dans le secteur de l'aire d'expansion, elle pourra soumettre une demande d'amendement au Plan officiel et au règlement de zonage le moment venu.*
2. In the second paragraph of Section 4.1 it is mentioned that: "The policies of Section 4.0 are specific and should be considered **compulsory** in future subdivision design."	2. Au deuxième paragraphe de la Section 4.1, il est mentionné ce qui suit: « The policies of Section 4.0 are specific and should be considered **compulsory** in future subdivision design. »
SANCORE Development Inc. understands but objects to the proposed model of development that the Infrastructure and Planning Department wishes to implement for the Expansion Area. This model does not reflect the reality of the real estate market within the urban area of the City of Clarence-Rockland and does not provide the flexibility that SANCORE is looking for.	*SANCORE Development Inc. comprends mais s'objecte au modèle de développement que le Service des Infrastructures et de l'Urbanisme souhaite implanter pour l'Aire d'expansion. Ce modèle de développement ne reflète pas la réalité du marché immobilier à l'intérieur de l'aire urbaine de la Cité de Clarence-Rockland et n'offre pas la flexibilité recherchée par SANCORE.*
The development model advocated by the Infrastructure and Urban Planning Department provides for the widening of David and Caron Streets (collector roads) and the construction of two new collector streets within the Expansion Area. These new collector roads occupy and traverse, in whole or in part, SANCORE Development Inc.'s property.	*Le modèle de développement préconisé par le Service des Infrastructures et de l'Urbanisme prévoit l'élargissement des rues David et Caron (voies collectrices) et la construction de deux nouvelles voies collectrices à l'intérieur de l'Aire d'Expansion. Ces nouvelles voies collectrices occupent et traversent, en tout ou en partie, la propriété de SANCORE Development Inc.*

SANCORE Development Inc.'s property covers an area of over 72 hectares (178.4 acres) of which 51.4 hectares (127 acres) are within the boundaries of the Expansion Area.	*La propriété de SANCORE Development Inc. couvre une superficie de plus de 72 hectares de terrain (178.4 acres), dont 51.4 hectares (127 acres) sont situés à l'intérieur des limites de l'Aire d'Expansion.*
SANCORE Development Inc. wishes to indicate that the extent of the urban area bounded by Laurier Street to the north, Morris and Jasper Crescent to the west, Docteur Corbeil Boulevard to the south and Caron Street to the east, covers an area of 52.6 hectares (130 acres) and contains approximately 900 dwelling units of various types. This sector is not occupied or crossed by collector roads. The latter are located around its perimeter (Laurier, Caron and Dr. Corbeil).	*SANCORE Development Inc. tient à indiquer que le quadrilatère du secteur urbain délimité par la rue Laurier au nord, les rue Morris et Jasper Crescent à l'ouest, le boulevard Docteur Corbeil au sud et la rue Caron à l'est, couvre une superficie de 52.6 hectares (130 acres) et renferme au-delà de 900 unités d'habitation de types variés. Ce secteur n'est pas occupé ou traversé par des voies collectrices. Ces dernières sont situées au pourtour du quadrilatère (Laurier, Caron et Docteur Corbeil).*
Ultimately, SANCORE Development Inc.'s property could contain nearly 1,000 housing units of various types (single-family, semi-detached, linked, duplex, row, triplex and apartment) that could be built in phases under a horizon of 20 to 40 years if all conditions of the real estate market are favorable.	*Ultimement, la propriété de SANCORE Development Inc. pourrait contenir près de 1,000 unités d'habitation de types variés (unifamilial, jumelé, lié, duplex, en rangée, triplex et appartement) qui pourront être construites en plusieurs phases en vertu d'un horizon de 20 à 40 ans si toutes les conditions du marché immobilier sont favorables.*
The real estate market in the City of Clarence-Rockland urban area differs from that of the City of Ottawa in having a purchase cost of approximately $100,000 less for a single-family dwelling house. *If the Expansion Area is developed according to the model proposed by the Infrastructure and Planning Department, this advantage could be lost.*	*Le marché immobilier de l'aire urbaine de la Cité de Clarence-Rockland se distingue de celui de la Ville d'Ottawa par un coût d'achat inférieur de $100,000 approximativement pour une maison d'habitation de type unifamilial.* *Si l'Aire d'Expansion est développée selon le modèle proposé par le Service des Infrastructures et de l'Urbanisme, cet avantage risque d'être réduit à néant.*
3. Section 5.1 entitled "Street Network", states the following:	3. À la Section 5.1 intitulée « Street Network », il est mentionné ce qui suit:
"3. Collector Roads (Street A and B) within the Expansion Lands should have a right-of-way width of 26 meters and include sidewalks on both sides and dedicated cycling facilities."	« 3. Collector Roads (Street A and B) within the Expansion Lands should have a right-of-way width of 26 meters and include sidewalks on both sides and dedicated cycling facilities. »
According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost	*En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et*

for the construction of local roads within its plan of subdivision. All additional requirements for the construction and facilities of a collector road (additional granular, asphalt, sidewalks, bicycle path, etc) and the necessary width for its right-of-way (26 meters) are the responsibility of the municipality.	*d'assumer les coûts de construction des voies locales avec à l'intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction et l'aménagement d'une voie collectrice (granulaire, asphalte, trottoirs, piste cyclable, etc.) et la surlargeur nécessaire pour son emprise (26 mètres) sont à la charge de la municipalité.*
"5. David Street **shall** be upgraded to a Minor Collector with a right-of-way width of 26 meters with sidewalks on both sides and dedicated cycling facilities."	«5. David Street **shall** be upgraded to a Minor Collector with a right-of-way width of 26 meters with sidewalks on both sides and dedicated cycling facilities. »
City Council should reconsider the idea of changing David Street into a collector. The David Street was conceived as a local road with ditches on both sides of its right-of-way. It has twenty single detached residential units fronting along its course and ends at the intersection of Montée Outaouais and Tucker Street.	Le Conseil municipal devrait reconsidérer l'idée de transformer la rue David en voie collectrice. La rue David a été conçue comme une voie locale avec des fossés de part et d'autre de son emprise. Elle compte vingt unités d'habitation de type unifamilial en façade et se termine à l'intersection de la Montée Outaouais et de la rue Tucker.
The use of the word "shall" means a legal obligation and a commitment by Council to this improvement project.	L'utilisation du mot « shall » signifie une obligation légale et un engagement du Conseil envers ce projet d'amélioration.
"7. Traffic control at the intersection of Street A and Street B within the Expansion Lands will be encouraged in the form of a single-lane roundabouts. A minimum 40-meter-wide right-of-way should be protected for single-lane roundabouts at the intersection of Collector Roads."	«7. Traffic control at the intersection of Street A and Street B within the Expansion Lands will be encouraged in the form of a single-lane roundabouts. A minimum 40-meter-wide right-of-way should be protected for single-lane roundabouts at the intersection of Collector Roads. »
According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision. All additional requirements for the construction of a single-lane roundabout are the responsibility of the municipality.	*En vertu de la Loi sur les Redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales à l'intérieur de son plan de lotissement. Toutes les exigences additionnelles pour la construction d'un carrefour giratoire sont à la charge de la municipalité.*
"9. On Local Roads, sidewalks should be provided to support pedestrian movements within the community (i.e. to/from Commercial areas, parks, etc.)."	«9. On Local Roads, sidewalks should be provided to support pedestrian movements within the community (i.e. to/from Commercial areas, parks, etc.). »

SANCORE Development Inc. objects to this requirement. If the municipality wishes to provide local streets with sidewalks, the costs of their construction must be borne by the municipality.	*SANCORE Development Inc. s'objecte à cette exigence. Si la municipalité souhaite pourvoir les rues locales avec des trottoirs, les coûts de leur construction devront être assumés par la municipalité.*
4. At point 2 of Section 5.2, it is stated that: "Collector Roads (Streets A and B) **shall** include pedestrian sidewalks and dedicated cycling facilities on both sides of the street." *According to the Development Charges Act, SANCORE Development Inc. is required to provide and assume the cost for the construction of local roads within its plan of subdivision.* *Any additional requirements for the construction of a collector road or additional facilities on a local or collector road (additional right-of-way width, granular, asphalt, sidewalks, bicycle path, etc.) are the to be acquired and assumed by the municipality.*	4. Au point 2 de la Section 5.2, il est mentionné: « Collector Road (Streets A and B) **shall** include pedestrian sidewalks and dedicated cycling facilities on both sides of the street. » *En vertu de la Loi sur les redevances de développement, SANCORE Development Inc. est requise de pourvoir et d'assumer les coûts de construction des voies locales à l'intérieur de son plan de lotissement.* *Toutes les exigences additionnelles pour la construction d'une voie collectrice ou l'aménagement d'aménités additionnelles sur une voie locale ou collectrice (élargissement de l'emprise, granulaire, asphalte, trottoirs, piste cyclable, etc.) devront être acquises et assumées par la municipalité.*
5. Point 5 of Section 9.2 states the following: "The City **will** impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to: a. Parks, open space and environmental features; b. Water, wastewater collection, and stormwater management facilities; c. Construction of streets and infrastructure; d. Road widenings and the provision of daylight triangles; and e. Other utilities." *SANCORE Development Inc. asks that the word "will" be removed and replaced by the word "may" and that the words "in compliance with the Planning Act, the Development Charges Act and all other applicable statutes." be added at the end of the first sentence of item 5 of Section 9.2, after the words "Site Plan Control process."*	5. Le point 5 de la Section 9.2 stipule ce qui suit: « The City **will** impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to: a. Parks, open space and environmental features; b. Water, wastewater collection, and stormwater management facilities; c. Construction of streets and infrastructure; d. Road widenings and the provision of daylight triangles; and e. Other utilities. » *SANCORE Development Inc. demande à ce que le mot « will » soit retiré et remplacé par le mot « may » et que les mots «in compliance with the Planning Act, the Development Charges Act and all other applicable statutes. » soient ajoutés à la fin de la première phrase du point 5 de la Section 9.2, après les mots « Site Plan Control process. »*

expansion lands SECONDARY PLAN

PLAN SECONDAIRE pour les terrains qui ont été ajouté à l'aire urbaine

VISION, GUIDING PRINCIPLES, AND OBJECTIVES REPORT

July 13, 2018

Clarence-Rockland

FOTENN Planning + Design

CIMA+

SHORE·TANNER & ASSOCIATES
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ROCKLAND EXPANSION LANDS SECONDARY PLAN: VISION, GUIDING PRINCIPLES, AND OBJECTIVES REPORT

Prepared for the City of Clarence-Rockland

Prepared by:	Fotenn Planning + Design 223 McLeod Street Ottawa, ON K2P 0Z8
In conjunction with:	CIMA+
	Shore-Tanner & Associates Inc.

July 13, 2018

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QUALITY CONTROL

Document	Vision, Guiding Principls, and Objectives Report
Date	July 13, 2018
Prepared for	City of Clarence-Rockland
Approved by	Paul Black
Prepared by	Fotenn Consultants Inc.

REVISION HISTORY

No.	QC	Date Issued
1	PB	July 13, 2018

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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

The United Counties of Prescott and Russell (UCPR) Official Plan Review, completed in 2015 and adopted by the Ministry of Municipal Affairs in 2016, identified a localized shortage of residential land supply in the City of Clarence-Rockland. To address the shortage, the UCPR Official Plan identified approximately 133.5 hectares of lands to be added to the Rockland Urban Policy Area. These lands became known as the “Expansion Lands”.

Following the addition of the lands to the Urban Policy Area designation, the City of Clarence-Rockland rezoned the lands to “Special Study Area (SSA)”. The intent of the SSA zone is that lands will be developed in accordance with the results and recommendations of a Secondary Plan. In the interim, existing uses are permitted to continue, but no new uses are permitted.
In 2017, the City of Clarence-Rockland issued a Request for Proposals for the preparation of a Secondary Plan and Zoning By-law Amendment for the Expansion Lands to guide the future land uses, urban design, and infrastructure in the area. The intent of this Secondary Planning process is to create a vibrant community that features a mix of uses and a range of housing options in an urban village context.

The Secondary Planning exercise will include a land use plan, built form policies, design guidelines and a phasing strategy, and will be supported by studies and plans from relevant disciplines including a Master Servicing Study, a Community Transportation Study, an Environmental Management Plan, and a Commercial Market Research Report.

The Secondary Planning process will be integrated with the Municipal Class Environmental Assessment (EA) process. EA approval is required for municipal infrastructure such as water, sanitary and storm sewers, and roads. The integrated process allows approvals, reviews, and public consultations to be coordinated and to meet the requirements of both the EA Act and the Planning Act.

1.2 PURPOSE OF THIS DOCUMENT

This report is intended to provide an overview of the vision, guiding principles, and objectives of the Expansion Lands Secondary Plan. The vision will express the long-term character of the lands, including its role in the City of Clarence-Rockland. The principles and objectives will expand on the vision and help form the foundation of the Secondary Plan. The principles will focus on: land use; built form and massing; parks and open space; and, access and circulation.

Image Source: P199

1.3 EXISTING PLANNING FRAMEWORK

PROVINCIAL POLICY STATEMENT (PPS)

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. Municipalities are required to “be consistent with” the PPS with respect to any planning decisions.

COUNTY OF PRESCOTT-RUSSELL OFFICIAL PLAN (1999, AS AMENDED)

The Official Plan for the United Counties of Prescott and Russell provides guidance for development, while stimulating economical growth and protecting the environment and public health. As the Upper-Tier, all land use planning decisions in the City of Clarence-Rockland are required to be consistent with the County Official Plan.

CLARENCE-ROCKLAND OFFICIAL PLAN (2014)

The City of Rockland Official Plan came into full force and effect on September 30, 2014, and is intended to direct the future development of the Urban Area of the City of Clarence-Rockland for a period of approximately 20 years to 2033.

The subject lands are located outside of the urban area of Clarence-Rockland. Accordingly, rural lands outside of the urban boundary are governed by the policies of the United Counties of Prescott Russell Official Plan. The intention of the Secondary Plan is to include the lands inside the urban boundary.

CLARENCE-ROCKLAND ZONING BY-LAW 2016-10

The study area is zoned Special Study Area (SSA) Zone. The intent of the zone is to preserve land for development or redevelopment in accordance with the results and recommendations of a Secondary Plan. In the interim, the use of lands within an SSA Zone should not be changed to the extent that the results of the Secondary Plan and supporting studies could be prejudiced.
The only permitted uses in the SSA Zone are those which were in existence on the date of passing of the By-law and any other uses may be authorized by Committee of Adjustment or City Council under the provision of the Planning Act.

2014 Provincial Policy Statement

Under the *Planning Act*

Ontario.ca/PPS

Ontario

OFFICIAL PLAN

United Counties of Prescott and Russell
Planning Department
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P.O. Box 304
L'Orignal, Ontario K0B 1K0
Tel: (800) 667-6307
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OFFICE CONSOLIDATION - April 2016

Clarence-Rockland

OFFICIAL PLAN of THE URBAN AREA
of THE CITY of CLARENCE-ROCKLAND

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

Clarence-Rockland

**THE CORPORATION OF THE
CITY OF CLARENCE-ROCKLAND
ZONING BY-LAW NO. 2016-10**

May 16, 2016

Prepared by

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

in collaboration with the
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City of Clarence-Rockland
Rockland, Ontario
K4K 1P7

JLR-27025

2.0 VISION AND GUIDING PRINCIPLES

Image Source: Mattamy Homes

2.1 EXPANSION LANDS VISION

Balancing rural charm with urban vitality, the Expansion Lands Secondary Plan promotes sustainable, urban development that will accommodate Clarence-Rockland's projected growth over the next 20 years, while protecting and enhancing the natural character and established woodlots that define the area.

As the City evolves, new growth and development will enhance the quality of life for both current and future residents, and will reinforce a vibrant, active community for people of all ages and abilities. A mix of housing options, including single and semi-detached, townhouses and apartment buildings, will promote diversity, increase access to affordable housing, and provide additional density to support local commercial uses and alternative modes of transportation.

Founded on a well-defined grid-network, the Expansion lands Secondary Plan will promote strong connectivity throughout the neighbourhood, and to adjacent destinations via Caron Street and David Road. A mix of Local and Collector Roads will provide safe, direct access to neighbourhood amenities, including parks and schools, for all users, including pedestrian, cyclists and drivers.

A mix of open spaces and amenities, located within close walking distance of all residents, will provide convenient and exciting places to gather and socialize, while supporting and promoting community events and broader City activities.

Through high quality urban design, the Expansion Lands will be a pillar of urban design in the City of Clarence-Rockland, and a place that new residents and visitors will be proud to call home.

2.2 GUIDING PRINCIPLES

The 8 principles on the following pages summarize the high-level planning and urban design strategies that will be further developed through the Expansion Lands Secondary Plan.

Image Source: University of Guelph

Image Source: Half Moon Bay Community Association

1

Promote sustainable and contemporary development that respects and enhances the existing rural and natural fabric of the Expansion Lands.

2

Ensure new development responds to the surrounding context, including streets, development patterns, dwelling styles, topography and natural heritage features.

3

Establish strong connections throughout the community, and to the broader City, through the creation of a strong-grid network, and short, permeable blocks.

4

Create a complete community with a mix of residential typologies, community amenities and parks and open spaces that will provide opportunities to live, work and play.

Image Source: Creative Green Living

Image Source: KI STUDIO

5

Provide a variety of housing types and tenures to support affordable housing options, and promote a diverse and vibrant community.

6

Protect and celebrate the natural setting through careful links to a safe, highly-visable and well-connected network of parks, trails and public spaces.

Image Source: Great Rivers Greenway

Image Source: Getty Images

7

Promote active transportation, including walking, cycling and transit, through compact development with a continuous network of sidewalks, cycling facilities and trails.

8

Ensure all elements of the public realm, including streets, parks, trails, and public destinations are welcoming and accessible for people of all ages and abilities.

expansion lands SECONDARY PLAN

PLAN SECONDAIRE pour les terrains qui ont été ajouté à l'aire urbaine

Clarence-Rockland

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PLAN SECONDAIRE pour les terrains qui ont été ajouté à l'aire urbaine

EXISTING CONDITIONS & CONSTRAINTS REPORT

August 9, 2018

Clarence-Rockland

FOTENN Planning + Design

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SHORE·TANNER & ASSOCIATES
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ROCKLAND EXPANSION LANDS SECONDARY PLAN: EXISTING CONDITIONS AND CONSTRAINTS REPORT

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1.0 INTRODUCTION

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The Secondary Planning process will be integrated with the Municipal Class Environmental Assessment (EA) process. EA approval is required for municipal infrastructure such as water, sanitary and storm sewers, and roads. The integrated process allows approvals, reviews, and public consultations to be coordinated and to meet the requirements of both the EA Act and the Planning Act.

1.2 PURPOSE OF THE EXISTING CONDITIONS & CONSTRAINTS REPORT

This report is intended to provide an overview of the Expansion Lands that comprise the planning area of the Secondary Plan (the “study area”), including the policy framework, relevant studies completed to-date, and the existing physical and environmental conditions. The document also provides an evaluation of the opportunities and constraints related to transportation and infrastructure, and the local development market.

The report will be used to inform the Secondary Plan, as appropriate. Where the final study recommendations deviate from the information provided within, the report will be used as a basis to identify required updates and amendments to City policies and processes.

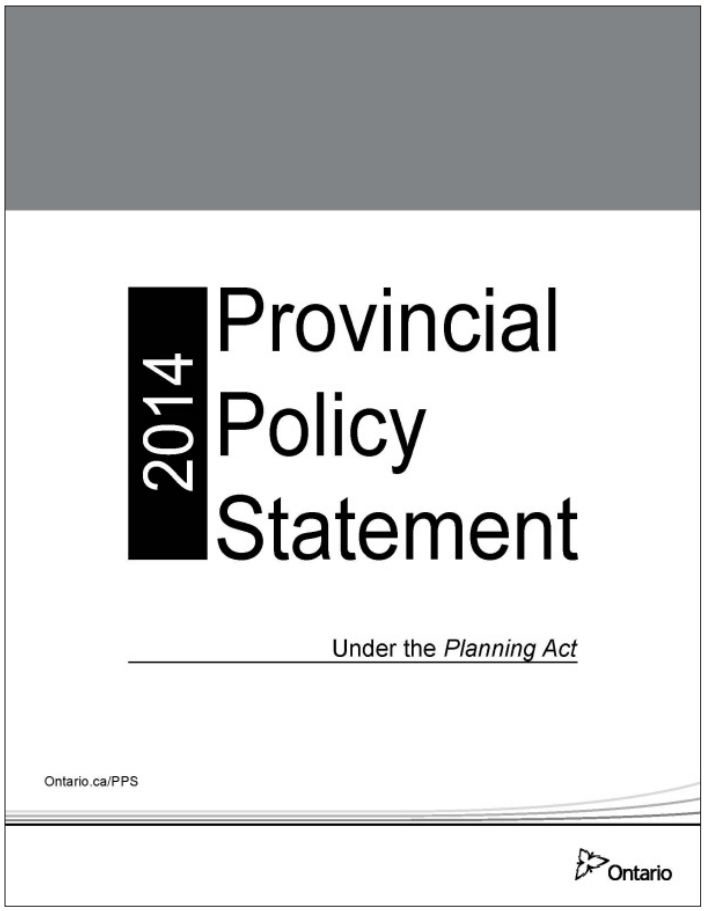
1.3 THE STUDY AREA

The Study Area is irregularly shaped, comprising 133.5 hectares of land southeast of Rockland's existing Urban Area Boundary. The study area includes lands south of David Street and west of Clarence Creek. It is situated mostly to the east of Caron Street, with the exception of an area of approximately 23 hectares on the west side of Caron Street in the southwest of the study area.

North of the study area is the residential neighbourhood of Rockland East and the Rockland Golf Club. Across Caron Street to the west is a future residential neighbourhood. Surrounding lands to the southwest, south, and east are used for agricultural purposes or vacant.

DAVID ST
Clarence Creek
CARON ST
BASELINE RD

2.0 POLICY REVIEW



2.1 PROVINCIAL POLICY STATEMENT (PPS)

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. Municipalities are required to "be consistent with" the PPS with respect to any planning decisions.

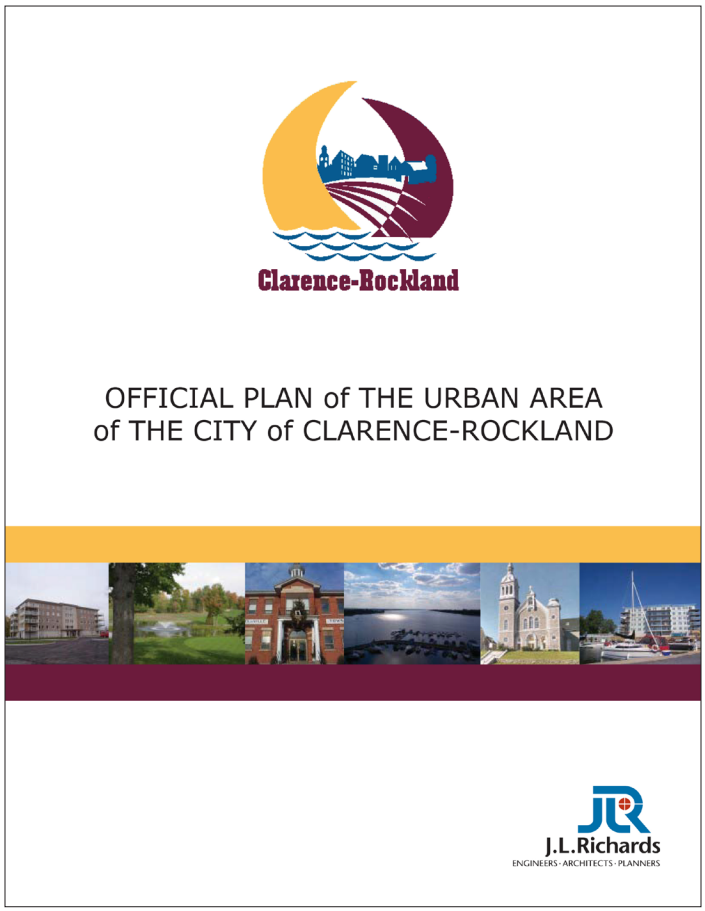
Section 1.1.1 states that healthy, liveable and safe communities are sustained by:

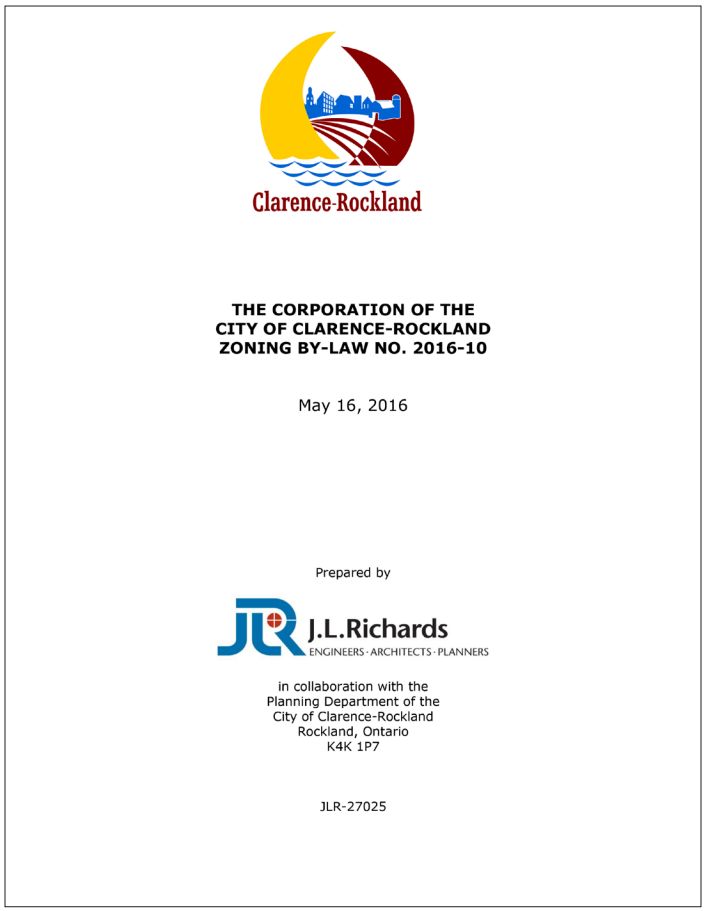
a. Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
b. Accommodating an appropriate range and mix of residential (including second units, affordable housing and housing for older persons), employment (including industrial and commercial), institutional (including places of worship, cemeteries and long-term care homes), recreation, park and open space, and other uses to meet long-term needs;
c. Avoiding development and land use patterns which may cause environmental or public health and safety concerns;
d. Avoiding development and land use patterns that would prevent the efficient expansion of settlement areas in those areas which are adjacent or close to settlement areas;
e. Promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;
f. Improving accessibility for persons with disabilities and older persons by identifying, preventing and removing land use barriers which restrict their full participation in society;
g. Ensuring that necessary infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities are or will be available to meet current and projected needs; and
h. Promoting development and land use patterns that conserve biodiversity and consider the impact of climate change.

Policy 1.1.2 requires that sufficient land shall be made available to accommodate an appropriate range and mix of land uses to meet projected needs for a time horizon of up to 20 years. Within settlement areas, sufficient land shall be made available through intensification and redevelopment and, if necessary, designated growth areas.

Section 1.1.3 requires that settlement areas shall be the focus of growth and development, and their vitality and regeneration shall be promoted. Land use patterns within settlement areas shall be based on:

a. Densities and a mix of land uses which:
   a) Efficiently use land and resources;
   b) Are appropriate for, and efficiently use, the infrastructure and public service facilities which are





planned or available, and avoid the need for their unjustified and / or uneconomical expansion;

c) Minimize negative impacts to air quality and climate change, and promote energy efficiency;
d) Support active transportation;
e) Are transit-supportive, where transit is planned, exists, or may be developed; and
f) Are freight supportive.

Policy 1.1.3.6 states that new development taking place in designated growth areas should occur adjacent to the existing built-up area and shall have a compact form, mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities.

Policy 1.1.3.8 stipulates that a planning authority may identify a settlement area or allow the expansion of a settlement area boundary only at the time of a comprehensive review.

Policy 1.4.3 requires that planning authorities provide for an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents of the regional market area by:

a. Establishing and implementing minimum targets for the provision of housing which is affordable to low and moderate income households.
b. Permitting and facilitating:
   a) all forms of housing required to meet the social, health and well-being requirements of current and future residents, including special needs requirements; and
   b) All forms of residential intensification, including second units, and redevelopment in accordance with policy 1.1.3.3.
c. Directing the development of new housing towards locations where appropriate levels of infrastructure and public service facilities are or will be available to support current and projected needs;
d. Promoting densities for new housing which efficiently use land, resources, infrastructure and public service facilities, and support the use of active transportation and transit in areas where it exists or is to be developed; and
e. Establishing development standards for residential intensification, redevelopment and new residential development which minimize the cost of housing and facilitate compact form, while maintaining appropriate levels of public health and safety.

Policy 1.5.1 states that healthy, active communities should be promoted by:

a. Planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity;
b. Planning and providing for a full range and equitable distribution of publicly-accessible built and natural

settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages, and, where practical, water-based resources.

Section 1.6 requires that infrastructure be provided in a coordinated, efficient and cost-effective manner that considers impacts from climate change while accommodating projected needs. Planning authorities should promote green infrastructure to complement infrastructure.

Policy 1.6.6.1 requires that planning for sewage and water services shall:

a. Direct and accommodate expected growth or development in a manner that promotes the efficient use and optimization of existing municipal sewage services and municipal water services.

Policy 1.6.6.7 states that planning for stormwater management shall:

a. Minimize, or, where possible, prevent increases in contaminant loads;
b. Minimize changes in water balance and erosion;
c. Not increase risks to human health and safety and property damage;
d. Maximize the extent and function of vegetative and pervious surfaces; and
e. Promote stormwater management best practices, including stormwater attenuation and re-use and low-impact development.

Section 1.6.7 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. Transportation and land use considerations shall be integrated at all stages of the planning process.

2.2 COUNTY OF PRESCOTT-RUSSELL OFFICIAL PLAN (OCTOBER 2017 OFFICE CONSOLIDATION)

The Official Plan for the United Counties of Prescott and Russell provides guidance for development, while stimulating economic growth and protecting the environment and public health. As the Upper-Tier municipality, all land use planning decisions in the City of Clarence-Rockland are required to be consistent with the County Official Plan.

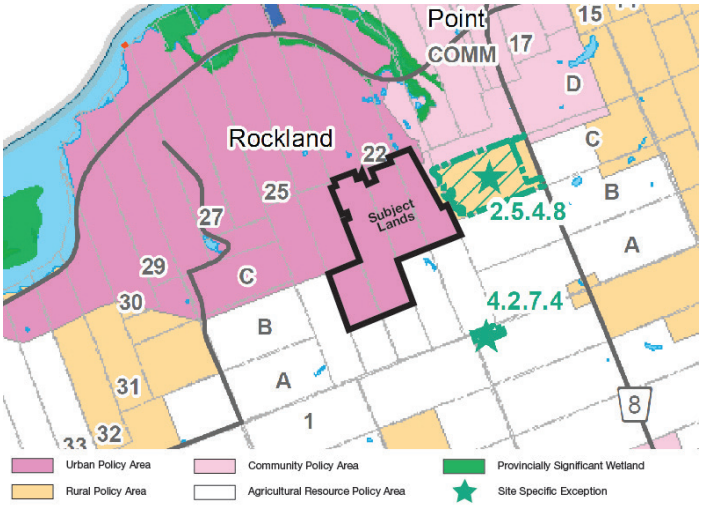
The Plan anticipates a total of 11,893 households in the City of Clarence-Rockland by 2035, representing an increase of 3,253 households from 2011.

Section 2.1.3 contains Sustainable Communities Objectives:

1. We will strengthen our communities by directing growth and development to areas with existing or planned water and sewer infrastructures.
3. A three-year supply of serviced land will be maintained at all times as part of the ten-year supply of land designated for residential development.
4. A broad range of housing types will be permitted in order to meet the requirements of a growing population.
9. The distinct character of our towns, villages, hamlets and rural areas will be maintained.
10. Significant natural heritage sites and areas will be protected from incompatible land uses.

The expansion lands are identified as Urban Policy Area on Schedule A (Land Use Designations). The designation applies to City, Towns, and Villages with populations of 1,000 or more and which have been developed primarily on the basis of municipal water and sewer systems. The Urban Policy Area is intended to absorb a significant part of future growth in the United Counties.

Urban Policy Areas shown on Schedule A reflect the boundaries of settlement areas, as rationalized by local municipalities, to accommodate residential growth pressure focused in the western portion of the County and along the major transportation routes providing access to employment opportunities in the Ottawa area.



Schedule A - County of Prescott-Russell Official Plan

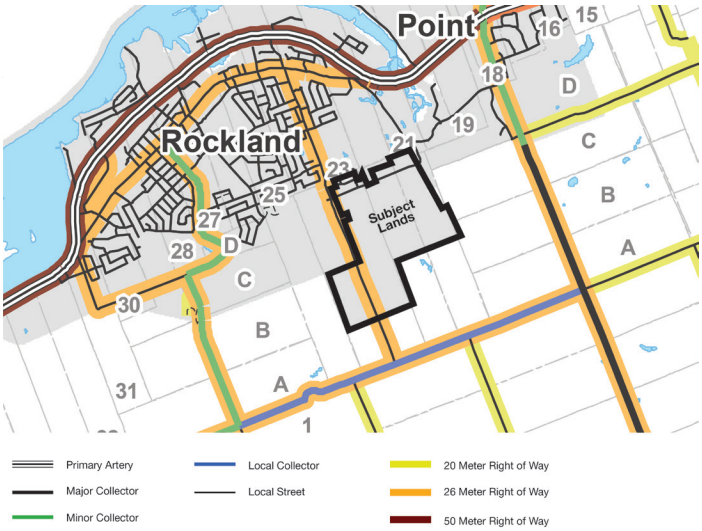
Section 2.2.5 stipulates that lot creation and development will only be permitted if there is confirmation of sufficient reserve sewage system capacity and reserve water system capacity within municipal sewage services and municipal water services, or private communal sewage and water services. Partial services are generally discouraged.

The policies of Section 2.2.6 apply to residential uses in the Urban Policy Area. Policy 1 outlines Council's objectives for residential uses:

a. To ensure the provision of an adequate supply of residential land;
b. To provide for a range and mix of low-, medium- and high-density housing types to satisfy a broad range of residential requirements and ensure that affordable housing is available, but low-rise and low-density housing forms such as single-detached and semi-detached dwellings shall continue to dominate;
c. To provide for neighbourhood facilities and amenities which are appropriate to a residential living environment;
d. To ensure the provision of roads and other municipal services necessary to the development of functional neighbourhood areas;
e. To encourage the addition of housing above commercial uses in and near the downtown, in residential transition areas, and in other main commercial areas;
f. To support the development, at appropriate locations and densities, of residential facilities that meet the housing needs of persons requiring specialized care;
g. To manage the rate of growth and the amount of residential development within the urban centre in order to maintain and enhance the small town character;
h. To encourage residential developments which incorporate innovative and appropriate design principles which contribute to public safety, affordability, energy conservation, and that protect, enhance and properly manage the natural environment;
i. To monitor the housing supply by reviewing new development, demolitions, intensification, and the number of affordable housing units brought on stream.

Policy 4 of Section 2.2.6 requires that zoning regulations be designed to provide for a mix of 70% low-density residential development, 20% medium density residential development and 10% high-density residential development in the Urban Policy Area. Low-density development is defined as up to 35 units per net hectare, medium-density development should not exceed 55 units per net hectare for townhouses, and apartment should represent a density of 75 units per net hectare.

A 26-metre Local Street right-of-way is shown over Caron Street on Schedule D. Local roads consist of local collectors and local streets which are publicly maintained on a year-round basis, seasonal roads, and private roads. Local roads shall generally have a minimum right-of-way width of 20 metres. However, reduced right-of-way widths may be accepted through the subdivision or condominium review process, provided that the right-of-way widths can accommodate all of the required servicing infrastructures for the proposed development and provided that the approval authority is satisfied that the reduced widths will not result in lower quality development. Generally



Schedule D - County of Prescott-Russell Official Plan

Policies in Section 3.4.1 stipulate that development will not be encouraged where such development would result in, or could lead to, unplanned expansions to existing water and wastewater infrastructures. Development shall generally be directed to communities which can reasonably provide or extend full water and wastewater services.

Stormwater management will be required for all new development in the United Counties in accordance with guidelines which may be developed by the Ministry of Environment and Climate Change, the Ministry of Natural Resources and Forestry, the South Nation Conservation, the County, or local municipalities. Careful consideration shall be given to the use of low impact development (LID) practices for stormwater management, including the design of impervious surfaces and other factors that impact on stormwater management. Stormwater management facilities and LID practices shall be designed, where possible, to be linked with the natural heritage and open space system.

Policy 8 of Section 3.4.1 requires that the establishment of new water and wastewater servicing facilities shall be subject to Ministry of Environment and Climate Change guidelines and provincial regulations.

Lands to the immediate west, and to a limited extent the immediate east, are designated Bedrock Resources. Section 4.3.7 of the Official Plan states that the incompatible development within 500 metres of Bedrock Resource Areas shall only be permitted subject to the following criteria:

1. Adjacent to areas intended or utilized for a licensed quarry operation, a hydrogeological investigation is required to demonstrate that the proposed non-extraction development can be adequately serviced by water and sewer services in a manner which will not impede continued existing and proposed extraction operations.
2. Any other investigation as required by the development approval authority such as traffic studies, noise studies, vibration studies, slope stability studies, and air quality impact studies are carried out and demonstrate that the proposed development can proceed without impeding the continued operation of the licensed extraction operation existing licensed operations and future operations on reserves. Such studies are to be carried out by qualified professionals.

Appendix 1 of the Official Plan identifies two forested areas within the expansion lands as High Potential Hazardous Fuel Types for Wildland Fire. Section 6.10 requires that development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may be permitted in lands with hazardous forest types for wildland fire where risk is mitigated in accordance with the wildland fire assessment and mitigation standards, as identified by the Ministry of Natural Resources and Forestry.

Section 7.6 requires that local Councils provide for affordable housing by enabling a full range of housing types and densities to meet projected demographic and market requirements of current and future residents of the United Counties. Policies include:

- Ensuring a minimum 10-year supply of residential land at all times.
- Making provision for alternative housing types such as garden suites and accessory dwelling units.
- Within the Urban Policy Area, encouraging cost-effective development standards and densities for new residential development to reduce the cost of housing.
- Support regional targets by developing policies which contribute to an adequate mix of housing, including tenure and type.
- Consider building small lot singles, linked bungalows, maisonettes, quad / six-plexes, and other affordable housing forms.
- Reviewing the affordable housing component in any new development where 25 or more single and / or semi-detached dwelling units or 50 or more multi-family dwelling units are proposed. The County will ensure that new subdivision development will provide a variety of housing types and densities to support the County housing targets.
- Implementing through the local municipality's Comprehensive Zoning By-law accessory apartments as a permitted as-of-right use in new and existing development areas as appropriate.
- Supporting the development, at appropriate locations, or residential facilities that meet the housing needs of persons requiring specialized care.

Section 7.6.3.2 of the Official Plan clarifies that the County encourages the permission of second residential units within all single detached, semi-detached, and townhouses dwelling units.

2.3 CLARENCE-ROCKLAND OFFICIAL PLAN (2014)

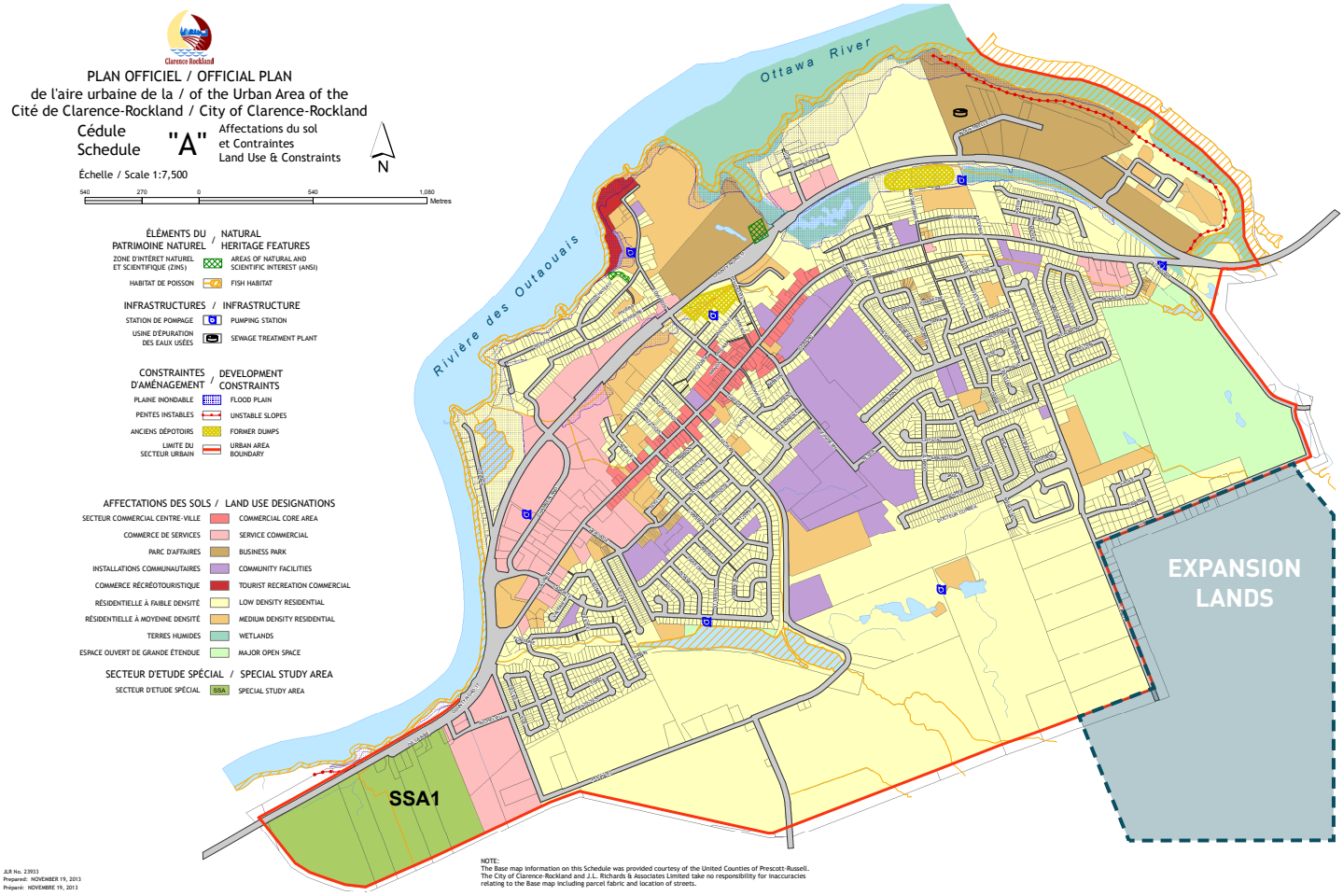
The City of Rockland Official Plan came into full force and effect on September 30, 2014, and is intended to direct the future development of the Urban Area of the City of Clarence-Rockland for a period of approximately 20 years to 2033.

The expansion lands are located outside of the urban area of Clarence-Rockland, as shown on Schedule A (Land Use).Accordingly, rural lands outside of the urban boundary are governed by the policies of the United Counties of Prescott Russell Official Plan. As the intention of the Secondary Plan is to include the lands inside the urban boundary, this section summarizes the policies for lands under urban designations.

Section 4.20 of the Official Plan contains policies pertaining to servicing requirements. It specifies that looping of the water distribution system shall be a priority of Council in order to ensure sufficient pressure and flow in all areas of Rockland.

Policy 1 of Section 4.20.3 stipulates that future development within Rockland must proceed on the basis of full municipal services. Council will only approve applications for development within Rockland when it is satisfied that there is sufficient capacity in both municipal piped systems to service the proposed development. The following additional services shall also be required as a condition to the approval of any development proposal in Rockland, unless otherwise indicated:

- Paved streets
- Storm sewers
- Street lighting
- Underground wiring (electricity, telephone, cablevision)
- Curbs
- Sidewalks (on one side of minor collector roads and on both sides of major collector roads)



Schedule A - Clarence-Rockland Official Plan

- Bicycle paths
- Natural gas
- Bus shelters
- Landscaping

Council will establish and implement the proper phasing policies in order to ensure the timely provision of infrastructure and public service facilities.
Section 4.27 notes that stormwater management plans are required for draft plan approval of subdivision and site plan approvals in the municipality to foster sustainability of urban watersheds and provide opportunities for the enhancement of watercourses.

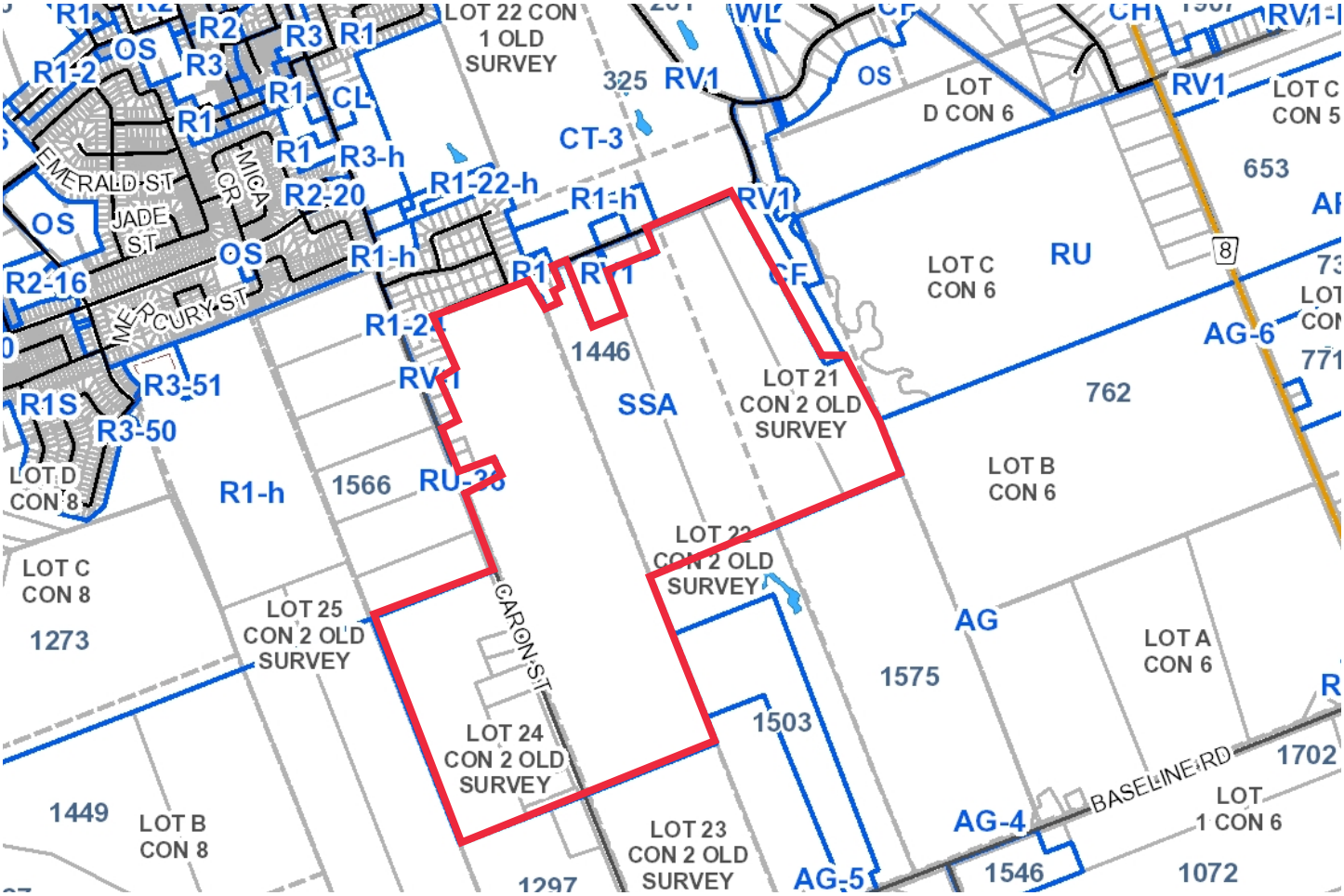
Section 5.6 contains policies for the Residential land use designations, which are anticipated to apply to the majority of the expansion lands. The designation encourages a mix of housing types and tenures, such as single ownership, cooperatives, condominiums and rental. Some complementary non-residential uses are also permitted.

The Plan states that the residential portion of Rockland is planned in neighbourhoods. In each neighbourhood, low density residential is the predominant use, but there could also be medium density residential components, local convenience commercial uses and neighbourhood parks.

The Official Plan requires a range of housing types throughout Rockland. The purpose of the policy is to avoid uniformity of housing types in new development areas. When reviewing development applications that proceed by plans of subdivision, Council shall require a variety of housing types. All major subdivisions are expected to have medium density residential units comprise at least 10 percent of the proposed units.
In order to promote energy conservation, the Plan suggests that new subdivisions should consider solar orientation of streets, lots and buildings.

The Low Density Residential land use policy designation permits single-detached dwellings, semi-detached dwellings, doubles and duplex dwellings to a maximum of 16 units per net hectare. Small-scale commercial, park, school, place of worship and / or community facilities serving a local residential area. A variety of lot sizes are encouraged.

The Medium-Density Residential designation permits multiple-unit residential uses such as townhouses and small apartment buildings no more than five storeys in height, to a maximum of 30 units per net hectare.



Clarence-Rockland Zoning By-law

Section 7.4 contains policies for Local Roads, which are proposed to measure 18 metres in width. Through traffic on local roads is discouraged.

Section 7.14 contains policies for active transportation and the pedestrian and bicycle network. The existing pedestrian and bicycle network will be maintained and expanded through the creation of additional pedestrian walkways, trials, and bikeways with adequate signage. Sidewalks are encouraged, where feasible, to create pedestrian connections between neighbourhoods and major destinations.

2.4 CLARENCE-ROCKLAND ZONING BY-LAW 2016-10

The study area is zoned Special Study Area (SSA) Zone. The intent of the zone is to preserve land for development or redevelopment in accordance with the results and recommendations of a Secondary Plan. In the interim, the use of lands within a SSA Zone should not be changed to the extent that the results of the Secondary Plan and supporting studies could be prejudiced.

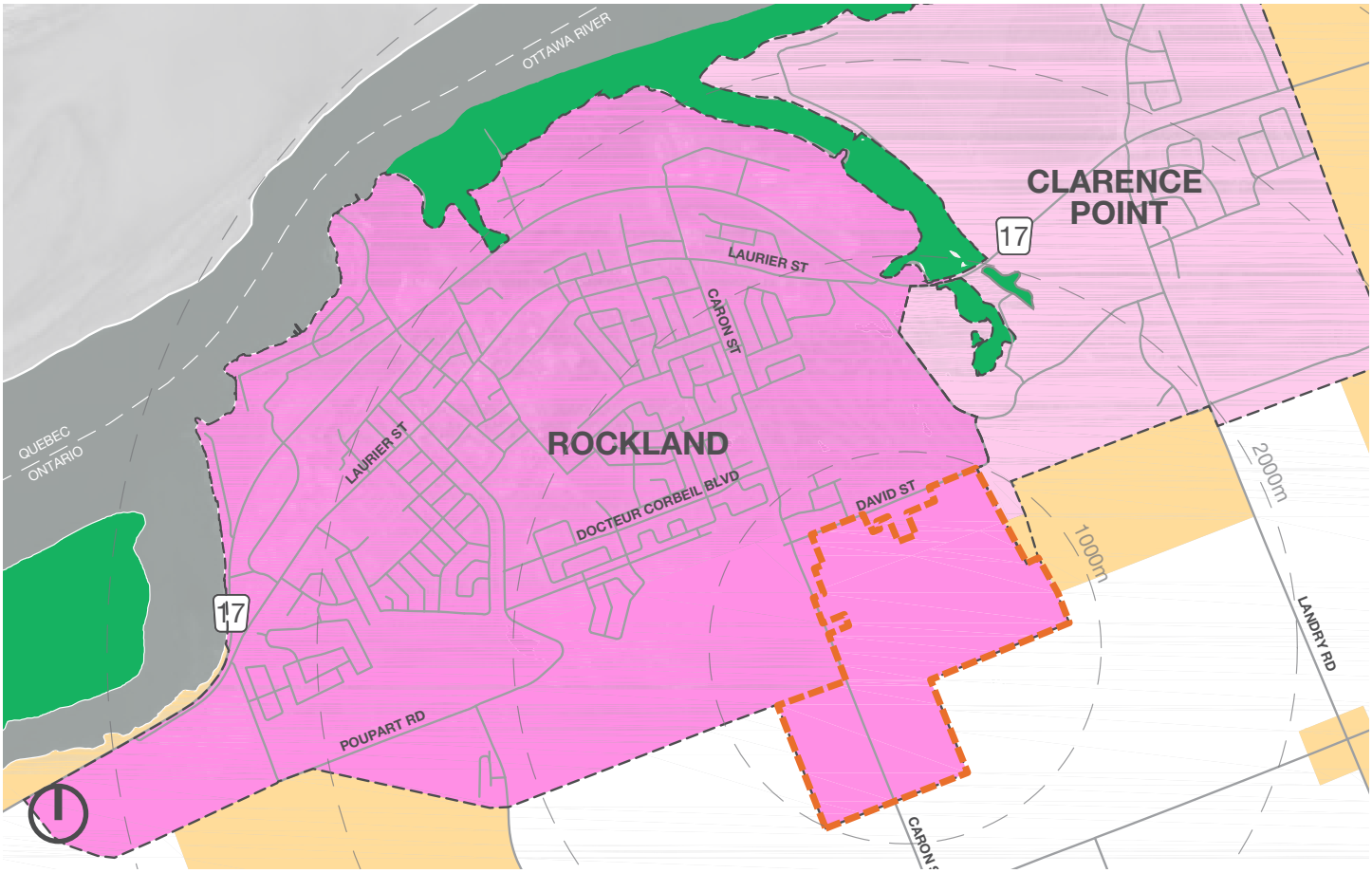
The only permitted uses in the SSA Zone are those which were in existence on the date of passing of the By-law and any other uses may be authorized by Committee of Adjustment or City Council under the provision of the Planning Act.

Adjacent zones to the expansion lands include:

- Urban Residential First Density – General (R1) Zone
- Tourist Commercial (CT) Zone
- Community Facilities (CF) Zone
- Rural (RU) Zone
- Agricultural (AG)

1143

3.0 STUDY AREA ANALYSIS



Land Use

3.1 LAND USE

The majority of the expansion lands are currently used for agricultural activities. These agricultural properties front onto David Street to the north and Caron Street to the west, and are used for the growing of crops.

The smaller properties along the north and west perimeter of the expansion lands are developed with low-density detached residential dwellings. The sizes and configurations of the lots accommodating these residential uses vary, but are generally narrow and rectangular.

Immediately adjacent to the expansion lands across David Street to the north is the Rockland East residential subdivision with approximately 50-60 residential properties. A more extensive residential subdivision is located northwest of the expansion lands on the west side of Caron Street.

North and east of the expansion lands is the Rockland Golf Club. The club features 27 holes and extends from Highway 17 in the north to east of David Street northeast of the expansion lands.

The lands west of the expansion lands are designated for low-density residential development in the Official Plan, and are anticipated to be developed in the future.

3.2 NEIGHBOURHOOD CONTEXT

The expansion lands are located adjacent to a predominantly residential area, but nearby a range of community amenities including:

- Rockland District High School
- Carrefour Jeunesse
- École secondaire catholique L'Escale
- École élémentaire catholique Sainte-Trinité
- St. Patrick Catholic School
- Simon Park

LEGEND

STUDY AREA / ZONE À L'ÉTUDE

URBAN POLICY AREA
SECTEUR DES POLITIQUES URBAINES

COMMUNITY POLICY AREA
SECTEUR DES POLITIQUES COMMUNAUTAIRES

RURAL POLICY AREA
SECTEUR DES POLITIQUES RURALES

PROVINCIALLY SIGNIFICANT WETLAND
TERRE HUMIDE D'IMPORTANCE PROVINCIALE

AGRICULTURAL RESOURCE POLICY AREA
SECTEUR DES POLITIQUES DES RESOURCES AGRICOLES

Nearby Amenities

- Club de Golf Rockland
- Clarence-Rockland YMCA-YWCA
- Jean-Marc Lalonde Arena
- Commercial shopping areas

3.3 TRANSPORTATION

CIMA+ has prepared a Transportation Memo summarizing existing conditions for the expansion lands. The Memo summarizes existing infrastructure for pedestrian, cycling, and vehicular transportation in the community.

The expansion lands are bordered by David Street to the north and Caron Street to the west. David Street is a two-lane road running east from Caron Street and terminating at Tucker Road/Montée Outaouais. Caron Street is a two-lane north-south road connecting to Highway 17 in the north and to Baseline Road in the south. Caron Street has an urban cross-section north of the Expansion Lands before transitioning to a rural cross-section at David Street.

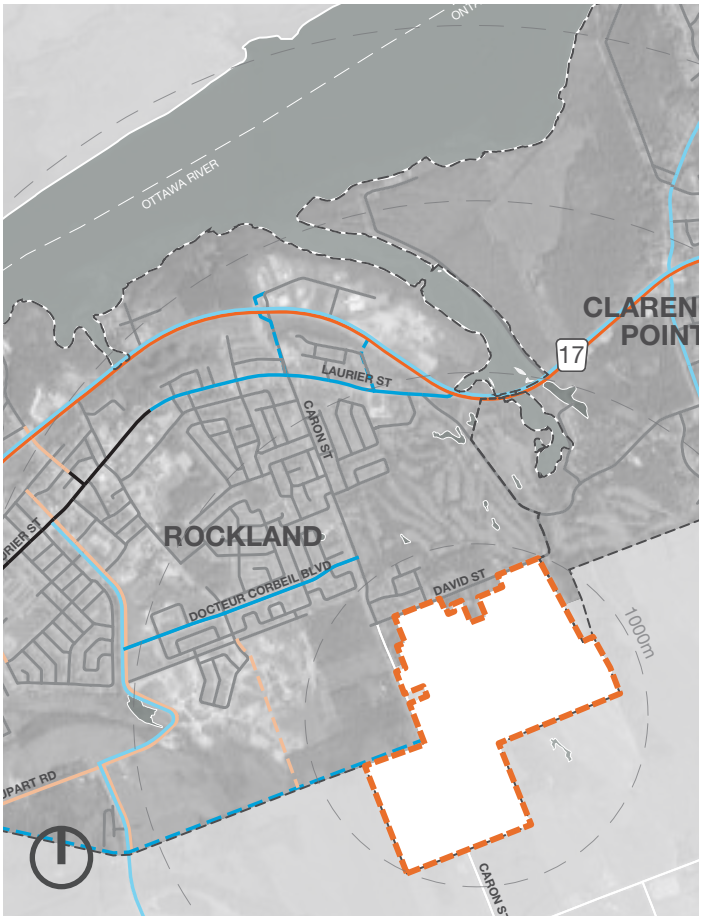
Highway 17 is a County road that provides a major transportation link to both Ottawa and Montreal, as well as other areas of the United Counties of Prescott and Russell. The highway is a two-lane east-west arterial oad however an Environmental Assessment completed in 2016 recommended the widening of this roadway from Highway 417 in the City of Ottawa in the west, to Landry Road, east of Rockland in the east.

Baseline Road, located south of the expansion lands, is a two-lane collector with a rural cross section.

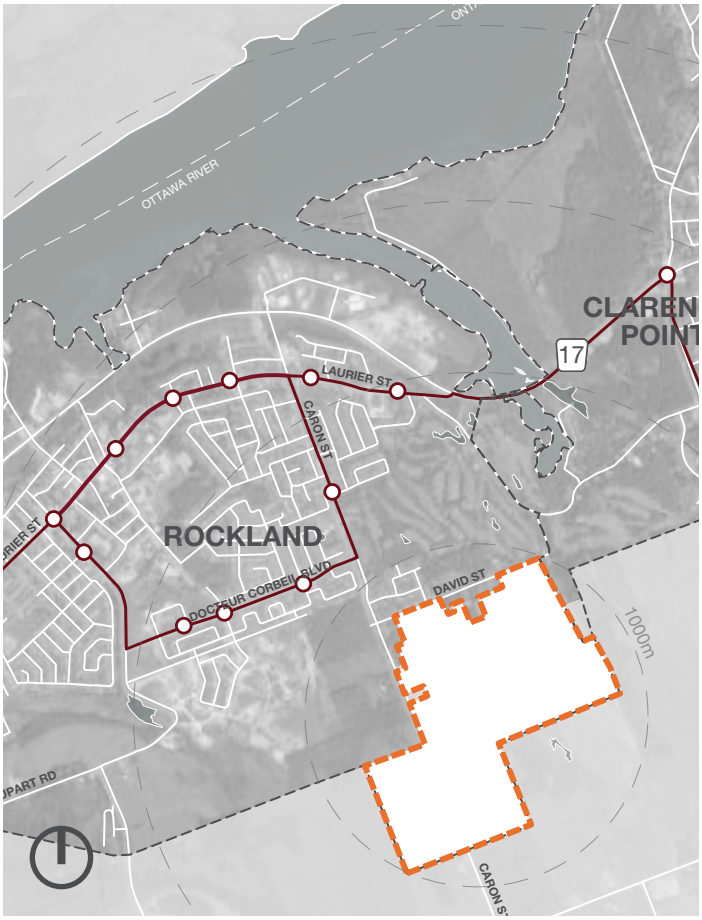
Some local roads within the city are identified as potential candidates for widening in the Official Plan. For example, a right-of-way widening is contemplated for David Street.

LEGEND

- SITE
- RECREATIONAL SPACE
- EDUCATION
- MEDICAL
- INSTITUTION
- SPIRITUAL
- COMMUNITY
- HOSPITALITY
- COMMERCIAL
- MUSEUM/GALLERY
- GOLF COURSE



Street Hierarchy



Existing Commuter Transit Service

As established in the Official Plan, the incorporation of dedicated pedestrian facilities may be considered at the time of road reconstruction.

While capacity varies with time of day, the majority of intersections in the vicinity of the expansion lands have a Level of Service (LOS) of A or B, signifying “Very Good” or “Good.”

Limited public transportation is available in Clarence-Rockland, but is not currently provided in the vicinity of the expansion lands. The bus service links Clarence-Rockland with Ottawa and Gatineau.

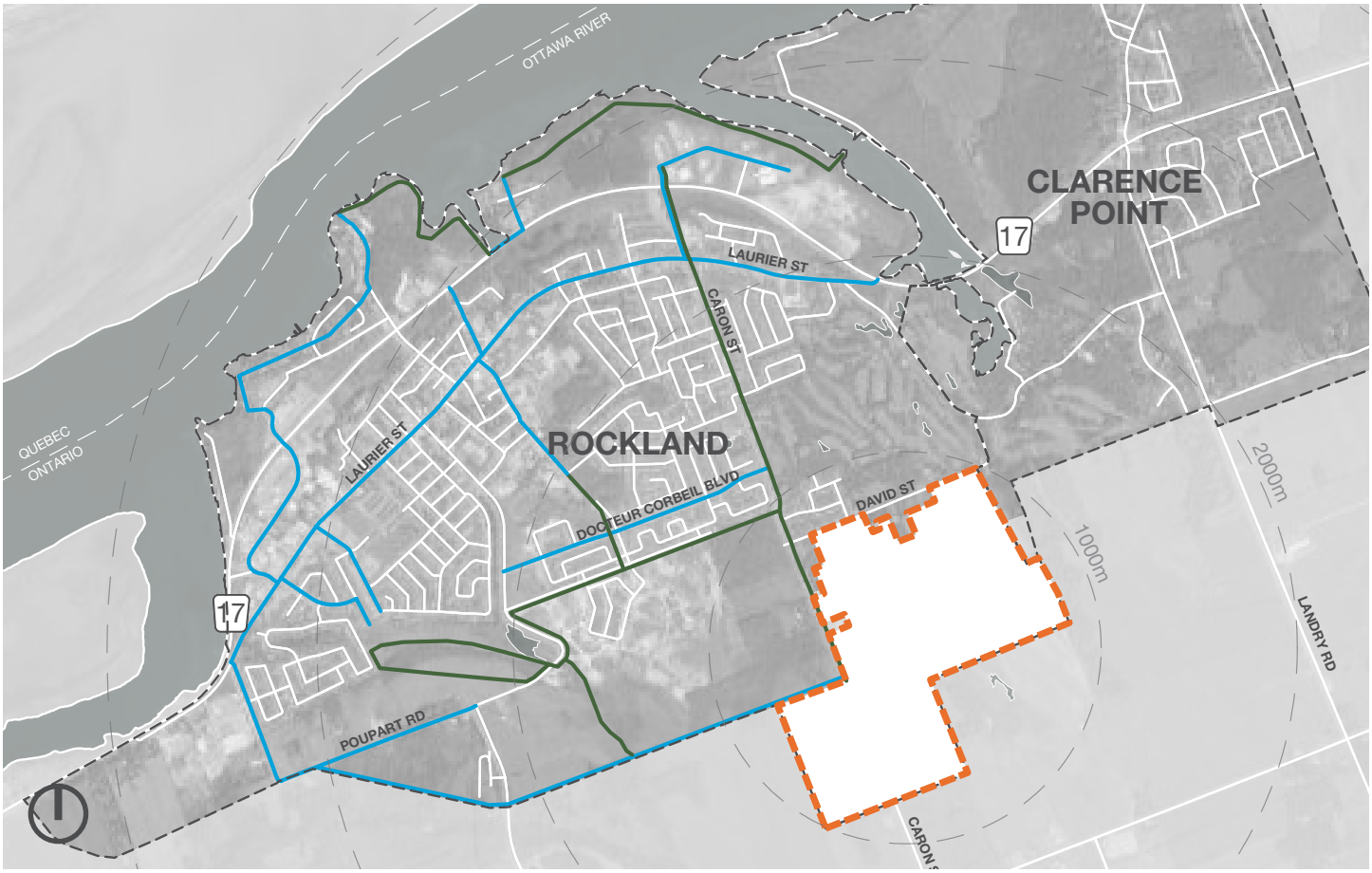
Pedestrian facilities are generally not provided along local streets or roads with rural cross-sections. However, crosswalks are provided at major intersections such as Caron Street at Highway 17, and Caron Street at Laurier Street. Along major arterials, pedestrians and cyclists will be accommodated by multi-use pathways, paved shoulders and service roads along the corridors. Some local streets have midblock crossings and / or pedestrian refuge boulevards.

A paved asphalt path is provided along the east side of Caron Street, extending from Highway 17 in the north to David Street in the south. The City has designated this path as a multi-use pathway, and bicycle symbols are indicated on the pavement. An east-west bicycle corridor is located along Docteur Corbeil Boulevard north of the expansion lands. “Sharrow” markings are indicated on the pavement where on-street parking is provided.

The City of Clarence-Rockland is currently undertaking a Transportation Master Plan (TMP) and Active Transportation Plan (ATP) to meet the anticipated growth and demand of the transportation network by all road users, including vehicles, cyclists and pedestrians. Both plans will inform the update to the Strategic Transportation Plan for the Urban Area.

LEGEND

- SITE
- COUNTY ROAD
- URBAN ROAD
- MAIN STREET
- ARTERIAL
- MAJOR COLLECTOR
- COLLECTOR
- MAJOR COLLECTOR PROPOSED
- COLLECTOR PROPOSED
- TRANSIT STOPS
- CR TRANSPO - ROUTE #530



Pedestrian and Cyclist Connections

3.4 SERVICING AND INFRASTRUCTURE

CIMA+ has prepared an Existing Conditions Analysis for civil servicing for the expansion lands examining water, sanitary sewer, and stormwater management for the expansion lands.

The analysis notes that the capacity of the water treatment plant exceeds current normal usage. Initial information suggests that an additional 4,676.6 cubic metres per day of treated water can be produced by the water treatment plant in support of the expansion area.

It is anticipated that the expansion lands can be serviced by the Caron Street Booster Station and the Bouvier Water Tower according to the Serviceability Study for Morris Village Stage 5 (October 2017). While initial information confirms that the Caron Street Booster Station currently has excess capacity of 3,975 cubic metres per day, further information for existing boundary conditions and the dedicated watermain booster line to the Bouvier Water Tower is required for additional analysis. Capacity for fire flow has not yet been determined.

Sanitary flows from development on the expansion lands will be directed to the wastewater treatment plant for the Clarence-Rockland serviced area. As the existing plant does not allow for adequate retention time for chlorination during peak flow periods, the City will be undertaking appropriate upgrades to the headworks and equalization tank infrastructure.

A total of seven pump stations serve the sanitary system, with an eighth currently being designed. Improvements to Pumping Station No. 1, the largest in the city, are also proposed, which are anticipated to create sufficient capacity to allow for development on the expansion lands. Capacity in the surrounding sanitary system, including along Caron Street, has yet to be confirmed.

A portion of the expansion lands fall within the catchment area of the catch basin and storm sewer system on Caron Street. The balance of the expansion lands drain to Clarence Creek or Lafontaine Creek along the path of least resistance. A dual drainage system will be implemented in the expansion lands, with a minor piped

LEGEND

SITE

MULTI-USE PATH (OFF-STREET)

MULTI-USE PATH (SIDEWALK)

BIKE LANE

Natural Features

system and a major overland flow system. Further analysis and detailed design details will become available as the project progresses.

3.5 ENVIRONMENTAL FEATURES

CIMA+ has prepared an Existing Conditions Analysis for environmental features on the expansion lands. The purpose of the study is to identify the site's general ecological features and constraints and to assist in future analyses of development options.

The study was performed using various public sources as part of a desktop study, as well as direct correspondence with Staff from the Natural Heritage Information Centre (NHIC). Additional requests for information have been submitted to the South Nation Conservation Authority (SNCA) and the Ministry of Natural Resources and Forestry (MNRF). Field investigations by trained environmental technicians and biologists will be undertaken at a time of year appropriate for proper identification of flora and fauna.

The expansion lands are underlain by a combination of till, fine-textured glaciomarine, organic and alluvial deposits, as well as overlaying Paleozoic bedrock. Typical soils in these units are comprised of clay, sand, and silt.

Clarence Creek, a tributary to the Ottawa River, flows north along the eastern edge of the site. Several wetlands are located on and adjacent to the expansion lands, including Clarence Creek Swamp, South Rockland Swamp, Estates Swamp, and Rockland Marsh. Rockland Marsh is a provincially significant wetland land, as evaluated in 1999. There are no Areas of Natural and Scientific Interest (ANSI) within, or in proximity to, the expansion lands.

There is the potential for Species at Risk (SAR) to be present on the expansion lands, to be confirmed during field investigations.

Environmental features will be examined in greater detail as the project progresses.

LEGEND

- SITE
- WETLAND
- WOODLAND
- FISH HABITAT

3.6 MARKET OVERVIEW

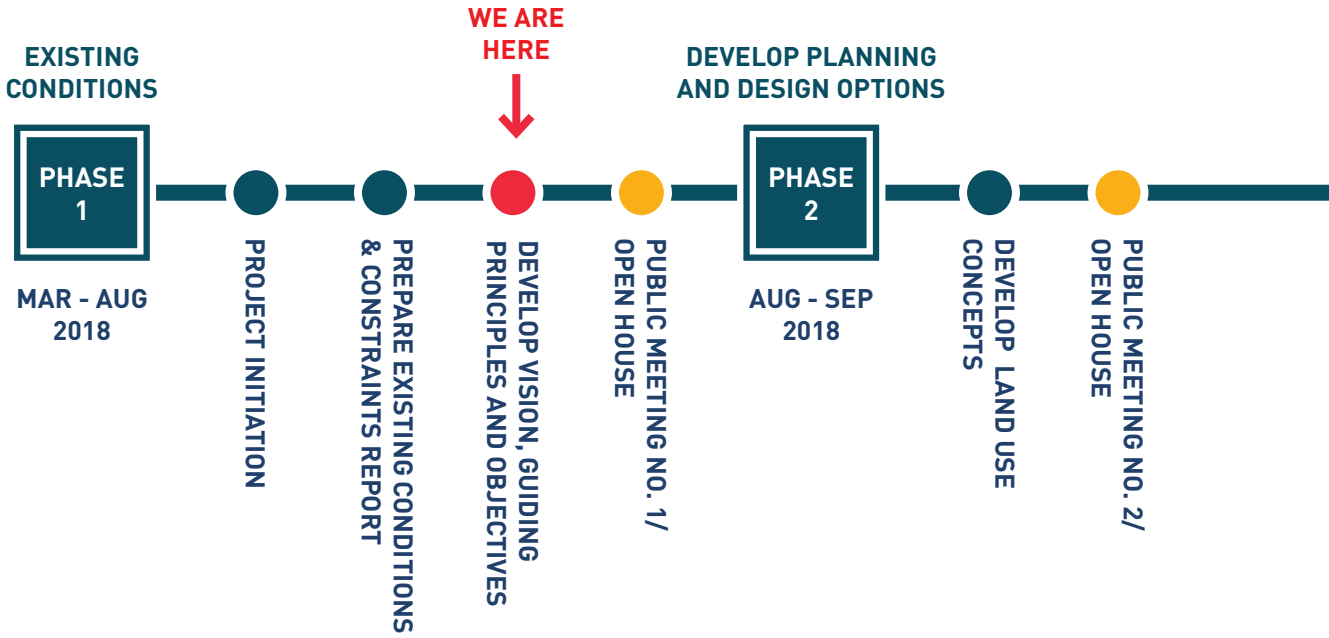
Shore Tanner & Associates ("Shore Tanner") has prepared a Retail Market Demand Study for Clarence-Rockland to determine the scope of market demand for retail, service, and small office businesses within the expansion lands area.

Based on knowledge of the area, Shore Tanner defines the City of Clarence-Rockland as the Primary Trade Area, which typically accounts for 50% of total sales. The United Counties of Prescott and Russell would be considered a Secondary Trade Area, accounting for the balance of sales in a given business.

The study outlines current trends in retail markets, including shopping patterns and store types. It notes that contemplation of retail uses in the expansion lands must consider critical trends, such as: targeted use of social media, online services, a better understanding of the retail market trends, more awareness of competition from shopping centres and districts, and better recognition of the needs, preferences, and desires of the Trade Area residents.

The study suggests that the most market-viable types of office businesses in the expansion lands would be those that serve the residents of the broader area. While government, corporate, or any specialty-type office developments are possible, they are not a reliable market segment for office tenants.

4.0 SUMMARY OF CONSIDERATIONS



The above analysis of existing conditions provides an important baseline for the preparation of the Secondary Plan for the expansion lands. Specific items for consideration going forward include:

- Area land uses;
- UCPR Official Plan target for 70% low-density, 20% medium-density and 10% high-density residential development in the Urban Policy Area designation;
- Rockland Official Plan target of 10% medium density residential within new subdivisions;
- Rockland Official Plan defines low density as up to 16 units per net hectare, and medium density as up to 30 units per net hectare;
- Upgrades potentially required to the potable water service network to support development on the expansion lands;
- Timing of upgrades to the existing wastewater treatment plant;
- Capacity related to the sanitary transmission lines to service the expansion lands development area
- Future widening/modification of Highway 17;
- Limited pedestrian and cycling network connections to the existing urban area and major destinations;
- Potential widening of Caron Street and David Street;
- Adjacency of Clarence Creek and other water courses;
- Potential for species at risk habitat on-site;
- Existing wooded areas; and,
- Anticipated market community-serving retail uses.

These items will remain critical matters for consideration during the development of the Secondary Plan and the preferred land use concept.

PREPARATION OF SECONDARY PLAN
PHASE 3
OCT - NOV 2018
PREFERRED CONCEPT PLAN AND DETAILED DESIGN GUIDELINES
DRAFT SECONDARY PLAN
PREPARE SUPPORTING SERVICING, TRANSPORTATION, AND ENVIRONMENTAL MANAGEMENT PLANS
INITIATE OFFICIAL PLAN AMENDMENT PROCESS
PUBLIC MEETING NO. 3/ OPEN HOUSE
IMPLEMENTATION
PHASE 4
DEC 2018 - JAN 2019
STATUTORY PUBLIC MEETING NO. 4
ADOPTION OF EXPANSION LANDS SECONDARY PLAN AMENDMENT

APPENDIX A: TRANSPORTATION ANALYSIS

Partners in excellence

AON BESTEMPLOYER PLATINUM | CANADA | 2018

MEMO

TO: City of Clarence-Rockland

CC: Paul Black, MCIP RPP - FOTENN

FROM: Matthew Radaelli, Dipl.T. - CIMA+

REVIEWED BY: Gordon Scobie, P.Eng. - CIMA+

DATE: 13 July 2018

SUBJECT: **Expansion Lands Existing Conditions Analysis - Transportation**

1 Background

The purpose of this report is to assess the existing network capacities for vehicles, cyclists, and pedestrians and to highlight the existing transportation and traffic related conditions in the surrounding area of the subject Expansion Lands within the City of Clarence-Rockland.

It is understood that the City is also concurrently undertaking a Transportation Master Plan (TMP), as well as an Activate Transportation Plan (ATP) in order to meet the anticipated growth and demand of the transportation network by all road users, including vehicles, cyclists and pedestrians in the near future. Both plans will serve as an update to the Strategic Transportation Plan for the Urban Area of the City of Clarence-Rockland, which was completed in 2005.

1.1 Study Area

The City of Clarence-Rockland is located within the United Counties of Prescott and Russell, and is situated along Highway 17 (HWY 17), approximately 40 km east of the City of Ottawa's downtown. The Ottawa River is located immediately north while the United Counties of Stormont, Dundas, and Glengarry are located further south. An interprovincial connection between Ontario and Quebec is provided via a seasonal ferry (does not operate during winter months), which provides a link between Thurso, Quebec and Clarence-Rockland. Alternative interprovincial connections are provided via a bridge connection in the east (linking Hawkesbury, Ontario and Grenville, Quebec) or a four season ferry in the west (linking Cumberland, Ontario and Masson-Angers, Quebec), which operates 24 hours a day, 7 days a week.

The location of the Secondary Plan Expansion Lands, in relation to the greater City of Clarence-Rockland is illustrated in **Figure 1**.

Figure 1: Study Area

As depicted in **Figure 1**, the subject expansion lands include area south of David Street and west of Clarence Creek. It is situated mostly to the east of Caron Street, with the exception of an area of approximately 23 hectares on the west side of Caron Street in the southwest of the study area. The Rockland Golf Club and the residential neighbourhood of Rockland East are located to the north of the study area. A future residential neighbourhood is projected to be developed in the lands located west of the study area, as the lands are designated for low density residential develop as per the Clarence-Rockland Official Plan (OP).

The foregoing further describes the existing transportation network within the City of Clarence-Rockland.

2 Existing Transportation Network

2.1 Study Area Road Network

The roads within the greater study area are under a combination of jurisdictions, including the Counties of Prescott and Russell, and the City of Clarence-Rockland. The following is a summary of the roads within the greater study area of the proposed Secondary Plan boundaries, and the role these roadways play in the greater road network.

HWY 17: is a 2-lane east-west arterial road with a posted speed limit of 70 km/h designated under the Counties of Prescott and Russell's jurisdiction that is continuous between the County limits. HWY17 provides a major transportation link between the Ottawa region and the Greater Montreal area community, as well as providing direct access within the Counties of Prescott and Russell.

Caron Street: is a 2-lane north-south major collector road. A posted speed limit of 50 km/h is present from the north extension of the road at its intersection with HWY 17 to 500 metres south of David Street. South of David Street, Caron Street extends to Baseline Road with a posted speed limit of 80 km/h. A centre two-way-left-turn lane is currently provided along Caron Street between HWY 17 and David Street, which provides refuge for left-turn movements to/from a number of local roads and adjacent land uses.

Docteur Corbeil Boulevard: is a 2-lane east-west major collector road with a posted speed limit of 50 km/h. In the west, Docteur Corbeil Boulevard extends from St. Jean Street (as a 'T' intersection) and terminates at Caron Street in the east (as a 'T' intersection).

Laurier Street: is a 2-lane east-west major collector road with a posted speed limit of 50 km/h. In the west, Laurier Street extends from Popuart Road to HWY 17 in the east (as an unsignalized 'T' intersection). On-street parking is provided on both the north and south sides of Laurier Street where residential housing is provided.

David Street: is a 2-lane east-west local street with a posted speed limit of 50 km. In the west, David Street extends from Caron Street (as a 'T' intersection) to Tucker Road/Montée Outaouais in the east (as a 'T' intersection). David Street primarily serves a small residential and agricultural land uses.

Baseline Road: is a 2-lane local collector with a posted speed limit of 80 km/h and a rural cross section. In the west, Baseline Road extends from Canaan Road to Division Road in the east.

2.2 Study Area Intersections

Caron Street at HWY 17 is a four legged signalized intersection. Auxiliary left-turn lanes are provided in all directions, and auxiliary right-turn lanes are provided in the eastbound and westbound directions. A single lane is provided for through movements in all directions, with northbound and southbound through movements shared with right-turns.

Crosswalks with pedestrian actuated signals are provided for all crossing directions.

Caron Street at Laurier Street is a slightly skewed, four legged signalized intersection. Auxiliary left-turn lanes are provided in all directions. A single shared through/right-turn lane is provided in all directions

Crosswalks with pedestrian actuated signals are provided for all crossing directions.

Caron Street at Hélène Street is a three legged sidestreet stop-controlled intersection. An auxiliary northbound left turn lane is provided as an extension of the continuous left-turn lane along Caron Street.

No pedestrian crosswalks are provided at the intersection. This intersection is similar to most local residential roads intersecting with Caron Street within the study area.

Caron Street at Docteur Corbeil Boulevard is a three legged side street stop-controlled intersection. A continuous centre left-turn lane is provided through the intersection along Caron Street.

A pedestrian crossing is provided on the west side of the intersection. Bicycle lanes are provided along Docteur Corbeil Boulevard.

Caron Street at David Street is a three legged all-way stop controlled intersection. An auxiliary southbound left-turn lane is provided as an extension of the continuous left-turn lane along Caron Street.

No Pedestrian crosswalks are provided at the intersection.

Caron Street at Baseline Road is a three legged side street stop controlled intersection, with southbound vehicles along Caron Street required to stop. No auxiliary lanes are provided at the intersection.

No pedestrian crosswalks are provided at the intersection.

2.3 Planned Network Modifications

An Environmental Study Report was prepared by AECOM in June of 2016 for the proposed widening of HWY 17[1]. Within the City of Clarence-Rockland, the proposed improvements included widening the existing HWY 17 as well as potentially widening/improving Baseline Road outside of the City Urban Boundary.

The recommended plan is to widen the highway from one lane in each direction to two lanes in both directions from east of the Trim Road interchange in the City of Ottawa, for a distance of approximately 21.5 km to Landry Road in the City of Clarence-Rockland. The speed limit within the segment would vary between 60 – 80 km/h. A conceptual design of the cross-section within the urban area of the City is illustrated in **Figure 2**.

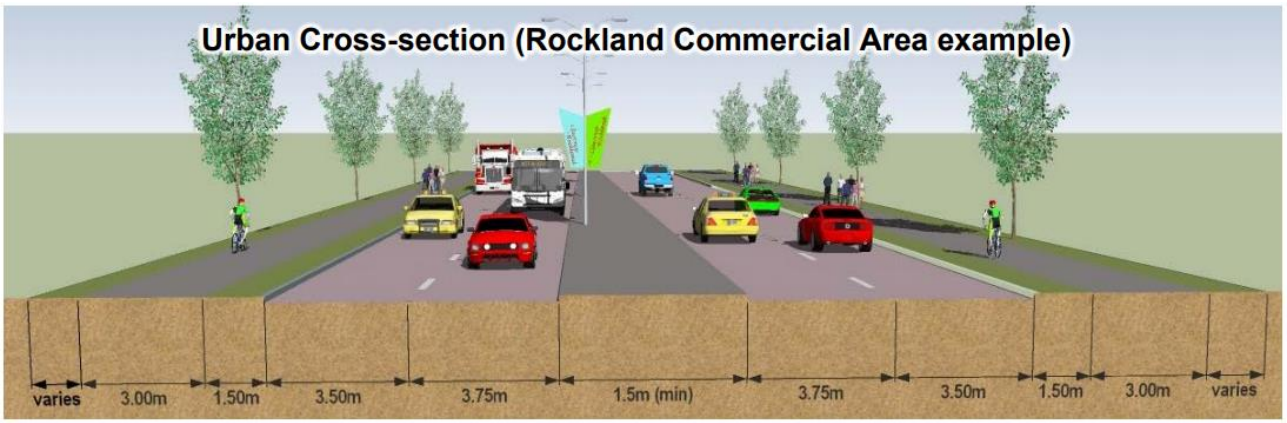


Figure 2: Conceptual Urban Cross-Section within the City of Clarence-Rockland

Pedestrians and cyclists will be accommodated by multi-use pathways, paved shoulders and service roads along the corridor. Pedestrian crossing treatments are proposed to be used within the commercial zone in the City.

2.4 Existing Active Transportation

Active transportation facilities were reviewed to gain an understanding of existing pedestrian and cycling facilities within the greater City area. The City acknowledges that protecting and expanding the existing pedestrian and bicycle network in the City is essential to creating quality of place. Existing policies within the City's Official Plan are anticipated to be expanded with the future TMP and ATP currently being updated.

Pedestrian Facilities

A sidewalk, approximately 2.2 m in width is provided along the west side of Caron Street, while a paved asphalt path approximately 3.0 m in width along the east side of this roadway, both extending from HWY 17 in the north and terminating at David Street in the south. The asphalt path is recognized as an 'off-street multi-use path' according to the Clarence-Rockland Official Plan; however, there is no signage is present along the asphalt path (based on Google Streetview imagery) to indicate its use as a 'multi-use' path which is typically associated with wide paved asphalt pathways.

[1] Environmental Study Report Ottawa Road 174 / County Road 17 Environmental Assessment Study, AECOM, June 2016

Two (2) midblock crossing treatments are present along Caron Street connecting to local trails, as illustrated in **Figure 3**. Midblock crossing treatments have 'zebra' type pavement markings, side-mounted pedestrian crossover signs (Ra-5LR) on both sides of the road facing both directions, and pedestrian refuge islands. These midblock crossing treatments offer the only opportunity for pedestrians to cross Caron Street, with the exception of the east-west crosswalk provided at the signalized HWY 17/Caron and Laurier/Caron intersections.

Figure 3: Midblock Pedestrian Crossing (Caron Street north of Hélène Street)

Sidewalks are primarily located along collector roadways within the City, such as Laurier Street, St. Joseph Street, St. Jean Street, Heritage Drive, etc. Most local residential streets within the City do not have pedestrian facilities. An example of absent sidewalks along local roadways is depicted in **Figure 4**.

Some local roads within the City are identified as potential candidates for road widening as per the Official Plan (e.g. David Road is a candidate for widening). As defined in the City's Official Plan[2], the addition of dedicated pedestrian facilitates should be considered at the time when road reconstruction projects are being undertaken within the City's urban area.

[2] Official Plan of the Urban Area of the City of Calrence-Rockland, Section 7.11 Pedestrian Policies

Figure 4: Absence of sidewalks north of David Rd

Cycling Facilities

As mentioned previously, a paved asphalt path is provided along the east side of Caron Street, extending from HWY 17 in the north and terminating at David Street in the south. The City has designated this path as a 'multi-use' facility; however, the elements attributed to it are more recognizable with a dedicated cycling facility, such as a two-way cycle-track. The width of the asphalt path is approximately 3.0 metres, with a solid yellow centre-line running down the centre. Bicycle lane pavement markings are provided in both directions, as illustrated in **Figure 5**.

Figure 5: Paved Asphalt Pavement Markings – Caron Street South of HWY 17

Cyclist crossing facilities are also provided in multiple locations along Caron Street. Crossing facilities have custom double-sided bicycle crossing signage present on both sides of the road to alert oncoming vehicles. Dashed pavement markings as well as directional arrows are present, which provide positive guidance for crossing cyclists, as illustrated in **Figure 6**.

Figure 6: Cyclist Crossing Facilities – Caron Street

Bicycle lanes are provided in the east and westbound directions along Docteur Corbeil Boulevard. As depicted in **Figure 7**, bicycle lanes are shown to terminate when on-street parking is provided for the adjacent residential units, and 'Sharrow' pavement markings are provided within the centre of the travel lane to guide cyclists as to where they should ride within a travel lane, shared by both motorists and cyclists.

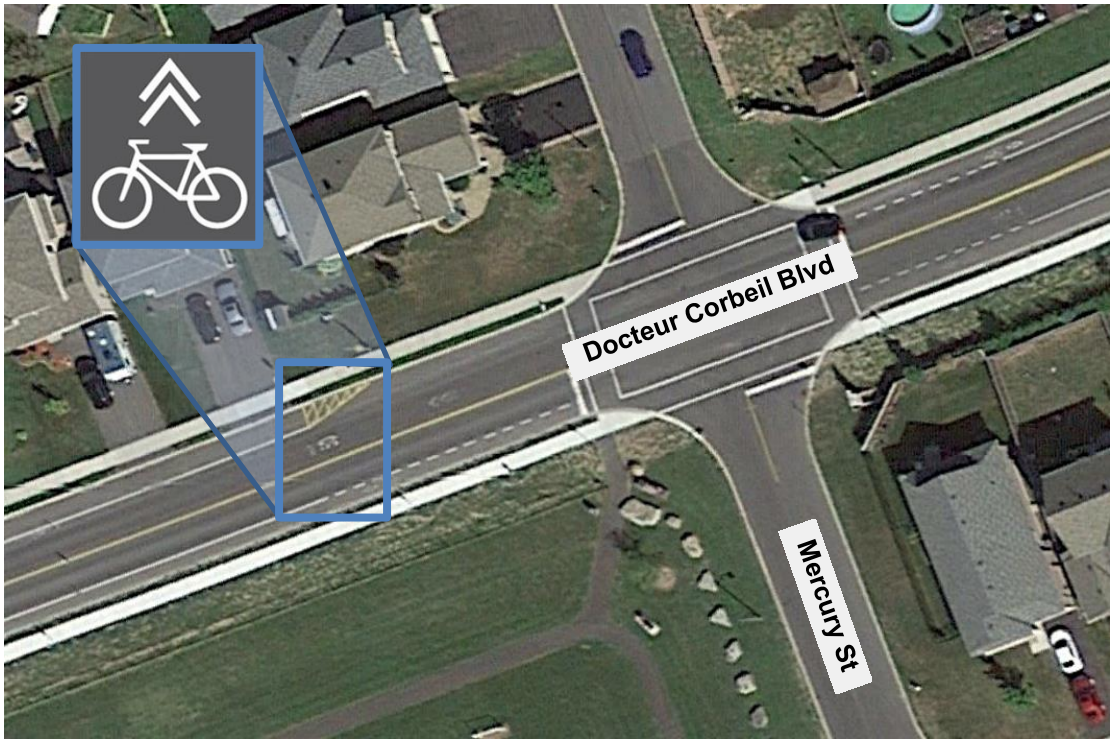


Figure 7: Bicycle Lane & 'Sharrow' Cyclist Pavement Markings (Docteur Corbeil Blvd 350m west of Caron St)

2.5 Existing Transit

Clarence-Rockland Transpo (CRT) operates three bus routes (No. 530, 530A and 535), which connect the City of Clarence-Rockland and downtown Ottawa, with some services continuing on to Gatineau (Hull). Route 530 directly serves the study area, while route 535 provides service to/from Bourget along Russell Road and Highway 417.

Within the City of Clarence-Rockland, route 530 and 530A are understood to be a commuter-oriented express service operating inbound to Ottawa in the morning and outbound to Clarence-Rockland in the afternoon. In 2012, 11 daily trips were provided on Route 530, with an average daily ridership of 355 people using the service (per direction). Within Clarence-Rockland, this route is understood to travel on Laurier Street and Docteur Corbeil Boulevard (to/from Clarence Creek). Both routes and their respective bus stop locations are illustrated in **Figure 8** and **Figure 9**.

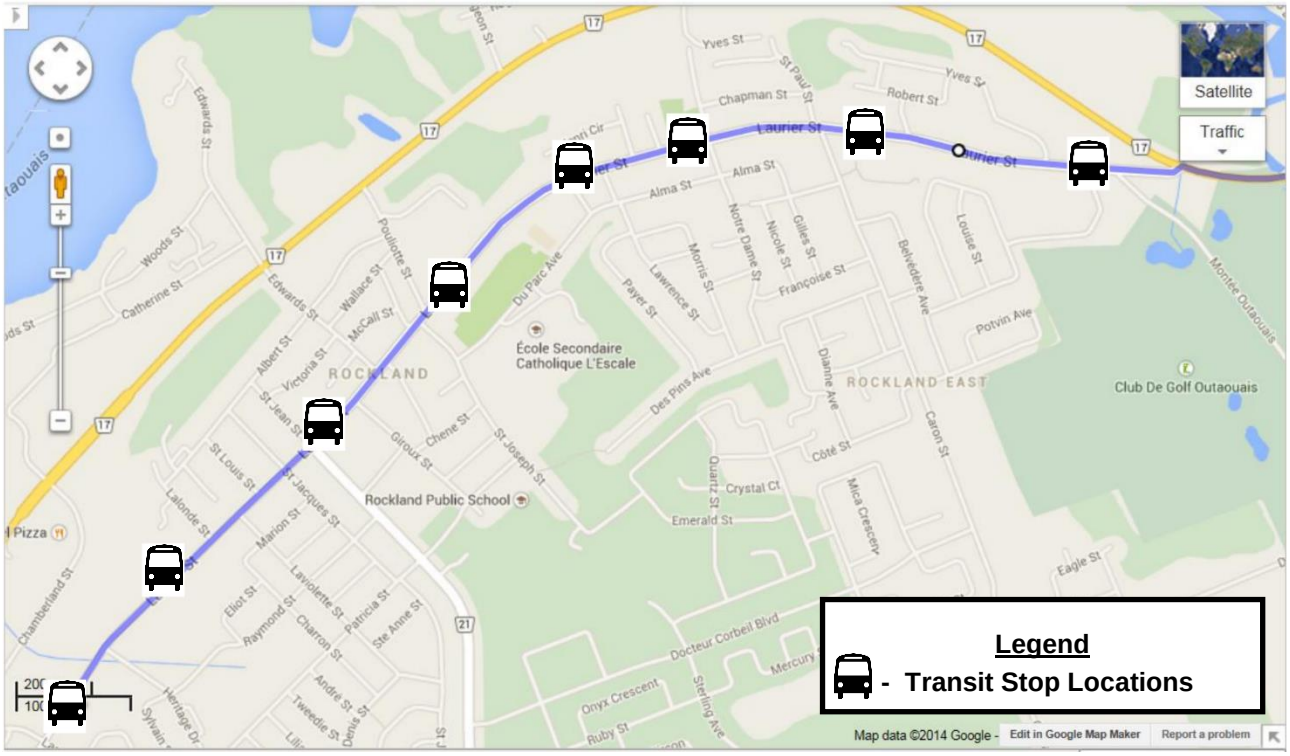


Figure 8: CRT Route 530

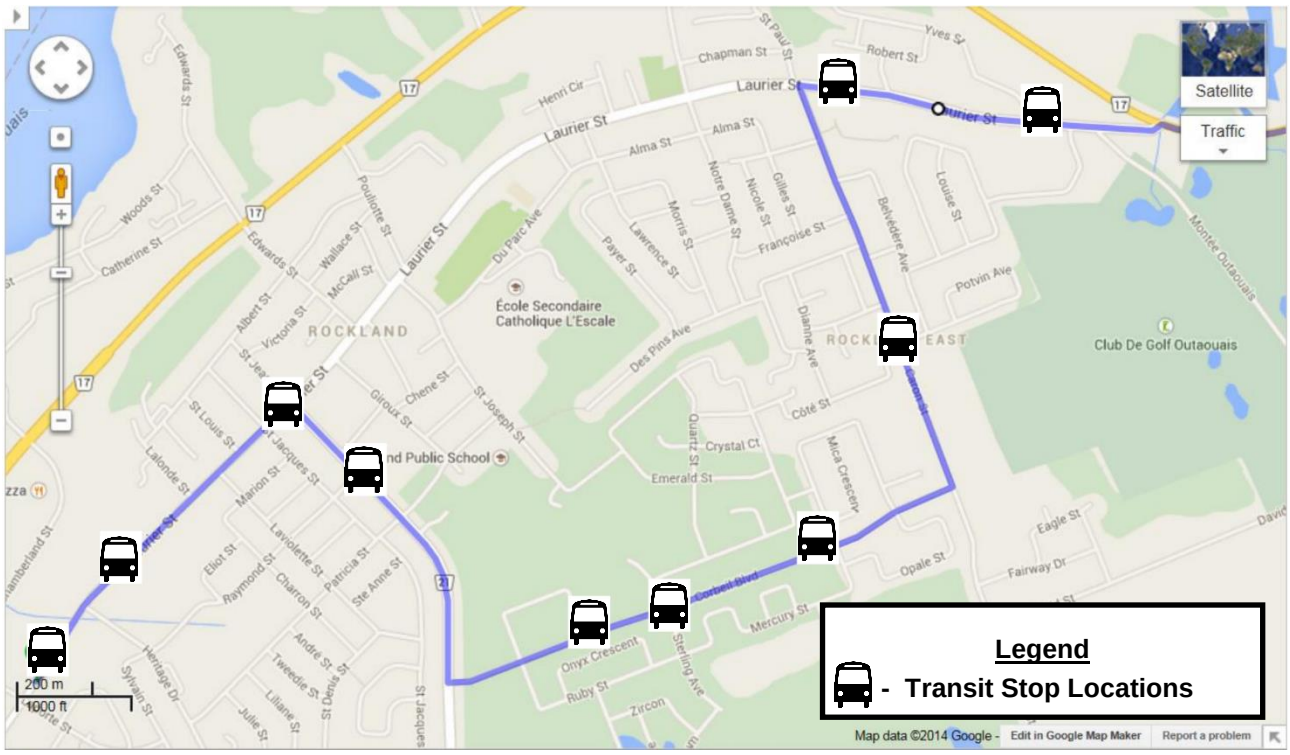


Figure 9: CRT Route 530A

3 Existing Network Operations

3.1 Methodology

Intersection capacity analysis was undertaken using procedures described in the Highway Capacity Manual (HCM). The analysis primarily focuses on performance measures such as level-of-service (LOS), volume to capacity (v/c) ratio, and 95th percentile queues. Additionally, delays reported with HCM methodology were compared to delays reported in SimTraffic simulation in certain cases where simulated results vary from reported results. LOS is a qualitative measure of operational performance and is based on control delay. The LOS criteria for signalized and unsignalized intersections are shown in **Table 1**.

Table 1: LOS Criteria for Signalized and Unsignalized Intersections

LOS	Control Delay (seconds/vehicle)		Traffic Flow Characteristics
	Signalized Intersections	Unsignalized Intersections	
A	0 – 10	0 – 10	Very Good
B	> 10 – 20	> 10 – 15	Good
C	> 20 – 35	> 15 – 25	Typically preferred planning objective
D	> 35 – 55	> 25 – 35	Typically acceptable
E	> 55 – 80	> 35 – 50	Undesirable; potentially unstable traffic flow
F	> 80	> 50	Failing movements may impede traffic flow

The v/c ratio is the ratio between traffic volume and the theoretical capacity of an intersection or movement. A v/c ratio greater than 1.0 indicates that an intersection or movement is operating over capacity. A 95th percentile queue is a queue length that has a 5% probability of being exceeded during the analysis period (i.e. during peak hours). It is common industry practice to use 95th percentile queues for design purposes. Additionally, the review of intersection operations follow industry best practices which indicate that the analysis should identify intersections where:

- v/c ratios for overall intersection operations, through movements or shared through/turning movements are 0.90 or above;
- v/c ratios for exclusive movements are above 1.00; and
- 95th percentile queue lengths for individual movements exceed available lane storage.

The operational performance of signalized and stop-controlled intersections within the study area were reviewed using Synchro/SimTraffic 9 software.

3.2 Traffic Analysis

Turning movement counts (TMCs) were collected during the week of April 5th to April 12th 2018 during both AM and PM peak periods. Some TMCs at unsignalized intersections were estimated based on counts at similar locations throughout the study area. Link volume between intersections was balanced appropriately in the north-south direction along Caron Street, to minimize volume discrepancies between counts conducted on different days. Turning movement counts are illustrated in **Figure 10** and full turning movement counts are provided in **Appendix A**.

Intersection operational analysis was undertaken for the two (2) signalized and seven (7) unsignalized intersections within the study area using Synchro/SimTraffic 9 software to assess existing conditions. A signal timing plan was provided by the City of Clarence-Rockland for the intersection of Caron Street & HWY 17 and used in the existing conditions Synchro model. The signal timing at the intersection of Caron Street & Laurier Street was not provided and was measured in the field on April 10, 2018. The measured signal timing was compared with OTM Book 12 Signal Timing guidelines based on the roadway conditions and modified accordingly. The existing conditions analysis is summarized in **Table 2** and the detailed Synchro/SimTraffic output results are provided in **Appendix B**.

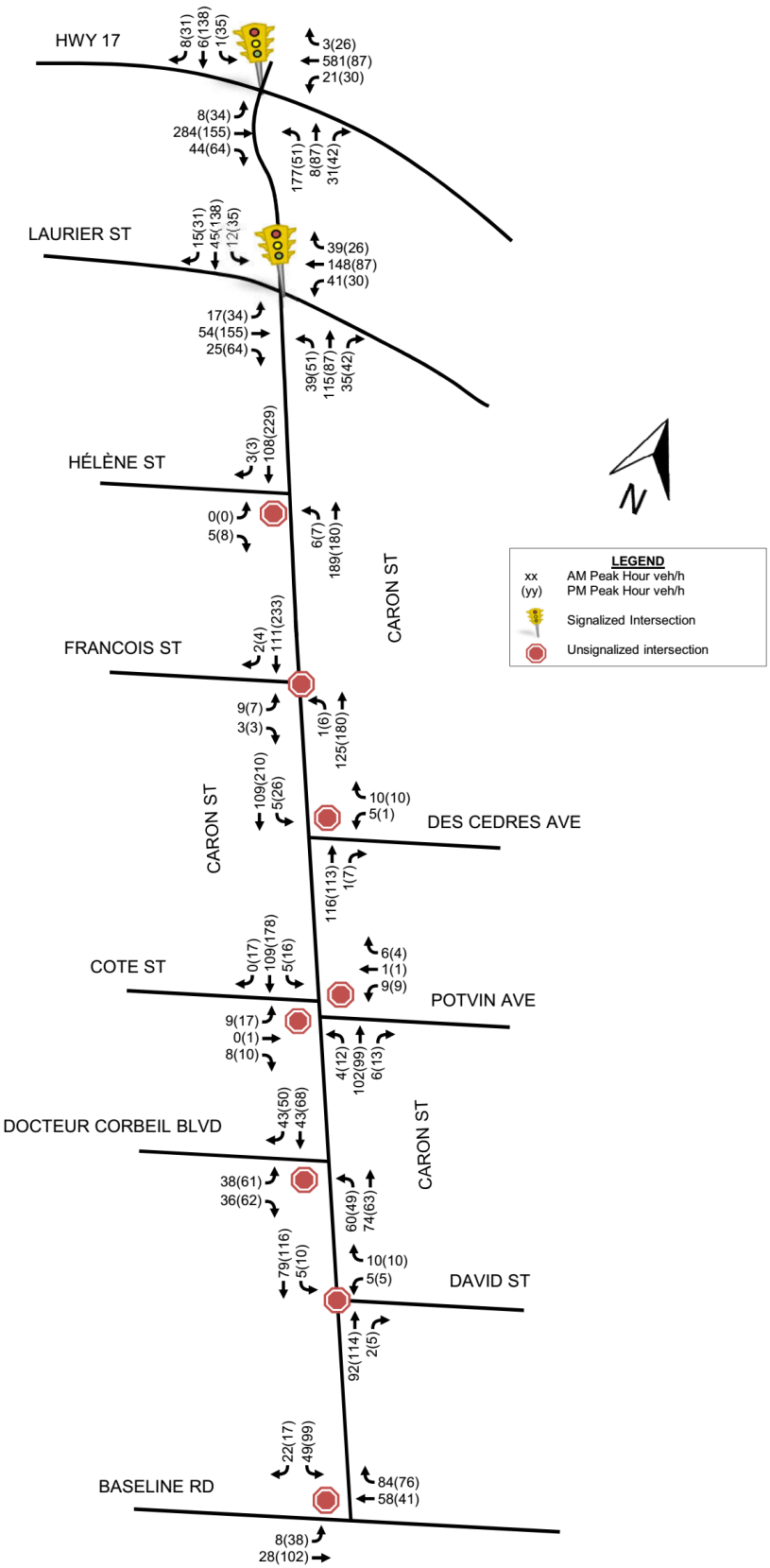


Figure 10: 2018 Existing Turning Movement Volume

Table 2: 2018 Existing Intersection Operations

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.03	10	A	7	0.06	12	B	12
	T	-	0.33	12	B	34	0.20	16	B	26
	R	85	0.03	9	A	9	0.05	14	B	14
WB	L	60	0.04	8	A	8	0.05	12	B	12
	T	-	0.65	17	B	51	0.11	15	B	19
	R	56	0.00	9	A	2	0.02	14	B	9
NB	L	60	0.72	41	D	44	0.23	32	C	23
	T/R	-	0.07	35	C	12	0.42	39	D	35
SB	L	40	0.02	43	D	2	0.15	34	C	21
	T/R	-	0.26	48	D	8	0.64	46	D	49
Overall			**0.70**	**20**	**B**	**-**	**0.29**	**27**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	13	B	6	0.07	11	B	12
	T/R	-	0.10	14	B	12	0.32	16	B	30
WB	L	60	0.08	11	B	10	0.07	12	B	9
	T/R	-	0.26	14	B	23	0.17	15	B	16
NB	L	55	0.15	23	C	13	0.23	25	C	15
	T/R	-	0.44	28	C	34	0.42	29	C	31
SB	L	50	0.06	26	C	6	0.14	24	C	14
	T/R	-	0.18	28	C	19	0.59	32	C	42
Overall			**0.32**	**20**	**B**	**-**	**0.38**	**22**	**C**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	9	A	6	0.01	10	A	8
NB	L	15	0.00	1	A	2	0.01	8	A	4
	T	-	0.12	-	-	-	0.12	-	-	-
SB	T/R	-	0.07	-	-	-	0.15	-	-	-
Overall			**0.21**	**1**	**A**	**-**	**0.23**	**1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	8	A	10	0.02	8	A	10
NB	L	15	0.00	7	A	2	0.01	8	A	6
	T	-	0.18	8	-	17	0.26	-	-	19
SB	T/R	-	0.15	8	A	17	0.31	8	A	24
Overall			**0.17**	**8**	**A**	**-**	**0.23**	**9**	**A**	**-**
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.02	9	A	10	0.01	9	A	9
NB	T/R	-	0.08	-	-	-	0.08	-	-	-
SB	L	15	0.00	1	A	2	0.02	8	A	6
	T	-	0.07	-	-	-	0.14	-	-	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.17**	**1**	**A**	**-**	**0.22**	**1**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.02	8	A	11	0.04	8	A	14
WB	L/T/R	-	0.02	8	A	10	0.02	8	A	10
NB	L	15	0.01	7	A	5	0.02	7	A	9
	T/R	-	0.16	-	-	18	0.16	-	-	16
SB	L	15	0.01	7	A	4	0.03	7	A	7
	T/R	-	0.16	-	-	15	0.17	-	-	14
Overall			**0.16**	**7**	**A**	**-**	**0.18**	**7**	**A**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.10	10	A	14	0.16	10	B	15
NB	L	15	0.04	8	A	8	0.04	8	A	8
	T	-	0.05	-	-	-	0.04	-	-	-
SB	T/R	-	0.06	-	-	-	0.08	-	-	-
Overall			**0.21**	**4**	**A**	**-**	**0.24**	**5**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.02	7	A	10	0.02	7	A	10
NB	T/R	-	0.12	8	A	17	0.15	8	A	17
SB	L	40	0.01	7	A	6	0.02	7	A	10
	T	-	0.11	7	-	16	0.17	7	-	15
Overall			**0.15**	**7**	**A**	**-**	**0.17**	**8**	**A**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.01	2	A	3	0.03	2	A	6
WB	T/R	-	0.09	-	-	12	0.08	-	-	16
SB	L/R	-	0.09	10	A	-	0.18	11	B	-
Overall			**0.20**	**3**	**A**	**-**	**0.28**	**4**	**A**	**-**

As shown in **Table 2**, all movements at signalized intersections are operating with a v/c ratio below 0.72 (i.e. with a LOS D or better). With regard to 95th percentile queues, the existing storage at signalized intersections is also noted as being sufficient (i.e. left-turn vehicle queues are not spilling back into and blocking adjacent through lanes). All movements at unsignalized intersections are operating with a v/c ratio below 0.31, (i.e. with a LOS B or better) and 95th percentile queues ranging between 1-3 vehicles in length.

Overall, there are no existing issues from a transportation perspective along Caron Street.

Attachments

Appendix A

Cima+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.432940, Lon=-75.598433
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	2	2	7	140	0	41	1	7	1	53	13	267
07:45	1	1	2	4	158	3	52	4	10	2	75	14	326
08:00	0	2	1	1	136	0	46	3	6	3	73	5	276
08:15	0	1	3	9	147	0	38	0	8	2	83	12	303

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	2	2	7	140	0	41	1	7	1	53	13	267
07:45	1	1	2	4	158	3	52	4	10	2	75	14	326
08:00	0	2	1	1	136	0	46	3	6	3	73	5	276
08:15	0	1	3	9	147	0	38	0	8	2	83	12	303

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	1	6	8	21	581	3	177	8	31	8	284	44	1172
Factor	0.25	0.75	0.67	0.58	0.92	0.25	0.85	0.50	0.78	0.67	0.86	0.79	0.90
Approach Factor	0.94			0.92			0.82			0.87			

Peak Hour Vehicle Summary

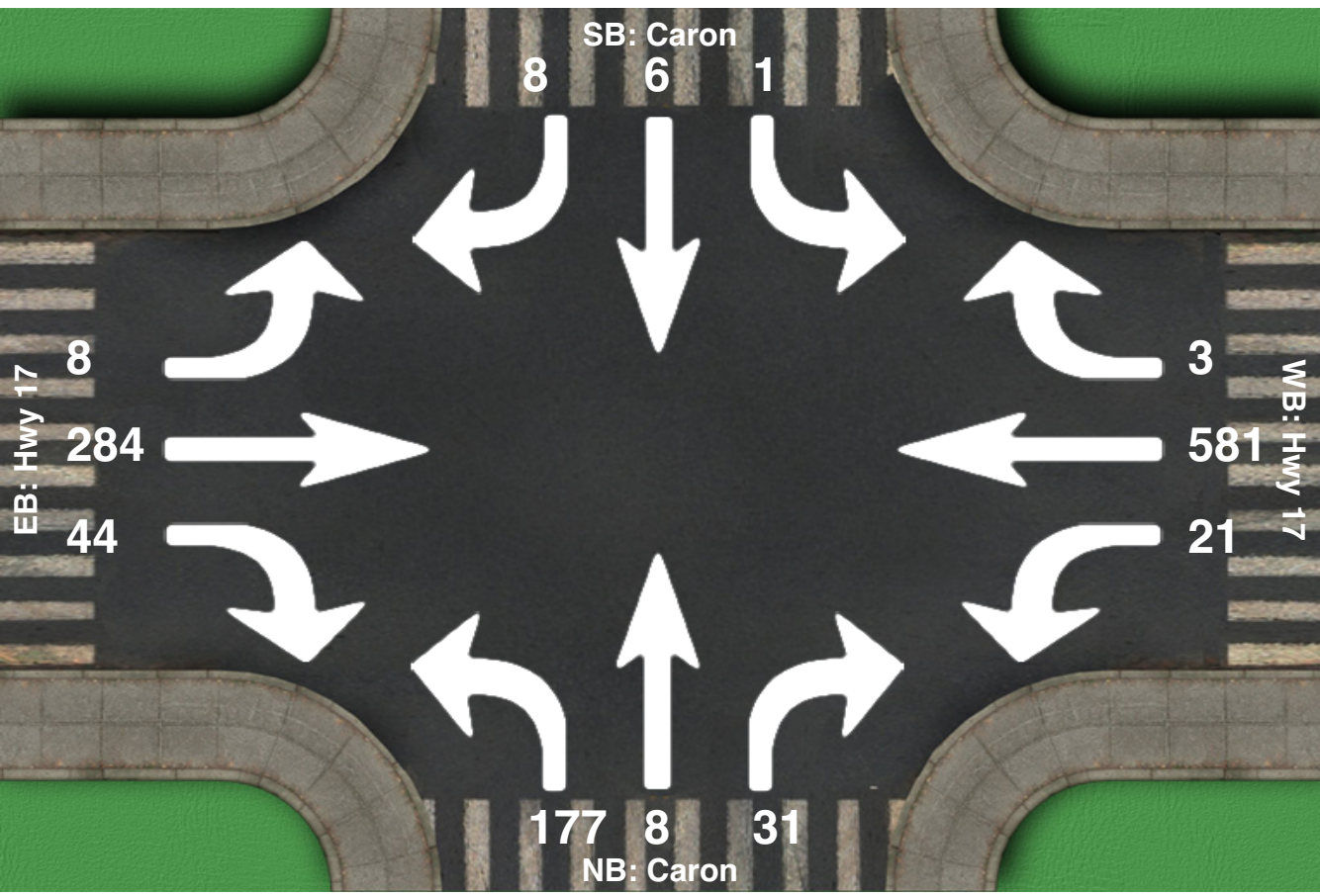
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	1	6	8	21	581	3	177	8	31	8	284	44	1172

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.432940, Lon=-75.598433
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	1	6	8	21	581	3	177	8	31	8	284	44	1172
Factor	0.25	0.75	0.67	0.58	0.92	0.25	0.85	0.50	0.78	0.67	0.86	0.79	0.90
Approach Factor	0.94			0.92			0.82			0.87			

702
Cima+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.557294, Lon=-75.279173
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	1	4	7	3	73	1	19	2	5	3	186	45	349
16:15	0	3	3	1	84	1	33	1	15	3	184	43	371
16:30	1	3	7	2	82	0	26	1	12	6	192	44	376
16:45	2	2	3	6	99	1	29	0	10	3	199	42	396
17:00	0	0	0	0	1	0	0	0	0	0	3	1	5

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	1	4	7	3	73	1	19	2	5	3	186	45	349
16:15	0	3	3	1	84	1	33	1	15	3	184	43	371
16:30	1	3	7	2	82	0	26	1	12	6	192	44	376
16:45	2	2	3	6	99	1	29	0	10	3	199	42	396
17:00	0	0	0	0	1	0	0	0	0	0	3	1	5

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	4	12	20	12	338	3	107	4	42	15	761	174	1492
Factor	0.50	0.75	0.71	0.50	0.85	0.75	0.81	0.50	0.70	0.62	0.96	0.97	0.94
Approach Factor	0.75			0.83			0.78			0.97			

Peak Hour Vehicle Summary

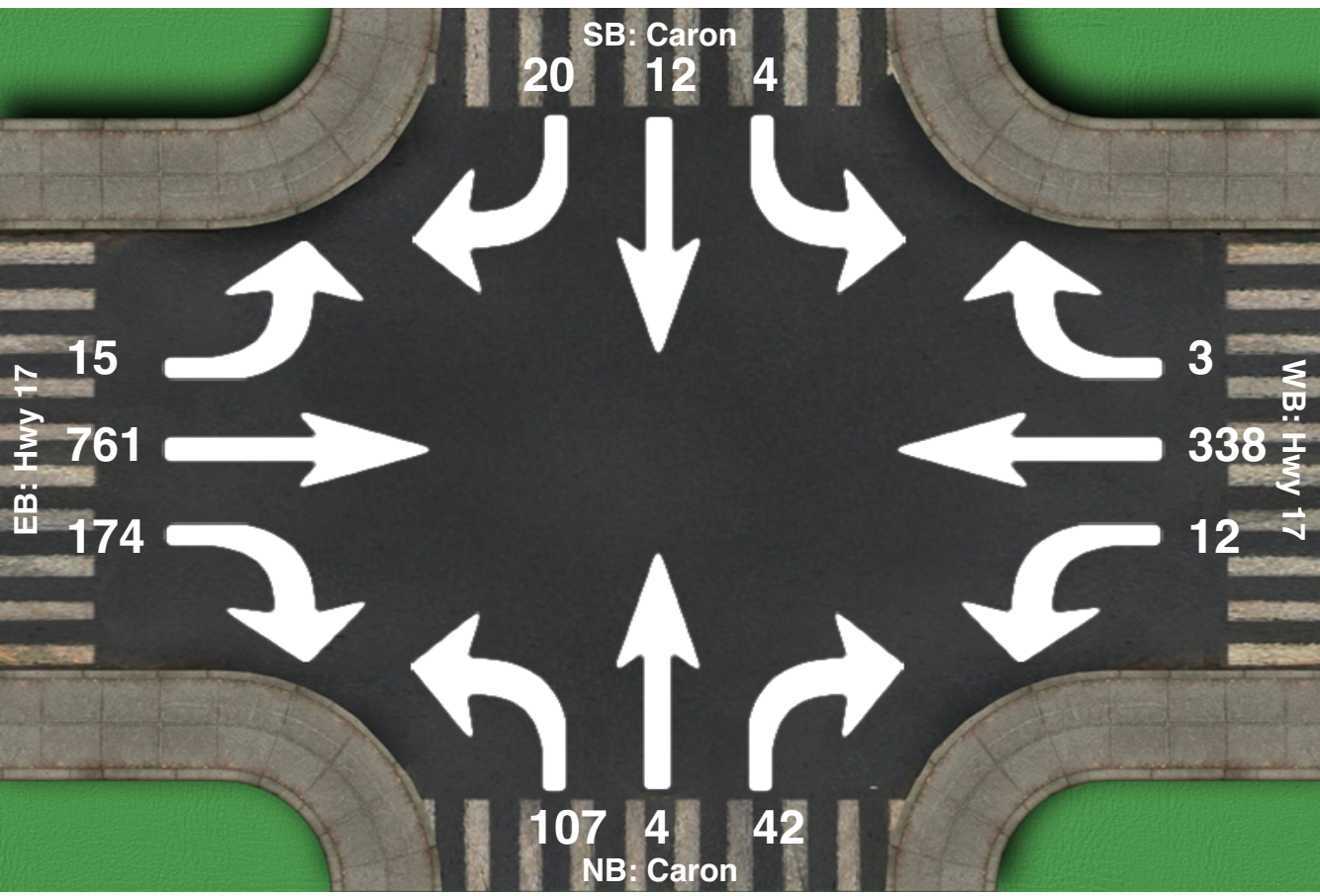
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	4	12	20	12	338	3	107	4	42	15	761	174	1492

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.557294, Lon=-75.279173
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	4	12	20	12	338	3	107	4	42	15	761	174	1492
Factor	0.50	0.75	0.71	0.50	0.85	0.75	0.81	0.50	0.70	0.62	0.96	0.97	0.94
Approach Factor	0.75			0.83			0.78			0.97			

Cima+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.555171, Lon=-75.276541
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	1	7	1	11	32	14	9	29	10	1	11	5	131
07:45	4	12	8	11	43	8	12	36	7	6	10	6	163
08:00	2	11	2	14	39	7	7	18	10	6	19	9	144
08:15	5	15	4	5	34	10	11	32	8	4	14	5	147

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	1	7	1	11	32	14	9	29	10	1	11	5	131
07:45	4	12	8	11	43	8	12	36	7	6	10	6	163
08:00	2	11	2	14	39	7	7	18	10	6	19	9	144
08:15	5	15	4	5	34	10	11	32	8	4	14	5	147

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	45	15	41	148	39	39	115	35	17	54	25	585
Factor	0.60	0.75	0.47	0.73	0.86	0.70	0.81	0.80	0.88	0.71	0.71	0.69	0.90
Approach Factor	0.75			0.92			0.86			0.71			

Peak Hour Vehicle Summary

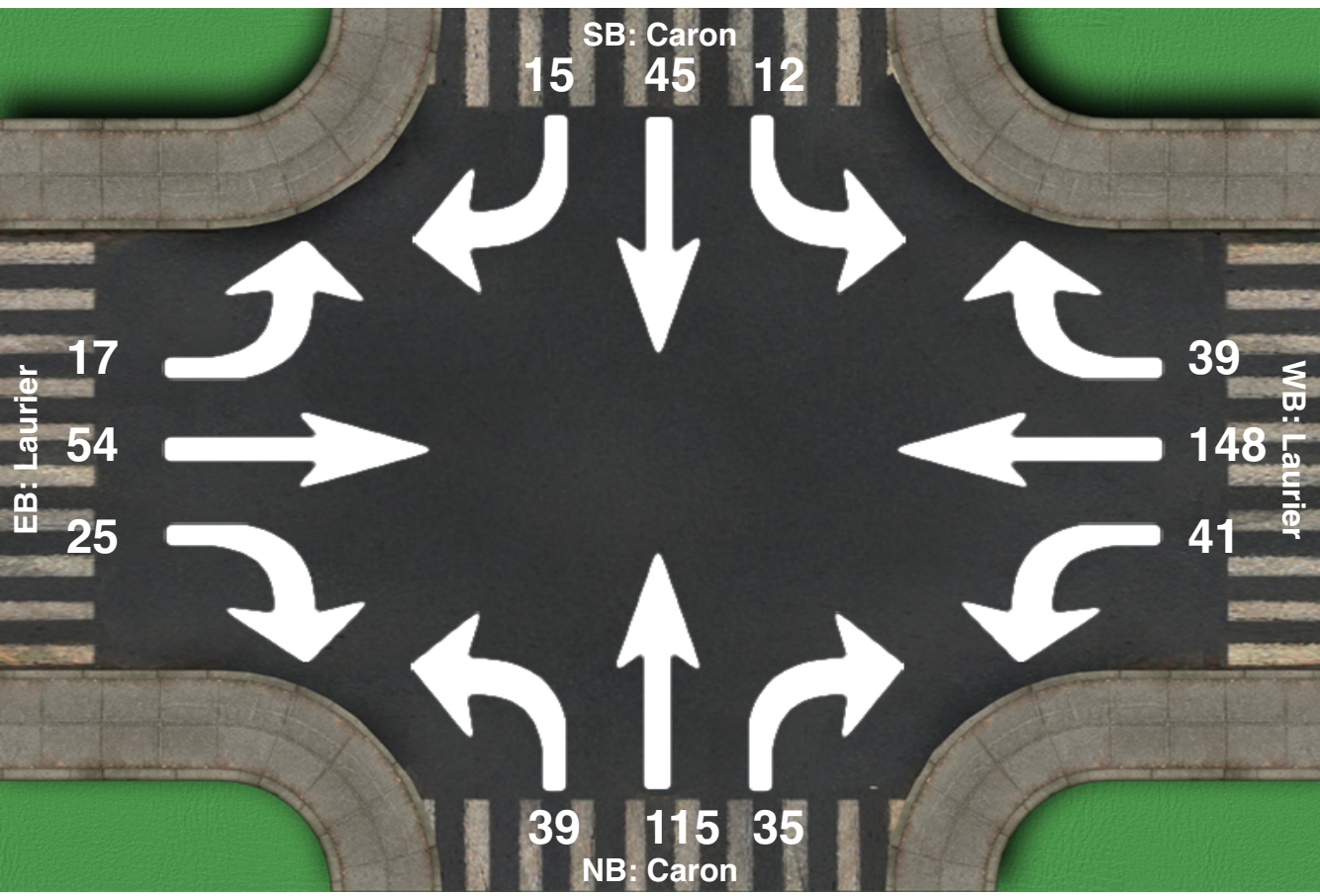
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	12	45	15	41	148	39	39	115	35	17	54	25	585

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.555171, Lon=-75.276541
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	45	15	41	148	39	39	115	35	17	54	25	585
Factor	0.60	0.75	0.47	0.73	0.86	0.70	0.81	0.80	0.88	0.71	0.71	0.69	0.90
Approach Factor	0.75			0.92			0.86			0.71			

Cima+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.554743, Lon=-75.276561
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	16	34	6	7	20	8	10	18	8	9	40	14	190
16:15	4	41	8	7	23	7	13	18	14	8	42	15	200
16:30	7	32	11	8	24	6	14	24	8	8	34	23	199
16:45	8	31	6	8	20	5	14	27	12	9	39	12	191

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	16	34	6	7	20	8	10	18	8	9	40	14	190
16:15	4	41	8	7	23	7	13	18	14	8	42	15	200
16:30	7	32	11	8	24	6	14	24	8	8	34	23	199
16:45	8	31	6	8	20	5	14	27	12	9	39	12	191

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	2	0	2	0	0	0	0	1	1	0	0	0	3
16:15	0	2	2	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	2	0	2	0	0	0	2	0	2	4
16:45	1	0	1	0	1	1	0	1	1	1	0	1	4

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	35	138	31	30	87	26	51	87	42	34	155	64	780
Factor	0.55	0.84	0.70	0.94	0.91	0.81	0.91	0.81	0.75	0.94	0.92	0.70	0.97
Approach Factor	0.91			0.94			0.85			0.97			

Peak Hour Vehicle Summary

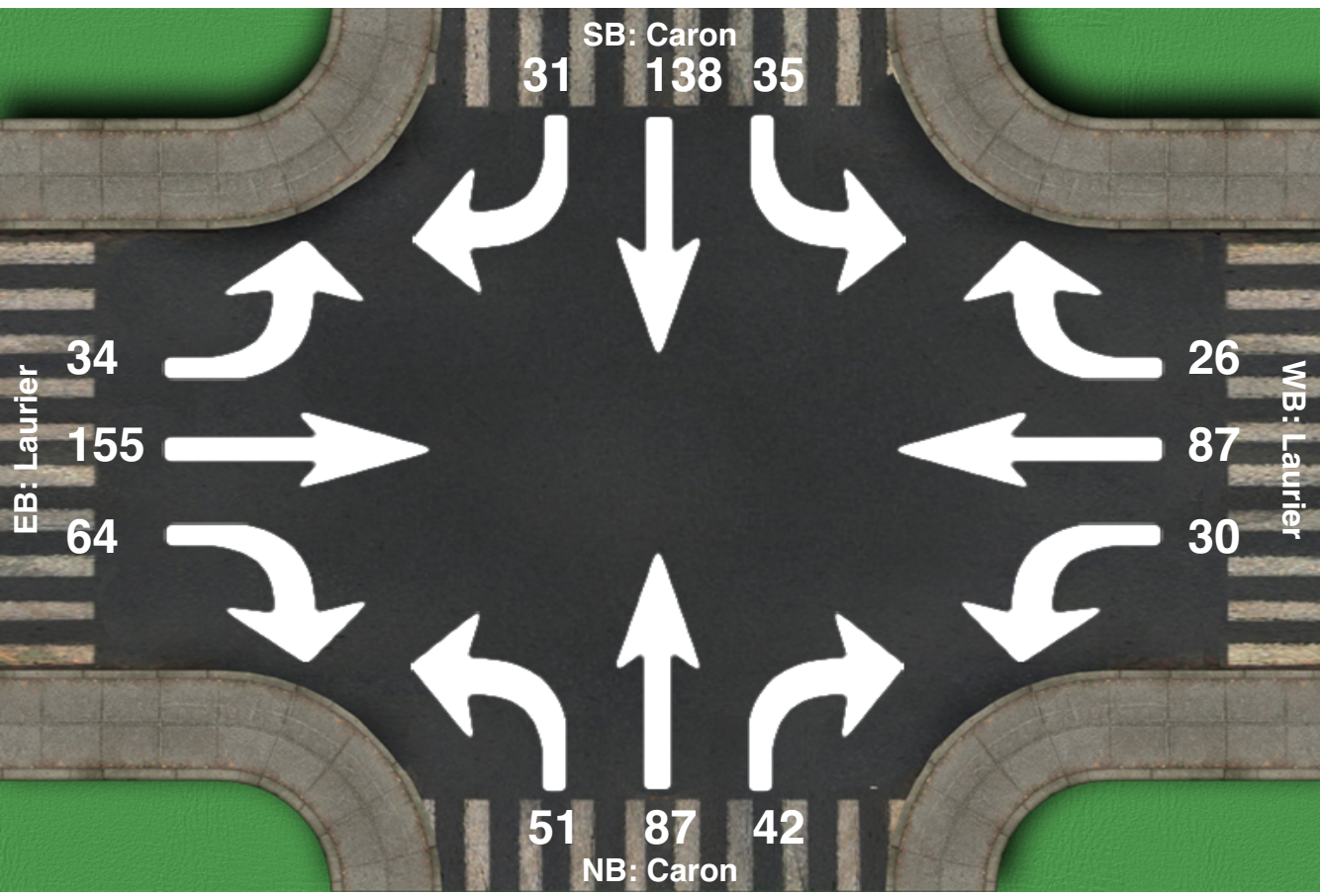
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	35	138	31	30	87	26	51	87	42	34	155	64	780
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	3	2	5	2	1	3	0	2	2	3	0	3	13

Intersection Peak Hour

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.554743, Lon=-75.276561
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	35	138	31	30	87	26	51	87	42	34	155	64	780
Factor	0.55	0.84	0.70	0.94	0.91	0.81	0.91	0.81	0.75	0.94	0.92	0.70	0.97
Approach Factor	0.91			0.94			0.85			0.97			

Clma+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	10	0	6	0	15	26	0	0	0	4	15	0	76
07:45	16	0	5	0	12	20	0	0	0	0	6	0	59
08:00	12	0	8	0	16	13	0	0	0	1	4	0	54
08:15	11	0	3	0	15	25	0	0	0	3	3	0	60

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	10	0	6	0	15	26	0	0	0	4	15	0	76
07:45	16	0	5	0	12	20	0	0	0	0	6	0	59
08:00	12	0	8	0	16	13	0	0	0	1	4	0	54
08:15	11	0	3	0	15	25	0	0	0	3	3	0	60

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	49	0	22	0	58	84	0	0	0	8	28	0	249
Factor	0.77	0.00	0.69	0.00	0.91	0.81	0.00	0.00	0.00	0.50	0.47	0.00	0.82
Approach Factor	0.85			0.87			0.00			0.47			

Peak Hour Vehicle Summary

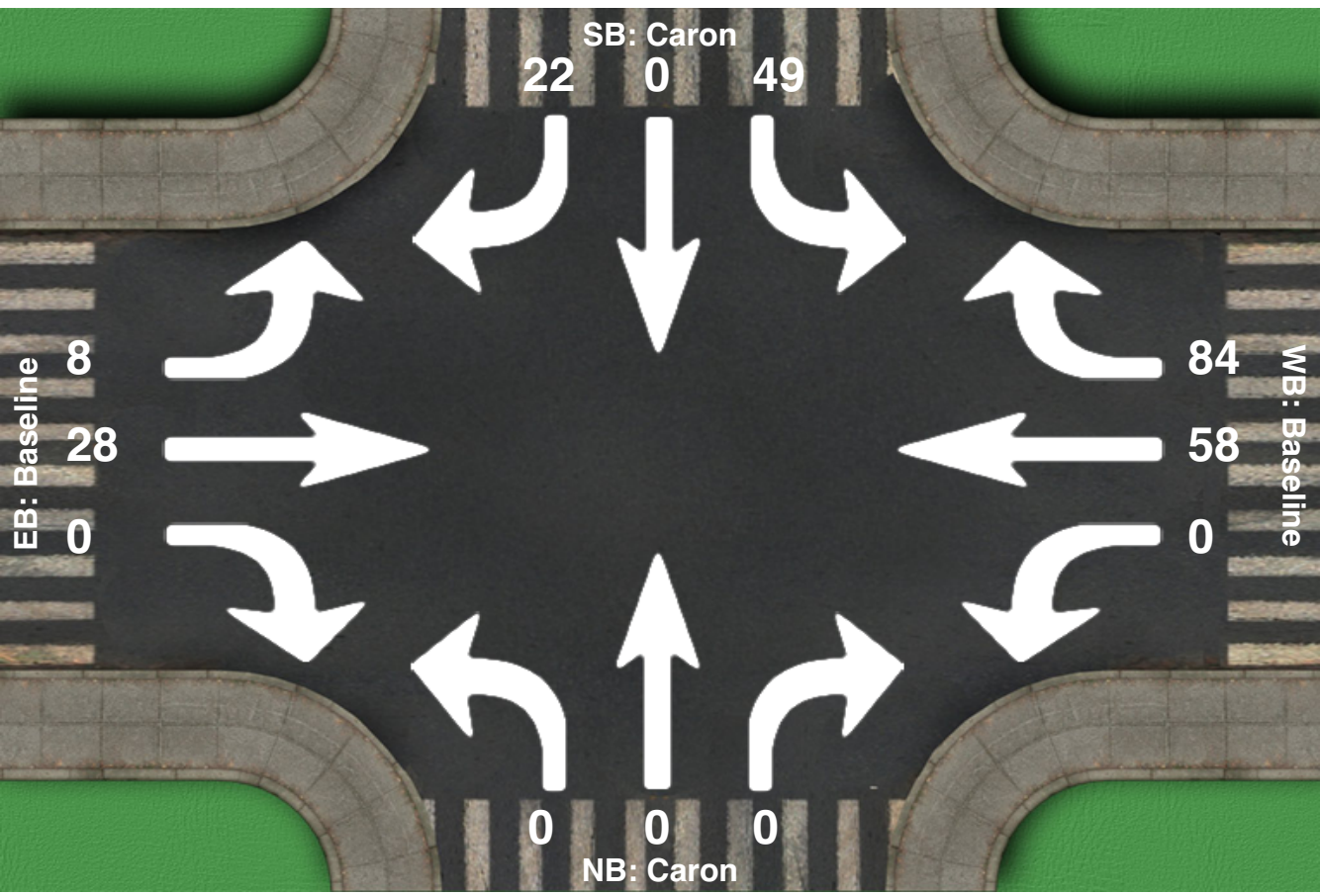
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	49	0	22	0	58	84	0	0	0	8	28	0	249
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	49	0	22	0	58	84	0	0	0	8	28	0	249
Factor	0.77	0.00	0.69	0.00	0.91	0.81	0.00	0.00	0.00	0.50	0.47	0.00	0.82
Approach Factor	0.85			0.87			0.00			0.47			

Clma+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	27	0	2	0	9	25	0	0	0	6	28	0	97
16:15	25	0	4	0	12	23	0	0	0	7	20	0	91
16:30	22	0	3	0	13	17	0	0	0	12	31	0	98
16:45	25	0	8	0	7	11	0	0	0	13	23	0	87

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	27	0	2	0	9	25	0	0	0	6	28	0	97
16:15	25	0	4	0	12	23	0	0	0	7	20	0	91
16:30	22	0	3	0	13	17	0	0	0	12	31	0	98
16:45	25	0	8	0	7	11	0	0	0	13	23	0	87

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	99	0	17	0	41	76	0	0	0	38	102	0	373
Factor	0.92	0.00	0.53	0.00	0.79	0.76	0.00	0.00	0.00	0.73	0.82	0.00	0.95
Approach Factor	0.88			0.84			0.00			0.81			

Peak Hour Vehicle Summary

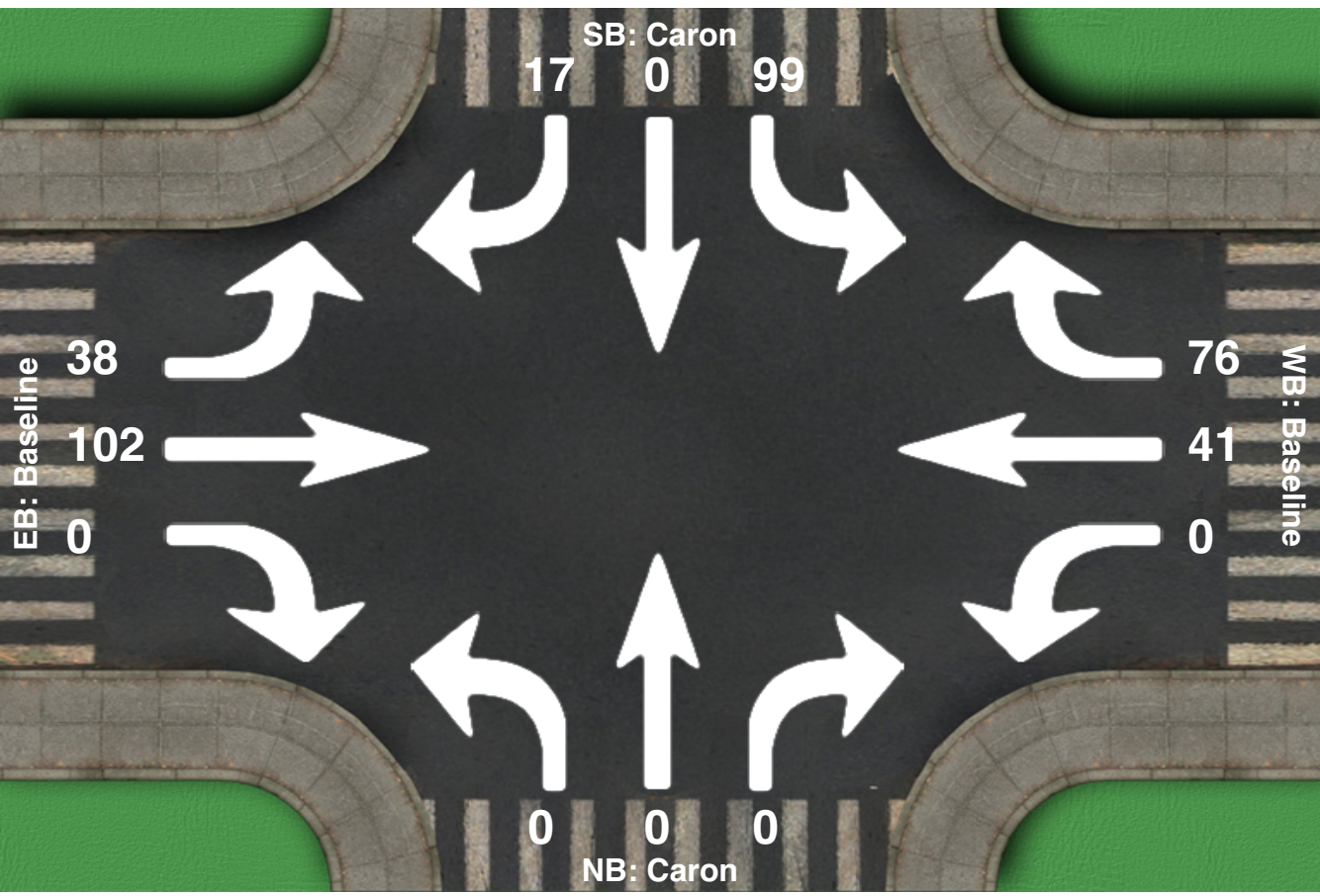
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	99	0	17	0	41	76	0	0	0	38	102	0	373
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	99	0	17	0	41	76	0	0	0	38	102	0	373
Factor	0.92	0.00	0.53	0.00	0.79	0.76	0.00	0.00	0.00	0.73	0.82	0.00	0.95
Approach Factor	0.88			0.84			0.00			0.81			

Clma+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544293, Lon=-75.271567
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	12	9	0	0	0	23	21	0	9	0	9	83
07:45	0	9	18	0	0	0	24	22	0	11	0	14	98
08:00	0	12	9	0	0	0	7	13	0	12	0	8	61
08:15	0	10	7	0	0	0	6	18	0	6	0	5	52
08:30	0	0	0	0	0	0	1	0	0	0	0	0	1

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	12	9	0	0	0	22	21	0	9	0	9	82
07:45	0	9	18	0	0	0	24	22	0	11	0	14	98
08:00	0	12	9	0	0	0	7	13	0	12	0	8	61
08:15	0	10	7	0	0	0	6	18	0	6	0	5	52
08:30	0	0	0	0	0	0	1	0	0	0	0	0	1

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	0	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	1	0	1	0	0	0	1
07:45	0	2	2	0	1	1	0	0	0	0	0	0	3
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	1	0	0	0	0	1	1	0	0	0	2
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	43	43	0	0	0	60	74	0	38	0	36	294
Factor	0.00	0.90	0.60	0.00	0.00	0.00	0.62	0.84	0.00	0.79	0.00	0.64	0.75
Approach Factor	0.80			0.00			0.73			0.74			

Peak Hour Vehicle Summary

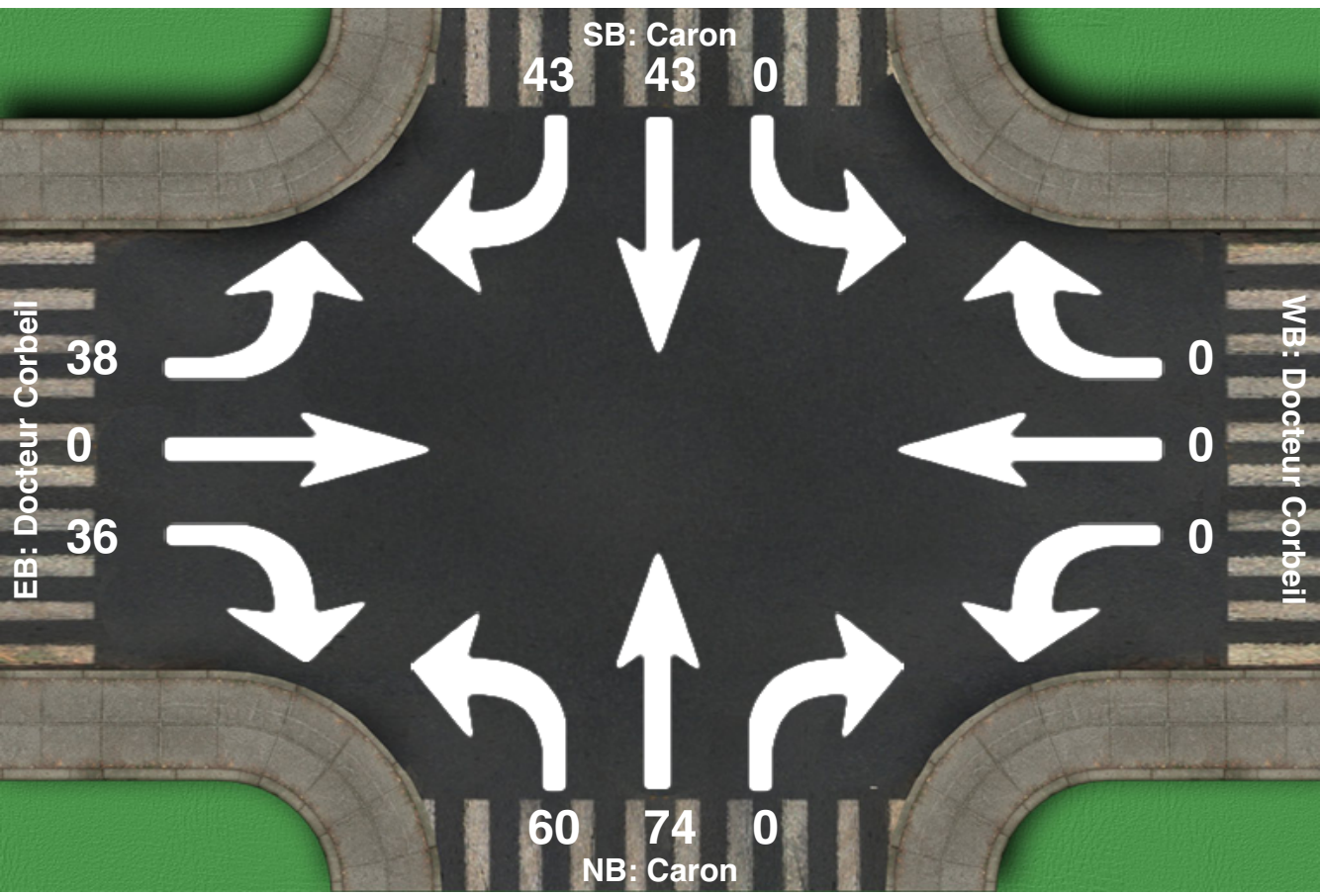
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	43	43	0	0	0	59	74	0	38	0	36	293
Bicycle	0	0	0	0	0	0	1	0	0	0	0	0	1

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	3	3	0	1	1	1	1	2	0	0	0	6

Intersection Peak Hour

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544293, Lon=-75.271567
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	43	43	0	0	0	60	74	0	38	0	36	294
Factor	0.00	0.90	0.60	0.00	0.00	0.00	0.62	0.84	0.00	0.79	0.00	0.64	0.75
Approach Factor	0.80			0.00			0.73			0.74			

Gma+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544176, Lon=-75.271704
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	17	10	0	0	1	12	13	0	9	0	21	83
16:15	0	17	16	0	0	0	11	17	0	16	0	11	88
16:30	0	18	14	0	0	0	9	11	0	16	0	13	81
16:45	0	16	10	0	0	0	17	22	0	20	0	17	102

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	17	9	0	0	1	12	13	0	9	0	21	82
16:15	0	17	16	0	0	0	11	17	0	16	0	11	88
16:30	0	18	14	0	0	0	9	11	0	15	0	13	80
16:45	0	16	10	0	0	0	17	22	0	20	0	17	102

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	1	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	1	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	3	0	3	0	0	0	0	0	0	3
16:15	0	0	0	0	0	0	1	0	1	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	68	50	0	0	1	49	63	0	61	0	62	354
Factor	0.00	0.94	0.78	0.00	0.00	0.25	0.72	0.72	0.00	0.76	0.00	0.74	0.87
Approach Factor	0.89			0.25			0.72			0.83			

Peak Hour Vehicle Summary

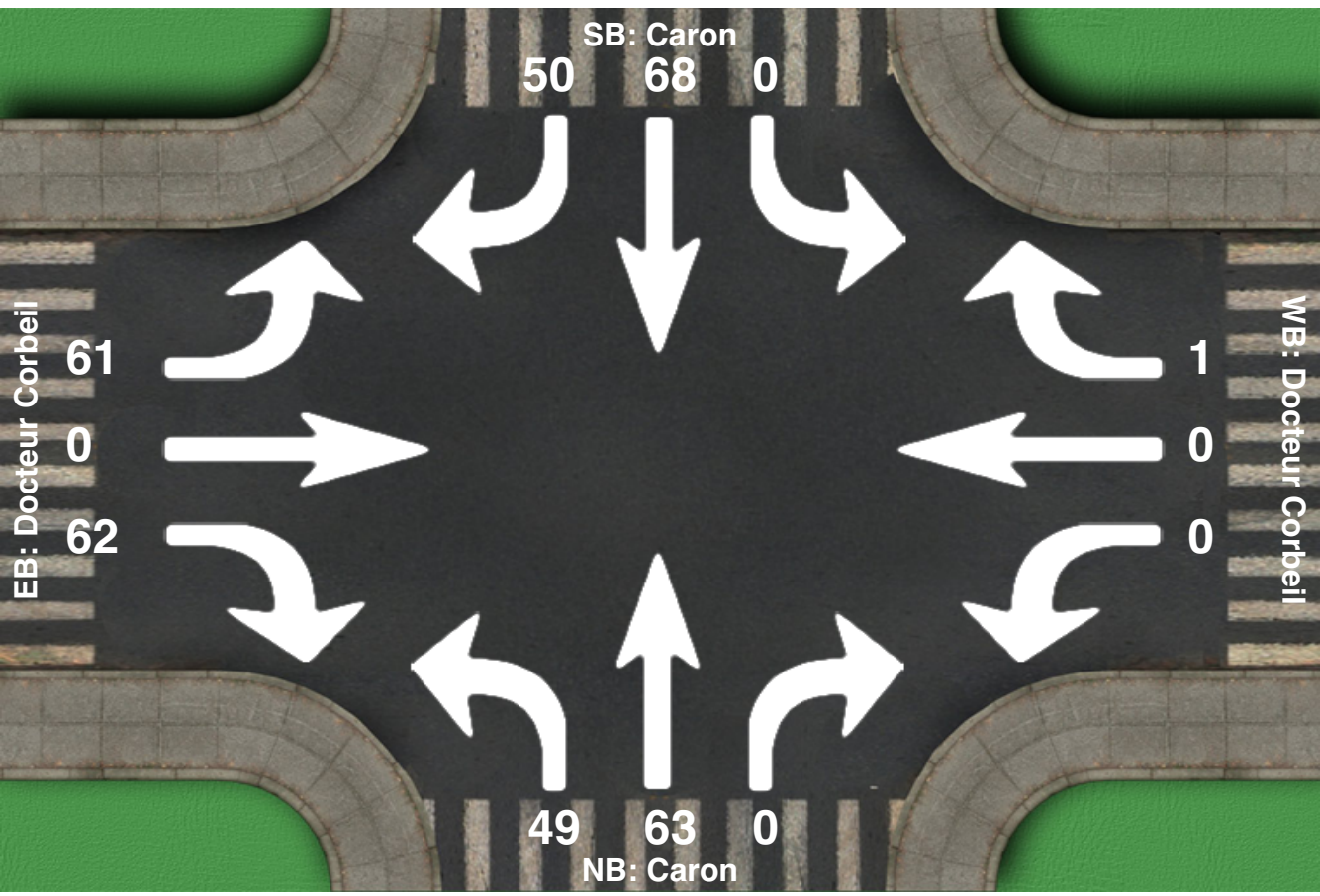
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	68	49	0	0	1	49	63	0	60	0	62	352
Bicycle	0	0	1	0	0	0	0	0	0	1	0	0	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	3	0	3	1	0	1	0	0	0	4

Intersection Peak Hour

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544176, Lon=-75.271704
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	68	50	0	0	1	49	63	0	61	0	62	354
Factor	0.00	0.94	0.78	0.00	0.00	0.25	0.72	0.72	0.00	0.76	0.00	0.74	0.87
Approach Factor	0.89			0.25			0.72			0.83			

Appendix B

HCM Signalized Intersection Capacity Analysis
1: Rue Caron/Rue Industrielle & HWY 17

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	284	44	21	581	3	177	8	31	1	6	8
Future Volume (vph)	8	284	44	21	581	3	177	8	31	1	6	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1765	1500	1676	1765	1500	1676	1555		1676	1616	
Flt Permitted	0.30	1.00	1.00	0.54	1.00	1.00	0.53	1.00		1.00	1.00	
Satd. Flow (perm)	536	1765	1500	944	1765	1500	941	1555		1765	1616	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	316	49	23	646	3	197	9	34	1	7	9
RTOR Reduction (vph)	0	0	22	0	0	1	0	30	0	0	9	0
Lane Group Flow (vph)	9	316	27	23	646	2	197	13	0	1	7	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	50.5	49.5	49.5	53.1	50.8	50.8	18.0	11.2		2.5	1.6	
Effective Green, g (s)	50.5	49.5	49.5	53.1	50.8	50.8	18.0	11.2		2.5	1.6	
Actuated g/C Ratio	0.56	0.55	0.55	0.59	0.57	0.57	0.20	0.12		0.03	0.02	
Clearance Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	313	971	825	576	997	847	274	193		48	28	
v/s Ratio Prot	0.00	0.18		c0.00	c0.37		c0.08	0.01		0.00	0.00	
v/s Ratio Perm	0.02		0.02	0.02		0.00	c0.06			0.00		
v/c Ratio	0.03	0.33	0.03	0.04	0.65	0.00	0.72	0.07		0.02	0.26	
Uniform Delay, d1	9.7	11.1	9.2	7.7	13.4	8.5	32.7	34.7		42.5	43.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.9	0.1	0.0	3.3	0.0	8.7	0.2		0.2	4.8	
Delay (s)	9.8	12.0	9.3	7.7	16.7	8.5	41.4	34.9		42.7	48.4	
Level of Service	A	B	A	A	B	A	D	C		D	D	
Approach Delay (s)		11.6			16.3			40.2			48.0	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	26.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Caron St/Rue Caron & Laurier St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	54	25	41	148	39	39	115	35	12	45	15
Future Volume (vph)	17	54	25	41	148	39	39	115	35	12	45	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1680		1676	1710		1676	1703		1676	1698	
Flt Permitted	0.63	1.00		0.66	1.00		0.62	1.00		0.65	1.00	
Satd. Flow (perm)	1109	1680		1161	1710		1086	1703		1150	1698	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	60	28	46	164	43	43	128	39	13	50	17
RTOR Reduction (vph)	0	15	0	0	8	0	0	14	0	0	14	0
Lane Group Flow (vph)	19	73	0	46	199	0	43	153	0	13	53	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.7	32.8		37.9	34.9		19.2	16.0		14.8	13.8	
Effective Green, g (s)	33.7	32.8		37.9	34.9		19.2	16.0		14.8	13.8	
Actuated g/C Ratio	0.43	0.42		0.49	0.45		0.25	0.21		0.19	0.18	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	485	706		583	765		291	349		224	300	
v/s Ratio Prot	0.00	0.04		c0.00	c0.12		c0.01	c0.09		0.00	0.03	
v/s Ratio Perm	0.02			0.04			0.03			0.01		
v/c Ratio	0.04	0.10		0.08	0.26		0.15	0.44		0.06	0.18	
Uniform Delay, d1	12.7	13.7		10.6	13.5		22.8	27.1		25.8	27.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.1	0.8		0.2	0.9		0.1	0.3	
Delay (s)	12.8	14.0		10.7	14.3		23.0	28.0		25.9	27.6	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s)		13.8			13.6			27.0			27.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	189	108	3
Future Volume (Veh/h)	0	5	6	189	108	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	210	120	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked						
vC, conflicting volume	346	122	123			
vC1, stage 1 conf vol	122					
vC2, stage 2 conf vol	224					
vCu, unblocked vol	346	122	123			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	759	930	1464			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	210	123
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	930	1464	1700	1700
Volume to Capacity	0.01	0.00	0.12	0.07
Queue Length 95th (m)	0.1	0.1	0.0	0.0
Control Delay (s)	8.9	7.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	8.9	0.2		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	125	111	2
Future Volume (vph)	9	3	1	125	111	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	139	123	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	139	125
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.02
Departure Headway (s)	4.5	5.1	4.6	4.2
Degree Utilization, x	0.02	0.00	0.18	0.15
Capacity (veh/h)	735	686	762	848
Control Delay (s)	7.6	7.0	7.5	7.9
Approach Delay (s)	7.6	7.5		7.9
Approach LOS	A	A		A

Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	16.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Existing Conditions
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	116	1	5	109
Future Volume (Veh/h)	5	10	116	1	5	109
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	129	1	6	121
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	262	130			130	
vC1, stage 1 conf vol	130					
vC2, stage 2 conf vol	133					
vCu, unblocked vol	262	130			130	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	817	920			1455	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	130	6	121
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	881	1700	1455	1700
Volume to Capacity	0.02	0.08	0.00	0.07
Queue Length 95th (m)	0.4	0.0	0.1	0.0
Control Delay (s)	9.2	0.0	7.5	0.0
Lane LOS	A		A	
Approach Delay (s)	9.2	0.0	0.4	
Approach LOS	A			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	102	6	5	109	0
Future Volume (vph)	9	0	8	9	1	6	4	102	6	5	109	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	113	7	6	121	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	120	6	121
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	-0.01	0.53	0.03
Departure Headway (s)	4.4	4.4	5.2	4.7	5.2	4.7
Degree Utilization, x	0.02	0.02	0.01	0.16	0.01	0.16
Capacity (veh/h)	778	759	675	755	673	749
Control Delay (s)	7.5	7.5	7.0	7.3	7.1	7.4
Approach Delay (s)	7.5	7.5	7.3		7.4	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	36	60	74	43	43
Future Volume (Veh/h)	38	36	60	74	43	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	40	67	82	48	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	290	74	98			
vC1, stage 1 conf vol	74					
vC2, stage 2 conf vol	216					
vCu, unblocked vol	290	74	98			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	96	96			
cM capacity (veh/h)	752	986	1493			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	82	67	82	96
Volume Left	42	67	0	0
Volume Right	40	0	0	48
cSH	851	1493	1700	1700
Volume to Capacity	0.10	0.04	0.05	0.06
Queue Length 95th (m)	2.2	1.0	0.0	0.0
Control Delay (s)	9.7	7.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7	3.4		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Existing Conditions
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	10	92	2	5	79
Future Volume (vph)	5	10	92	2	5	79
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	102	2	6	88

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	17	104	6	88
Volume Left (vph)	6	0	6	0
Volume Right (vph)	11	2	0	0
Hadj (s)	-0.28	0.02	0.53	0.03
Departure Headway (s)	4.1	4.2	5.1	4.6
Degree Utilization, x	0.02	0.12	0.01	0.11
Capacity (veh/h)	842	850	684	762
Control Delay (s)	7.1	7.7	7.0	7.0
Approach Delay (s)	7.1	7.7	7.0	
Approach LOS	A	A	A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	28	58	84	49	22
Future Volume (Veh/h)	8	28	58	84	49	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	31	64	93	54	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	157				160	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	157				160	110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	97
cM capacity (veh/h)	1423				826	943

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	40	157	78
Volume Left	9	0	54
Volume Right	0	93	24
cSH	1423	1700	859
Volume to Capacity	0.01	0.09	0.09
Queue Length 95th (m)	0.1	0.0	2.1
Control Delay (s)	1.7	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	1.7	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Rue Caron/Rue Industrielle & HWY 17

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (m)	8.5	43.7	12.6	8.3	65.3	4.6	53.8	14.3	4.1	11.0
Average Queue (m)	1.9	16.5	2.7	2.4	27.7	0.2	25.0	4.9	0.1	2.5
95th Queue (m)	7.3	33.6	9.2	8.3	51.4	1.9	43.7	11.7	1.7	8.1
Link Distance (m)		833.3			805.3			415.2		113.3
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Storage Blk Time (%)					0		0			
Queuing Penalty (veh)					0		0			

Intersection: 2: Caron St/Rue Caron & Laurier St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	8.3	16.8	15.0	34.4	15.8	44.0	8.2	27.3
Average Queue (m)	1.7	4.4	3.4	9.8	4.9	17.9	1.4	9.6
95th Queue (m)	6.3	12.1	10.4	23.2	12.7	34.0	5.8	19.1
Link Distance (m)		928.0		698.5		142.0		415.2
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	35.0		60.0		55.0		50.0	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 3: Caron St & Hélène St

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	8.2	5.1
Average Queue (m)	1.2	0.2
95th Queue (m)	5.8	2.1
Link Distance (m)	266.6	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Caron St & Francois St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	10.7	5.2	20.2	18.9
Average Queue (m)	3.1	0.2	11.1	11.2
95th Queue (m)	10.4	2.2	17.2	17.1
Link Distance (m)	343.3		122.7	232.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Intersection: 5: Caron St & Des Cedres Ave

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (m)	8.7	3.4
Average Queue (m)	3.0	0.1
95th Queue (m)	9.7	1.8
Link Distance (m)	109.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Caron St & Cote St/Potvin Ave

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (m)	9.1	8.9	8.7	22.5	5.5	17.6
Average Queue (m)	3.7	3.2	0.9	11.2	0.7	9.2
95th Queue (m)	10.9	10.1	5.3	18.2	3.7	14.6
Link Distance (m)	73.6	115.9		507.4		263.8
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)			30.0		40.0	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 7: Caron St & Docteur Corbeil Blvd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	15.7	10.1
Average Queue (m)	8.1	1.7
95th Queue (m)	14.4	7.6
Link Distance (m)	486.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 8: David St & Caron St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	9.1	21.9	9.2	19.4
Average Queue (m)	3.2	10.2	1.1	9.5
95th Queue (m)	10.1	17.0	6.1	16.1
Link Distance (m)	509.7	82.9		518.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			40.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Baseline Rd & Caron St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	7.5	14.2
Average Queue (m)	0.4	7.3
95th Queue (m)	3.2	12.2
Link Distance (m)	763.0	1938.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

HCM Signalized Intersection Capacity Analysis
1: Rue Caron/Rue Industrielle & HWY 17

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Future Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1765	1500	1676	1765	1500	1676	1678		1676	1717	
Flt Permitted	0.69	1.00	1.00	0.65	1.00	1.00	0.44	1.00		0.67	1.00	
Satd. Flow (perm)	1223	1765	1500	1144	1765	1500	774	1678		1174	1717	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	172	71	33	97	29	57	97	47	39	153	34
RTOR Reduction (vph)	0	0	36	0	0	15	0	15	0	0	7	0
Lane Group Flow (vph)	38	172	35	33	97	14	57	129	0	39	180	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	55.8	51.9	51.9	55.6	51.8	51.8	26.1	19.5		21.7	17.3	
Effective Green, g (s)	55.8	51.9	51.9	55.6	51.8	51.8	26.1	19.5		21.7	17.3	
Actuated g/C Ratio	0.53	0.49	0.49	0.53	0.49	0.49	0.25	0.18		0.21	0.16	
Clearance Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	662	867	737	621	865	735	247	309		262	281	
v/s Ratio Prot	c0.00	c0.10		0.00	0.05		c0.01	0.08		0.01	c0.11	
v/s Ratio Perm	0.03		0.02	0.03		0.01	0.04			0.02		
v/c Ratio	0.06	0.20	0.05	0.05	0.11	0.02	0.23	0.42		0.15	0.64	
Uniform Delay, d1	12.0	15.1	14.0	12.1	14.5	13.8	31.2	38.0		34.1	41.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.5	0.1	0.0	0.3	0.0	0.5	0.9		0.3	4.9	
Delay (s)	12.1	15.6	14.1	12.1	14.8	13.9	31.6	39.0		34.4	46.2	
Level of Service	B	B	B	B	B	B	C	D		C	D	
Approach Delay (s)		14.8			14.1			36.9			44.2	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	26.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Caron St/Rue Caron & Laurier St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Future Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1675		1672	1694		1674	1665		1673	1709	
Flt Permitted	0.66	1.00		0.61	1.00		0.58	1.00		0.67	1.00	
Satd. Flow (perm)	1153	1675		1070	1694		1030	1665		1172	1709	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	172	71	33	97	29	57	97	47	39	153	34
RTOR Reduction (vph)	0	14	0	0	10	0	0	22	0	0	10	0
Lane Group Flow (vph)	38	229	0	33	116	0	57	122	0	39	177	0
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.3	32.4		33.3	31.4		16.5	13.4		16.5	13.4	
Effective Green, g (s)	35.3	32.4		33.3	31.4		16.5	13.4		16.5	13.4	
Actuated g/C Ratio	0.46	0.43		0.44	0.41		0.22	0.18		0.22	0.18	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	555	714		483	699		249	293		274	301	
v/s Ratio Prot	c0.00	c0.14		0.00	0.07		c0.01	0.07		0.01	c0.10	
v/s Ratio Perm	0.03			0.03			0.04			0.03		
v/c Ratio	0.07	0.32		0.07	0.17		0.23	0.42		0.14	0.59	
Uniform Delay, d1	11.2	14.5		12.2	14.1		24.1	27.8		23.8	28.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2		0.1	0.5		0.5	1.0		0.2	2.9	
Delay (s)	11.2	15.7		12.3	14.6		24.6	28.8		24.1	31.7	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s)		15.1			14.1			27.6			30.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	180	229	3
Future Volume (Veh/h)	0	8	7	180	229	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	200	254	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	472	256	257			
vC1, stage 1 conf vol	256					
vC2, stage 2 conf vol	216					
vCu, unblocked vol	421	195	196			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	707	807	1312			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	200	257
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	807	1312	1700	1700
Volume to Capacity	0.01	0.01	0.12	0.15
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	9.5	7.8	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.5	0.3		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	180	233	4
Future Volume (vph)	7	3	6	180	233	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	200	259	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	200	263
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.02
Departure Headway (s)	5.0	5.2	4.7	4.3
Degree Utilization, x	0.02	0.01	0.26	0.31
Capacity (veh/h)	656	674	748	825
Control Delay (s)	8.0	7.1	8.2	9.2
Approach Delay (s)	8.0	8.2		9.2
Approach LOS	A	A		A

Intersection Summary			
Delay	8.7		
Level of Service	A		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	113	7	26	210
Future Volume (Veh/h)	1	10	113	7	26	210
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	126	8	29	233
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	421	130			134	
vC1, stage 1 conf vol	130					
vC2, stage 2 conf vol	291					
vCu, unblocked vol	421	130			134	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	701	920			1451	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	134	29	233
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	896	1700	1451	1700
Volume to Capacity	0.01	0.08	0.02	0.14
Queue Length 95th (m)	0.3	0.0	0.4	0.0
Control Delay (s)	9.1	0.0	7.5	0.0
Lane LOS	A		A	
Approach Delay (s)	9.1	0.0	0.8	
Approach LOS	A			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	99	13	16	99	17
Future Volume (vph)	17	1	10	9	1	4	12	99	13	16	99	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	110	14	18	110	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	124	18	129
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	-0.05	0.53	-0.07
Departure Headway (s)	4.5	4.6	5.3	4.7	5.2	4.6
Degree Utilization, x	0.04	0.02	0.02	0.16	0.03	0.17
Capacity (veh/h)	741	727	669	753	667	758
Control Delay (s)	7.7	7.7	7.2	7.4	7.2	7.4
Approach Delay (s)	7.7	7.7	7.3		7.3	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	62	49	63	68	50
Future Volume (Veh/h)	61	62	49	63	68	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	69	54	70	76	56
Pedestrians	4					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	286	108	136			
vC1, stage 1 conf vol	108					
vC2, stage 2 conf vol	178					
vCu, unblocked vol	286	108	136			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	93	96			
cM capacity (veh/h)	775	943	1443			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	137	54	70	132
Volume Left	68	54	0	0
Volume Right	69	0	0	56
cSH	851	1443	1700	1700
Volume to Capacity	0.16	0.04	0.04	0.08
Queue Length 95th (m)	4.0	0.8	0.0	0.0
Control Delay (s)	10.0	7.6	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.0	3.3		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	10	114	5	10	116
Future Volume (vph)	5	10	114	5	10	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	127	6	11	129

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	17	133	11	129
Volume Left (vph)	6	0	11	0
Volume Right (vph)	11	6	0	0
Hadj (s)	-0.28	0.01	0.53	0.03
Departure Headway (s)	4.2	4.2	5.2	4.7
Degree Utilization, x	0.02	0.15	0.02	0.17
Capacity (veh/h)	798	843	681	759
Control Delay (s)	7.3	8.0	7.0	7.4
Approach Delay (s)	7.3	8.0	7.4	
Approach LOS	A	A	A	

Intersection Summary			
Delay	7.6		
Level of Service	A		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	102	41	76	99	17
Future Volume (Veh/h)	38	102	41	76	99	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	113	46	84	110	19
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	130				285	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				285	88
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	98
cM capacity (veh/h)	1455				685	970

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	155	130	129
Volume Left	42	0	110
Volume Right	0	84	19
cSH	1455	1700	716
Volume to Capacity	0.03	0.08	0.18
Queue Length 95th (m)	0.6	0.0	4.6
Control Delay (s)	2.2	0.0	11.1
Lane LOS	A		B
Approach Delay (s)	2.2	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Rue Caron/Rue Industrielle & HWY 17

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (m)	16.5	31.9	17.1	16.6	27.7	11.2	36.4	46.0	37.0	59.7
Average Queue (m)	3.8	13.3	5.0	3.8	6.5	2.5	9.7	17.9	7.7	26.5
95th Queue (m)	12.3	26.3	13.7	11.8	18.7	8.7	23.2	34.9	21.2	48.5
Link Distance (m)		833.3			805.3			415.2		113.3
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Storage Blk Time (%)								0	0	4
Queuing Penalty (veh)								0	0	1

Intersection: 2: Caron St/Rue Caron & Laurier St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	19.5	38.5	13.3	21.0	18.3	37.4	20.2	50.0
Average Queue (m)	3.9	14.3	2.9	6.4	6.7	17.6	5.3	22.9
95th Queue (m)	12.2	30.4	9.2	16.4	14.9	30.9	13.7	41.8
Link Distance (m)		928.0		698.5		142.0		415.2
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	35.0		60.0		55.0		50.0	
Storage Blk Time (%)		1						0
Queuing Penalty (veh)		0						0

Intersection: 3: Caron St & Hélène St

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	8.3	7.1
Average Queue (m)	2.4	0.5
95th Queue (m)	8.3	3.7
Link Distance (m)	266.6	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Caron St & Francois St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	9.3	9.1	21.5	27.8
Average Queue (m)	2.7	1.3	12.4	16.0
95th Queue (m)	9.5	6.4	19.2	24.4
Link Distance (m)	343.3		122.7	232.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		0	1	
Queuing Penalty (veh)		0	0	

Intersection: 5: Caron St & Des Cedres Ave

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (m)	8.7	9.1
Average Queue (m)	2.4	1.1
95th Queue (m)	8.8	5.8
Link Distance (m)	109.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 6: Caron St & Cote St/Potvin Ave

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (m)	16.0	8.9	8.8	18.1	5.6	16.8
Average Queue (m)	5.8	3.1	2.5	10.4	2.2	8.8
95th Queue (m)	13.6	10.0	8.9	16.1	6.6	13.5
Link Distance (m)	73.6	115.9		507.4		263.8
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)			30.0		40.0	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Caron St & Docteur Corbeil Blvd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	17.9	13.1
Average Queue (m)	10.0	1.7
95th Queue (m)	15.1	8.2
Link Distance (m)	486.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 8: David St & Caron St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	9.1	18.7	9.3	16.7
Average Queue (m)	3.3	10.7	2.7	10.1
95th Queue (m)	10.2	16.6	9.5	14.5
Link Distance (m)	509.7	82.9		518.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			40.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Baseline Rd & Caron St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	12.2	18.3
Average Queue (m)	1.1	9.7
95th Queue (m)	6.1	15.6
Link Distance (m)	763.0	1938.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

APPENDIX B: PRELIMINARY ENVIRONMENTAL ANALYSIS

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MEMO

TO: City of Clarence-Rockland

CC: Paul Black, MCIP RPP - FOTENN

FROM: Kai Markvorsen, Environmental Specialist - CIMA+

REVIEWED BY: Nicholas Bertrand, B.Sc. - CIMA+

DATE: 17 April 2018

SUBJECT: **Expansion Lands Existing Conditions Analysis - Environment**

1 Introduction

CIMA+ was mandated by FOTENN Planning + Design, on behalf of the City of Clarence-Rockland, to undertake an Environmental Impact Statement (EIS) on the proposed expansion lands to the southeast of the existing Urban Area Boundary of the City of Rockland. The study area is irregularly shaped, consisting of 133.5 ha on the south side of David Street and bounded by Clarence Creek to the east. It is situated primarily to the east of Caron street with the exception of an approximately 23 ha area to the southwest of the study area.

Figure 1 presents the location of the site with its surroundings.

This study was undertaken to identify the site's general ecological features and constraints and to assist in future development option analyses. The mandate objectives are to:

- Describe the existing natural conditions of the study site based on consultations, available documentation and field surveys;
- Identify any potentially significant environmental features and functions present at the site;

Following the completion of field assessments, recommendations for environmental impact avoidance and mitigation measures will be developed for inclusion in the site development plans.

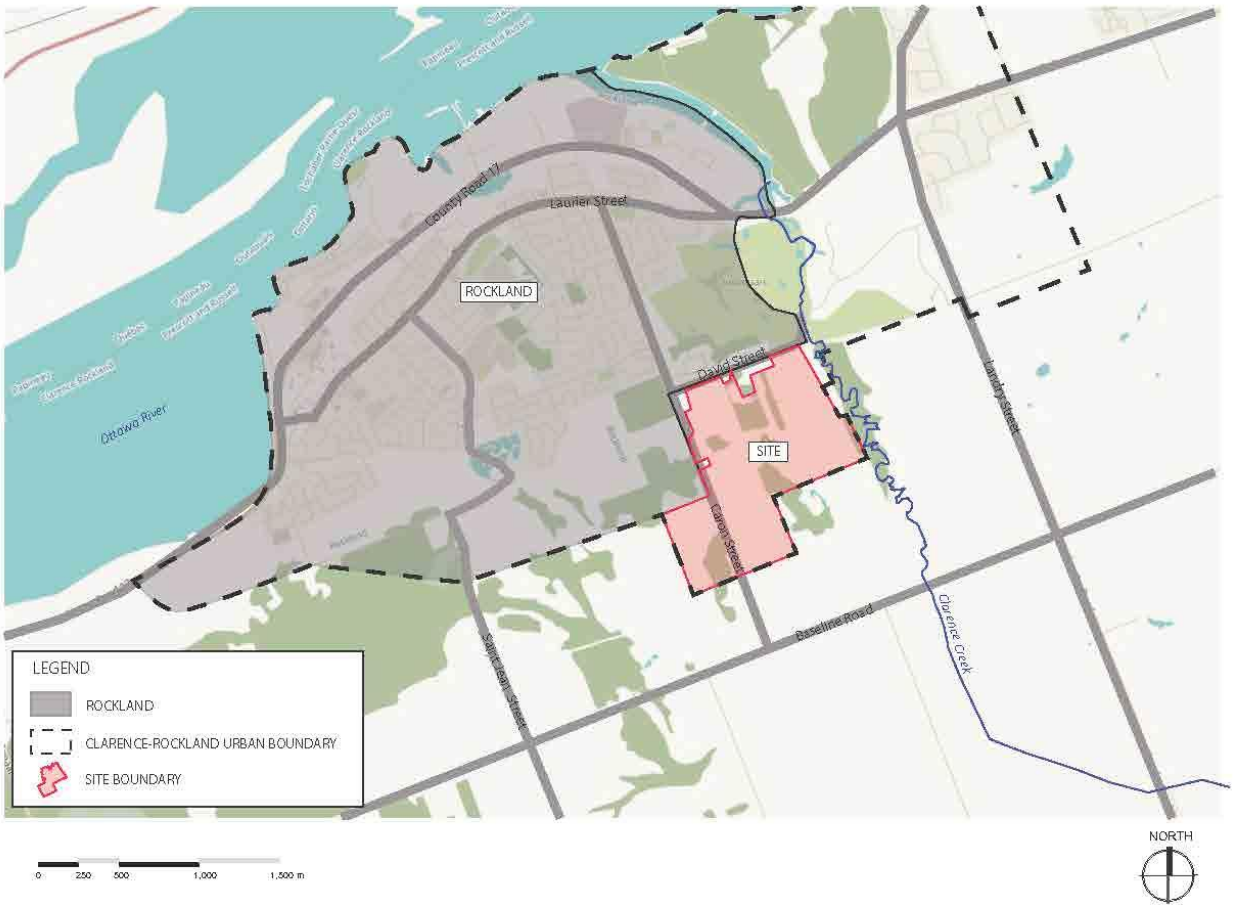

Figure 1. Site Location Map

2 Methodology

2.1 Documentation and Desktop Research

The following public sources were consulted as part of our desktop research:

- Aerial imagery (current and historic) Google Earth;
- Geographic information from Land Information Ontario;
- Crown Land Use Policy Atlas;
- The Ecosystems of Ontario, Part 1 Ecozones and Ecoregions, Ministry of Natural Resources, 2009;
- Atlas of Breeding Birds of Ontario;
- Ontario Nature Reptile and Amphibian Atlas;
- Ontario Geological Survey (OGS Earth – Surficial and Bedrock mapping).

The desktop study also included the consultation of various other sources to identify potential Species at Risk (SAR) that could be encountered on the site.

2.2 Consultations

Information requests were submitted to the Natural Heritage Information Center (NHIC) The South Nation Conservation Authority (SNCA) and the Ministry of Natural Resources and Forestry - Kemptville District (MNRF) to obtain relevant information concerning the property. Correspondence is included in Appendix A. At this time, only information has been received from the NHIC.

2.3 Field Investigations

The field investigations/assessments will be conducted and overseen by a team of trained environmental technicians and biologists from CIMA+ and will include on-site investigation of flora and fauna during a time of year that allowed for identification and observation of all various possible species applicable to the site and during appropriate weather conditions.

3 Landscape Features and Designations

3.1 Ecoregion

The Study Area is located within Ecoregion 6E (Lake Simcoe-Rideau), the second most densely populated ecoregion in Ontario. This ecoregion is part of the Mixedwood Plains Ecozone of Southern Ontario, characterized by relatively diverse vegetation.

3.2 Surficial Geology

Surficial geology mapping from the Ontario Geological Survey indicates that the Study Area is underlain by a combination of till, fine-textured glaciomarine, organic and alluvial deposits as well overlaying Paleozoic bedrock. Typical soils in this units are comprised of clay, sand and silt. Surficial geology of the Study Area is shown in Figure 2.

Figure 2. Surficial Geology

3.3 Watershed and Watercourses

The Study Area is within the middle reaches of the Lower Ottawa – South Nation watershed. The Ottawa River is located approximately 2.5 km north of the property. Clarence Creek, a tributary to the Ottawa River, flows north along the eastern edge of the site. A detailed description of watercourses will be provided following the completion of field assessments. Depending on the species present, in-water work timing restrictions will likely apply to any development work in order to avoid impacts to fish and fish habitat.

3.4 Wetlands

A number of wetlands are located on and adjacent to the site including Clarence Creek Swamp, South Rockland Swamp, Estates Swamp and Rockland Marsh. Rockland Marsh is a provincially significant wetland land (wetland evaluation completed on November 18, 1999). A detailed description of wetlands will be provided following the completion of field assessments.

3.5 Uplands

Uplands in the Study Area consist primarily of agricultural fields and woodlands. Several developed residential properties are located along Caron Street on the west side of the project area as well as two

farms within the Study Area limits. In this area, natural cover is punctuated with buildings and maintained green spaces. A detailed description of upland habitats, including the assessment of potentially affected woodlands for significance, will be provided following the completion of field assessments.

3.6 Provincial Designations

There are no Areas of Natural and Scientific Interest (ANSI) within, or in proximity to, the Study Area. Rockland Marsh is a Provincially Significant Wetland that is located downstream of the project site along Clarence Creek.

Key Site Features and designated areas are identified on Figure 3.

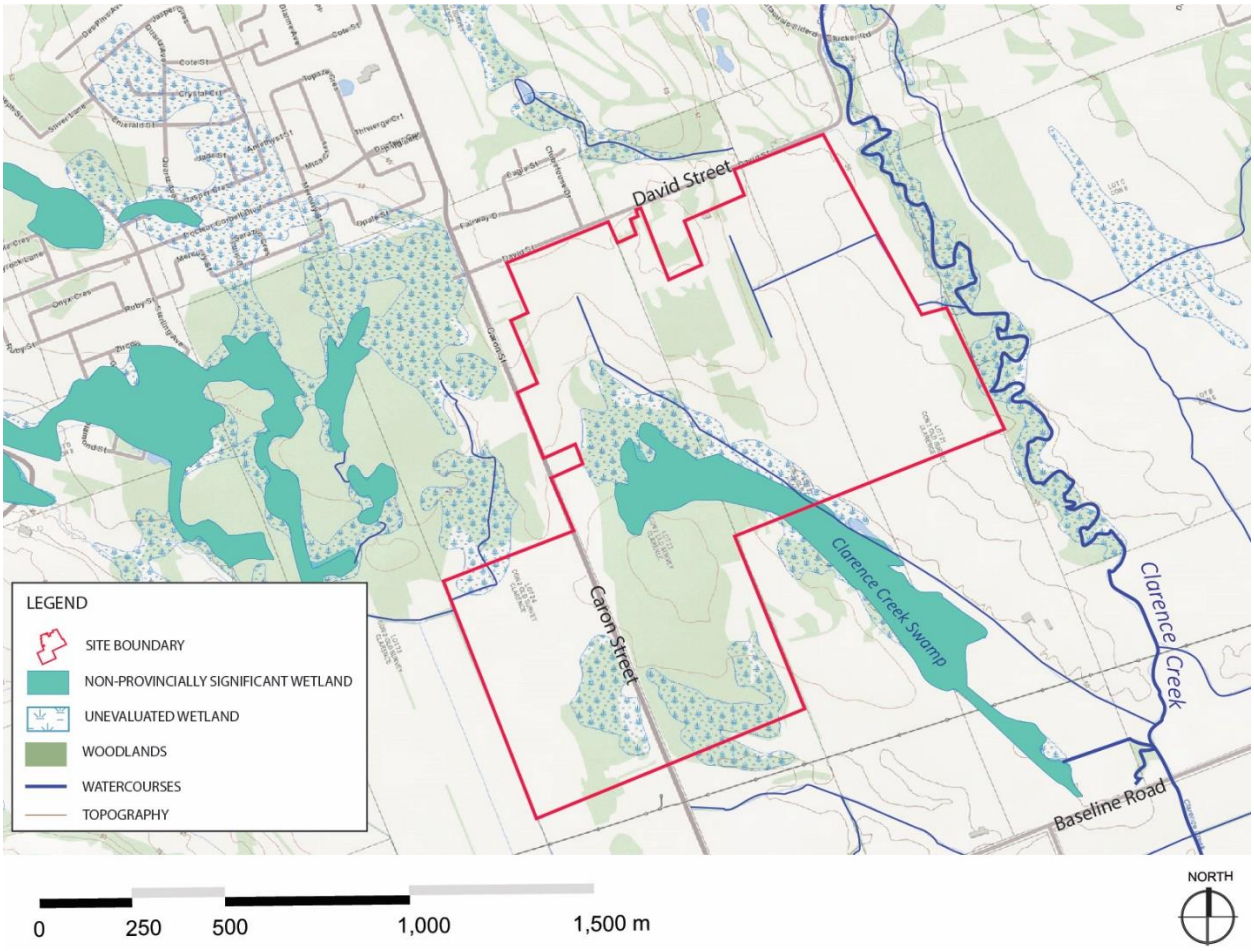

Figure 3. Existing Landscape Features and Designations

3.7 Conservation Authority Designations

At this time, no information has been received from the SNCA.

3.8 Municipal Planning Designations

The Study Area is located within the municipality of Clarence Rockland to the south of the City of Rockland's Urban Area Boundary.

3.9 Existing and Historic Land Uses

Aerial photographs from 2005, 2008, 2013 and 2017 show little change or development of the site over the period. At some point between 2008 and 2013 a significant portion of the woodlands in the central portion of the site were cleared. Significant clearing and subdivision development has also occurred to the west of the site since 2008.

4 Biological Community Characterization

4.1 General Approach

Characterization of the biological community in the Study Area will be completed by compiling data from published resources, data provided by local agencies, and by conducting a visual assessment of natural heritage features, with particular focus on vegetation composition and the presence of Species at Risk (SAR).

4.2 Vegetation

A vegetation survey will be conducted and habitat classified in accordance with the Ecological Land Classification for Southern Ontario (ELC). ELC Polygons will be delineated using aerial photograph interpretation supplemented by field identification of plant species within the Study Area limits.

4.3 Birds

The Atlas of Breeding Birds of Ontario (Atlas Squares 18VR74 and 18VR84) was consulted to determine which bird species are likely to occur in the general vicinity of the Study Area.

The ABBO indicated that had the potential for 180 bird species to be present within approximately 1km of the site. The presence of these species in the Study area and their habitat will be verified through field observations.

4.4 Amphibians and Reptiles

The Ontario Nature Reptile and Amphibian Atlas (Atlas Squares 18VR74 and 18VR84) was consulted to determine which amphibian and reptile species are likely to occur in the general vicinity of the Study Area. These records will be augmented with onsite observations.

Species identified by the Atlas as being potentially present at the site include: American Bullfrog (*Lithobates catesbeianus),* American Toad (*Anaxyrus americanus*), Eastern Newt (*Notophthalmus viridescens*), Eastern Gartersnake (*Thamnophis sirtalis*), Eastern Red-backed Salamander (*Plethodon cinereus*), Four-toed Salamander (*Hemidactylium scutatum*), Green Frog (*Rana clamitans*), Jefferson/Blue-spotted Salamander Complex (*Ambystoma jeffersonianum*), Midland Painted Turtle (*Chrysemys picta*), Mudpuppy (*Necturus maculosus*), Northern Leopard Frog (*Lithobates pipiens*), Red-bellied Snake (*Storeria*

occipitomaculata), Snapping Turtle (*Chelydra serpentine*), Spotted Salamander (*Ambystoma maculatum*), Spring Peeper (*Pseudacris crucifer*), Wood Frog (*Lithobates sylvaticus*).

4.5 Mammals

The presence of mammals will be noted as part of field surveys. Species will be identified through both direct and indirect (i.e. tracks, droppings, etc.) observation.

4.6 Fish and Fish Habitat

At this time, no fisheries information has been received from the MNRF/SNCA for Clarence Creek. The evaluation and characterization of watercourses for fish and fish habitat will be conducted as part of field assessments.

4.7 Species at Risk

The MNRF and the NHIC identified the following Species at Risk or their habitats as being potentially present within the Study Area.

Table 1. Threatened and/or Endangered Species Potentially Present within the Study Area

Common Name Scientific Name Rarity Rankings	Comments
American Eel *Anguilla rostrata* Federal = **Threatened (TH)** Provincial = **Endangered (EN)**	In Ontario, American Eels can be found as far inland as Algonquin Park. Once the eels mature (10-25 years) they return to the Sargasso Sea to spawn.
Barn Swallow *Hirundo rustica* Federal = **Not Listed** Provincial = **Threatened (TH)**	Open or semi-open lands: farms, field, marshes.
Eastern Meadowlark *Sturnella magna* Federal = **Threatened (TH)** Provincial = **Threatened (TH)**	Meadowlarks require open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches.
Butternut *Juglans cinereal* Federal = **Endangered (EN)** Provincial = **Endangered (EN)**	Variety of sites, grows best on well-drained fertile soils in shallow valleys and on gradual slopes
Little Brown Bat *Myotis lucifugus* Federal = **Endangered (EN)** Provincial = **Endangered (EN)**	During the day they roosts in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. They hibernate most often in caves or abandoned mines that are humid and remain above freezing.

Common Name Scientific Name Rarity Rankings	Comments
Tri-colored Bat *Perimyotis subflavus* Federal = **Endangered (EN)** Provincial = **Endangered (EN)**	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group.
Northern Long-eared Bat *Myotis septentrionalis* Federal = **Endangered (EN)** Provincial = **Endangered (EN)**	Northern long-eared bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees.

All endangered and threatened species receive individual protection under Section 9 of the *Endangered Species Act* (ESA) and receive general habitat protection under Section 10 of the ESA. Field investigations will be conducted in order to confirm whether these SAR or their habitat are present in the proposed development area.

The MNRF also identified the potential presence of a species of special concern, Brook Lamprey (*Lampetra planeri*). Species listed as special concern are not protected under the ESA; however, these species may receive protection under other legislation (e.g. the *Fish and Wildlife Conservation Act*). The habitat of special concern species may also be considered significant wildlife habitat.

Attachments

Appendix A

Kai Markvorsen

From: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Sent: Wednesday, April 4, 2018 5:16 PM
To: Kai Markvorsen
Subject: RE: Information Request to Support EIS for Clarence Rockland Urban Expansion

Hello Kai,

EO_ID 111923 represents an element occurrence for Eastern Meadowlark. This is an extant element occurrence. The most recent observations are from 2004.

EO_ID 111919 represents an element occurrence for Eastern Meadowlark. This is an extant element occurrence. The most recent observations are from 2004.

I also queried the Provincially Tracked Species Observations layer (Ontario's provincial record for observations for species of conservation concern) and did not find any newer observations for Eastern Meadowlark for your project site. I did find one observation for Least Bittern (made in 2016) that intersects your project site; the location was reported as the "pond" area in Morris Village, Rockland and we mapped it as a circle with a 1 km radius because we don't know where exactly the species was seen. The observer of the Least Bittern was not a naturalist or birder and reported having some trouble identifying the species. The observer did not have photos to share with us, so we could not confirm the identity of the species.

I queried our natural areas data and could not find reports for:

- Clarence Creek Swamp (Area ID 19089)
- Rockland Marsh (Area ID 19053) – this is a provincially significant wetland (wetland evaluation completed on November 18, 1999, total score: 479)
- South Rockland Swamp (Area ID 19057)

You can download spatial data for these wetlands from https://www.ontario.ca/data/wetlands.

Since your project area falls completely within the jurisdiction of the Ministry of Natural Resources and Forestry Kemptville District Office, I recommend contacting them to see if they have additional information or can offer you any guidance.

If you have any questions, or if there is anything else the Natural Heritage Information Centre can help you with, please let us know.

Best regards,
Martina

Martina Furrer
Biodiversity Information Biologist
Ontario Natural Heritage Information Centre
Ontario Ministry of Natural Resources and Forestry
300 Water St, Peterborough, ON, K9J 3C7
705.755.2192 | martina.furrer@ontario.ca

http://www.ontario.ca/environment-and-energy/natural-heritage-information-centre

From: Kai Markvorsen [mailto:Kai.Markvorsen@cima.ca]
Sent: April 4, 2018 12:31 PM
To: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Subject: Information Request to Support EIS for Clarence Rockland Urban Expansion

Hello,

We're looking for data on the following grid squares (with associated area ID references). Information request is supporting Environmental Impact Statement for the Urban Expansion of Clarrence Rockland.

Grid Square	ID Reference
18VR7843	areaid=19057
18VR7943	areaid=19053
18VR8043	nhic_eo_id=111923
18VR7842	areaid=19057
18VR7942	areaid=19057
18VR8042	areaid=19089
18VR7941	nhic_eo_id=111919
18VR8041	nhic_eo_id=111919

Please let us know if more information is required.

Regards,

Kai

Kai Markvorsen
Environment Professional
Environment

CIMA+
Partners in Excellence

240 Catherine Street, Suite 110
Ottawa, Ontario K2P 2G8
CANADA
Tel: 613-860-2462 ext. 6644 / Fax: 613-860-1870
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Kai Markvorsen

From: Kai Markvorsen
Sent: Wednesday, April 11, 2018 1:10 PM
To: 'Inforequest, Kemptville (MNRF)'
Subject: Information Request supporting EIS for Clarence Rockland Urban Boundary Expansion
Attachments: Location Map.pdf; Clarence Rockland MNRF Info Request 2018-04-11.pdf

Hello,

Please find attached an information request, and location map, for available SAR and natural heritage information.

The study area is irregularly shaped, consisting of 133.5 ha on the south side of David Street and bounded by Clarence Creek to the east. It is situated primarily to the east of Caron street with the exception of an approximately 23 ha area to the southwest of the study area.

Please let me know if more information is required to support this request.

Regards,

Kai

Kai Markvorsen
Environment Professional
Environment

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Ministry of Natural Resources and Forestry

Kemptville District

10 Campus Drive
Postal Box 2002
Kemptville ON K0G 1J0
Tel.: 613 258-8204
Fax: 613 258-3920

Ministère des Richesses naturelles et des Forêts

District de Kemptville

10, promenade Campus
Case postale, 2002
Kemptville ON K0G 1J0
Tél.: 613 258-8204
Téléc.: 613 258-3920

Fri. Apr 13, 2018

Kai Markvorsen
CIMA+
240 Catherine Street, Suite 110
Ottawa, Ontario
K2P 2G8
(613) 860-2462
kai.markvorsen@cima.ca

Attention: Kai Markvorsen

Subject: Information Request - Developments
Project Name: EIS for Clarence Rockland Urban Boundary Expansion
Site Address:
Our File No. 2018_CLA-4511

Natural Heritage Values

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Evaluated Wetland, Clarence Creek Swamp (Evaluated-Other)
- Evaluated Wetland, Estates Swamp (Evaluated-Other)
- Evaluated Wetland, South Rockland Swamp (Evaluated-Other)
- River, Clarence Creek

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

Wildland Fire

MNRF woodland data shows that the site contains woodlands. The lands should be assessed for the risk of wildland fire as per PPS 2014, Section 3.1.8 "*Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards".* Further discussion with the local municipality should be carried out to address how the risks associated with wildland fire will be covered for such a development proposal. Please see the Wildland Fire Risk Assessment and Mitigation Guidebook (2016) for more information.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Water

The Ministry of Natural Resources and Forestry (MNRF) has established timing window guidelines to restrict in-water work related to an activity during certain periods. These restricted periods are identified in order to protect fish from impacts of works or undertakings in and around water during spawning and other critical life stages. A suite of appropriate measures should be taken for projects involving in-water works to minimize and mitigate impacts to fish, water quality and fish habitat, and include:

- avoiding in-water works during the timing guidelines;
- installation of sediment/erosion control measures;
- avoiding the removal, alteration, or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures to manage falling debris (e.g. spalling).

Timing guidelines are based on species* presence and are therefore subject to change if new information becomes available. Timing guidelines in Kemptville District are:

Waterbody (and applicable geography or Fisheries Management Zone)	Timing Guidelines (no in-water works)
○ St. Lawrence River (FMZ 20)	March 15 – July 15 (Spring spawning species)
○ Ottawa River – Lac Des Chats (FMZ 12)	October 1 to July 15 (Spring and fall spawning species, including Lake Trout and Lake Whitefish)
○ Ottawa River – Lac Deschenes (FMZ 12)	October 15 to July 15 (Spring and fall spawning species, including Cisco)
○ Ottawa River – Lac Dollard des Ormeaux (FMZ 12)	January 1 to July 15 (Winter and spring spawning species, including Burbot)
○ Big Rideau Lake (South Burgess, North Burgess, Bastard and South Elmsley Twps) ○ Charleston Lake (Lansdowne and Escott Twps) ○ Crow Lake (South Crosby Twp)	October 1 to June 30 (Spring and fall spawning species, including Lake Trout)
○ Bass Lake (South Elmsley Twp) ○ Lower Rideau Lake (South Elmsley Twp) ○ Bob's Lake (South Sherbrooke Twp) ○ Christie Lake (South Sherbrooke Twp) ○ Dalhousie Lake (Dalhousie Twp) ○ Davern Lake (South Sherbrooke Twp) ○ Farren Lake (South Sherbrooke Twp) ○ Grippen Lake (Leeds Twp) ○ Indian Lake (South Crosby Twp) ○ Little Long Lake (Lansdowne Twp) ○ Millpond Lake (South Burgess) ○ Otter Lake (South Elmsley, South Burgess and Bastard Twps) ○ Otty Lake (North Burgess and North Elmsley Twps)	October 15 to June 30 (Spring and Fall spawning species, including Lake Whitefish and Cisco)

○ Pike Lake (North Burgess Twp) ○ Silver Lake (South Sherbrooke Twp) ○ Redhorse Lake (Lansdowne Twp) ○ Tay River (South Sherbrooke, Bathurst, Drummond and North Elmsley Twps) ○ Wolfe Lake (North Crosby Twp)	
○ Bennett Lake (Bathurst Twp) ○ Crosby Lake (North Crosby Twp) ○ Gananoque River (Leeds Twp) ○ Lac Georges (Plantagenet and Alfred Twps) ○ Gillies Lake (Lanark Twp) ○ Little Crosby Lake (North Crosby Twp) ○ McLaren Lake (North Burgess Twp) ○ Mississippi Lake (Drummond, Beckwith and Ramsay Twps) ○ Mississippi River (Beckwith, Ramsay, Pakenham and Fitzroy Twps) ○ Raisin River below Martintown dam (Charlottenburgh Twp) ○ Rideau River (Wolford, Oxford, Montague, Marlborough, South Gower, North Gower, Osgood, Nepean and Gloucester Twps) ○ South Lake (Leeds Twp) ○ South Nation River below Plantagenet weir (Plantagenet Twp) ○ Upper Rideau Lake (North Crosby Twp) ○ Westport Sand Lake (North Crosby Twp)	January 1 – June 30 (Winter and spring spawning species, including Burbot)
○ Small rivers and streams (denoted on 1:50,000 National Topographic System maps as being one lined) ○ All other waterbodies in FMZ 18	March 15 to June 30 (Spring spawning species)

**Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas. Timing restrictions are subject to change, depending on species found in a given waterbody.*

In addition to adhering to the above timing guidelines, a work permit from the MNRF may be required depending on the nature and scope of work. No encroachment on the bed or banks of a waterbody/watercourse (e.g. abutments, embankments, etc.) is permitted without MNRF approval. Additional information regarding work permits may be found online at https://www.ontario.ca/page/crown-land-work-permits#section-2.

The MNRF does not have any water quality or quantity data available. We recommend that the Ministry of the Environment and Climate Change be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for* Ontario at: http://www.web2.mnr.gov.on.ca/mnr/ebr/fish_hab_referral/protocol_en.pdf.

Additional approvals and permits may be required under the Fisheries Act and the Species at Risk Act; please contact Fisheries and Oceans Canada to determine requirements and next steps. There may also be approvals required by the local Conservation Authority or Transport Canada, and these agencies should be contacted directly to determine requirements. As the MNRF is responsible for the management of provincial fish populations, we request ongoing involvement in such discussions in order to ensure population conservation.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- American Eel (END)
- Barn Swallow (THR)
- Butternut (END)
- Eastern Meadowlark (THR)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)
- Tri-Colored Bat (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: https://www.ontario.ca/page/how-species-risk-are-protected.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:
http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E

For more information on the ESA authorization process, please see:
https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Northern Brook Lamprey (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Sat. Apr 13, 2019

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Dom Ferland
Management Biologist
dominique.ferland@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet

Endangered Species Act, 2007 & Species At Risk in Ontario

Background

Endangered Species Act: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statues-07e06_e.htm
Species at Risk in Ontario List: www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html

The Endangered Species Act (ESA) 2007 protects both species and habitat. Section 9 of the ESA "prohibits killing, harming, harassing, capturing, possessing, collecting, buying, selling, trading, leasing or transporting species that are listed as threatened, endangered or extirpated". Section 10 of the ESA, 2007 prohibits damaging or destroying habitat of endangered or threatened species. Protected habitat is either based on general definition in the Act or prescribed through a regulation. The ESA 2007 defines general habitat as an area on which the species depends, directly or indirectly, to carry on its life processes, including reproduction, rearing, hibernation, migration or feeding.

It is important to be aware that changes may occur in both species and habitat protection. The ESA applies to listed species on the Species at Risk in Ontario List (SARO). The Committee on the Status of Species in Ontario (COSSARO) meets regularly to evaluate species for listing and/or re-evaluate species already listed. As a result, species' designations may change that could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change e.g. if a species-specific habitat regulation comes into effect. The regulation would establish the area that is protected as habitat for the species.

Information with respect to SAR can be found in the online database at the Natural Heritage Information Centre (NHIC) - http://nhic.mnr.gov.on.ca/nhic.cfm . The NHIC compiles, maintains and distributes information on species at risk and updates its information on a regular basis. We encourage you to routinely check the NHIC database to obtain the most up to date SAR information for proposed work locations. However, while the NHIC database is the best available source of data, even when there are no known occurrences documented at a site, there is a possibility that SAR may occur at a proposed work location.

All data represents the MNR's best current available information, it is important to note that a lack of occurrence at a site does not mean that there are no Species at Risk (SAR) at the location. The MNR continues to encourage ecological site assessments to determine the potential for other SAR occurrences. When a SAR does occur on a proposed site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the Act (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for application of certain permits (Section 17) or agreement (Regulation 242/08). For specific questions regarding the Endangered Species Act (2007) or species at risk, please contact a district Species at Risk Biologist at sar.kemptville@ontario.ca.

Ministry of Natural Resources

Ontario

Natural. Valued. Protected.

Natural Heritage Information Centre

Land Information Ontario

Natural Heritage Information Centre: http://nhic.mnr.gov.on.ca/
Biodiversity Explorer (mapping): https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp

Land Information Ontario: http://www.mnr.gov.on.ca/en/Business/LIO/index.html
Ontario Geospatial Data Exchange: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STEL02_167959.html
LIO Make-a-Map: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068999.html
Ontario Maps: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068512.html

The **Natural Heritage Information Centre** (NHIC) compiles, maintains and distributes information on natural species, plant communities and spaces of conservation concern in Ontario. This information is stored in a spatial database used for tracking this information. The Centre also has a library with conservation-related literature, reports, books, and maps, which are accessible for conservation applications, land use planning, and natural resource management. The NHIC website makes much of this information available through the internet.

Natural Heritage Information Centre
300 Water Street, 2nd Floor, North Tower
P.O. Box 7000, Peterborough, ON, K9J 8M5
Tel.:(705) 755-2159 Fax:(705) 755-2168

Land Information Ontario (LIO) manages key provincial datasets. LIO makes these and hundreds of other data sets available to registered users at no charge. LIO also coordinates public and private sector organizations to collect high resolution satellite imagery for Ontario providing significant cost savings for all partners. Technical bulletins, newsletters and more are available online. More details regarding Ontario imagery and data can be searched, ordered and accessed online.

LIO's Ontario Geospatial Data Exchange (OGDE) allows more than 400 public sector organizations to easily share and use digital geographic information under a single legal agreement. Membership is available to eligible public organizations at no costs.

Through the website, Maps & Map Tools are made available, including online mapping software: LIO Make-a-Map.

Land Information Ontario
lio@ontario.ca
LIO Support Team: (705) 755-1878

Or for specifics, see online at:
http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068510.html

Additional Information pertaining to NHIC, LIO and other Natural Heritage and Data and Information tools is available in the MNR Kemptville Information Request Guide (2012).

APPENDIX C: CIVIL SERVICING ANALYSIS

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AON BESTEMPLOYER PLATINUM | CANADA | 2018

MEMO

TO:	City of Clarence-Rockland
CC:	Paul Black, MCIP RPP - FOTENN
FROM:	Brian O'Dell, EIT - CIMA+
PEER REVIEWED AND APPROVED BY:	Christopher Lyon, M.Eng., P.Eng - CIMA+
DATE:	11 May 2018
SUBJECT:	**Expansion Lands Existing Conditions Analysis - Civil Servicing**

1 Existing Conditions

The proposed growth area of the urbanized area for the City of Clarence-Rockland is located southeast of the urban area, immediately adjacent to Caron Street as illustrated on **Figure 1**. The area is comprised of approximately 133.5 hecatares (ha) of land held under multiple ownerships in blocks of land that are currently undeveloped or in use for agricultural purposes.

Figure 1 - Study Area provided in Request For Proposal Number F18-INF-2017-019.

1.1 Potable Water Supply and Major Transmission

Water Treatment and Potable Water Capacity

Based on the information provided to CIMA+ for the Clarence-Rockland Water Treatment Plant (WTP), the following current capacities have been identified:

- Existing Clarence-Rockland WTP capacity is 13,500 m^3/day; and the
- Existing Clarence-Rockland WTP high lift pumping capacity is 13,500 m^3/day.

These values represent the largest (maximum) sustained amount of treated (filtered and Chlorinated water) that the municipal water treatment plant can produce using existing equipment and processes. Water exiting the plant is also known as potable water. Once produced, potable water is piped to reservoir systems that are designed to ensure that a minumum amount of potable water is stored and available for regular daily uses (washing, drinking, toilet flushing, etc.) and also for fire protection.

To estimate the maximum flow of water that is required to support fully developed lands in the urban growth area (Expansion Lands), we will utilize water usage data that is collected by the City's SCADA system. Standard consumption rates are compiled into an annual Summary Report by Ontario Clean Water Agency (OCWA). OCWA is a quasi-private sector corporation that operates the urban water system under contract with the City of Clarence-Rockland. The 2016 Summary Report of water consuption is provided in Appendix A. Key items drawn from this report include:

- The highest value of the Daily Flow Maximums for 2016 was 8,823.4 m^3/day. This represents the highest water demand day during the year
- The value of the Daily Flow Averages for 2016 was 6,170.51 m^3/day. This represents an average day of water consumption over the year.

Based on this information, it is evident that water treatment plant capacity (13,500 cmpd) exceeds current average usage usage (6,170 cmpd). It also exceeds peak water consumption as recorded in 2016 (8,823 cmpd). Information available suggests that an additional 4,676.6 m^3/day of treated water can be produced by the WTP in support of Expansion Lands development.

Once the preferred land use scenario has been established for the Expansion Lands, CIMA+ will calculate the required flow of water needed to to support this urban growth, and will detremine whether or not the water treatment plant can currently meet this new projected supply or whether it requirements modifications to meet higher water flows that cannot be support by current plant infrastructure. It should be noted, that we will work with City officials and OCWA to verify 2018 baseline consumption maximums, and will assess future demand growh based on both Expansion Lands development and the additional town-wide infill development during similar timelines.

Finally, in regard to existing capacities restrictions associated with muicipal water treatment supply, that the Draft Report for the Clarence-Rockland and Limoges Water Servicing Study, confirmed that no capacity updateds are requred for the existing system to meet current service area demands (to 2017). The report also confirms that as the City experiences growth it will have to take the following actions to support future demands:

- Acquire land adjacent to the existing WTP to expand the WTP;
- Increase the WTP treatment capacity;
- Increase the WTP high lift pumping capacity;
- Increase the clearwell storage volume at the WTP; and
- Increase Caron Booster Station capacity.

CIMA+ analysis of the water requirements of the Expansion Lands, is expected to clarify which, if any, of these improvemenst must be in effect to support partial or full development of the Expansion Lands.

Potable Water Transmission Mains and Reservoir Systems

The proposed Expansion Lands area is currently not served by the municipal potable water system. As indicated by **Figure 2** below, the proposed Expansion Lands are identified as being supported in the future by the municipal services sub-area known as 'Pressure Zone 2', see the green highlighted area. To ensure a good supply of potable water to this growth area, the City of Clarence-Rockland must ensure that adequate water transmission lines and reservior systems are in place to move large quantities of water under pressure, such that containment systems are filled daily.

Two types of potable water resevoir systems are regularly used in Eastern Ontario. These include 'elevated storage' in what is commonly called a water tower. The Water pressure in the local watermain distribution pipes around a water tower is directly associated with the fact that the water is storage well above-grade. The higher the water storage area – the higher the potetial water pressure in the watermains.

The second type is below-ground or at-grade reservoirs. These reservoirs offer little water pressure to the adjacent watermain systems, and so they are paired with electric motors that boost the pressure of water leaving the reservoirs. These 'booster stations' offer a similar service to a water tower, as each of these systems increase water pressure and flow capacity in the watermain distribution system.

The Municipality of Clarence-Rockland uses both water towers and booster stations to supply good water flow and pressure to the urban service area. Based on earlier engineering studies, at this time it is expected that the Expansion Lands can be serviced by the Caron Street Booster Station (BS) and the Bouvier Water Tower (Serviceability Study for Morris Village – Stage 5 (October 2017)). To confirm this preliminary assessment, additional information on the current water transmission lines (water pressure and flow capacity), and engineering analysis is required to determine the water distribution system current capacity from the Clarence-Rockland WTP to the Expansion Lands.

As the development plans for the Expansion Lands are developed during this study, it is expected that localized water modelling will be used inconjunction with available data on water (pressure and flow capacities) to develop an engineered approach to supply water to the proposed developent area.

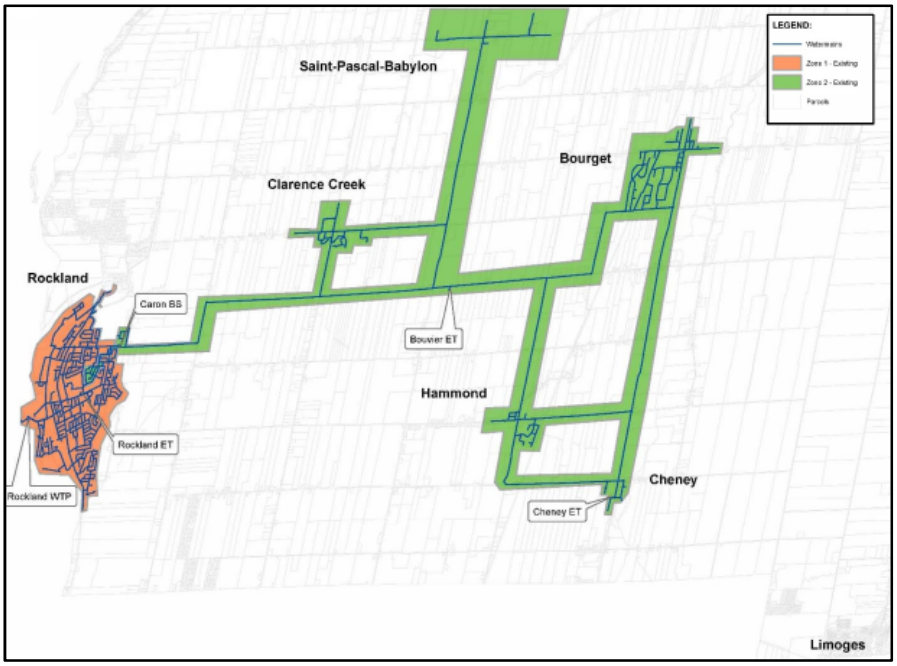


Figure 2 - Existing Drinking Water System Layout provided in Report for Clarence-Rockland and Limoges Water Servicing Study (Draft, January 19, 2018).

Potable Water Reservoir Storage Systems

The Expansion Lands require engieered volumes of potable water to be held in reservoirs to ensure that adequate water is on-hand to meet consumption and fire-fighting needs. The amount of water to be held in reservoirs is guided by standards published by the Ontario Ministry of the Environment and Climate Change.

Based on current City studies[1], it is understood that the City has adequate reservoir capacity to support growth needs until the year 2027. This analysis assumes that City growth will continue in a manner that is keeping with approved growth rates provided under the City Official Plan.

To clarify the impacts of this finding on the development of the Expansion Lands, additional analysis on reservoir capacity will be conducted when preferred development plans are finalized for the Expansion Lands area.

1.2 Expansion Lands Water Distribution Network

The distribution of treated water from reservoirs and booster stations to the planned new development in the Expansion Lands is supported by a system of watermains that are looped around and through the

[1] Draft Report for the Clarence-Rockland and Limoges Water Servicing Study dated January 19, 2017

Expansion Lands. Earlier engineering studies, confirm a number of specialized watermain systems that are expected to be instrumental in serving the growth area are expected to include:

- Existing 150 mm diameter watermain on David Street;
- High pressure 300 mm diameter watermain on Caron Street;
- Caron Street Booster Station Improvements; and
- Dedicated watermain booster line to the Bouvier Water Tower.

The above information has been drawn from as-built drawings and the Draft Report for the Clarence-Rockland and Limoges Water Servicing Study dated January 19, 2017. Based on the initial information received, the existing capacity of the Caron Street Booster Station (3,975 m^3/day) exceeds the normal usage (2,563 m^3/day). It is estimated that the available capacity is the Caron Street Booster Station is 1,412 m^3/day. Our analysis of servicing the Expansion Lands will assess whether future maximum demand will exceed capacity. This analysis will use additional information on existing watermain conditions (e.g.: boundary conditions) to determine whether the proposed dedicated watermain booster line to the Bouvier Water Tower is required to meet projected maximum demand.

1.3 Fire Protection and Resevoir Capacity

The amount of potable water needed for human consuption is small by contrast to the flow and pressure of potable water needed to fight fires. In general, municipalties generally adopt minimum volumetric flow rates (litres per seond or gallons per minute) that will be available to fight fires in their community. The availability of water to fight fires has a direct impact on the insurance rates paid by local building owners.

The existing fire flow targets adoted in the City of Clarence-Rockland for the new development area are 125 L/s in pressure zone PZ-1 (Rockland), with lower supply rates have been adopted for outlying village areas (67 L/s for PZ-2 (Villages)).

The detailed engineering analysis to be performed for the proposed development area will confirm available and required water supply (pressure, flow and reservoir capacity) for the preferred development scenario. These modelled fire flow capabilities will be confirmed against the municipal standard and will be verified against the findings of the Fire Underwriters Survey.

1.4 Sanitary Sewers System and Wastewater Treatment

The City of Clarence-Rockland is served by a comprehensive sanitary sewer system. This system is designed to support sanitary sewerage flows from all lands within the urban service area. It is proposed that the Expansion Lands area under review in this study, will be fully supported by sanitary sewer system, and that localized septic systems will not be permitted in this growth area.

Wastewater Treatment Plant

This system of sanitary sewers and pumping stations collectively direct sewage flows to a single wastewater treatment plant (WWTP) that supports the Clarence-Rockland serviced area. Under relevant Provincial regulations, municipalities must have pumping stations and WWTP systems rated and given a maximum capacity in Cubic Meters/Day or Liters/Second.

The Clarence-Rockland WWTP is a secondary treatment facility based on sequencing batch reactor technology. Disinfection is provided by chlorination prior to discharge to the Ottawa River. Sludge is stabilized through an aerobic digestion process prior to storage on site and land application.

The current rated capacity of the Clarence-Rockland WWTP is as follows:

- Rated Average Daily Flow Capacity of 6,800 m^3/day;
- Rated Maximum Daily Flow Capacity of 17,340 m^3/day; and a
- Rated Peak Flow Capacity of 20,400 m^3/day.

Under existing peak flow conditions, the WWTP does not provide sufficient retention time for chlorination prior to discharging to the Ottawa River.

As of 2018, to address the capacity issues and provide for future growth, the City of Clarence-Rockland is undertaking upgrades to the WWTP, including:

- Construction of a new headworks facility, complete with fine screening and grit removal system to improve both pre-treatment and secondary treatment effectiveness; and,
- Design and construction of an equalization tank, as previously identified within the long-term plan for the WWTP, to normalize peak flows from inflow and infiltration.

It is anticipated that these changes will address several WWTP deficiencies.

Sanitary Pump Stations

While the City's sanitary sewer system has been designed to rely on gravity to support natural flows toward a centralized Waste Water Treatment Plant, it has not been feasible to use gravity alone in all situations. Therefore, the City has constructed a number of sewage pumping stations in the existing urban area to pump sewage flows towards the WWTP. At this time, a total of seven (7) existing sewage pumping stations are in operation which use pumps to pressurize and 'lift' sewage to higher gravity-fed sewers. An eighth sewage pumping station is under design.

Pumping Station No. 1 is the City's largest pumping station, as it transfers collected sewage from the full urban service area to the Clarence-Rockland WWTP. It is located south of Highway 17, next to Caron Street. In regard to known critical sanitary sewer infrastructure at this stage of our review, below is key planning information with respect to Pumping Station No. 1, which will be used to pump sewage flows from the Expansion Lands:

- Existing average daily flow is 44.14 L/s (estimated 2013 flows from 2005 data);
- Existing maximum daily flow is 82.19 L/s (estimated 2013 flows from 2005 data);
- Existing firm rated capacity is 200 L/s;
- Existing peak instantaneous sewage flow is 203.91 L/s (estimated 2013 flows from 2005 data); and
- Flows in excess of 200L/s from Pumping Station No. 1 have been reported by O.W.C.A. in the past 5 years (Pumping Station No. 1 Technical Memorandum dated December 18, 2013).

MOECC design guidelines require that all pumping stations be able to pump peak instantaneous sewage flows based on its firm capacity. Firm capacity is defined as the station capacity with the largest pump out of commission. For Pumping Station No. 1, this is 200 L/s. Based on the current status of Pumping Station

No. 1 and the MOECC design guidelines, it would suggest that Pumping Station No. 1 is currently operating at or even beyond its firm capacity.

The City of Clarence-Rockland has identified possible future improvements to Pumping Station No. 1, including:

- Increase the pumping capacity and conveyance capacity of Pumping Station No. 1 to 400 L/s; and
- Twinning the forcemain to convey an ultimate peak flow capacity of 850 L/s and for operation redundancy.

It is anticipated that the above modifications to Pumping Station No. 1 will address the existing capacity issues and provide available capacity for future growth.

As part of this study mandate the system of sewers and pump station from the Expansion Lands to the WWTP, will be reviewed and capacities / deficiencies assessed. In the event that additional pump stations are required, this requirement will be identified.

Sanitary Sewers

As noted above, the planned Expansion Lands development will rely on an existing system of urban area sanitary sewers and pumping stations to convey flows from the Expansion Lands to the Wastewater Treatment Plant. Our review of existing conditions is focused on ensuring that there is adequate additional capacity in the downstream sanitary sewer system to meet the added growth of the Expansion Lands plus approved development elsewhere in the urban service area.

Key issues under investigation, include:

- Existing use and capacity of a constructed 450 mm diameter forcemain on Caron St from David St to 100 m south of Corbel Blvd;
- Existing use and capacity of a 250 mm diameter sanitary sewer from Caron St, heading east on David St (until capped);
- Existing use and capacity of a 300 mm diameter sanitary sewer from intersection of Caron St and David St, southbound on Caron St (terminating at an existing maintenance hole);
- The Ultimate Servicing Map, SK1.1 in Appendix B, shows a sub-area of the Expansion Lands which is on the west side of Caron Street. This area is expected to be serviced by Pumping Station No. 8 (located in Morris Village Stage 5, Pumping Station No. 9, in the Serviceability Study for Morris Village – Stage 5);
    - Pumping Station No. 8 has a total area of 103.08 ha and a population of 6,786 capita allocated for future sites. The new pumping station will service a total of 219.53 ha and a total population of 14,665 capita for a total peak flow of 227.10 L/s;
    - Sewage from Pumping Station No. 8 will be pumped to the deep sanitary sewer on Caron Street and then gravity flow to Pumping Station No. 1;
    - Existing use and capacity of this pumping station and downstream receiving sewers is to be confirmed.
- The Ultimate Servicing Map, SK1.1 in Appendix B, shows the sub-area of the Expansion Lands which is on the east side of Caron Street, that will be serviced by Pumping Station South of David

St (as identified in Table 3-7 from the Sewage Pumping Station Capacity and Condition Assessment & Sanitary Treatment Facility Capacity and Capital Investment Report dated June 9, 2014).

- It is assumed this pumping station will pump sewage through the existing 450 mm diameter forcemain to a maintenance hole upstream of Pumping Station No. 1, at which point it will transition to gravity flow to Pumping Station No. 1.
- Existing use and capacity of this pump station and downstream receiving sewers is to be confirmed.

- In 2015, Caron Street was reconstructed and new underground infrastructure was installed. The Sanitary Sewer Calculation Sheet in Appendix B, and associated Sketch SK1.23, indicate that the new sanitary sewers have approximately 13% available capacity when taking into account existing and proposed contributing sanitary areas.

1.5 Storm Sewer and Storm Water Management

The pre-development condition of the proposed Expansion Lands is rolling cultivated fields which drain to low areas and eventually to adjacent ditches and creeks. The major creeks adjacent to the Expansion Lands are Clarence Creek and Lafontaine Creek, both creeks are tributaries to the Ottawa River. The Expansion Lands are approximately 3 to 3.5 km upstream from the confluence of the creeks with the Ottawa River.

Caron Street (north of David Street) has an urban cross section and handles runoff from the roadway by catch basins and storm sewers. Appendix C shows the catchment areas for the storm sewers, along with the associated storm sewer calculation sheet for sizing the piping network. Some of the catchment areas identified in Appendix C fall within the proposed Expansion Lands.

Currently Caron Street (south of David Street) and David Street have a rural cross section and handle runoff from the roadway by roadside ditches and culverts until a stormwater outfall is reached. Runoff from the culvtivated lands follows the path of least resistance until Clarence Creek or Lafontaine Creek is reached.

It is assumed that as the Expansion Lands develop, a dual drainage system will be adopted. This dual drainage system will consist of a minor piped storm sewer system and a major overland flow system. Basedon consultation with the municipality and the South Nation Conservation Authority, the stormwater system for quality and quantity sizing will be designed to address the following:

- Pre-to-Post development control;
- Storm sewers will be designed using the rational formula for the 5 year design storm using an inlet time of 10 minutes for roads and 15 minutes for rear yards;
- The March 2003 Ministry of the Environment Stormwater Management Planning and Design Manual will be used for any studies and required design;
- Where feasibel, rear yard and roadway catchbasins will be equipped with inlet control devices restricting flows to appropriate limits;
- The hydraulic grade line (HGL) in the storm sewer will be designed to allow a clearance of at least 0.3 m between the underside of footing and the 100 year HGL;

- Maximum ponding in road sags will be 0.3 m;
- Minor system and Major system flow will be directed to an appropriately sized stormwater management facility which will be designed to meet quality and quantity requirements.

Further analysis is required and design details will be available as the project progresses. The proposed Expansion Lands are outside the boundaris for the South Nation Conservation Authority (SNCA) and the Rideau Valley Conservation Authority. From previous project experience, it is anticipated consultation with SNCA and the Ministry of Natural Resources and Forestry will be required to validate quantity and quality requirements as the design progresses.

Attachments

Appendix A – 2016 Summary Report for Water Consumption

Appendix B – Sanitary Sewer Calculation Sheet for Caron Street by WSP, Sanitary Servicing Areas and Pump Station Catchment Areas by Genivar

Appendix C – Storm Sewer Calculation Sheet and Storm Catchment Areas by WSP/Genivar

Appendix A

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

February 27th 2017

Mr. Denis Longpré
The City of Clarence-Rockland
1560, Laurier Street
Rockland, ON
K4K 1P7

Dear Mr. Longpré,

Attached is the 2016 Summary Report for the Rockland Water System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act, which requires a Summary Report to be prepared not later than March 31st of each year for the preceding calendar year.

This Summary Report is to be provided to the members of the municipal council. Please ensure this distribution.

Furthermore we recently forwarded you a copy of the 2016 Section 11 Annual Report for the Rockland Water System. Section 12 of O. Reg. 170/03, requires that both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Sincerely

Patrick Lalonde
(A) Process Compliance Technician
OCWA, Alfred Hub

SUMMARY REPORTS FOR MUNICIPALITIES

Introduction:

Schedule 22 of O. Reg. 170/03 requires the preparation by the water system owner of a "Summary Report for Municipalities". This requirement is applicable only to large and small municipal residential water systems.

The Summary Report for the preceding year is to be issued by March 31st of the following year.

Distribution of the Summary Report is a function of ownership. If the water supply is owned by a municipality then all members of council are to receive the report. If owned by a municipal service board established under Section 195 of the Municipal Act, 2001 then all members of that board are to receive the report. Where a corporation owns the water supply, then the board of directors is to receive the report. And finally, where the water supply provides water to another municipality under a contract then the water supply owner shall give by March 31st 2017 a copy of the Summary Report to the municipality being supplied

The contents of the Summary Report for Municipalities must include the following:

1. A list of the requirements of the Safe Drinking Water Act and it's Regulations that the water system failed to meet during the report's time frame including the duration of the failure
2. A list of the requirements of the water system's Certificate of Approval that the water system failed to meet during the report's time frame including the duration of the failure
3. A list of any Orders that the water system failed to meet during the report's time frame including the duration of the failure
4. For each of the above failures, a description of the measures taken to correct the failures
5. A summary of the quantities and flow rates of the water supplied "including monthly average and maximum daily flows and daily instantaneous peak flow rates." (Information is to enable the owner to assess the capability of the water system to meet existing and future uses.)
6. A statement that captures the comparison of the flow information above to the rated capacity and flow rates approved in the water supply's approval.

SUMMARY REPORTS FOR MUNICIPALITIES

Report

This report is a summary of water quality information for the Rockland WTP, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1st, 2016 to December 31st, 2016. The Rockland WTP is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by The Ontario Clean Water Agency on behalf of the Corporation of the City of Clarence-Rockland.

Who gets a copy of the Report:

- in the case of a drinking-water system owned by a municipality, the members of the municipal council;
- in the case of a drinking-water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or
- in the case of a drinking-water system owned by a corporation, the board of directors of the corporation.

What must the Report contain?

The report must,

(a) list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report and specify the duration of the failure; and

(b) for each failure referred to in clause (a), describe the measures that were taken to correct the failure.

The following table lists the requirements that the system failed to meet and the measures taken to correct the failure:

Drinking Water Legislation	List the requirement(s) the system failed to meet	Specify the duration of the failure (i.e. date(s))	Describe the measures taken to correct the failure	Status (complete or outstanding)
Safe Drinking Water Act	N/A			
Ontario Regulations (eg. O.Reg 170/03, O.Reg 128/04, O.Reg 903	N/A			
Municipal Drinking Water Licence#175-101 System Drinking Water Works Permit #175-201 PTTW#2563-7H9QE8	Section 1.4 of the MDWL. Failed to meet the Suspended Solids Criteria listed in table 3 for residue management	Month of December 2016	Backwash supernatant tank valve to storm sewer has been shut off and diverted to sanitary, Tank will be scheduled for cleaning and inspection in 2017	Complete
Provincial Officer's Order #	N/A			

What else must the Report contain?

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and daily instantaneous peak flow rates.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval.

Attached please find a copy of the Annual Record of Water Taking for the Rockland WTP, which contains all required flow information.

When Does the Report Get Submitted?

If a report is prepared for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31 2017.

End

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Annual Record Of Surface Water Taking
Relevé annuel des prises d'eau de surface

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the respective hub office in your area.

Les renseignements personnels qui figurent dans le présent formulaire sont recueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. Ce formulaire sert à dossiers les détails et les renseignements concernant la prise d'eau annuelle. Prière d'adresser toutes questions au personnel du bureau régional de votre secteur.

Year(Année): **2016** Permit No.(N° de permis):**2563-7H9QE8** Source: **Ottawa River**

Name of Permittee: **Corporation of the City of Clarence**
Nom du titulaire du permis

Mailing Address: **1560 rue Laurier, Rockland ,Ontario,K4P 1P7**
Adresse postale

Concession: I
Concession:

Lot: 27
Lot:

Location Of Taking: **Rockland WTP**
Lieu de la prise d'eau

Twp. or Municipality: **City of Clarence-Rockland**
Canton ou municipalité

Month	Monthly Flow Total (m3/month)	Daily Flow Average (m3/day)	Daily Flow Maximum (m3/day)	Daily Flow Peak Flow Rate (L/min)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking	Maximum Daily Run Time (hr)
Jan	143,884.2	4,641.43	5,477.8	4,798.8	69.24	31	24.0
Feb	133,453.5	4,601.84	5,407.7	4,611.3	69.23	29	22.0
Mar	142,111.8	4,584.25	5,439.7	8,481.3	70.28	31	22.7
Apr	136,936.1	4,564.54	5,537.0	8,695.0	69.9	30	23.0
May	170,584.9	5,502.74	8,823.4	9,211.3	106.18	31	23.9
Jun	185,115.2	6,170.51	7,810.6	9,166.3	112.17	30	23.3
Jul	166,299.4	5,364.50	7,171.8	9,217.5	114.09	31	21.9
Aug	176,702.5	5,700.08	8,246.5	9,313.8	111.67	31	21.2
Sep	156,914.0	5,230.47	6,972.3	9,263.8	112.63	30	18.6
Oct	153,298.2	4,945.10	6,151.3	9,232.5	112.71	31	16.7
Nov	141,775.3	4,725.84	5,391.9	9,192.5	113.27	30	14.2
Dec	147,531.3	4,759.07	6,727.2	9,933.8	116.07	31	16.1
Total	1,854,606.4					366	
Avg	154,550.5	5,067.23			98.12		
Max	185,115.2	6,170.51	8,823.4	9,933.8	116.07		24.0
Criteria			**14,500**	**10,089**		366	24.0

Appendix B

Sanitary Sewer Calculation Sheet

DRAINAGE AREA DESCRIPTION																	OUTLET PIPE DATA						
	MANHOLE				CONTRIBUTING	POPULATION			Σ	q	M	Peak Flow	Σ	IA	Q *(INCOMMING FROM SIDE STREET)*	Q	SIZE	Slope	CAP	Q/Qfull	VEL	LENGTH	FALL
LOCATION	FROM	TO	No.	Ha	AREAS	Ppha	P	P(1000)	P(1000)	l/cap/d)		(l/s)	AREA (ha)	(l/s)	(l/s)	(l/s)	(mm)	(%)	(l/s)		(m/s)	(m)	(m)
Caron St	SAM250	SAM251	26	2.40		67.50	162	0.162	0.162	400	4.00	3.00	2.4	0.67	-	3.83	200	2.10%	47.53	0.08	1.51	22.8	0.479
Caron St	SAM251	SAM252	32	24.20	26,32	67.50	1633.5	1.6335	1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	1.16%	64.05	0.61	1.30	55.5	0.644
Caron St	SAM252	SAM253			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	1.29%	67.54	0.58	1.38	33.8	0.436
Caron St	SAM253	SAM254			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	0.60%	46.06	0.85	0.94	62.5	0.375
Caron St	SAM254	SAM255			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	300	0.40%	61.16	0.64	0.87	96.7	0.387
Caron St	SAMH201	SAMH202	26,32,33,33b,34,35	312.10		67.50	21066.8	21.0668	21.06675	400	2.63	256.49	312.1	87.39	-	343.88	750	0.15%	431.17	0.80	0.98	95.1	0.143
Caron St	SAMH202	SAMH203	Refer to CH2MHILL Master Sanitary Servicing Plan for the South Development Area for respective calculations												241.00	584.88	750	0.40%	704.10	0.83	1.59	100.2	0.401
Caron St	SAMH203	SAMH204													0.00	584.88	750	0.40%	704.10	0.83	1.59	100.2	0.401
Caron St	SAMH204	SAMH205													0.00	584.88	750	0.40%	704.10	0.83	1.59	99.9	0.400
Caron St	SAMH205	SAMH206													0.00	584.88	750	0.40%	704.10	0.83	1.59	99.8	0.399
Caron St	SAMH206	SAMH207													0.00	584.88	750	0.50%	787.20	0.74	1.78	100.1	0.501
Caron St	SAMH207	SAMH208													0.00	584.88	750	0.50%	787.20	0.74	1.78	100.1	0.501
Caron St	SAMH208	SAMH209													16.00	600.88	750	0.50%	787.20	0.76	1.78	100.2	0.501
Caron St	SAMH209	SAMH210													1.00	601.88	750	0.50%	787.20	0.76	1.78	75.8	0.379
Caron St	SAMH210	SAMH211													8.00	609.88	750	0.50%	787.20	0.77	1.78	105.0	0.525
Caron St	SAMH211	SAMH212													1.00	610.88	750	0.50%	787.20	0.78	1.78	99.8	0.499
Caron St	SAMH212	SAMH213													0.00	610.88	900	0.20%	809.59	0.75	1.27	102.3	0.205
Caron St	SAMH213	SAMH214													92.00	702.88	900	0.20%	809.59	0.87	1.27	70.7	0.141
Caron St	SAMH214	SAMH215													21.00	723.88	675	1.00%	840.59	0.86	2.35	93.3	0.933
EXISTING PIPE	SAMH215	EX SAMH216	Existing Pipes (Covered Under Seperate ECA)																				
EXISTING PIPE	EX SAMH216	EX SAMH217																					
EXISTING PIPE	EX SAMH217	MH608																					
Caron St	MH608	PS1														732.80	675	1.00%	840.59	0.87	2.35	94.9	0.949

DESIGN PARAMETER

Mannings n = 0.0130
Average Daily Flow (q)= 400 l/cap/d
Infiltration Rate (I) = 0.28 l/s/ha

Designed By: Matt Scanlan, EIT

Checked By: Matt Morkem, P.Eng

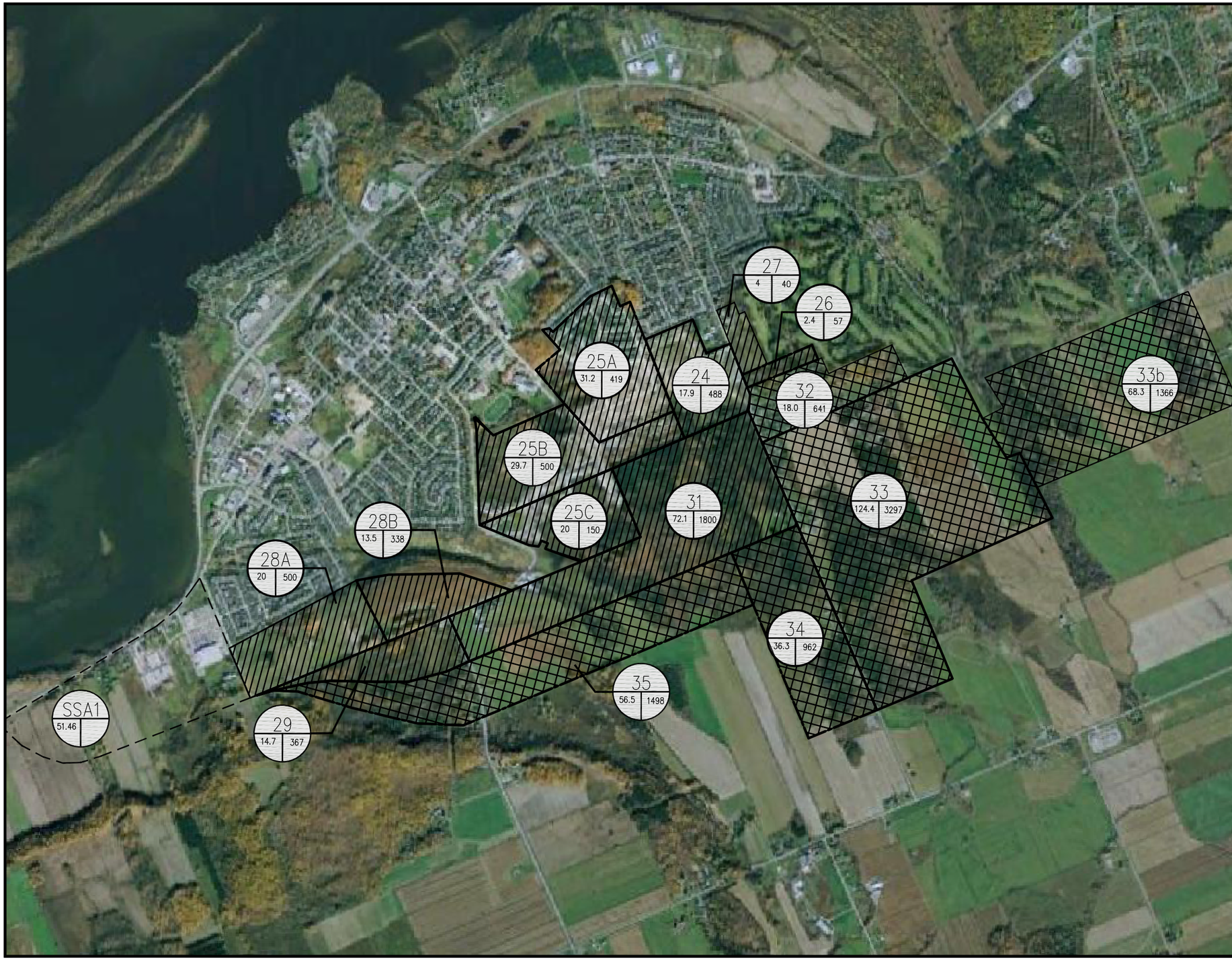
Dwg. Reference: SK1-23rev1 -Sanitary Area

PROJECT: Caron St. Reconstruction

LOCATION: Rockland, Ontario

Project Number: 65038

Date: 29-Apr-13



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1224 GARDINERS ROAD, SUITE 201
KINGSTON, ONTARIO
CANADA K7P 0G2
PHONE: 613-634-7373 FAX: 613-634-3523
WWW.GENIVAR.COM

CLIENT:

CITY OF
CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:

CARON STREET
RECONSTRUCTION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
1		2013/01/23	ISSUED FOR ECA

PROJECT NO: 065038	DATE: MAY, 2010
ORIGINAL SCALE: 1:20000	IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: MS	
DRAWN BY: MF/MS	
CHECKED BY: MM	1"

DISCIPLINE:

CIVIL

TITLE:

PROPOSED SANITARY
SERVICING AREAS

SHEET NUMBER:

SHEET #: -- OF --

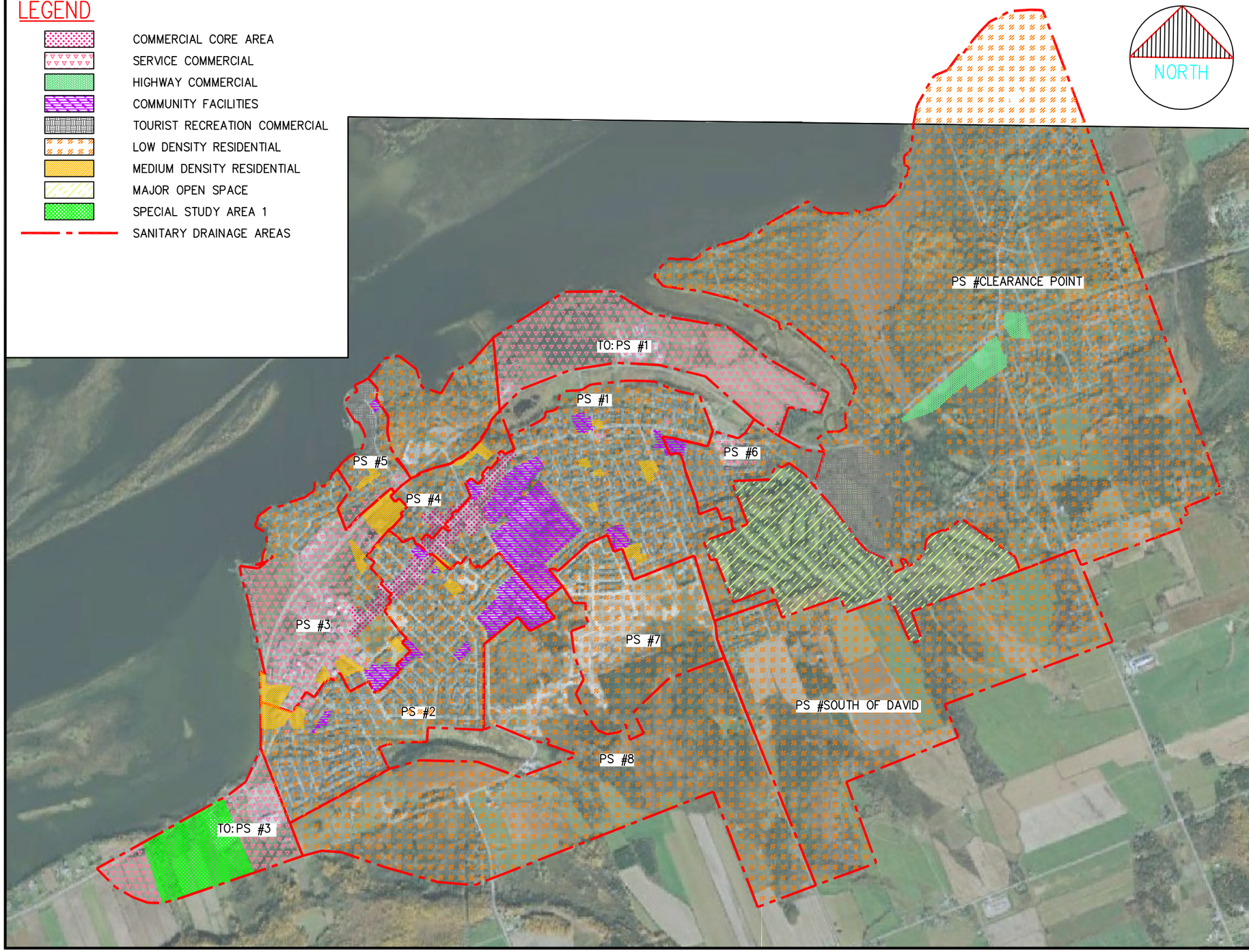
SK1.23

ISSUE:
ISSUED FOR ECA
DATE OF: JANUARY 23, 2013

REV #
0

LEGEND

- COMMERCIAL CORE AREA
- SERVICE COMMERCIAL
- HIGHWAY COMMERCIAL
- COMMUNITY FACILITIES
- TOURIST RECREATION COMMERCIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- MAJOR OPEN SPACE
- SPECIAL STUDY AREA 1
- SANITARY DRAINAGE AREAS



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CANADA K7P 0G2
PHONE: 613-634-7373 FAX: 613-634-3523
WWW.GENIVAR.COM

CLIENT:
CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:
CLARENCE-ROCKLAND
PUMPING STATION EVALUATION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION

PROJECT NO: 121-20569-00

DATE: MAY 2013

ORIGINAL SCALE: 1:25000

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

1"

DESIGNED BY: MS

DRAWN BY: STR

CHECKED BY: MM/MS

DISCIPLINE: CIVIL

TITLE:
PUMP STATION CATCHMENT
AREA PLAN

SHEET NUMBER: SK1.1

SHEET #: OF

ISSUE: ISSUED FOR REVIEW

DATE OF: MAY 22, 2013

REV #: 0

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Appendix C

Storm Sewer Calculation Sheet

Caron Street Reconstruction

STREET	MANHOLE From	MANHOLE To	AREA No	AREA Ha	CONTRIBUTING AREAS	RUNOFF DATA C	AC	Σ AC	Tc (min.)	I (mm/hr)	Q (L/s)	PIPE DATA Size (mm)	Slope (%)	Capacity (L/s)	Q/Q_{full}	Velocity (m/s)	Length (m)	FALL (m)
CARON ST	STM300	STM304	S1	0.220	S1	0.75	0.165	0.165	15.000	83.56	38.33	300	0.50%	68.4	0.56	0.97	65.92	0.330
CHAPMAN ST	-	STM304	Existing Pipes															
CARON ST	STM304	STM305																
ATREL ST CUL DE SAC EAST	-	STM305																
CARON ST	STM305	STM306																
ATREL ST	STM103	STM306																
CARON ST	STM306	STM307																
CARON ST	STM307	STM309																
CARON ST	STM308	STM309	S6	0.240	S6	0.75	0.180	0.180	15.000	83.56	41.81	300	0.50%	68.4	0.61	0.97	44.04	0.220
CARON ST	STM307	STM309	-	-	A1,A2,A3,S1,S2,S3,S4,S5	-	-	4.041	18.228	74.40	835.67	900	0.40%	1144.9	0.73	1.80	41.59	0.166
CARON ST	STM309	OUTLET	-	-	A1,A2,A3,S1,S2,S3,S4,S5,S6	-	-	4.221	18.613	73.45	861.80	900	0.35%	1071.0	0.80	1.68	20.00	0.070
CARON ST	MH101	MH102	G	1.308	G	0.40	0.523	0.523	15.0	84	122.45	375	0.70%	146.7	0.83	1.33	82.53	0.578
CARON ST	MH102	MH103	F	0.915	F,G	0.40	0.366	0.889	15.8	81	201.86	450	0.70%	238.5	0.85	1.50	72.3	0.506
CARON ST	MH103	MH104	F		F,G		0.000	0.889	16.5	79	196.77	450	0.70%	238.5	0.82	1.50	62.7	0.439
CARON ST	MH104	MH105	E	1.039	E,F,G	0.40	0.416	1.305	17.0	78	283.44	525	0.60%	333.1	0.85	1.54	47.5	0.285
	MH105	MH106					0.000	1.305	17.5	76	278.40	525	0.60%	333.1	0.84	1.54	47.5	0.285
	MH106	MH107					0.000	1.305	18.0	75	274.08	525	0.60%	333.1	0.82	1.54	42.2	0.253
CARON ST	MH107	MH108			E,F,G		0.000	1.305	18.5	74	269.73	525	0.55%	318.9	0.85	1.47	42.2	0.232
CARON ST	MH108	MH109	C+D	20.296	C,D,E,F,G	0.40	8.118	9.423	19.1	72	1906.36	1200	0.35%	2306.5	0.83	2.04	80	0.280
CARON ST	MH109	MH110	B	1.671	B,C,D,E,F	0.40	0.668	10.092	20.2	70	1974.94	1200	0.35%	2306.5	0.86	2.04	128.1	0.448
CARON ST	MH110	MH111	A	0.979	A,B,C,D,E,F,G	0.40	0.392	10.483	21.1	68	1991.48	1200	0.35%	2306.5	0.86	2.04	119.32	0.418
CARON ST	MH111	MH112			A,B,C,D,E,F,G		0.000	10.483	21.2	68	1989.28	1050	1.00%	2730.7	0.73	3.15	7	0.070
CARON ST	MH150	MH151	H	4.038	H	0.40	1.615	1.615	15.0	84	377.94	750	0.40%	704.1	0.54	1.59	70.96	0.284
CARON ST	MH151	MH152	I	1.553	H,I	0.40	0.621	2.237	16.0	80	503.21	750	0.45%	746.8	0.67	1.69	105.0	0.473
CARON ST	MH152	MH153	J	1.460	H,I,J	0.40	0.584	2.821	16.9	78	615.60	750	0.50%	787.2	0.78	1.78	90.0	0.450
CARON ST	MH153	MH155	K	1.843	H,I,J,K	0.40	0.737	3.558	17.8	75	751.44	825	0.40%	907.8	0.83	1.70	96.1	0.384
CARON ST	MH155	MH156			H,I,J,K		0.000	3.558	18.7	73	728.86	825	0.39%	896.4	0.81	1.68	91.7	0.358
CARON ST	MH156	MH157	L	2.905	H,I,J,K,L	0.40	1.162	4.720	19.5	71	944.59	825	0.60%	1111.9	0.85	2.08	89.8	0.539
CARON ST	MH158	MH157	M	4.338	M	0.40	1.735	1.735	15.0	84	406.00	750	0.20%	497.9	0.82	1.13	54	0.108
	MH157	HEADWALL			H,I,J,K,L,M						1350.59	1200	0.20%	1743.6	0.77	1.54	14	0.028

DESIGN PARAMETER

Mannings n = 0.013

Infiltration Rate (I) = 0.28 l/s/ha

Designed By: Matt Scanlan

Checked By: Matt Morkem

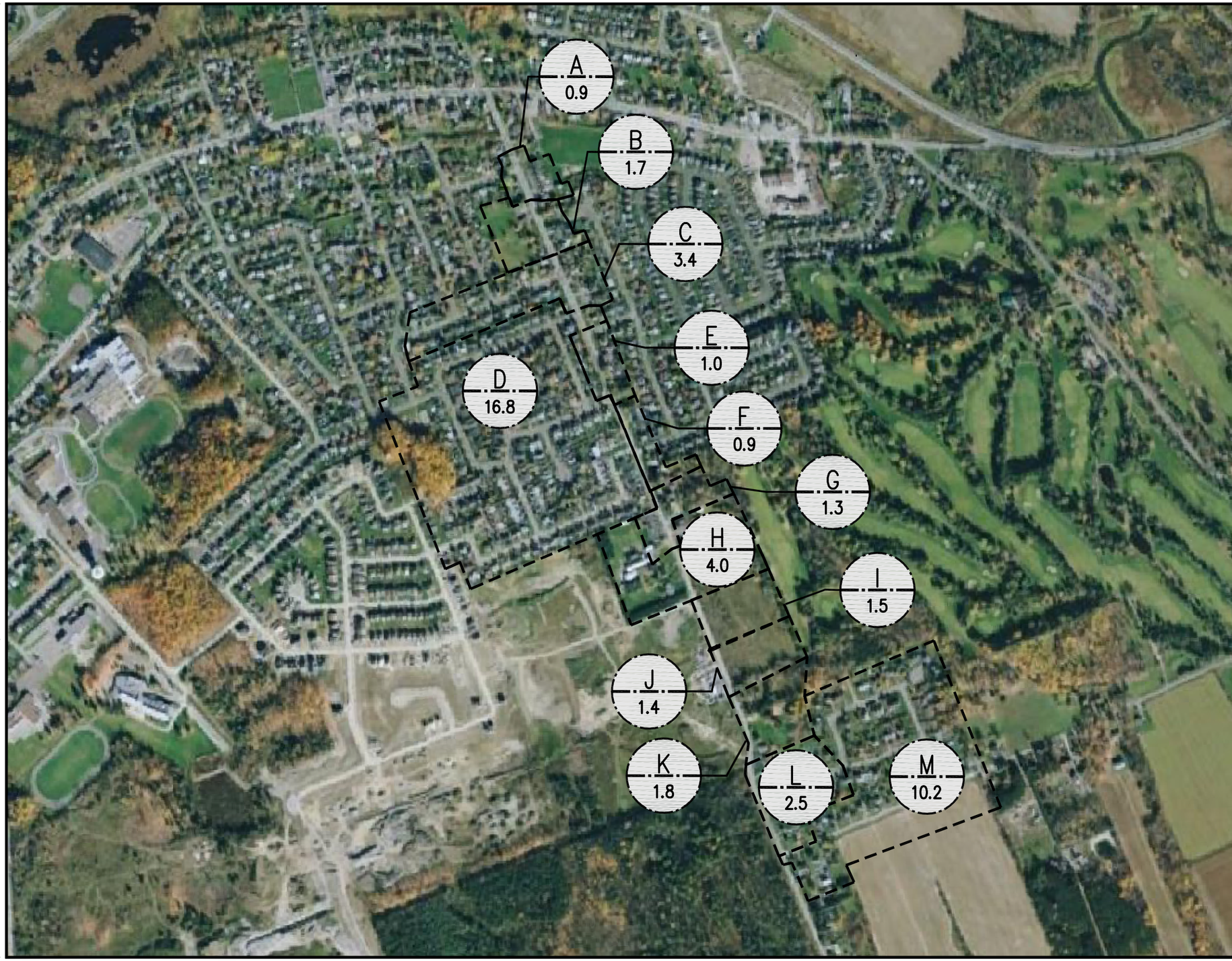
PROJECT: Caron St. Reconstruction

LOCATION: Rockland, Ontario

Dwg. Reference:
SK1-6rev1 - Storm Area North Caron
SK.32rev1 - Storm Areas South Caron

Project Number: 65038

Date: 20-Jun-13



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CANADA K7P 0G2
PHONE: 613-634-7373 FAX: 613-634-3523
WWW.GENIVAR.COM

CLIENT:
CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:
CARON STREET RECONSTRUCTION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
1		2013/01/22	ISSUED FOR ECA

PROJECT NO: 065038
DATE: MAY, 2013
ORIGINAL SCALE: 1:7500
IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: MS
DRAWN BY: MF/MS
CHECKED BY: MM
1"

DISCIPLINE: CIVIL

TITLE:
PROPOSED STORM CATCHMENT AREAS

SHEET NUMBER: SK1.32
SHEET #: -- OF --

ISSUE: ISSUED FOR ECA
DATE OF: JANUARY 22, 2013
REV #: 0

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APPENDIX D: RETAIL MARKET DEMAND STUDY

SHORE·TANNER & ASSOCIATES
REAL ESTATE APPRAISERS AND CONSULTANTS

RETAIL MARKET DEMAND STUDY: CLARENCE-ROCKLAND ONTARIO

FINAL REPORT

Prepared for:

City of Clarence-Rockland

Prepared by:

Shore-Tanner & Associates

October 17, 2018

148 COLONNADE ROAD SOUTH, SUITE 202, OTTAWA, ONTARIO K2E 7R4
TELEPHONE: (613) 224-8484 FACSIMILE (613) 224-8483

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Page number

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III.	**Socio-Demographic Analysis**	**10**
IV.	**Retail Trends**	**14**
V.	**Expenditure Analysis**	**19**
VI.	**Demand Estimation**	**25**
VII.	**Summary of Existing Businesses**	**31**
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Appendix A: List of Existing Businesses In Rockland **37**

I. EXECUTIVE SUMMARY

On behalf of the City of Clarence-Rockland, and as a member of a multi-disciplinary team of consultants under the direction of Fotenn Planning & Design, this study has been carried out by Shore-Tanner & Associates. Its purpose is to determine the scope of market demand for retail, service, and small office businesses in a new part of Rockland. The main findings of the study are summarized below, followed by more detailed substantiation in the main body of the report.

A. Subject Site

The Subject Site is approximately 133.5 hectares (320 acres) in size, located southeast of Rockland's existing Urban Area Boundary. It is proposed to be added to the City of Rockland through an Expansion Lands Secondary Plan.

For the purposes of this study, we estimated a total of approximately 3,200 housing units, and associated population of 8,000 on the Subject Site when fully developed.

B. Major Socio-Demographic Findings

1. Rockland is a major commercial hub in the United Counties of Prescott and Russell (UCPR) and its businesses attract customers from within this area and beyond.
2. The total population of Clarence-Rockland increased by an average of 372 or 1.8%, and in UCPR by 915 or 1.1% per year from 2006 to 2016 (Table 3.1).
3. The 2018 population of Clarence-Rockland is estimated at 26,746 and that of UCPR at 91,500. Their estimated average annual growth to the year 2028 is 598 or 2.4% and 1,620 or 1.8% respectively (Table 3.3).
4. Considering that an overall average annual population growth of 1% represents a growing and balanced economy, the past and future growth of both of these areas have exceeded this generally accepted growth standard.
5. Due to the development of many housing units over $300,000 and attracting affluent families, including from Ottawa, incomes in both areas have significantly increased recently. As shown in Table 3.4, the 2016 **median** household incomes were:

   - Clarence-Rockland $88,823
   - UCPR $78,748
   - City of Ottawa $85,981

This is particularly important since the City of Ottawa's household incomes are often among the top three to five cities in Canada.

C. Retail Spending

1. On average, each resident of Clarence-Rockland is estimated to spend $18,110, and those of UCPR as a whole, $17,380 in 2018 at all retail and service businesses within and outside these areas (Table 5.1).
2. The total spending of UCPR residents is estimated at $1.590 **billion** in 2018, and expected to increase by $28.1 million or 1.8% annually by the year 2028, to $1.871 **billion** (Table 5.2).
3. The estimated spending portion of the residents of Clarence-Rockland from UCPR's total is $484.4 million in 2018, and $592.6 million in 2028 (i.e., average annual growth in spending of $10.82 million or 2.2% (Table 5.3).
4. At present, some of the spending of UCPR residents takes place at businesses in Ottawa and elsewhere. This leakage-out is due to the following factors:
   a) Some of the UCPR residents work in Ottawa and spend some of their retail dollars there.
   b) There are no senior department stores (i.e., Simons, The Bay, Nordstrom) or other new and popular/trendy stores (e.g., J. Crew, Michael Kors) within UCPR. These stores exist in Ottawa, and attract customers from UCPR and other cities and towns within 1-2 hours drive.
5. There are, as well, customers from outside UCPR who shop at businesses there, especially at those in Rockland (i.e., leakage-in).

As more, especially new, businesses are attracted to Rockland, the leakages of UCPR's shopping dollars to Ottawa will decrease, and the leakages into UCPR will increase.

D. Demand Estimation

1. The spending of the residents of Clarence-Rockland is estimated to support a minimum total of 967,000 sq. ft. of floor space in 2018, increasing by an average of 21,700 sq. ft. annually, to 1.184 million sq. ft. by 2028 (Table 6.1).

2. The supportable increase by time frame is (Table 6.1):

   - 2018-2020 45,000 sq. ft.
   - 2020-2023 64,000 sq. ft.
   - 2023-2028 108,000 sq. ft.
   - 2018-2028 217,000 sq. ft.

3. At present, some of the total supportable space is outside Clarence-Rockland since its residents do not spend 100% of their shopping dollars at Rockland businesses.

E. Inventory of Existing Businesses

As of May 2018, there were 146 retail and service businesses in Rockland, and they occupied an estimated total of 538,000 sq. ft. of floor space.

Including the limited number of such businesses in the Clarence part, the overall average floor space per capita in Clarence-Rockland is estimated to be 22 sq. ft.

Based on the industry standard of 30 to 40 sq. ft. of floor space per capita, **the City of Clarence-Rockland is under-stored for retail and service businesses.**

Of the 146 existing stores, a total of 14 with a combined size of 29,200 sq. ft. or **5.4% were vacant, and this rate is within the industry range of 4% to 8%.**

F. Recommendations For the Expansion Lands

An overall average of up to 40 sq. ft. of retail and service floor space is generally supportable on a per capita basis.[1] Due to leakages in and out, however, it is not always possible to accurately calculate the actual floor space supported by each resident by location of shopping.

At full development, the Subject Expansion Land is estimated to have approximately 8,000 residents. What would be most needed in this community of 8,000 residents are

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[1] At a total population of 26,746 in Clarence-Rockland, the total supportable floor space of 967,000 in 2018 represents 36 sq. ft. per capita at businesses within, but also outside this city.

locally-oriented food, convenience, and service businesses in the first few years. Other businesses will also be in demand, but the risk of over-storing should be avoided. Based on these considerations, we recommend the businesses and sizes identified in Table 1.1 for the Subject Expansion Lands. Briefly, they include:

1. **Total of approximately 100,000 sq. ft. of floor space.**
2. **Food, convenience, personal services: approximately 60,000 sq. ft. of above.**
3. **Specialty retail, fashion, gifts, others: approximately 40,000 sq. ft. of above.**
4. **No businesses offering durable or semi-durable products which already exist in Rockland.**
5. **Review of the supply-demand dynamics in the entire expanded Rocklands once every five years in order to revise 1-4 above based on market forces.**

Table 1.1
Recommended Businesses
To Select For the Expansion Lands

Business Type	No.	Approximate Size (sq. ft.)
Supermarket	1	40,000-50,000
Convenience Stores	3	5,000-6,000
Specialty Food Stores	3	4,000-6,000
Pharmacies	2	8,000-12,000
Computer Supply & Services	1	1,000-2,000
Hardware Store	1	3,000-8,000
Fashion Stores	2	3,000-8,000
Specialty Retail	3	3,000-7,000
Table Service Restaurants	3	5,000-7,000
Coffee Shops	2	3,000-4,000
Fast Food Eateries	3	5,000-8,000
Banks & Other Financial	3	6,000-10,000
Beauty Salons, Barber, Spa	3	4,000-6,000
Miscellaneous	5	5,000-8,000
Office	5	5,000-8,000
Total: Up to 40 Businesses		**100,000-150,000**

II. Subject Site and Environs

A. Subject Site

The Subject Site is approximately 133.5 hectares (320 acres) in size, located southeast of Rockland's existing Urban Area Boundary. It is proposed to be added to the City of Rockland through an Expansion Lands Secondary Plan.

For the purposes of this study, we estimated total approximately 3,200 housing units, and associated population of 8,000 on the Subject Site when fully developed.

The expansion land is currently vacant and is owned by six private-sector individuals and companies. Its boundary at present is:

> ***David Street to the north, Clarence-Creek to the east, close to Baseline Road to the south, and Carson Street to the west.***

North of David Street is the residential neighbourhood of Rockland East and Rockland Golf Club. Along all other sides of the Subject Site are vacant lands, farms, and open spaces.

B. Development Potential

At present, the Subject Site is being considered for low-density residential development, and locally-oriented commercial businesses. Based on discussions with the study's Project Manager at Fotenn Planning and Design, the likely development densities on the Subject Site would be in the order of 10 to 12 units per acres, or an overall average of 11 units per acre. The estimated total number of units on the Subject 320 acres is thus approximately 3,200 units at full development. At the 2016 average household size of

2.63 persons (Table 3.2), the total number of residents associated with 3,200 housing units would be 8,416.

Some of the future residents on the expansion lands would be first-time buyers/renters, or otherwise consist of two persons. As well, the average household size has been on a declining trend and this trend is expected to continue. Therefore, to avoid over-estimation of population, we assume that the overall household size on the Subject Site would be 2.5 persons, or a total of 8,000. **For the purposes of this study, therefore, we have used a total population of 8,000 (rounded) on the Subject Expansion Lands when fully developed.**

III. SOCIO-DEMOGRAPHIC ANALYSIS

A. Trade Area

Based on the retail industry standards and practices, capture, market or trade area is one from which customers can be attracted for the purchase of the goods and services offered by the area's businesses. Primary Trade Area (PTA) typically provides at least 50% of the total sales of the businesses within. The rest of the area(s) which provide the balance of the total sales is called Secondary Trade Area (STA). There can also be Tertiary Trade Areas (TTA) for businesses which attract/capture at least 10% of their total sales from outside the PTA and STA combined.

Based on field research, our knowledge of the area, and past studies, we have defined the following as the effective Trade Area for the recommended businesses on the Subject Site:

> ***The City of Clarence-Rockland as the Primary, and the rest of the United Counties of Prescott & Russell (UCPR) as the Secondary Trade Area.***

Trade areas are not rigid, and change over time based on growth, transportation, competitive facilities, lifestyle, and other such changes and trends. A somewhat larger or smaller Trade Area would also be valid for the purposes of this study. However, we believe what we have defined is quite reasonable for the objectives of this study.

B. Total Population: 2006-2016

1. The City of Clarence-Rockland and the rest the UCPR have continued to grow. For the 10-year period 2006-2016, their average annual growth was (Table 3.1):

   - Clarence-Rockland 372 or 1.8%
   - UCPR 915 or 1.1%

2. As of mid-2016, Statistics Canada's Census data show total populations of:

   - Clarence-Rockland 24,512
   - UCPR 89,333

C. Households

1. The City of Clarence-Rockland has continued to experience higher growth rates and be more family-dominated than the rest of the UCPR.
2. In 2016, the median age of the residents of Clarence-Rockland was 42.2 years (44.3 in UCPR), its overall average household size was 2.63 (2.52 in UCPR), and 5.8 in 10 of its households (6.2 in UCPR) consisted of only one ro two persons (Table 3.2).

D. Growth Forecasts

Since 2014-2015, residential and thus population growth have significantly accelerated in Clarence-Rockland, and to a lesser ex tent, in the rest of UCPR. Based on the actual growth since 2014, under construction, planned, and proposed housing developments, the City of Clarence-Rockland, and Hemson Consulting Ltd. Have provided population forecasts for both areas. Based on these forecasts, we have prepared **Table 3.3, which demonstrates the following average annual population increases for the period 2018-2028:**

1. Clarence-Rockland	**598 or 2.4%**
2. UCPR	**1,620 or 1.8%**

Compared to the actual annual growth from 2006 to 2016, the figures in Table 3.3 appear to be too optimistic. However, for infrastructure planning purposes, it is prudent to use somewhat generous forecasts. As well, the actual 2016 population of UCPR was 89,333 (Table 3.3), whereas Hemson report's estimate was 88,700 (i.e., 633 or 0.7% lower than actual). Above all, as the City of Ottawa continues to expand eastward, and its housing costs continue to be much lower than in Rockland, growth in Rockland/UCPR will only further intensify. From this perspective, the forecasts in Table 3.3 seem quite reasonable, and may even be somewhat too low for the period 2023-2028.

Table 3.1 Historical Population Data		
Year	**Clarence-Rockland**	**Prescott and Russell United Counties (UCPR)**
2006	20,790	80,184
2011	23,185	85,381
2016	24,512	89,333
Average Annual Change: 2006-2016:		
Numeric	372	915
%	1.8	1.1

Notes:

[1] In 2016, the median age of the residents was 42.2 in Clarence-Rockland, and 44.3 in UCPR.

[2] Generally, economists and planners consider an average annual population growth of 1.0% to represent an economically growing area.

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

Table 3.2 Households By Size: 2016				
Household Size	**Clarence-Rockland**		**Prescott and Russell United Counties (UCPR)**	
	No.	**%**	**No.**	**%**
Single Person	1,810	19.4	8,125	23.0
Two Persons	3,635	40.0	13,880	39.2
Three Persons	1,590	17.0	5,665	16.0
Four or More Persons	2,295	24.6	7,720	21.8
Total	**9,330**	**100.0**	**35,390**	**100.0**
Average Size	2.63	–	2.52	–
Single and Two Persons Combined	5,445	58.4	22,005	62.2

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

Table 3.3 Population Forecasts		
Year	**Clarence-Rockland**	**Prescott and Russell United Counties (UCPR)**
2016	24,512	89,333
2018	26,746	91,500
2020	27,955	96,500
2021	28,524	99,000
2023	29,746	101,500
2028	32,723	107,700
Average Annual Change: 2018-2028:		
Numeric	598	1,620
%	2.4	1.8

Sources:

1. City of Clarence-Rockland for Clarence-Rockland
2. Shore-Tanner & Associates for UCPR based on the mid-estimates of population growth in ***Growth Forecast and Land Needs Analysis***, by Hemson Consulting Ltd., December 2015. Population growth from about 2023 and thereafter is expected to be higher than 598 per years.

Table 3.4 Household Income Distribution: 2016				
Income Class ($)	**Clarence-Rockland**		**Prescott and Russell United Counties (UCPR)**	
	No.	**%**	**No.**	**%**
Under 40,000	1,460	15.6	7,825	22.1
40,000-59,999	1,315	14.1	5,250	14.8
60,000-79,999	1,355	14.5	4,925	13.9
80,000-99,999	1,200	12.9	4,445	12.6
100,000-124,999	1,375	14.7	4,550	12.9
125,000-149,999	1,025	11.0	3,210	9.1
150,000 & over	1,600	17.1	5,185	14.6
Total	**9,330**	**100.0**	**35,390**	**100.0**
Median Household	88,823	–	78,748	–
Median Per Capita	33,773	–	31,249	–

Note: The 2016 median income for the City of Ottawa was $85,981 and for the Province of Ontario it was $74,287.

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

IV. RETAIL MARKET TRENDS

This section presents a number of major trends and changes in shopping habits, patterns, and new retail facilities. While our recommended businesses for the Subject Site are mostly for the day to day local and convenience shopping, the knowledge of the retail industry trends provides additional understanding for this ever-changing and highly competitive industry.

A. Retail Stores

A number of new types of shopping facilities, most of which have their origins in the U.S., were introduced into the Canadian market in the late 1990s. The major new shopping facilities in this regard are:

1. **Box Stores:** Costco, Walmart, and The Home Depot fall into this category. These are often referred to as big-box stores, since they are typically larger than 100,000 sq. ft. There are also medium-sized box stores, such as Winner's (clothing), Staples (office products), and Globo shoes, which are typically between 20,000 to 50,000 sq. ft.;
2. **Large Format Stores** such as Canadian Tire and the Great Canadian Super Stores. These are mostly new versions of the same stores, but significantly larger (often between 70,000 to 150,000 sq. ft.), offering a much wider assortment of products and services;
3. **Dollar Stores** which are typically between 1,000 to 5,000 sq. ft., specializing in mostly low-cost imports priced at up to $5.00 per item (e.g., Dollarama, A Buck or Two, The Dollar Store);
4. **Power Centres** are typically between 200,000 to 1,000,000 sq. ft., consist of a variety of box and traditional stores in open malls, with each store having its own pad and parking in front to the extent possible;
5. **Specialty Stores** such as Starbucks (coffee shop), Mountain Equipment Coop (outdoors store), Lululemon (Yoga wear), Sassy Beads (jewellery, craft), and Brio (shoes, clothing, accessories);

6. De-Malling

Another recent trend in the retail industry is the conversion of old and small enclosed shopping malls into open, uncovered shopping centres (referred to as de-malling). Malls which are over 20 years old and up to about 300,000 sq. ft. in size are usually targets for being de-malled. A de-malled shopping centre is less costly to operate since there are no indoor areas to be heated, cooled, cleaned or supervised. As well, the corridors and other public spaces are converted to leasable floor space.

7. Store Enlargements

Another significant trend in the retail industry is the enlargement of existing stores at the same or a new location. Large stores are in a much better position than small and medium-sized stores to offer one-stop-shopping opportunities. Many supermarkets, hardware, furniture, electronics, department, and home improvement stores have in recent years expanded their size in the same or a new location within the National Capital Region and elsewhere. In some cases, new stores from the same chain are built much larger.

8. Walmart Supercentres

In the early 2000s, the Walmart chain stores finally won the right to offer food products at their stores. Called Supercentres, these new Walmart stores have the equivalent of a 50,000 sq. ft. supermarket within them, including produce, fresh meat, deli, dairy, as well as general merchandise (i.e., canned and boxed food products). The food section is usually on one side of these huge stores, and clothing, furniture, and other non-food products on the other side.

At these stores, the cost of food and other products are generally lower, but more importantly, perceived to be lower due to effective advertising, than at competitive stores.

9. Recent Entries Into the Ottawa Market

Since many residents of the Trade Area shop at businesses in Ottawa, it is helpful to identify significant recent changes in the Ottawa market.

In September 2013, several (American) Target stores were opened in Ottawa in previously Zellers stores, and more were planned. Soon after, however, they were all closed down and to this date, some of them are still vacant. An H&M store was opened in Bayshore Shopping Centre in October 2013 and more since then elsewhere in Ottawa.

In February 2012, a Marshall's department store was opened in the Train Yards Shopping Centre, there are four of them now in Ottawa, and more are planned to open. In November 2011, the new and expanded IKEA store at approximately 410,000 sq. ft. was opened in Pinecrest Centre. In early 2011, a Forever 21 store was opened at the Rideau Centre. Since then, it has expanded and attracted a large number of luxury stores such as Michael Kors, Tiffany &Co., and Kate Spade.

A Whole Foods Supermarket and a large number of other retail and restaurants have opened at Lansdowne Park as part of its major redevelopment plan since 2014. Nordstrom, Topman, Simons and a few other American and European stores have also come to Ottawa in the last five years.

In addition to these new facilities, new methods of conducting business have been created. Purchasing through the Internet is one example. Twinning is another example which makes it possible for two businesses to complement each other, while saving on insurance, utilities, taxes, staff, and other costs. Examples in this regard include Chapter's book stores and Starbucks, Walmart and McDonald's restaurants, The Home Depot and Harvey's restaurants. **Online shopping has been growing very rapidly in the last five years, and is expected to grow further from its estimated total market share of approximately 4% of total spending in Ottawa.**

B. Reasons For Success of the New Store Types

There are many reasons for the introduction and successful operation of these new stores, as well as the new merchandising formats. Chief among these are:

1. Population growth, affluence, and especially ethnic and economic diversity, create demand for new products, services, and methods of buying and selling.
2. Many retail markets in Canada including in Ottawa are considered to be still offering a limited variety of shopping facilities with primarily average quality products at or above average prices. Choices at discount/value, as well as at upscale/high-quality ends of the shopping spectrum in particular, are still limited.
3. Power centres and stand-alone box stores have lower operating costs (e.g., little or no common-area charges compared to enclosed malls), provide ample parking situated very close to their entrances, offer one-stop-shopping opportunities, their prices are and/or are perceived to be lower than conventional stores, and they are very successful at selling large quantities of products.

4. For a wide variety of economic, demographic, and lifestyle reasons, many people seem to prefer shopping at these large, new-format and specialty stores.

C. Present Shopping Patterns and Habits

Based on knowledge, experience, observations, and **hundreds** of consumer research surveys, we believe that shopping patterns and habits are solidifying, as follows:

1. Power centres, big-box and other discount-oriented shopping facilities are here to stay. Their main advantages are real and/or perceived value, choice, and large quantities of products. Shoppers tend to go to these stores about once a month, and for the specific and pre-determined purpose of actual shopping (for household and/or office products), rather than for browsing, window shopping, socializing or just passing time. Typically, they prepare a list of what they want to buy ahead of time, follow it through, buy and bring home large quantities of products.

   This type of shopping is rather arduous, especially for older people, those who do not have or wish to spend lots of time for shopping, and those who are affluent enough for whom discount/value is not that important. The amount of time, planning, and the energy required are the main reasons why shopping at these facilities is generally infrequent (although there are customers from all socio-economic classes who only or mostly shop at these stores).

2. **Shopping at regional, community shopping centres, and especially in downtown and on other pedestrian-friendly streets, is often for fashion, specialty products and services, meeting, dining, socializing, entertainment and cultural activities.** There is frequently comparison-shopping, browsing, and cross-shopping at these facilities, especially during holidays and for special occasions (birthdays, anniversaries, etc.). Trips to these facilities do not necessarily always result in purchases due to the entertainment/socializing/dining factors, and also for purposes of comparison shopping. **Thus, the fun and multi-purpose functions of these trips, combined with the far more diverse, attractive, and comfortable atmospheres of these facilities, attract shoppers there more frequently than power centres and big-box stores do.**

3. Shopping at **highway commercial** facilities is also destination oriented and closer in function to shopping at power centres and big-box stores, than to shopping at regional and community shopping centres, or on main streets. Furniture,

electronics, appliances, automotive, box stores, restaurants, and other services often dominate highway commercial strips. Shoppers typically go to these establishments for specific products and/or services, based on pre-determined shopping plan. While there may be comparison shopping, there is usually no window-shopping, socializing, browsing, or cross-shopping. Other than for restaurants, banks, gasoline, and other services, shopping at highway commercial stores is infrequent (furniture, electronics, appliances, and major auto repairs are normally needed less than once a year by most households).

4. The retail industry is dynamic and rapidly evolving. Shoppers demand choice, variety, convenience, value, and fun. In a healthy market, there is a balance between the traditional main street retail stores, suburban shopping centres, and the new and emerging retail facilities as described above.

5. **In the competitive environment of today, maintaining market share, and especially increasing it, is a major challenge for all shopping facilities and districts, requiring new thinking and approaches to merchandising and customer relationship. Targeted use of social media, online services, better understanding of the retail market trends, more awareness of competition from shopping centres and districts, and better recognition of the needs, preferences, and desires of the Trade Area residents are among the key elements of new thinking and approaches, which have to be considered for the planned retail market on the Subject Site in Rockland.**

V. EXPENDITURE ANALYSIS

Spending at retail and service businesses depends on numerous socio-demographic, lifestyle, and locational factors. Based on hundreds of retail market studies by our firm and other research organizations, income is the most influential factor. Often, the higher their income, the more people shop, spend, and thus support the continuation and/or expansion of businesses.

The estimation of demand for supportable floor space is highly analytical and therefore numerically oriented. The detailed results of the analytical part of the demand estimation are presented in the next chapter, after the estimation of expenditure potentials below.

A. Per Capita Expenditures

Statistics Canada is the primary source for expenditure data at retail and service stores across Canada. For this study's Trade Area, the data are estimated based on income comparisons, since they are not available for Clarence-Rockland.

The overall median per capita income in 2016 of Trade Area residents was $33,773 and this was higher than Ontario's which was $28,572 in 2016. Incomes in both areas are higher now.

In Table 5.1, we have provided estimates of per capita expenditures by the residents of the Trade Area for a number of trade groups which are standard in the retail industry. As noted, **we estimate the overall average per capita spending of the TA residents to be $17,386 in 2018**. Of course, due to mortgages, family size and other factors, some individuals and families spend less, and others more than these averages, depending on their disposable income.

B. Total Retail and Service Expenditures

The estimated total expenditures of the residents of UCPR and Clarence-Rockland are provided in Tables 5.2 and 5.3.

Table 5.1
Estimated Per Capita Retail and Service Spending: 2018

Trade Group	UCPR Spending ($)	Clarence-Rockland Spending ($)
A. Retail Product Stores		
Supermarkets	2,290	2,400
Convenience Stores	220	235
Specialty Food	195	205
Beer, Wine & Liquor	670	700
Drugs & Patent Medicine*	1,105	1,160
Clothing	820	860
Shoes, Jewellery & Accessories	235	250
Home Furnishings	125	130
Electronics & Appliances	495	520
Furniture	285	300
Building Materials, Hardware & Garden Supplies	850	890
Sporting Goods, Hobbies, Music & Books	300	315
Used, Recreation & Other Vehicles	470	490
New Car Sales	2,800	2,900
Auto Parts & Accessories	190	200
Gasoline & Service Stations	1,410	1,400
General Merchandise	960	980
Department Stores	720	750
Other Retail Stores	350	370
Subtotal: Retail Products	**14,490**	**15,055**
B. Retail Service Businesses		
Restaurants, Bars & Other Eateries*	1,220	1,300
Personal Care Businesses*	215	225
Sports, Recreation & Entertainment*	1,455	1,530
Subtotal: Service Businesses	**2,890**	**3,055**
Grand Total: All Stores & Businesses	**17,380**	**18,110**

* Estimated
1. Online spending is **not** included.

Source: Shore-Tanner & Associates based on CANSIM Tables 080-0030 and other relevant Statistics Canada data.

Table 5.2
Estimates of Total Spending By UCPR Residents

Trade Group	2018 ($M)	2020 ($M)	2021 ($M)	2023 ($M)	2028 ($M)	Average Annual Change: 18-28	
Population	**91,500**	**96,500**	**99,000**	**101,500**	**107,700**	**Numeric**	**%**
A. Retail Product Stores							
Supermarkets	209.5	221.0	226.7	232.4	246.6	3.7	1.8
Convenience Stores	20.1	21.2	21.8	22.3	23.7	0.36	1.8
Specialty Food	17.8	18.8	19.3	19.8	21.0	0.32	1.8
Beer, Wine & Liquor	61.3	64.6	66.3	68.0	72.1	1.1	1.8
Drugs & Patent Medicine*	101.1	106.6	109.4	112.1	119.0	1.8	1.8
Clothing	75.0	79.1	81.2	83.2	88.3	1.3	1.8
Shoes, Jewellery & Accessories	21.5	22.7	23.3	23.8	25.3	0.4	1.8
Home Furnishings	11.4	12.1	12.4	12.7	13.5	0.2	1.8
Electronics & Appliances	45.3	47.8	49.0	50.2	53.3	0.8	1.8
Furniture	26.1	27.5	28.2	28.9	30.7	0.5	1.8
Building Materials, Hardware & Garden Supplies	77.8	82.0	84.1	86.3	91.5	0.8	1.8
Sporting Goods, Hobbies, Music & Books	27.4	29.0	29.7	30.4	32.3	1.4	1.8
Used, Recreation & Other Vehicles	43.0	45.3	46.5	47.7	50.6	0.5	1.8
New Car Sales	256.2	270.2	277.2	284.2	301.6	0.8	1.8
Auto Parts & Accessories	17.4	18.3	18.8	19.3	20.5	4.5	1.8
Gasoline & Service Stations	129.0	136.1	139.6	143.1	151.8	2.3	1.8
General Merchandise	87.8	92.6	95.0	97.4	103.4	1.6	1.8
Department Stores	65.9	69.5	71.3	73.1	77.5	1.2	1.8
Other Retail Stores	32.0	33.8	34.6	35.5	37.7	0.57	1.8
Subtotal: Retail Products	**1,325.8**	**1,398.3**	**1,434.5**	**1,470.7**	**1,560.6**	**23.5**	**1.8**

* Estimated
1. Online spending is **not** included.

Table 5.2, continued Estimates of Total Spending By UCPR Residents							
Trade Group	**2018 ($M)**	**2020 ($M)**	**2021 ($M)**	**2023 ($M)**	**2028 ($M)**	**Average Annual Change: 18-28**	
						Numeric	**%**
B. Retail Service Businesses							
Restaurants, Bars & Other Eateries*	111.6	117.7	120.8	123.8	131.4	2.0	1.8
Personal Care Businesses*	19.7	20.7	21.3	21.8	23.1	0.3	1.8
Sports, Recreation & Entertainment*	133.1	140.4	144.0	147.7	156.7	2.4	1.8
Subtotal: Service Businesses	**264.4**	**278.9**	**286.1**	**293.3**	**311.2**	**4.7**	**1.8**
Grand Total: All Stores & Businesses	**1,590.3**	**1,677.2**	**1,720.6**	**1,764.1**	**1,871.8**	**28.1**	**1.8**

* Estimated
1. Online spending is **not** included.

Note: The average annual percentage increases in spending are identical to the estimated population growth of 1.8% in Table 3.3. The dollar figures above are all in the constant value of the Canadian dollar in 2018. In other words, neither inflation, nor actual growth are included in order to avoid possible over-estimation.

Source: Shore-Tanner & Associates.

Table 5.3
Estimates of Total Spending By Clarence-Rockland Residents

Trade Group	2018 ($M)	2020 ($M)	2021 ($M)	2023 ($M)	2028 ($M)	Average Annual Change: 18-28	
Population	**26,746**	**27,955**	**27,524**	**29,746**	**32,723**	**Numeric**	**%**
A. Retail Product Stores							
Supermarkets	64.2	67.1	68.4	71.4	78.5	1.4	2.2
Convenience Stores	6.3	6.6	6.7	7.0	7.7	0.14	2.2
Specialty Food	5.5	5.7	5.8	5.9	6.7	0.12	2.2
Beer, Wine & Liquor	18.7	19.6	20.0	20.8	22.9	0.42	2.2
Drugs & Patent Medicine*	31.0	32.4	33.1	34.5	38.0	0.70	2.2
Clothing	23.0	24.0	24.5	25.6	28.1	0.51	2.2
Shoes, Jewellery & Accessories	6.7	7.0	7.1	7.4	8.2	0.15	2.2
Home Furnishings	3.5	3.6	3.7	3.9	4.2	0.07	2.2
Electronics & Appliances	13.9	14.5	14.8	15.5	17.0	0.31	2.2
Furniture	8.0	8.4	8.6	8.9	9.8	0.18	2.2
Building Materials, Hardware & Garden Supplies	23.3	24.9	25.4	26.5	29.1	0.53	2.2
Sporting Goods, Hobbies, Music & Books	8.4	8.8	9.0	9.4	10.3	0.19	2.2
Used, Recreation & Other Vehicles	13.1	13.7	14.0	14.6	16.0	0.29	2.2
New Car Sales	77.6	81.1	82.7	86.3	94.9	1.73	2.2
Auto Parts & Accessories	5.3	5.6	5.7	5.9	6.5	0.13	2.2
Gasoline & Service Stations	37.4	39.1	40.0	41.6	45.8	0.84	2.2
General Merchandise	26.2	27.4	27.9	29.1	32.1	0.59	2.2
Department Stores	20.0	21.0	21.4	22.3	24.5	0.45	2.2
Other Retail Stores	9.9	10.3	10.6	11.0	12.1	0.22	2.2
Subtotal: Retail Products	**402.3**	**420.9**	**429.4**	**447.8**	**492.6**	**9.03**	**2.2**

* Estimated
1. Online spending is **not** included.

Table 5.3, continued Estimates of Total Spending By Clarence-Rockland Residents							
Trade Group	**2018 ($M)**	**2020 ($M)**	**2021 ($M)**	**2023 ($M)**	**2028 ($M)**	**Average Annual Change: 18-28**	
						Numeric	**%**
B. Retail Service Businesses							
Restaurants, Bars & Other Eateries*	34.8	36.3	37.1	38.7	42.5	0.77	2.2
Personal Care Businesses*	6.0	6.3	6.4	6.7	7.4	0.14	2.2
Sports, Recreation & Entertainment*	40.9	42.8	43.6	45.5	50.1	0.92	2.2
Subtotal: Service Businesses	**81.7**	**85.4**	**87.1**	**90.9**	**100.0**	**1.83**	**2.2**
Grand Total: All Stores & Businesses	**484.4**	**506.3**	**516.6**	**538.7**	**592.6**	**10.82**	**2.2**

* Estimated
1. Online spending is **not** included.

Note: The average annual percentage increases in spending are identical to the estimated population growth of 1.8% in Table 3.3. The dollar figures above are all in the **constant** value of the Canadian dollar in 2018. In other words, neither inflation, nor actual growth are included in order to avoid possible over-estimation of demand for additional floor space.

Source: Shore-Tanner & Associates.

VI. DEMAND ESTIMATION

A. Productivity Rates

In Tables 5.1-5.3, we have provided estimates of the available spending by Trade Area residents and employees. The next steps involve the estimation of how much floor space these expenditures can support. For these steps, productivity rates or sales per sq. ft. are needed.

Based on over 100 retail studies in the last 15 years, including in-person confidential meetings and surveys of at least 2,000 business managers and/or owners, we have obtained actual and closely estimated sales data. Many of these studies have included presentations at the Ontario Municipal Board hearings where actual sales data were presented by opposing parties and analyzed. Based on these studies, ongoing research, and review of retail trends, we have provided realistic ranges of annual sales per sq. ft. for the types of retail and service businesses most likely to be viable on the Subject Site. As shown in Table 6.1, the average annual sales per sq. ft. at food stores, for example, is estimated to be between $500 and $700.

B. Total Supportable Floor Space

Table 6.1 presents the total supportable floor space for each business for the years 2018-2028. As demonstrated, **Clarence-Rockland's spending is estimated to be supporting a total of 967,000 to 1.277 million sq. ft. of retail and service business floor space in 2018, at businesses within, but also outside this area.** The total supportable space will, of course, increase each year, based on population growth and affluence.

In Table 6.2, we have identified the increase in supportable demand for each business. As demonstrated, **the supportable increase in the total floor space is as follows by time periods by the residents of Clarence-Rockland:**

1.	**2018-2020**	**45,000-81,000**	**sq. ft.**
2.	**2020-2023**	**64,000- 87,000**	**sq. ft.**
3.	**2023-2028**	**108,000-144,000**	**sq. ft.**
4.	**2018-2028**	**217,000-312,000**	**sq. ft.**

In other words, the available spending potential of Clarence-Rockland is estimated to generate demand for 217,000 to 312,000 sq. ft. of additional retail and floor space by the year 2028.

The demand generated from the residents of UCPR is, of course, much larger. As in the past, many residents of UCPR outside the City of Clarence-Rockland are expected to do much of their shopping at businesses in Rockland. It is therefore necessary to address their spending, in addition to the spending of the Clarence-Rockland residents.

As demonstrated in Table 5.1, the overall average spending of each resident of UCPR is estimated to be $17,380 in 2018. At this rate, the total spending of UCPR is estimated at $1.59 **billion** in 2018, increasing by an average of $28.1 million annually, to a total of 1.817 **billion** in 2028 (Table 5.2).

In view of the relative abundance of retail and service businesses in Rockland, and also in the City of Ottawa, much of the total spending of UCPR residents happens in these two cities. Regardless of where their spending takes place, it is necessary to first determine how much floor space can their spending support. Table 6.1 provides this answer by individual retail and service groups. As demonstrated in Table 6.1, the total spending of residents of Clarence-Rockland is estimated to support a total of at least 967,000 sq. ft. or 36 sq. ft. per capita within and outside this city (the spending of UCPR residents of course supports much more than 967,000 sq. ft.).

Table 6.1
Estimates of Total Supportable Floor Space in Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
A. Retail Product Stores						
Supermarkets						
• At $700/sq. ft.	91,700	95,900	97,700	102,200	112,100	2,140
• At $500/sq. ft.	128,400	134,200	136,800	142,800	157,000	2,860
Convenience Stores						
• At $300/sq. ft.	21,000	22,000	22,300	23,300	25,700	470
• At $250/sq. ft.	25,200	26,400	26,800	28,000	30,800	560
Specialty Food						
• At $450/sq. ft.	12,200	12,700	12,900	13,100	14,900	270
• At $350/sq. ft.	15,700	16,300	16,600	16,900	19,100	340
Beer, Wine & Liquor						
• At $700/sq. ft.	26,700	28,000	28,600	29,700	32,700	600
• At $500/sq. ft.	37,400	39,200	40,000	41,600	45,800	840
Drugs & Patent Medicine*						
• At $1,000/sq. ft.	31,000	32,400	33,100	34,500	38,000	700
• At $700/sq. ft.	44,300	46,300	47,300	49,300	54,300	1,000
Clothing						
• At $350/sq. ft.	65,000	68,600	70,000	73,100	80,300	1,530
• At $250/sq. ft.	92,000	96,000	98,000	102,400	112,400	2,040
Shoes, Jewellery & Accessories						
• At $400/sq. ft.	16,700	17,500	17,700	18,500	20,500	380
• At $300/sq. ft.	22,300	23,300	23,700	24,700	27,300	500

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
Home Furnishings						
• At $350/sq. ft.	10,000	10,300	10,600	11,100	12,000	200
• At $250/sq. ft.	14,000	14,400	14,800	15,600	16,800	280
Electronics & Appliances						
• At $700/sq. ft.	19,900	20,700	21,100	22,100	24,300	440
• At $500/sq. ft.	27,800	29,000	29,600	31,000	34,000	620
Furniture						
• At $300/sq. ft.	26,700	28,000	28,700	29,700	32,700	600
• At $250/sq. ft.	32,000	33,600	34,400	35,600	39,200	720
Building Materials, Hardware & Garden Supplies						
• At $250/sq. ft.	95,200	99,600	101,600	106,000	116,400	2,120
• At $175/sq. ft.	136,000	142,300	145,100	151,400	166,300	3,030
Sporting Goods, Hobbies, Music & Books						
• At $300/sq. ft.	28,000	29,300	30,000	31,300	34,300	630
• At $225/sq. ft.	37,300	39,100	40,000	41,800	45,800	850
Used, Recreation & Other Vehicles						
• At $1,000/sq. ft.	13,100	13,700	14,000	14,600	16,000	290
• At $700/sq. ft.	18,700	19,600	20,000	20,900	22,900	420
New Car Sales						
• At $2,000/sq. ft.	38,800	40,000	41,300	43,200	47,500	870
• At $1,400/sq. ft.	55,400	57,900	59,100	61,600	67,800	1,240

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
Auto Parts & Accessories						
• At $1,500/sq. ft.	3,500	3,600	3,800	3,900	4,300	80
• At $1,000/sq. ft.	5,300	5,600	5,700	5,900	6,500	120
Gasoline & Service Stations						
• At $1,200/sq. ft.	31,200	32,600	33,300	34,700	38,200	700
• At $800/sq. ft.	46,700	48,900	50,000	52,000	57,200	1,050
General Merchandise						
• At $350/sq. ft.	74,900	78,300	79,700	83,100	91,700	1,680
• At $250/sq. ft.	104,800	109,600	111,600	116,400	128,000	2,320
Department Stores						
• At $250/sq. ft.	80,000	84,000	85,600	89,200	98,000	1,800
• At $200/sq. ft.	100,000	105,000	107,000	111,500	122,500	2,250
Other Retail Stores						
• At $300/sq. ft.	33,000	34,300	35,300	36,700	40,300	730
• At $250/sq. ft.	39,600	41,200	42,400	44,000	48,400	880
Subtotal: Retail Products	719,000	752,000	767,000	800,000	880,000	16,100
(rounded)	961,000	1,027,000	1,049,000	1,093,000	1,202,000	24,100

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
B. Retail Service Businesses						
Restaurants, Bars & Other Eateries						
• At $600/sq. ft.	58,000	60,500	61,800	64,500	70,800	1,280
• At $450/sq. ft.	77,300	80,700	82,400	86,000	94,400	1,710
Personal Care Businesses						
• At $225/sq. ft.	26,700	28,000	28,400	29,800	32,900	620
• At $175/sq. ft.	34,300	36,000	36,600	38,300	42,300	800
Sports, Recreation & Entertainment[1]						
• At $250/sq. ft.	163,600	171,200	174,400	182,000	200,400	3,680
• At $200/sq. ft.	204,500	214,000	218,000	227,500	250,500	4,600
Subtotal: Retail Services	248,000	260,000	265,000	276,000	304,000	5,600
(rounded)	316,000	331,000	337,000	352,000	387,000	7,100
Grand Total:	967,000	1,012,000	1,032,000	1,076,000	1,184,000	21,700
All Stores & Businesses	1,277,000	1,358,000	1,386,000	1,445,000	1,589,000	31,200

[1] Includes cinemas, theatres, arenas and sports fields.

Source: Shore-Tanner & Associates.

Table 6.2
Estimated Demand For Additional Floor Space By the Spending of Clarence-Rockland Residents

Time Period	Floor Space (sq. ft.)
2018-2020	45,000-81,000
2020-2021	20,000-28,000
2021-2023	44,000-59,000
2023-2028	108,000-144,000
2018-2028	**217,000-312,000**

Source: Table 6.1.

VII. Summary of Existing Businesses

A. Scope of Research

Several days in May 2018 we carried out extensive field research in Rockland. Every retail and service business was visited, its name and type identified, and its size visually estimated.

The field research was started at the Smart Centre, then continued on Laurier Street in the eastern direction to Highway 17. From there, all businesses in the western direction to Laurier Street were visited. There are a few scattered businesses on the intersecting roadways which were also visited and their names, types, and estimated sizes recorded. The details of this research are presented in Appendix A.

B. Major Findings

As of May 2018, there was a total of 146 retail and service businesses in Rockland occupying an estimated 538,000 sq. ft. of floor space.

With the 2018 population of 26,746 in Clarence-Rockland, the overall average floor space per resident is 20.1 sq. ft. However, some of this space is supported by the spending of the other residents of the UCPR. Therefore, the effective floor space per resident is lower than 20.1 sq. ft. There are as well, a number of retail and service businesses in the Clarence part of the City of Clarence-Rockland and they may increase the per capita floor space to 21 or 22 sq. ft.

Based on the industry standard of 30 to 40 sq. ft. of floor space per capita, it is evident that the City of Clarence-Rockland is currently under-stored for retail and service businesses.

If the residents of Clarence-Rockland spend 100% of their shopping dollars at businesses within the City, at least 802,000 sq.ft. or 262,000 sq. ft. more floor space could be supported in 2018, and more in future years. Due to the proximity of Ottawa and its variety of businesses, there will always be some shopping there by the residents of Clarence-Rockland. However, as its population grows, more retail and service businesses

can be supported and will be attracted to Clarence-Rockland (as it has been the case in the 10-15 years).

At present, a total of 14 stores with a combined floor space of 29,200 sq. ft. or 5.4% of the total space of 538,000 sq. ft., are vacant in Rockland (industry standard vacancy rate is within 4% and 8%). .

VIII. OFFICE MARKET AND DEMAND

A. Overview of Office Market

In Clarence-Rockland, as in similar cities in size close to a major urban area, there is little office space, and not much data available. The existing space is almost entirely for local needs such as medical, insurance, and financial. To better address the supportable office space on the Subject Site, we have first analyzed Ottawa's rich office market.

Due to the presence of the Federal Government, the City of Ottawa's office market is unique. The various Federal Departments, Crown Corporations, and other government agencies own and occupy approximately 30 million sq. ft. of office space.

The privately-owned office space in the City of Ottawa is approximately 40 million sq. ft., most of which is also rented to and occupied by different Federal Government organizations. There are, as well, some 300 associations, major legal, accounting, auditing and consulting firms, most of whose work is government related.

At a total population of almost one million, the City of Ottawa is the fourth largest in Canada, but its total office floor space of approximately 70 million sq. ft. is the third largest after Toronto and Montreal.

The Ottawa office market has historically been strong and stable. In the last five years, a number of new, large office towers have been developed, pushing its overall total vacancy rate close to 11%.

B. Types of Office Space

Generally speaking, office spaces fall into the following categories:

- Government/Public Sector
- Corporate
- Professional
- Business

There is some overlap in the bottom three types.

A **Corporate** office is usually large, high quality, located in a Class A building in a prime location, and occupied by banks, insurance companies, other major and often national and/or international corporations. Prestige, visibility, luxury, access, status, and image are important for corporate occupants of this type of office space.

A **Professional** office can be of various sizes and locations, and mostly in a Class B or C building. Legal, accounting, medical, high technology, artificial intelligence, associations, and consultancies are typical occupants of this type of space. In terms of prestige, status, visibility, and access, this type of office is often between the corporate and the business types.

A **Business** office is typically small, occupied by locally-oriented companies, located in affordable areas, including business parks, and in Class B, C or lower buildings. Engineering, architectural, accounting, development, construction, transportation, retail, and other such businesses, mostly with up to about 10 employees, are typical occupants of this type of office space.

C. Most Viable Office Space on the Subject Site

Government, and to some extent, Corporate offices, are not dependent on the economy or population of a city. Most professional and business office enterprises, however, serve the residents and local economy of a given area. **We believe that for the Subject Site, the most market viable types of office businesses would be those that serve the larger area residents.** While government, corporate, or any specialty type office developments are also possible, they cannot be counted on.[2]

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[2] The need for them is not locally or even city-wide generated. However, elected officials, business leaders, and/or connections may be able to influence the locational decisions of government and corporate officials.

D. Demand Analysis

Of the approximately 40 million sq. ft. of privately-owned office space in the City of Ottawa, we estimate that up to 8 million sq. ft. or 20.0% are used by professional and business tenants who primarily serve the residents and the local economy.[3] These tenants, furthermore, are in Class B, C or lower buildings. The rest are occupied by various levels of governments, corporate, and prestigious professional/high technology tenants.

At 8 million sq. ft. of office space and a total City of Ottawa population of almost one million, the overall average office space associated per resident is about 8 sq. ft. Of course, parts of Ottawa have much higher, and others much lower averages.

In Clarence-Rockland, the total inventory of office space is now almost 0.3 million sq. ft., or approximately 12 sq. ft. per resident, based on a total population of over 26,000 (Table 3.1). Due to the mostly rural and agricultural characteristics of UCPR, its need for office space per capita is much less, and office businesses in Rockland tend to be used by its residents and employees. We have, therefore, used an estimate of 6 sq. ft. for UCPR. **The Trade Area is, therefore, concluded to generate average annual demand for total additional office space of 7,170 sq. ft. in Clarence-Rockland, and 9,700 sq. ft. in UCPR, including the 7,170 sq. ft. for Clarence-Rockland** (Table 7.1).

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[3] In other words, the combination of population and economic factors generate demand for 8 million sq. ft. of locally-oriented office floor space.

Table 7.1
Estimates of Total Supportable Office Space

Year	Population		Office Space (sq. ft.)	
	Clarence-Rockland	UCPR	Clarence-Rockland (12 per resident)	UCPR (4 per resident)
2016	24,512	89,333	294,000	536,000
2018	26,746	91,500	321,000	549,000
2020	27,955	96,500	335,500	579,000
2021	28,524	99,000	342,300	594,000
2023	29,746	101,500	357,000	609,000
2028	32,723	107,700	392,700	646,200
Average Annual Increase: 2018-2028:				
Numeric	598	1,620	7,170	9,700
%	2.4	1.8	2.2	1.8

Note: UCPR's figures include the figures for Clarence-Rockland.

Source: Shore-Tanner & Associates

APPENDIX A

List of Retail and Service Businesses In Rockland		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Smart Centre[1]		
Rona	Hardware	40,000
Walmart	Department Store	110,000
• Quizno Subs		
• Hair Salon		
• Pharmacy		
• Garden Supplies		
• Grocery		
• Fashion		
Source	Electronics	2,000
Bulk Barn	Specialty Food	3,000
Boston Pizza	Table Service Restaurant	4,000
Dollarama	General Merchandise	6,000
LBCO	Liquor Store	3,000
Laurier Street		
Ford Dealership	Automotive	6,000
Snap Fitness	Fitness	3,000
Tim Horton's	Coffee Shop	1,800
Royal Plaza (on Laurier St.)		
Vapeking	Smoke Shop	2,000
Aqua Life	Sporting Goods	2,000
Rosalynn's	Table Service Restaurant	2,000
New Wave (pool accessories)	Sporting Goods	2,500
RBC	Financial	3,000
Vacant (2)	Vacant	4,000

[1] Started from this shopping centre, walked and/or drove eastward on Laurier Street to Highway 17, then westward on Laurier Street

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
First Choice	Barber	1,000
Rockland Sports	Sporting Goods	3,000
M&M Foods Market	Specialty Foods	1,500
Shawarma Rockland	Table Service Restaurant	1,500
Youngster Salon	Beauty Salon	1,500
Hitices	Clothing	1,500
La Bella Salon	Beauty Salon	1,500
Accent	Furniture	8,000
Touch of Distinction	Flooring Supplies	2,000
Rising Sun	Martial Arts	2,000
Vitrerie Glass & Mirror	Furnishings	2,000
Derma Skin Care	Beauty Salon	1,500
Vacant	Vacant	1,500
Domino's Pizza	Pizza Shop	1,500
Mortgage Intelligence	Financial	1,500
Chiro Fashion	Specialty Retail	1,500
Rockland Pharmacy	Pharmacy	3,000
Pronature Sporting	Sporting Goods	2,000
Tiny Hopper	Daycare	2,500
Salon Tete O Pieds	Beauty Salon	1,500
Shoppers Drug Mart	Pharmacy	4,000
Ultramar	Gas Station & Car Wash	2,000
Your Independent Grocer	Supermarket	50,000
Spartas	Mediterranean Restaurant	1,500
Scotiabank	Financial	3,000
Beer Store	Beer Store	3,000
Napa Auto	Automotive	2,500
McDonald's	Fast Food	2,200
Sullyteck	Phone Repair	600
Bytown Lumber	Building Supplies	10,000
The Thimble	Tailor	800
Envy	Spa	2,000
Vacant	Vacant	3,000
Jumbo Pizza	Pizza Shop	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
Dunn's Deli	Table Service Restaurant	2,500
Rama	Martial Arts	1,200
Royal Photo	Photo Shop	1,500
Rockland Music	Specialty Retail	1,500
Anne Travel	Travel Agency	1,500
Martel Mortgage	Financial	1,000
Sublime Salon	Beauty Salon	1,000
Christine Raymond Salon	Beauty Salon	1,000
Auto Morin	Automotive	3,000
Sienna Faming	Specialty Retail	2,000
Sacred Art	Tattoo Shop	1,000
The Brunet Funeral	Funeral Services	3,000
L'Atelier Salon	Beauty Salon	2,000
Vacant (several stores)	Vacant	5,000
Rockland Pizza	Pizza Shop	1,200
H & R Block	Financial	1,200
Rockland Variety	Convenience Store	1,500
Vacant	Vacant	1,500
Jean Coutu	Pharmacy	4,500
Post Office	Specialty Retail	2,000
Vacant	Vacant	1,500
Rockland Marine	Boating Supplies	3,000
Giant Tiger	General Merchandise	11,000
Fashion Sports	Clothing	2,000
New Ruby	Chinese Restaurant	3,000
Second Hand Centre	Clothing	1,500
Modelo Salon	Beauty Salon	1,500
Dalrymple Salon	Beauty Salon	1,500
Subway	Fast Food	1,500
Marie-Jo	Table Service Restaurant	2,000
RDS Laundromat	Laundromat	1,200
Chamberland Garage	Automotive	5,000
Rockland Optometry	Specialty Retail	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
Rockland Barber	Beauty Salon	600
Bourbonnais Electric	Electronic Shop	1,500
Vacant	Vacant	1,200
Friendly Restaurant	Table Service Restaurant	2,000
Big Boss Burgers	Table Service Restaurant	1,600
Vacant	Vacant	1,500
Sonx Plus	Electronics	1,500
National Bank	Financial	3,000
QV Spa	Beauty Salon	1,500
DCV Heating/Cooling	Heating/Cooling Supplies	2,000
Lavolette	Flower Shop	1,500
Café Joyeux	Table Service Restaurant	1,500
Desjardins	Financial	4,000
Maison de Xin	Table Service Restaurant	4,000
Spa Mauve	Beauty Salon	1,500
Extravadance	Specialty Fashion	2,000
Chez L'Bonlanger	Bakery	2,000
Studio Aqua (bronzage)	Beauty Salon	1,500
Main Street Pizza	Pizza Shop	1,500
Vacant	Vacant	1,500
Le Mieux	Convenience Store	1,500
GAB Sports Bar	Table Service Restaurant	2,000
Beautiful Clinic	Beauty Salon	1,500
QV Spa, Nails	Beauty Salon	1,000
Café La Roche	Table Service Restaurant	2,000
Espada	Tattoo Shop	500
Ryan's Auto	Automotive	2,000
SS Chip Wagon	Eatery	200
Vacant	Vacant	2,000
Vacant	Vacant	2,000
Belanger Dodge Dealer	Automotive	2,000
Vacant	Vacant	3,000
Harmony Hyundai	Automotive	2,000
Mr. Gas	Gas Station	100
Tim Horton's	Coffee Shop	1,000
Canadian Tire Station	Gas Station	100
TD	Financial	2,000
Shell Station	Gas Station	100
Circle K	Convenience Store	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Plaza Rockland		
Top Mode Depot	Fashion	11,000
A & W	Fast Food	1,800
Pet Valu	Specialty Retail	2,500
Brown Cleaner	Dry Cleaning	1,200
Super Cut	Barber Shop	1,200
Pop Shoes	Shoe Store	2,500
Gabriel Pizza	Pizza Shop	1,200
Broadway Bar & Grill	Table Service Restaurant	2,500
Subway	Fast Food	1,500
Vacant	Vacant	1,500
Dollar Tree	General Merchandise	5,000
TSC	General Merchandise	25,000
Mark's	Clothing	10,000
St. Hubert	Table Service Restaurant	3,000
Oil Changer	Automotive	4,000
Speedy Glass	Automotive	4,000
Benson Auto Parts	Automotive	3,000
Grand Total	**146**	**538,000**

Source: Shore-Tanner & Associates based on field research and visual estimates in late May 2018.

expansion lands SECONDARY PLAN

PLAN SECONDAIRE pour les terrains qui ont été ajouté à l'aire urbaine

Clarence-Rockland

FOTENN Planning + Design

CIMA+

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REAL ESTATE APPRAISERS AND CONSULTANTS
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Preliminary Environmental Constraints Report

Expansion Lands,
Clarence Rockland, Ontario

CIMA+ file number: C10-A000817
June 4, 2019

City of Clarence Rockland

Preliminary Environmental Constraints Report

Clarence Rockland Expansion Lands

Project # C10-A000817

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June 4, 2019

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Executive Summary

CIMA+ was retained by FOTENN Planning + Design, on behalf of the City of Clarence-Rockland, to undertake an Environmental Impact Statement (EIS) on the proposed expansion lands to the southeast of the existing Urban Area Boundary of the City of Rockland.

The study area is irregularly shaped, consisting of 137 ha on the south side of David Street and bounded by Clarence Creek to the east. It is situated primarily to the east of Caron street except for an approximately 23 ha area to the southwest of the study area.

The proposed project consists of an expansion of the City of Clarence Rockland's urban boundary. The area currently consists of lands which are undeveloped or are used for agricultural purposes. The preferred zoning for these expansion lands would be a mix of low, medium, and high-density residential areas as well as limited commercial and institutional areas. The plan also includes provisions for site servicing, roadways, drainage, parklands and an environmental protection zone setback along the unnamed tributary at the center of the site.

The preliminary assessment of environmental constraints was completed through a combination of background documentation review and field surveys. General development best practices have been recommended to avoid or mitigate potential environmental impacts to identified valued ecosystem components. A review of applicable legislation has also been completed to inform requirements for future development of the site.

1. Introduction

CIMA+ was retained by FOTENN Planning + Design, on behalf of the City of Clarence-Rockland, to undertake an Environmental Impact Statement (EIS) on the proposed expansion lands to the southeast of the existing Urban Area Boundary of the City of Rockland. The study area is irregularly shaped, consisting of 137 ha on the south side of David Street and bounded by Clarence Creek to the east. It is situated primarily to the east of Caron street except for an approximately 23 ha area to the southwest of the study area.

Figure 1 presents the location of the site with its surroundings.

Figure 1: Site Location Map

This study was undertaken to identify the site's general ecological features and constraints and to assist in future development option analyses. The mandate objectives are to:

- Describe the existing natural conditions of the study site based on consultations, available documentation and field surveys; and
- Identify any potentially significant environmental features and functions present at the site.

Following the completion of field assessments, recommendations for environmental impact avoidance and mitigation measures will be developed for inclusion in the site development plans.

1.1 Existing and Past Land Use

The study area is quite large and currently supports several land uses. Most of the lands are agricultural fields, which at the time of the study are planted with corn and soy. A conifer plantation is also centrally located on the north side of the study area. Remaining lands are undeveloped lands, primarily woodlands and meadows, with a small amount of residential development along David Road to the north and Caron Street to the west.

2. Background Review

The following public sources were consulted as part of our desktop research:

- Google Earth Aerial imagery (current and historic);
- Geographic information from Land Information Ontario;
- Crown Land Use Policy Atlas;
- The Ecosystems of Ontario, Part 1 Ecozones and Ecoregions, Ministry of Natural Resources, 2009;
- Atlas of Breeding Birds of Ontario (ABBO);
- eBird online database;
- Ontario Nature Reptile and Amphibian Atlas; and
- Ontario Geological Survey (OGS Earth – Surficial and Bedrock mapping).

The desktop study also included the consultation of various other sources to identify potential Species at Risk (SAR) that could be encountered on the site.

Information requests were submitted to the Natural Heritage Information Center (NHIC) and the Ministry of Natural Resources and Forestry - Kemptville District (MNRF) to obtain relevant information concerning the property. Correspondence is included in Appendix A.

3. Site Visit

Two site visits were conducted by **CIMA+** staff on July 8th, 2018 and on August 8th, 2018. The first site visit was attended by Nicholas Bertrand, B.Sc. and Kai Markvorsen, B.Sc. The second site visit was attended by Claudia Fortin, B.Sc. and Stéphane Boisvenue, senior technician.

Activities undertaken during the July 8th site visit included:

- Vegetation survey;
- Bird survey;
- Incidental observations of wildlife species.

Activities undertaken during the August 8th site visit included:

- Delineation of vegetation communities;

- Assessment of habitats for potential Species at Risk; and
- Incidental observations of wildlife species.

4. Site Description

4.1 Ecoregion

The Study Area is located within Ecoregion 6E (Lake Simcoe-Rideau), the second most densely populated ecoregion in Ontario. This ecoregion is part of the Mixedwood Plains Ecozone of Southern Ontario, characterized by a relatively diverse vegetation.

4.2 Surficial Geology

Surficial geology mapping from the Ontario Geological Survey indicates that the Study Area is underlain by a combination of till, fine-textured glaciomarine, organic and alluvial deposits as well overlaying Paleozoic bedrock. Typical soils in this units are comprised of clay, sand and silt. Surficial geology of the Study Area is shown in Figure 2.

Figure 2. Surficial Geology

4.3 Provincial Designations

There are no Areas of Natural and Scientific Interest (ANSI) within, or in proximity to, the Study Area.

Rockland Marsh is a Provincially Significant Wetland (PSW) that is located downstream of the project site along Clarence Creek.

Key Site Features and designated areas are identified on Figure 3.

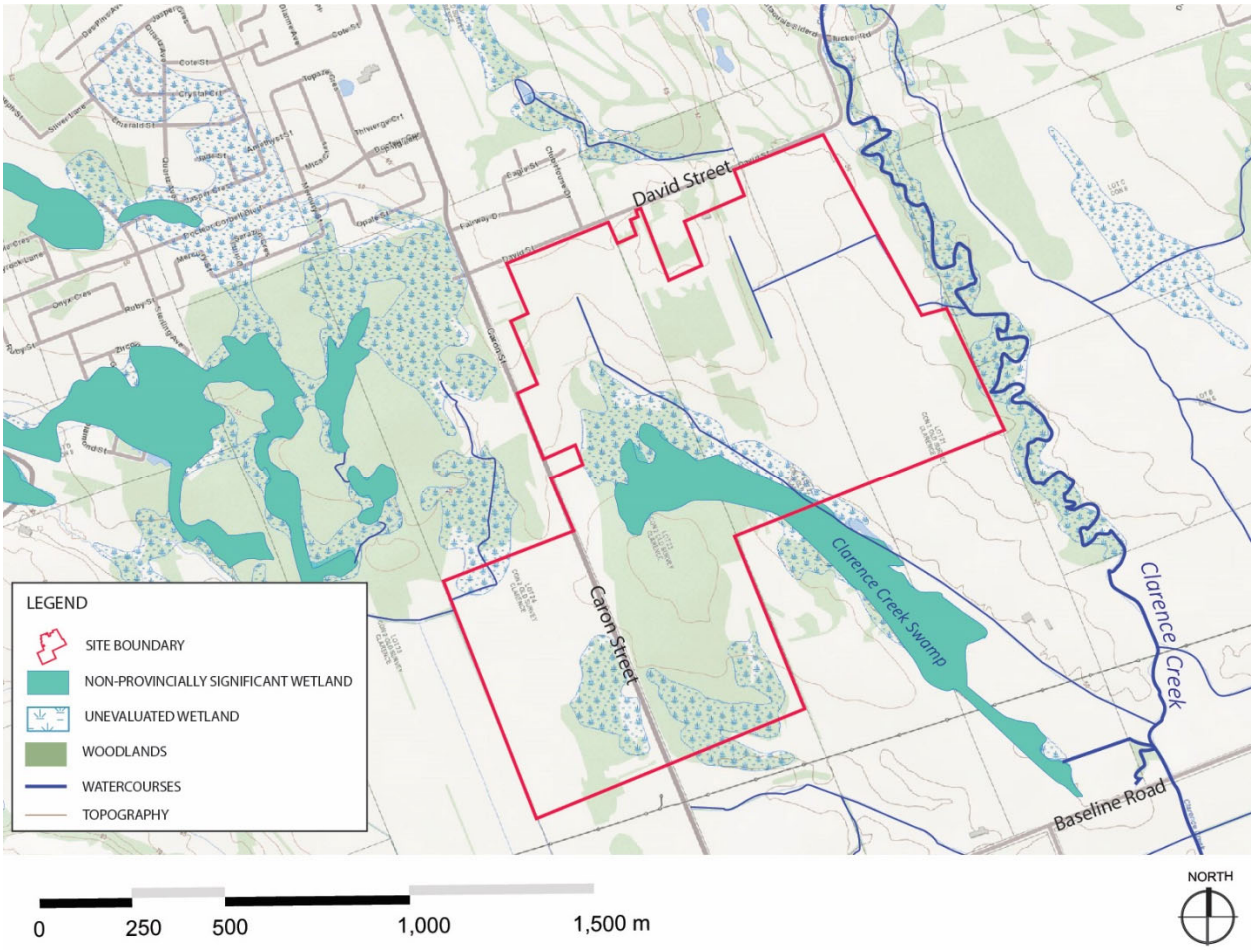

Figure 3. Existing Landscape Features and Designations

4.4 Vegetation Cover

Vegetation cover was examined as part of the site visit and classified according to the Ecological Lands Classification (ELC) for Southern Ontario. Vegetation communities were determined by assessing type and percent vegetative cover, soil type and moisture content, presence of surface water, etc.. Based on this assessment, the vegetation cover on the site consisted of the following vegetation community types:

- Organic Thicket Swamp (SWT3)
- Red Pine Cultural Coniferous Plantation (CUP3)
- Mineral Cultural Meadow (CUM1)
- Coniferous Swamp (SWC)
- Dry-Fresh Pine Coniferous Forest (FOC1)
- Mixed Forest (FOM)
- Sugar Maple Cultural Deciduous Plantation (CUP1-1)
- Cattail Mineral Shallow Marsh (MAS2-1)
- Mineral Thicket Swamp (SWT2)
- Mineral Cultural Meadow (CUM1)
- Dry Fresh Oak Deciduous Forest (FOD-1)
- White Spruce – European Larch Coniferous Plantation (CUP3-8)
- Mineral Cultural Thicket (CUT1)

In addition to these identified vegetation communities, there is a large area of recent clear-cut which covers most of the southern portion of the site along the east side of Carron St. No significant woodlands or valley lands were identified within the study area.

The location and size of the vegetation community types is shown in Figure 4.

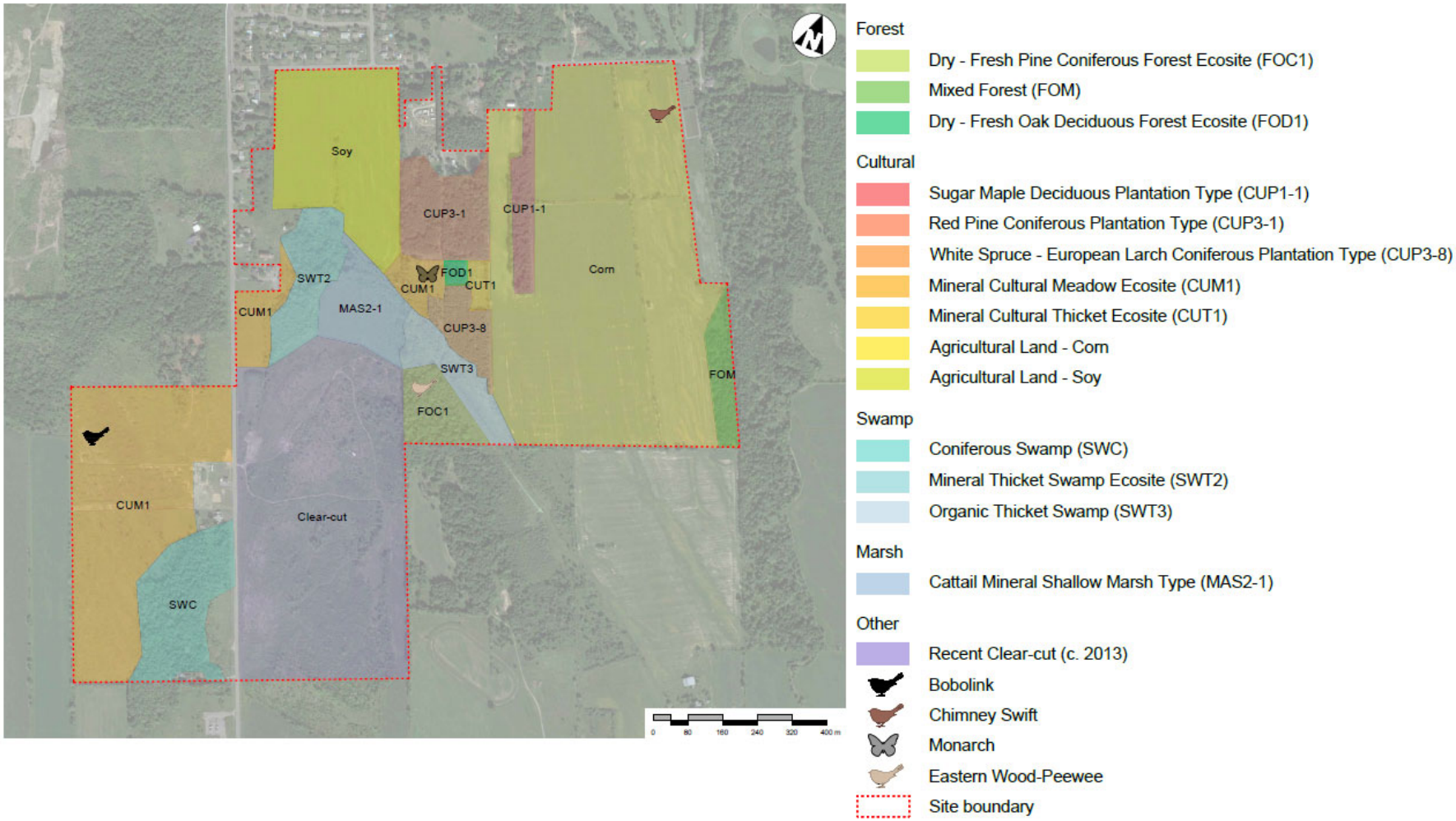

Figure 4:Expansion Lands ELC Mapping

4.5 Wildlife

Characterization of the biological community in the Study Area was completed by compiling data from published resources and local agencies as well as by conducting a visual assessment of natural heritage features, with focus on vegetation composition and the presence of Species at Risk (SAR).

4.5.1 Reptiles and Amphibians

The Ontario Nature Reptile and Amphibian Atlas (Atlas Squares 18VR74 and 18VR84) was consulted to determine which amphibian and reptile species are likely to occur in the general vicinity of the Study Area. The species observed in these two atlas squares are presented in Table 1 below.

Table 1: Amphibian and Reptile Species

Common Name	Scientific Name
American Bullfrog	(*Lithobates catesbeianus)*
American Toad	(*Anaxyrus americanus*)
Eastern Newt	(*Notophthalmus viridescens*)
Eastern Gartersnake	(*Thamnophis sirtalis*)
Eastern Red-backed Salamander	(*Plethodon cinereus*)
Four-toed Salamander	(*Hemidactylium scutatum*)
Green Frog	(*Rana clamitans*)
Jefferson/Blue-spotted Salamander Complex	(*Ambystoma jeffersonianum*)
Midland Painted Turtle	(*Chrysemys picta*)
Mudpuppy	(*Necturus maculosus*)
Northern Leopard Frog	(*Lithobates pipiens*)
Red-bellied Snake	(*Storeria occipitomaculata*)
Snapping Turtle	(*Chelydra serpentine*)
Spotted Salamander	(*Ambystoma maculatum*)
Spring Peeper	(*Pseudacris crucifer*)
Wood Frog	(*Lithobates sylvaticus*)

No reptile or amphibian species were observed during **CIMA+** site visits.

4.5.2 Birds

The Atlas of Breeding Birds of Ontario (square 18VQ49) and eBird identified 218 bird species as potentially occurring within the study area. A complete list of these species is presented in **Appendix B**. During the site visit, 33 bird species were identified by sight and/or sound over the course of both field visits and are presented in Table 2.

Table 2: Bird Species

Common Name	Scientific Name
Chimney swift	*Chaetura pelagica*
Bobolink	*Dolichonyx oryzivorus*
Alder flycatcher	*Empidonax alnorum*
Great Crested Flycatcher	*Myiarchus crinitus*
American Crow	*Corvus brachyrhynchos*
Blue Jay	*Cyanocitta cristata*
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
House Wren	*Troglodytes aedon*
American Robin	*Turdus migratorius*
Great Catbird	*Dumetella carolinensis*
Cedar Waxwing	*Bombycilla cedrorum*
Black and White Warbler	*Mniotilta varia*
Mourning Warbler	*Geothlypis philadelphia*
Common Yellowthroat	*Geothlypis trichas*
Yellow Warbler	*Setophaga petechia*
White throated Sparrow	*Zonotrichia albicollis*
Song Sparrow	*Melospiza melodia*
Chipping Sparrow	*Spizella passerina*
Swamp Sparrow	*Melospiza georgiana*
Scarlet Tanager	*Piranga olivacea*
Red-breasted Grosbeak	*Pheucticus ludovicianus*
Indigo Bunting	*Passerina cyanea*

Common Name	Scientific Name
Redwinged Blackbird	*Agelaius phoeniceus*
Brownheaded Cowbird	*Molothrus ater*
Common Grackle	*Quiscalus quiscula*
American Goldfinch	*Spinus tristis*
Mourning Dove	*Zenaida macroura*
Tree Swallow	*Tachycineta bicolor*
Puna Yellow Finch	*Sicalis lutea*
Eastern Wood-Peewee	*Contopus virens*

4.5.3 Mammals

Specific mammal surveys were not conduced as part of CIMA+ site visits. However incidental observations were made. Species include Eastern Chipmunk (*Tamias striatus*) and red squirrel (*Tamiasciurus hudsonicus).* All species observed are common species in the province of Ontario.

4.5.4 Fish and Fish Habitat

Specific critical habitat for aquatic species at risk was not noted as part of the background review and a complete assessment of aquatic habitat was beyond the scope of this assessment. However, aquatic habitat is present within the study area and does constitute potential fish habitat.

4.6 Habitat for Species at Risk

The study area is situated on private lands. As such, the protected Endangered and Threatened Species at Risk (SAR) are those covered by the provincial *Endangered Species Act* (ESA). The federal Species at Risk Act would only be applicable to migratory birds protected under the *Migratory Birds Convention Act* and fish protected under the *Fisheries Act*. Distribution ranges for SAR were determined using a variety of sources including: COSEWIC reports, ABBO and the species at risk Ontario website. In addition, the MNRF identified potential SAR as part of their response to the information request. The list of potential SAR, their status and preferred habitat and whether that habitat is present within the study area is presented in Table 3. SAR observed during site visits are noted and the locations of observation are identified in Figure 4.

Table 3: Potential Species at Risk

Common Name Scientific Name Rarity Rankings	Comments	Habitat Present	Observed
American Eel *Anguilla rostrata* Federal - **Threatened (TH)** Provincial - **Endangered (EN)**	In Ontario, American Eels can be found as far inland as Algonquin Park. Once the eels mature (10-25 years) they return to the Sargasso Sea to spawn.	No	No
Northern Brook Lamprey *Ichthyomyzon fossor* Federal - **Special Concern (SC)** Provincial - **Special Concern (SC)**	The Northern brook lamprey is a small, elongate fish that grows 16 cm. It has an eel-like appearance and a round, jawless mouth with teeth arranged in a circle and seven gill openings and no pectoral or pelvic fins. Adults are dark greyish-brown on the back and sides, with pale grey or silvery white on the belly. It lives in clear, cool water streams.	No	No
Barn Swallow *Hirundo rustica* Federal - **Not Listed** Provincial - **Threatened (TH)**	Barn Swallows forage in open areas throughout most of the continent, including suburban parks and ball fields, agricultural fields, beaches, and over open water such as lakes, ponds and coastal waters. Breeding habitat must include open areas for foraging, structures or cliffs to build nests on, and a source of mud such as a riverbank to provide the material for building nests.	Yes	No
Eastern Meadowlark *Sturnella magna* Federal - **Threatened (TH)** Provincial - **Threatened (TH)**	Eastern Meadowlarks are most common in native grasslands and prairies, but they also occur in pastures, hayfields, agricultural fields, airports, and other grassy areas.	Yes	No
Butternut *Juglans cinereal* Federal - **Endangered (EN)** Provincial - **Endangered (EN)**	Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams	Yes	No
Little Brown Bat *Myotis lucifugus* Federal - **Endangered (EN)** Provincial - **Endangered (EN)**	During the day they roosts in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. They hibernate most often in caves or abandoned mines that are humid and remain above freezing.	Yes	No

Common Name Scientific Name Rarity Rankings	Comments	Habitat Present	Observed
Tri-colored Bat *Perimyotis subflavus* Federal - **Endangered (EN)** Provincial - **Endangered (EN)**	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group.	Yes	No
Northern Long-eared Bat *Myotis septentrionalis* Federal - **Endangered (EN)** Provincial - **Endangered (EN)**	Northern long-eared bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees.	Yes	No
Chimney Swift *Chaetura pelagica* Federal – **Threatened (TH)** Provincial – **Threatened (TH)**	The Chimney Swift spends most of its time flying and even forages in the air, catching its prey (flying insects) in flight. Primarily found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. They also tend to stay close to water as this is where the flying insects that they eat congregate.	No	Yes - foraging over agricultural (corn) field
Monarch *Danaus plexippus* Federal – **Endangered (EN)** Provincial – **Special Concern (SC)**	Milkweeds (numerous species) are the sole food plant for Monarch caterpillars. These plants grow predominantly in open and periodically disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests. Milkweeds are often planted outside their native range, and sometimes wayward Monarchs are observed at these patches.	Yes	Yes – CUM1
Bobolink *Dolichonyx oryzivorus* Federal - **Threatened (TH)** Provincial - **Threatened (TH)**	The Bobolink is a medium sized songbird found in grasslands and hayfields. Bobolinks often build their small nests on the ground in dense grasses. Bobolinks spend much of their time out of sight on the ground feeding on insects and seeds.	Yes	Yes – foraging/ perching over CUM1

Common Name Scientific Name Rarity Rankings	Comments	Habitat Present	Observed
Eastern Wood- Peewee *Contopus virens* Federal - **Special Concern (SC)** Provincial - **Special Concern (SC)**	The eastern wood-pewee is a small forest bird that grows to about 15 cm long. It lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests and feeds on flying insects.	Yes	Yes – calling in FOC1
Jefferson/Blue-spotted Salamander Complex *Ambystoma jeffersonianum* Federal - **Endangered (EN)** Provincial - **Endangered (EN)**	Jefferson salamanders are 12-20 cm long and have a grey or brown-coloured back, with lighter under- parts they may also have blue flecks on the sides and limbs. Adults live in moist, loose soil, under logs or in leaf litter but migrate to woodland ponds to breed in the spring. They lay their eggs in clumps attached to underwater vegetation.	Yes	No
Snapping Turtle *Chelydra serpentina* Federal - **Special Concern (SC)** Provincial - **Special Concern (SC)**	Canada's largest freshwater turtle, Snapping Turtles have large black, olive or brown shells. They typically inhabit shallow waters and hide under the soft mud and leaf litter. From early to mid-summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams but they will also nest in man-made structures including the gravel shoulders of roads, dams and aggregate pits.	Yes	No

All endangered and threatened species receive individual protection under Section 9 of the *Endangered Species Act* (ESA) and receive general habitat protection under Section 10 of the ESA.

Species listed as special concern are not protected under the ESA; however, these species may receive protection under other legislation (e.g. the *Fish and Wildlife Conservation Act*). The habitat of special concern species may also be considered significant wildlife habitat.

5. Description of Proposed Project

The proposed project consists of an expansion of the City of Clarence Rockland's urban boundary. The lands are comprised of 137 ha of lands which are undeveloped or are used for agricultural purposes. The preferred zoning for these expansion lands would be a mix of low, medium, and high-density residential areas as well as limited commercial and institutional areas. The plan also includes provisions for site servicing, roadways, drainage, parklands and an environmental protection zone setback along the unnamed tributary at the center of the site. The final preferred concept plan is shown in **Appendix C**.

6. Environmental Constraints

6.1 Federal Legislation

6.1.1 Fisheries Act

The Fisheries Act is administered by the Department of Fisheries and Oceans Canada (DFO) and is intended to manage threats to the sustainability and ongoing productivity of Canada's fisheries. Section 35 of the Act prohibits the carrying on of a work, undertaking or activity that results in serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Serious harm to fish is defined as the death of fish or the permanent alteration to, or destruction of, fish habitat.

Fish habitat is defined as spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly to carry out their life processes.

If, as part of development, work is proposed within 30 m of Clarence Creek, its tributaries or a hydraulically connected wetland, an environmental professional would have to conduct a fisheries self-assessment to assess if a *Fisheries Act* request for review needs to be submitted to DFO.

6.1.1 Migratory Birds Convention Act

The *Migratory Birds Convention Act* regulates the protection and conservation of migratory birds as populations and individuals and protects their nests. The Act applies to any areas that provide potential for nesting habitat of migratory birds.

Section 6 of the Migratory Bird Regulations made under the Act states that no person shall disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird except under authority of a permit.

As the Study Area provide nesting opportunities for migratory birds, the provisions of this Act apply to any development activities proposed on these expansion lands.

6.2 Provincial Legislation

6.2.1 Endangered Species Act

The *Endangered Species Act* prohibits any person from killing or damaging the habitat of species that are listed on the Species at Risk in Ontario list. Some exemptions exist under O.Reg. 242/08 of the Act, related to particular species and activities, for example the Eastern Meadowlark and the Bobolink. If a proposed undertaking is covered under one of the exemptions, a streamlined notification process applies. If none of the exemptions apply, a permit under section 17(1) of the Act is required.

The SAR screening conducted for this project indicates potential for multiple species at risk and their habitat is present within the study area. Field assessments also identified several SAR. Further assessments will be required to support future development within the boundary expansion area in order to avoid impacts to these species.

6.2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) was issued under Section 3 of the Planning Act and is applicable province-wide to all planning decisions. The Study Area is in Ecoregion 6E, and there are natural heritage features in the Study Area that are protected by the PPS.

Development and site alteration are not permitted in significant woodlands, significant valleylands, significant wildlife habitat, or fish habitat unless it has been demonstrated that there will be no negative impacts on the natural features or on the ecological functions. It is expected that this assessment will be carried out through a development specific EIS.

6.2.1 Conservation Authorities Act

The Conservation Authorities Act was enacted to provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario. Under Section 21 of the Act, Conservation Authorities have the power to study and investigate the watersheds of their jurisdictions and to determine programs whereby the natural resources of the watershed may be conserved, restored, developed and managed.

The project is not located within the jurisdiction of the South Nation Conservation Authority (SNCA). However, the SNCA provide comment and review of projects in this area through a memorandum of understanding with the municipality.

6.3 Municipal Policy

6.3.1 Official Plan of the Urban Area of the City of Clarence Rockland

While the study area is not within the urban area boundary at this time, it is expected that the requirements of the Official Plan will apply once the boundary is expanded. The Official Plan identifies several environmental requirements indented to avoid or mitigate impacts to species and their habitats. These requirements are summarized below:

<u>Habitat of Endangered and Threatened Species (Section 4.13.2)</u>

An Environmental Impact Study (EIS) is required when development and/or site alterations are proposed within 50 metres of significant portions of the habitat of threatened and endangered species. As mentioned above habitat for several SAR was identified within the study area.

<u>Vegetation Cover (Section 4.13.4)</u>

Future development must consider the following criteria for the purposes of the reasonable protection of trees and shrubs:

- The maintenance of as much of the natural vegetation between the development and any existing public roads as possible.
- The protection of significant trees or shrubs.
- For developments which require site plan approval, a tree inventory may be required, and the grading plan and landscaping plan should consider measures for the protection of trees.

- For developments that are proposed by plan of subdivision, a tree preservation plan with recommended measures to protect trees will be required as a condition of the subdivision approval.

Fish Habitat (Section 4.13.5)

The Official Plan establishes a minimum setback from waterbodies at 30 metres. If any development or site alteration is proposed that would reduce that distance or that has the potential to negatively impact fish or fish habitat, an Environmental Impact Study must be submitted to support the development.

Setbacks from Water (Section 4.21)

All buildings and structures, except for electric power transmission lines and other public utilities, marinas and marine facilities, will be set back a minimum of 30 m from the high-water mark of any waterbody or watercourse. Development and site alteration within the setback may be permitted where an EIS has demonstrated there will be no impact on the watercourse. Existing vegetation between buildings or structures and the high-water mark should remain undisturbed where possible.

Wetlands (Section 5.7)

The Official plan designates all identified provincially significant wetlands (PSW as identified by the Ministry of Natural Resources (MNR) using the Ontario Wetland Evaluation System) as wetlands. While there is a PSW located downstream of the Study Area along Clarence Creek there are no PSW located within the study area.

6.3.2 Official Plan – United Counties of Prescott and Russell

The official plan of the United Counties of Prescott and Russell also identify several environmental requirements relevant to development within the expansion lands area.

Surface Water Management Plans (Section 3.4.4)

In order to control flooding, ponding, erosion and sedimentation and to protect, as much as possible, water quality and aquatic habitat or other natural habitat, storm water management plans shall be required for any new development consisting of more than four lots or for commercial or industrial developments with large amounts of impervious area. Stormwater management will be undertaken in accordance with the Ministry of Environment and Climate Change Guideline entitled “Stormwater Management Planning and Design Manual, 2003”. Stormwater management may not be required for small scale developments such as lots created through the consent process or minor developments subject to site plan control where there is no impact on the watershed.

Wetlands Policy Areas (Section 5.5.1)

The Official plan designates all identified provincially significant wetlands (PSW as identified by the Ministry of Natural Resources (MNR) using the Ontario Wetland Evaluation System) as significant wetlands. While the official plan does not identify wetlands within the expansion lands area as significant it requires that:

a) Any development or site alteration proposed on or adjacent to a locally significant wetland shall not be permitted unless it has been demonstrated that there will be no negative impacts through an Environmental Impact Study (EIS).

b) Any development or site alteration proposed on or adjacent to an evaluated, non-provincially significant wetland (i.e. not identified to be important or significant at a provincial, local or municipal level), shall avoid negative impacts to the wetland (e.g. relocate the development); and, where avoidance is not possible, minimize the impacts to the fullest extent possible (as determined through an EIS).

c) Any development or site alteration proposed on or adjacent to an unevaluated wetland not evaluated according to the Ontario Wetland Evaluation System), shall require a scoped Environmental Impact Study.

Endangered or Threatened Species Habitat Species at Risk (Section 5.5.2)

Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

Where a screening identifies the potential habitat of endangered and threatened species, an ecological site assessment (EcoSA) shall be required in support of a planning application. The EcoSA shall assess the potential for significant habitat and delineate the extent of significant habitat of endangered and/or threatened species within or adjacent to an area proposed for development or site alteration. In cases where an environmental impact study (EIS) is triggered by the Official Plan, the above requirements may be addressed as part of the environmental impact study, provided it is undertaken by a qualified individual.

On all sites proposed for development or site alteration, a site inventory for butternut, an endangered tree species, will be required prior to the disturbance or removal of trees. When harm to (cutting of branches, root disturbances, etc.) or removal of butternut is proposed, prior assessment of the health of the species by a qualified Butternut Health Assessor is required.

Fish Habitat (Section 5.5.7)

Rivers, municipal drains and all other watercourses in the United Counties are either direct or indirect fish habitat.

Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements. Where development is proposed within 120 metres of an area of fish habitat as identified on Schedule B or adjacent to an area of fish habitat identified through consultation with the South Nation Conservation or the federal Department of Fisheries and Oceans it must be demonstrated through an environmental impact study carried out in accordance with Section 5.6 that there will be no negative impacts on the natural feature or on the ecological functions for which the feature is identified.

7. Recommended Mitigation Measures

As described above, there are no detailed plans to develop properties within the study area as part of the expansion of the urban boundary. As such, the recommendation of site specific mitigative measures is not possible at this time. However, the following work and general recommendation measures are recommended to inform future development:

- The unevaluated part of the centrally located wetland identified through field assessments should be assessed using the Ontario Wetland Evaluation System to determine whether it meets the criteria of being a PSW;
- It is expected that development within the expanded urban area boundary to be planned in accordance with the Official Plan of the Urban Area of the City of Clarence-Rockland will require the preparation of projects specific EIS;
- EIS should consider the potential impacts to SAR and SAR habitat identified in section 4 of this report which may be present within the area to be developed.
- Compliance with the *Endangered Species Act*, *Species at Risk Act* and *Fisheries Act* obligations will need to be confirmed before any modification to a site part of the expansion lands can be carry out.
- Implement Environment and Climate Change Canada *Guidelines to reduce risk to migratory birds*.
- While working within 30 m of a fish habitat, implement DFO *Measures to avoid causing harm to fish and fish habitat*.
- Tree removal and site preparation for construction should occur before April 1st or after September 30th to minimize impacts to habitat of migratory birds during critical life stages and comply with provincial and federal legislation. Following these guidelines will also allow to limit the impacts of the site preparation on bats as most bats should be absent from the site after September 30.
- Minimize the removal of natural vegetation and clearly delineated areas to be removed on the construction drawings.
- Educate workforce on potential wildlife which could occur in the vicinity of the work area and measures to avoid wildlife.
- Ensure that all grassland habitat that needs to be removed is cut prior to April 1 or after August 31. This is important to avoid impacting SAR grassland birds.
- Should any mammal, reptile or amphibian species be encountered during construction, the construction activities will immediately stop until the animal has safely moved out of harm's way. If a non-SAR individual needs to be moved, it can be relocated to its appropriate habitat outside of the work area.
- Should a nest be observed (any species) stop all activity at or near the nest and contact professional biologist for next steps.

- When possible, work should be completed during daylight hours. If nighttime lights are used, they will be installed so as to illuminate the work area only to minimize impacts to nighttime activities of wildlife.
- Vehicles and equipment should have the appropriate mufflers installed.
- Vehicle and equipment engine idling will be minimized
- Construction vehicles will have designated access routes from and to the construction area.
- Temporarily disturbed areas will be revegetated to pre-construction conditions using native trees and shrubs.
- All equipment and vehicles will be equipped with dust collectors and mufflers as appropriate.
- During concrete removal, tarps will be used to contain airborne dust particles.
- Water will be applied, at a minimum, on a daily basis, to all inactive disturbed surface areas. Water will be applied more frequently if required to prevent the visible emissions of fugitive dust.
- Water will be applied to all unpaved roads used for vehicular traffic at a frequency sufficient to prevent the visible emissions of fugitive dust.
- Clean gravel with low fines content will be chosen as material to top unpaved roads. Unpaved roads will be regularly graded and maintained to avoid washboarding and rutting that can increase fugitive dust emissions.
- Speed limits will be posted throughout the project area to control fugitive dust on all unpaved roads.
- All loads on haul trucks will be covered.
- During very windy conditions, material handling/transfer activity that generates fugitive dust will be avoided or reduced. If it is not possible to reschedule the activity, increased application of water for dust suppression may be used.
- Water will be applied to all open stockpiles on a daily basis when there is evidence of wind driven fugitive dust.
- Wetted stockpiles will be surrounded with sediment and erosion control measures (i.e. fencing).
- Materials with the potential to generate dust will be sprayed with water 15 minutes prior to handling and/or at points of transfer.
- Burning of waste materials will be prohibited
- There will be no use of herbicides in clearing of vegetation.
- Refuelling of equipment (e.g., pumps) and maintenance shall be conducted off slopes and away from water bodies on impermeable pads (drip tray) or buried liners to allow full containment of spills.
- The contractor crew will be fully trained on the use of clean-up materials in order to minimize impacts of any accidental spills.

- Ensure that the erosion and sediment control (ESC) measures chosen are appropriate for the site and are functioning as intended.
- Maintain and monitor ESC measures, provide the results of monitoring, and ensure adjustments as needed are made on a continuous basis.
- No work will occur in or within 30 m of the water until the appropriate ESC measures have been properly implemented. These will be designed to prevent the movement of suspended sediments outside of the site preparation and construction work areas.
- Work will stop if sedimentation issues occur outside of work areas until the cause of sedimentation is identified and addressed
- Should dust particles be created during concrete crushing, excavation, stockpiling etc. then they will be suppressed using the appropriate method (i.e. tarps).
- Any removal of riparian vegetation will be minimized and removal will be completed using small machinery.
- Where possible, vehicle traffic will be restricted to access roads
- The sediment fencing will not be removed until the terrestrial vegetation has become re-established.

The measures identified above should be considered in the context of proposed development within the expansion lands and are not necessarily a complete listing.

8. Conclusion

CIMA+ has completed, on behalf of the City of Clarence-Rockland, a preliminary assessment of environmental constraints on the proposed expansion lands to the southeast of the existing Urban Area Boundary of the City of Rockland, Ontario. Based on a combination of background documentation review and field surveys a developable area of the site has been defined and general development best practices have been recommended to avoid or mitigate potential environmental impacts to identified valued ecosystem components. A review of applicable legislation has also been completed to inform requirements for future development of the site

8.1 Study Limitations and Constraints

CIMA+ completed diligent and reasonable research in the conduct of this evaluation, with respect to the recognized laws and standards of practice.

The facts presented in this report are strictly limited to the period of investigation. The conclusions presented in this report are based on the available information and documents, the observations made during the Site visit and also the information obtained from communications with various contacts. The interpretation presented in this report is limited to this data.

CIMA+ is not responsible for erroneous conclusions due to voluntary abstention or the non-availability of pertinent information. Any opinion expressed in relation to legal or regulatory conformity is technical and should not be, in any case, considered as legal advice.

8.2 Signatures

CIMA+

Kai Markvorsen, B.Sc.	Valérie Bédard, B.Sc.
Environmental Specialist	Project Manager - Environment

C10-A000817

9. References

Land Information Ontario Government of Ontario. Topographic and watercourses. At https://www.ontario.ca/page/land-information-ontario.

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Ottawa, NTS 31G/SW and part of NTS 31G/NW, data base map, southern Ontario engineering geology terrain study (Map # M5513, 1:100000) - 1990. Accessed through OGS Earth at https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth . Ministry of Energy, Northern Development and Mines.

Ministry of Environment, Conservation and Parks. (2018). Map well records. [Online] Available at: https://www.ontario.ca/environment-and-energy/map-well-records.

Ontario Basic Mapping (2018). [Online] Available at: http://www.geographynetwork.ca/website/obm/viewer.htm

Bird Studies Canada, Atlas of Breeding Birds of Ontario. Available at https://www.birdsontario.org/atlas/index.jsp?lang=en

Ontario Reptile and Amphibian Atlas. Available at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/

APPENDIX A

Correspondence

Kai Markvorsen

From: Kai Markvorsen
Sent: Wednesday, April 11, 2018 1:10 PM
To: 'Inforequest, Kemptville (MNRF)'
Subject: Information Request supporting EIS for Clarence Rockland Urban Boundary Expansion
Attachments: Location Map.pdf; Clarence Rockland MNRF Info Request 2018-04-11.pdf

Hello,

Please find attached an information request, and location map, for available SAR and natural heritage information.

The study area is irregularly shaped, consisting of 133.5 ha on the south side of David Street and bounded by Clarence Creek to the east. It is situated primarily to the east of Caron street with the exception of an approximately 23 ha area to the southwest of the study area.

Please let me know if more information is required to support this request.

Regards,

Kai

Kai Markvorsen
Environment Professional
Environment

CIMA+
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CANADA
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Kai Markvorsen

From: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Sent: Wednesday, April 4, 2018 5:16 PM
To: Kai Markvorsen
Subject: RE: Information Request to Support EIS for Clarence Rockland Urban Expansion

Hello Kai,

EO_ID 111923 represents an element occurrence for Eastern Meadowlark. This is an extant element occurrence. The most recent observations are from 2004.

EO_ID 111919 represents an element occurrence for Eastern Meadowlark. This is an extant element occurrence. The most recent observations are from 2004.

I also queried the Provincially Tracked Species Observations layer (Ontario's provincial record for observations for species of conservation concern) and did not find any newer observations for Eastern Meadowlark for your project site. I did find one observation for Least Bittern (made in 2016) that intersects your project site; the location was reported as the "pond" area in Morris Village, Rockland and we mapped it as a circle with a 1 km radius because we don't know where exactly the species was seen. The observer of the Least Bittern was not a naturalist or birder and reported having some trouble identifying the species. The observer did not have photos to share with us, so we could not confirm the identity of the species.

I queried our natural areas data and could not find reports for:

- Clarence Creek Swamp (Area ID 19089)
- Rockland Marsh (Area ID 19053) – this is a provincially significant wetland (wetland evaluation completed on November 18, 1999, total score: 479)
- South Rockland Swamp (Area ID 19057)

You can download spatial data for these wetlands from https://www.ontario.ca/data/wetlands.

Since your project area falls completely within the jurisdiction of the Ministry of Natural Resources and Forestry Kemptville District Office, I recommend contacting them to see if they have additional information or can offer you any guidance.

If you have any questions, or if there is anything else the Natural Heritage Information Centre can help you with, please let us know.

Best regards,
Martina

Martina Furrer
Biodiversity Information Biologist
Ontario Natural Heritage Information Centre
Ontario Ministry of Natural Resources and Forestry
300 Water St, Peterborough, ON, K9J 3C7
705.755.2192 | martina.furrer@ontario.ca

http://www.ontario.ca/environment-and-energy/natural-heritage-information-centre

From: Kai Markvorsen [mailto:Kai.Markvorsen@cima.ca]
Sent: April 4, 2018 12:31 PM
To: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Subject: Information Request to Support EIS for Clarence Rockland Urban Expansion

Hello,

We're looking for data on the following grid squares (with associated area ID references). Information request is supporting Environmental Impact Statement for the Urban Expansion of Clarrence Rockland.

Grid Square	ID Reference
18VR7843	areaid=19057
18VR7943	areaid=19053
18VR8043	nhic_eo_id=111923
18VR7842	areaid=19057
18VR7942	areaid=19057
18VR8042	areaid=19089
18VR7941	nhic_eo_id=111919
18VR8041	nhic_eo_id=111919

Please let us know if more information is required.

Regards,

Kai

Kai Markvorsen
Environment Professional
Environment

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Ministry of Natural Resources and Forestry

Kemptville District

10 Campus Drive
Postal Box 2002
Kemptville ON K0G 1J0
Tel.: 613 258-8204
Fax: 613 258-3920

Ministère des Richesses naturelles et des Forêts

District de Kemptville

10, promenade Campus
Case postale, 2002
Kemptville ON K0G 1J0
Tél.: 613 258-8204
Téléc.: 613 258-3920

Fri. Apr 13, 2018

Kai Markvorsen
CIMA+
240 Catherine Street, Suite 110
Ottawa, Ontario
K2P 2G8
(613) 860-2462
kai.markvorsen@cima.ca

Attention: Kai Markvorsen

Subject: Information Request - Developments
Project Name: EIS for Clarence Rockland Urban Boundary Expansion
Site Address:
Our File No. 2018_CLA-4511

Natural Heritage Values

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Evaluated Wetland, Clarence Creek Swamp (Evaluated-Other)
- Evaluated Wetland, Estates Swamp (Evaluated-Other)
- Evaluated Wetland, South Rockland Swamp (Evaluated-Other)
- River, Clarence Creek

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

Wildland Fire

MNRF woodland data shows that the site contains woodlands. The lands should be assessed for the risk of wildland fire as per PPS 2014, Section 3.1.8 "*Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards".* Further discussion with the local municipality should be carried out to address how the risks associated with wildland fire will be covered for such a development proposal. Please see the Wildland Fire Risk Assessment and Mitigation Guidebook (2016) for more information.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Water

The Ministry of Natural Resources and Forestry (MNRF) has established timing window guidelines to restrict in-water work related to an activity during certain periods. These restricted periods are identified in order to protect fish from impacts of works or undertakings in and around water during spawning and other critical life stages. A suite of appropriate measures should be taken for projects involving in-water works to minimize and mitigate impacts to fish, water quality and fish habitat, and include:

- avoiding in-water works during the timing guidelines;
- installation of sediment/erosion control measures;
- avoiding the removal, alteration, or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures to manage falling debris (e.g. spalling).

Timing guidelines are based on species* presence and are therefore subject to change if new information becomes available. Timing guidelines in Kemptville District are:

Waterbody (and applicable geography or Fisheries Management Zone)	Timing Guidelines (no in-water works)
○ St. Lawrence River (FMZ 20)	March 15 – July 15 (Spring spawning species)
○ Ottawa River – Lac Des Chats (FMZ 12)	October 1 to July 15 (Spring and fall spawning species, including Lake Trout and Lake Whitefish)
○ Ottawa River – Lac Deschenes (FMZ 12)	October 15 to July 15 (Spring and fall spawning species, including Cisco)
○ Ottawa River – Lac Dollard des Ormeaux (FMZ 12)	January 1 to July 15 (Winter and spring spawning species, including Burbot)
○ Big Rideau Lake (South Burgess, North Burgess, Bastard and South Elmsley Twps) ○ Charleston Lake (Lansdowne and Escott Twps) ○ Crow Lake (South Crosby Twp)	October 1 to June 30 (Spring and fall spawning species, including Lake Trout)
○ Bass Lake (South Elmsley Twp) ○ Lower Rideau Lake (South Elmsley Twp) ○ Bob's Lake (South Sherbrooke Twp) ○ Christie Lake (South Sherbrooke Twp) ○ Dalhousie Lake (Dalhousie Twp) ○ Davern Lake (South Sherbrooke Twp) ○ Farren Lake (South Sherbrooke Twp) ○ Grippen Lake (Leeds Twp) ○ Indian Lake (South Crosby Twp) ○ Little Long Lake (Lansdowne Twp) ○ Millpond Lake (South Burgess) ○ Otter Lake (South Elmsley, South Burgess and Bastard Twps) ○ Otty Lake (North Burgess and North Elmsley Twps)	October 15 to June 30 (Spring and Fall spawning species, including Lake Whitefish and Cisco)

○ Pike Lake (North Burgess Twp) ○ Silver Lake (South Sherbrooke Twp) ○ Redhorse Lake (Lansdowne Twp) ○ Tay River (South Sherbrooke, Bathurst, Drummond and North Elmsley Twps) ○ Wolfe Lake (North Crosby Twp)	
○ Bennett Lake (Bathurst Twp) ○ Crosby Lake (North Crosby Twp) ○ Gananoque River (Leeds Twp) ○ Lac Georges (Plantagenet and Alfred Twps) ○ Gillies Lake (Lanark Twp) ○ Little Crosby Lake (North Crosby Twp) ○ McLaren Lake (North Burgess Twp) ○ Mississippi Lake (Drummond, Beckwith and Ramsay Twps) ○ Mississippi River (Beckwith, Ramsay, Pakenham and Fitzroy Twps) ○ Raisin River below Martintown dam (Charlottenburgh Twp) ○ Rideau River (Wolford, Oxford, Montague, Marlborough, South Gower, North Gower, Osgood, Nepean and Gloucester Twps) ○ South Lake (Leeds Twp) ○ South Nation River below Plantagenet weir (Plantagenet Twp) ○ Upper Rideau Lake (North Crosby Twp) ○ Westport Sand Lake (North Crosby Twp)	January 1 – June 30 (Winter and spring spawning species, including Burbot)
○ Small rivers and streams (denoted on 1:50,000 National Topographic System maps as being one lined) ○ All other waterbodies in FMZ 18	March 15 to June 30 (Spring spawning species)

**Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas. Timing restrictions are subject to change, depending on species found in a given waterbody.*

In addition to adhering to the above timing guidelines, a work permit from the MNRF may be required depending on the nature and scope of work. No encroachment on the bed or banks of a waterbody/watercourse (e.g. abutments, embankments, etc.) is permitted without MNRF approval. Additional information regarding work permits may be found online at https://www.ontario.ca/page/crown-land-work-permits#section-2.

The MNRF does not have any water quality or quantity data available. We recommend that the Ministry of the Environment and Climate Change be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for* Ontario at: http://www.web2.mnr.gov.on.ca/mnr/ebr/fish_hab_referral/protocol_en.pdf.

Additional approvals and permits may be required under the Fisheries Act and the Species at Risk Act; please contact Fisheries and Oceans Canada to determine requirements and next steps. There may also be approvals required by the local Conservation Authority or Transport Canada, and these agencies should be contacted directly to determine requirements. As the MNRF is responsible for the management of provincial fish populations, we request ongoing involvement in such discussions in order to ensure population conservation.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- American Eel (END)
- Barn Swallow (THR)
- Butternut (END)
- Eastern Meadowlark (THR)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)
- Tri-Colored Bat (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: https://www.ontario.ca/page/how-species-risk-are-protected.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:
http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E

For more information on the ESA authorization process, please see:
https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Northern Brook Lamprey (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Sat. Apr 13, 2019

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Dom Ferland
Management Biologist
dominique.ferland@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet

Endangered Species Act, 2007 & Species At Risk in Ontario

Background

Endangered Species Act: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statues-07e06_e.htm
Species at Risk in Ontario List: www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html

The Endangered Species Act (ESA) 2007 protects both species and habitat. Section 9 of the ESA "prohibits killing, harming, harassing, capturing, possessing, collecting, buying, selling, trading, leasing or transporting species that are listed as threatened, endangered or extirpated". Section 10 of the ESA, 2007 prohibits damaging or destroying habitat of endangered or threatened species. Protected habitat is either based on general definition in the Act or prescribed through a regulation. The ESA 2007 defines general habitat as an area on which the species depends, directly or indirectly, to carry on its life processes, including reproduction, rearing, hibernation, migration or feeding.

It is important to be aware that changes may occur in both species and habitat protection. The ESA applies to listed species on the Species at Risk in Ontario List (SARO). The Committee on the Status of Species in Ontario (COSSARO) meets regularly to evaluate species for listing and/or re-evaluate species already listed. As a result, species' designations may change that could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change e.g. if a species-specific habitat regulation comes into effect. The regulation would establish the area that is protected as habitat for the species.

Information with respect to SAR can be found in the online database at the Natural Heritage Information Centre (NHIC) - http://nhic.mnr.gov.on.ca/nhic.cfm . The NHIC compiles, maintains and distributes information on species at risk and updates its information on a regular basis. We encourage you to routinely check the NHIC database to obtain the most up to date SAR information for proposed work locations. However, while the NHIC database is the best available source of data, even when there are no known occurrences documented at a site, there is a possibility that SAR may occur at a proposed work location.

All data represents the MNR's best current available information, it is important to note that a lack of occurrence at a site does not mean that there are no Species at Risk (SAR) at the location. The MNR continues to encourage ecological site assessments to determine the potential for other SAR occurrences. When a SAR does occur on a proposed site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the Act (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for application of certain permits (Section 17) or agreement (Regulation 242/08). For specific questions regarding the Endangered Species Act (2007) or species at risk, please contact a district Species at Risk Biologist at sar.kemptville@ontario.ca.

Ministry of Natural Resources

Ontario

Natural. Valued. Protected.

Natural Heritage Information Centre

Land Information Ontario

Natural Heritage Information Centre: http://nhic.mnr.gov.on.ca/
Biodiversity Explorer (mapping): https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp

Land Information Ontario: http://www.mnr.gov.on.ca/en/Business/LIO/index.html
Ontario Geospatial Data Exchange: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STEL02_167959.html
LIO Make-a-Map: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068999.html
Ontario Maps: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068512.html

The **Natural Heritage Information Centre** (NHIC) compiles, maintains and distributes information on natural species, plant communities and spaces of conservation concern in Ontario. This information is stored in a spatial database used for tracking this information. The Centre also has a library with conservation-related literature, reports, books, and maps, which are accessible for conservation applications, land use planning, and natural resource management. The NHIC website makes much of this information available through the internet.

Natural Heritage Information Centre
300 Water Street, 2nd Floor, North Tower
P.O. Box 7000, Peterborough, ON, K9J 8M5
Tel.:(705) 755-2159 Fax:(705) 755-2168

Land Information Ontario (LIO) manages key provincial datasets. LIO makes these and hundreds of other data sets available to registered users at no charge. LIO also coordinates public and private sector organizations to collect high resolution satellite imagery for Ontario providing significant cost savings for all partners. Technical bulletins, newsletters and more are available online. More details regarding Ontario imagery and data can be searched, ordered and accessed online.

LIO's Ontario Geospatial Data Exchange (OGDE) allows more than 400 public sector organizations to easily share and use digital geographic information under a single legal agreement. Membership is available to eligible public organizations at no costs.

Through the website, Maps & Map Tools are made available, including online mapping software: LIO Make-a-Map.

Land Information Ontario
lio@ontario.ca
LIO Support Team: (705) 755-1878

Or for specifics, see online at:
http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068510.html

Additional Information pertaining to NHIC, LIO and other Natural Heritage and Data and Information tools is available in the MNR Kemptville Information Request Guide (2012).

APPENDIX B

Species Lists

Species	Scientific Name
Canada Goose	*Branta canadensis*
Wood Duck	*Aix sponsa*
Gadwall	*Mareca strepera*
American Wigeon	*Anas americana*
American Black Duck	*Anas rubripes*
Mallard	*Anas platyrhynchos*
Blue-winged Teal	*Anas discors*
Northern Shoveler	*Anas clypeata*
Northern Pintail	*Anas acuta*
Green-winged Teal	*Anas carolinensis*
Ring-necked Duck	*Aythya collaris*
Lesser Scaup	*Aythya affinis*
Hooded Merganser	*Lophodytes cucullatus*
Common Merganser	*Mergus merganser*
Red-breasted Merganser	*Mergus serrator*
Ruddy Duck	*Oxyura jamaicensis*
Gray Partridge	*Perdix perdix*
Ring-necked Pheasant	*Phasianus colchicus*
Ruffed Grouse	*Bonasa umbellus*
Wild Turkey	*Meleagris gallopavo*
Common Loon	*Gavia immer*
Pied-billed Grebe	*Podilymbus podiceps*
American Bittern	*Botaurus lentiginosus*
Least Bittern	*Ixobrychus exilis*
Great Blue Heron	*Ardea herodias*
Green Heron	*Butorides virescens*
Black-crown N.-Heron	*Nycticorax nycticorax*
Turkey Vulture	*Cathartes aura*
Osprey	*Pandion haliaetus*
Bald Eagle	*Haliaeetus leucocephalus*
Northern Harrier	*Circus cyaneus*
Sharp-shinned Hawk	*Accipiter striatus*
Cooper's Hawk	*Accipiter cooperii*
Northern Goshawk	*Accipiter gentilis*
Red-should Hawk	*Buteo lineatus*
Broad-winged Hawk	*Buteo platypterus*
Red-tailed Hawk	*Buteo jamaicensis*
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*

Species	Scientific Name
Peregrine Falcon	*Falco peregrinus*
Virginia Rail	*Rallus limicola*
Sora	*Porzana carolina*
Common Moorhen	*Gallinula chloropus*
American Coot	*Fulica americana*
Coot/Moorhen	*Fulica americana*
Killdeer	*Charadrius vociferus*
Rock Dove	*Columba livia*
Spotted Sandpiper	*Actitis macularius*
Upland Sandpiper	*Bartramia longicauda*
Common Snipe	*Gallinago gallinago*
American Woodcock	*Scolopax minor*
Wilson's Phalarope	*Phalaropus tricolor*
Ring-billed Gull	*Larus delawarensis*
Herring Gull	*Larus argentatus*
Black Tern	*Chlidonias niger*
Common Tern	*Sterna hirundo*
Mourning Dove	*Zenaida macroura*
Yellow-billed Cuckoo	*Coccyzus americanus*
Black-billed Cuckoo	*Coccyzus erythropthalmus*
Eastern Screech-Owl	*Megascops asio*
Great Horned Owl	*Bubo virginianus*
Barred Owl	*Strix varia*
Long-eared Owl	*Asio otus*
Short-eared Owl	*Asio flammeus*
North Saw-whet Owl	*Aegolius acadicus*
Common Nighthawk	*Chordeiles minor*
Whip-poor-will	*Caprimulgus vociferus*
Chimney Swift	*Chaetura pelagica*
Ruby-thr Hummingbird	*Archilochus colubris*
Belted Kingfisher	*Megaceryle alcyon*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Yellow-bellied Sapsucker	*Sphyrapicus varius*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Leuconotopicus villosus*
Black-backed Woodpecker	*Picoides arcticus*
Northern Flicker	*Colaptes auratus*
Pileated Woodpecker	*Hylatomus pileatus*

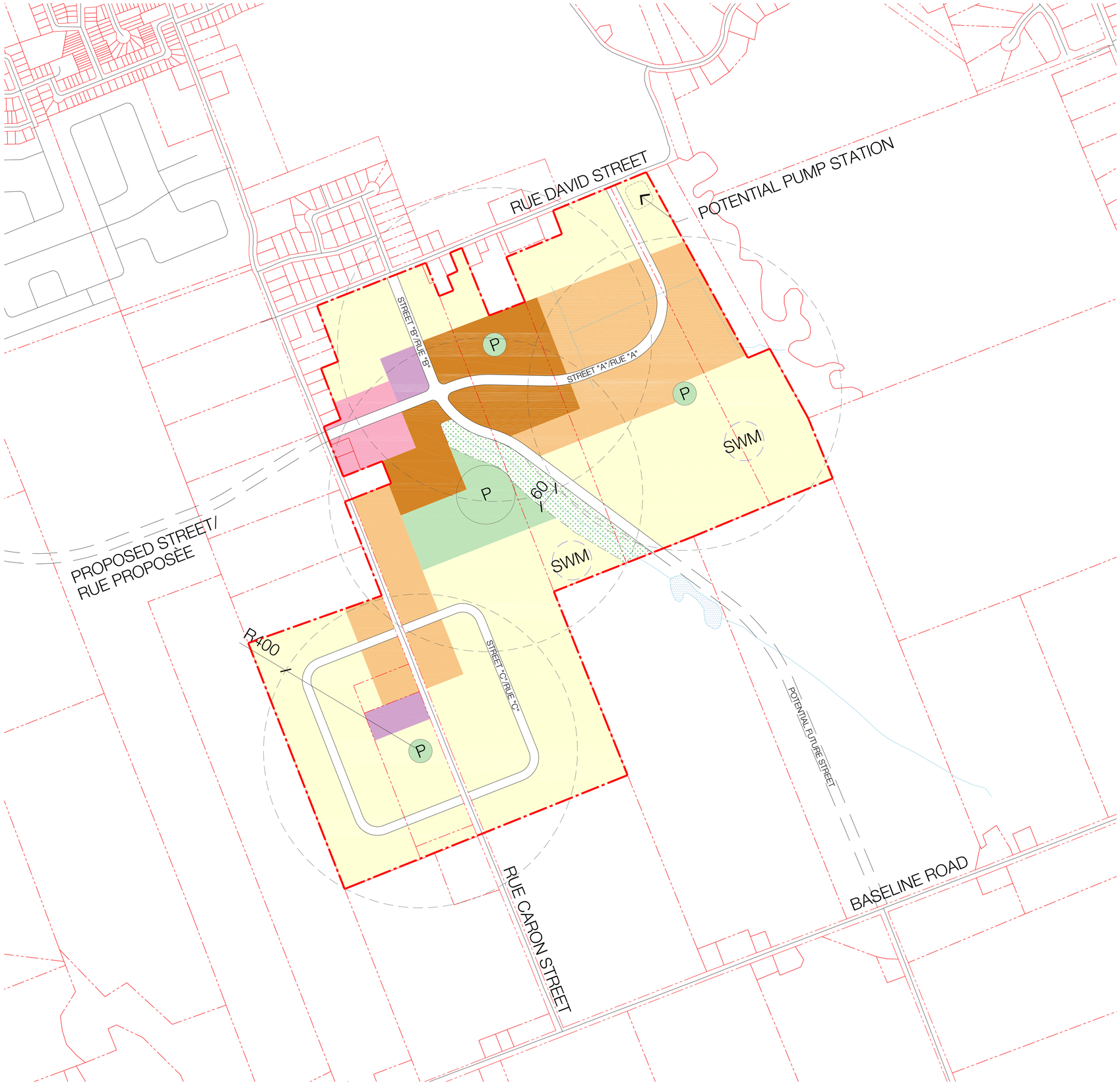
Species	Scientific Name
Olive-sided Flycatcher	*Contopus cooperi*
Eastern Wood-Pewee	*Contopus virens*
Yellow-bellied Flycatcher	*Empidonax flaviventris*
Alder Flycatcher	*Empidonax alnorum*
Willow Flycatcher	*Empidonax traillii*
Least Flycatcher	*Empidonax minimus*
Eastern Phoebe	*Sayornis phoebe*
Gr Crested Flycatcher	*Myiarchus crinitus*
Eastern Kingbird	*Tyrannus tyrannus*
Loggerhead Shrike	*Lanius ludovicianus*
Yellow-throated Vireo	*Vireo flavifrons*
Blue-headed Vireo	*Vireo solitarius*
Warbling Vireo	*Vireo gilvus*
Philadelphia Vireo	*Vireo philadelphicus*
Red-eyed Vireo	*Vireo olivaceus*
Gray Jay	*Perisoreus canadensis*
Blue Jay	*Cyanocitta cristata*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Horned Lark	*Eremophila alpestris*
Purple Martin	*Progne subis*
Tree Swallow	*Tachycineta bicolor*
North Rgh-wing Swallow	*Stelgidopteryx serripennis*
Bank Swallow	*Riparia riparia*
Cliff Swallow	*Petrochelidon pyrrhonota*
Barn Swallow	*Hirundo rustica*
Black-capped Chickadee	*Poecile atricapillus*
Red-breast Nuthatch	*Sitta canadensis*
White-breast Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia americana*
House Wren	*Troglodytes aedon*
Winter Wren	*Troglodytes hiemalis*
Sedge Wren	*Cistothorus platensis*
Marsh Wren	*Cistothorus palustris*
Golden-crown Kinglet	*Regulus satrapa*
Ruby-crown Kinglet	*Regulus calendula*
Blue-gr Gnatcatcher	*Polioptila caerulea*
Eastern Bluebird	*Sialia sialis*
Veery	*Catharus fuscescens*

Species	Scientific Name
Swainson's Thrush	*Catharus ustulatus*
Hermit Thrush	*Catharus guttatus*
Wood Thrush	*Hylocichla mustelina*
American Robin	*Turdus migratorius*
Gray Catbird	*Dumetella carolinensis*
Northern Mockingbird	*Mimus polyglottos*
Brown Thrasher	*Toxostoma rufum*
European Starling	*Sturnus vulgaris*
Cedar Waxwing	*Bombycilla cedrorum*
Golden-winged Warbler	*Vermivora chrysoptera*
Blue/Gold-wing Warbler	*Vermivora chrysoptera*
Tennessee Warbler	*Leiothlypis peregrina*
Nashville Warbler	*Leiothlypis ruficapilla*
Northern Parula	*Setophaga americana*
Yellow Warbler	*Setophaga petechia*
Chestn-sided Warbler	*Setophaga pensylvanica*
Magnolia Warbler	*Setophaga magnolia*
Cape May Warbler	*Setophaga tigrina*
Black-thr Blue Warbler	*Setophaga caerulescens*
Yellow-rumped Warbler	*Setophaga coronata*
Black-thr Green Warbler	*Setophaga virens*
Blackburnian Warbler	*Setophaga fusca*
Pine Warbler	*Setophaga pinus*
Palm Warbler	*Setophaga palmarum*
Bay-breasted Warbler	*Setophaga castanea*
Cerulean Warbler	*Setophaga cerulea*
Black-white Warbler	*Mniotilta varia*
American Redstart	*Setophaga ruticilla*
Ovenbird	*Seiurus aurocapilla*
North Waterthrush	*Parkesia noveboracensis*
Mourning Warbler	*Geothlypis philadelphia*
Common Yellowthroat	*Geothlypis trichas*
Canada Warbler	*Cardellina canadensis*
Eastern Towhee	*Pipilo erythrophthalmus*
Chipping Sparrow	*Spizella passerina*
Clay-colored Sparrow	*Spizella pallida*
Field Sparrow	*Spizella pusilla*
Vesper Sparrow	*Pooecetes gramineus*
Savannah Sparrow	*Passerculus sandwichensis*

Species	Scientific Name
Grasshopper Sparrow	*Ammodramus savannarum*
Song Sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
Swamp Sparrow	*Melospiza georgiana*
White-throat Sparrow	*Zonotrichia albicollis*
Dark-eyed Junco	*Junco hyemalis*
Scarlet Tanager	*Piranga olivacea*
Northern Cardinal	*Cardinalis cardinalis*
Rose-breast Grosbeak	*Pheucticus ludovicianus*
Indigo Bunting	*Passerina cyanea*
Bobolink	*Dolichonyx oryzivorus*
Red-wing Blackbird	*Agelaius phoeniceus*
Eastern Meadowlark	*Sturnella magna*
Common Grackle	*Quiscalus quiscula*
Brown-head Cowbird	*Molothrus ater*
Baltimore Oriole	*Icterus galbula*
Purple Finch	*Haemorhous purpureus*
House Finch	*Haemorhous mexicanus*
Red Crossbill	*Loxia curvirostra*
White-winged Crossbill	*Loxia leucoptera*
Pine Siskin	*Spinus pinus*
American Goldfinch	*Spinus tristis*
Evening Grosbeak	*Coccothraustes vespertinus*
House Sparrow	*Passer domesticus*

APPENDIX C

Prefered Concept Plan



LAND USE STATISTICS

SITE AREA

Total Site Area:	1,372,345m^2
	137 hectares

AREA		% Res
Low Density Residential:	764,561m^2	69.41
Medium Density Residential:	225,472m^2	20.47
High Density Residential:	111,433m^2	10.12
Commercial:	29,130m^2	
Open Space/Parkland:	64,023m^2	
Institutional:	22,274m^2	
Environmental Protection Area:	39,719m^2	

NOTES

1. The base plan (lot lines, existing roads and surrounding areas) is based on the City's Open Data and aerial images. The site area is approximate and all dimensions need to be confirmed by a proper survey.

2. Assume 30.0m setback from centreline of stream.

3. Assume road ROW of 26.0m.

EXPANSION LANDS SECONDARY PLAN

PREFERRED CONCEPT LAND USE PLAN

LEGEND/LÉGENDE

- LOW DENSITY RESIDENTIAL/ RÉSIDENCES À FAIBLE DENSITÉ
- MEDIUM DENSITY RESIDENTIAL RÉSIDENCES À DENSITÉ MOYENNE
- HIGH DENSITY RESIDENTIAL RÉSIDENCES À HAUTE DENSITÉ
- COMMERCIAL COMMERCES
- COMMUNITY FACILITIES INSTALLATIONS COMMUNAUTAIRE
- ENVIRONMENTAL PROTECTION AREA ZONE DE PROTECTION ENVIRONNEMENTALE
- WATER EAU
- (P) OPEN SPACE/PARKLAND PARCS ET ESPACES OUVERTS
- (SWM) APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)

0 125m 250m 500m

No.	REVISION	DATE	BY
8	REVISIONS	2019.03.04	BL
7	REVISIONS	2019.02.08	BL
6	PREFERRED CONCEPT	2019.01.17	BL
5	PUBLIC MEETING	2019.01.07	BL
4	DRAWING	2018.12.20	ET
3	DRAWING	2018.12.19	BL
2	CLIENT REVIEW	2018.11.22	BL
1	DRAWING	2018.11.21	BL

CLIENT
CITY OF CLARENCE/ROCKLAND

FOTENN Planning + Design
223 McLeod Street, Ottawa ON K2P 0Z8
613.730.5709 www.fotenn.com

DESIGNED	BL
REVIEWED	UMG
DATE	2018.11.20

P1

CITY OF CLARENCE-ROCKLAND

EXPANSION LANDS SECONDARY PLAN – MASTER SERVICING STUDY

July 2019

CIMA+ File No. A000817

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1. Introduction

The City of Clarence-Rockland is part of the counties of Prescott and Russell. As part of the Official Plan of the United Counties of Prescott and Russell, the urban area of Clarence-Rockland was identified for expansion. This expanded urban area will accommodate new urban development to meet Clarence-Rockland's projected growth over the planning period to 2035. Fotenn, CIMA+ and Shore Tanner were retained by the City of Clarence-Rockland (City) to complete a Secondary Plan for the Expansion Lands. Once complete, this Secondary Plan will be appended to the Official Plan for the City's Urban Area as an amendment.

1.1 Study Area

The proposed growth area is located southeast of the existing urban area, immediately adjacent to Caron Street as illustrated in **Figure 1**. The area is comprised of approximately 137.23 hectares (ha) of land held under multiple ownerships in blocks of land that are currently undeveloped or in use for agricultural purposes.

Figure 1: Expansion Lands

As depicted in **Figure 1**, the study area (Expansion Lands) includes the area south of David Street and west of Clarence Creek. It is situated mostly to the east of Caron Street, except for an area of approximately 23 hectares on the west side of Caron Street in the southwest of the Expansion Lands. The Rockland Golf Club and the residential neighbourhood of Rockland East are located to the north of the Expansion Lands.

1.2 Background Documents

The following background drawings, studies and guidance documents were obtained as part of the Master Servicing Study:

- City of Clarence-Rockland Design Guidelines for Subdivisions and Site Plans, dated June 2018;
- City of Clarence-Rockland existing infrastructure model plan views in PDF form for the sanitary network, storm sewer network and water distribution network;
- City of Clarence Rockland existing infrastructure GIS files and LiDAR surface;
- City of Clarence-Rockland fire hydrant flow test data for Hydrant numbers: 351, 213, 212, 208 and 179;
- Sanitary Master Plan Update – Final Report by CH2M Hill, dated November 2009;
- Sanitary Sewer Calculation Sheet for Caron St. Reconstruction by WSP, dated April 29, 2013;
- Proposed Sanitary Servicing Areas sheet number SK1.23 by GENIVAR, Issued for ECA, dated January 23, 2013;
- Sewage Pumping Station Capacity and Condition Assessment and Sanitary Treatment Facility Capacity and Capital Investment Report by WSP, dated June 9, 2014;
- Clarence-Rockland Sewage Treatment Plant Upgrades – Equalization Tank Conceptual Design Report (FINAL) by RVA, dated May 29, 2017;
- OCWA Quarterly Operations Report Card for the City of Clarence-Rockland Water and Wastewater Facilities, 4th Quarter 2016;
- Plan and Profile of Caron Street As-Built Drawings by GENIVAR, dated November 25, 2015;
- Clarence-Rockland and Limoges Water Servicing Study by CH2MHill, dated April 24, 2018;
- Design Brief for Sewage Pumping Station No. 9, Revision 1 by Atrel Engineering Ltd., dated November 2018;

- Pumping Station No. 9 Issued for Approval Drawings by Atrel Engineering Ltd., dated November 16, 2018;
- Stormwater Management Pond Design Brief for Morris Village Subdivision by JFSA Water Resources and Environmental Consultants, dated May 2009 and updated October 2017;
- Topographical Survey for Lot 23 Concession 2 by Arpentages SCHULTZ BARRETTE Surveying, Ref. No. CON. 2(O.S.)-28;
- Final Preferred Concept Plan and Final Densities by Fotenn Planning and Design, dated March 4, 2019

1.3 Design Criteria

This section provides an overview of the design criteria for the Expansion Lands based on the City of Clarence Rockland, South Nation Conservation (SNC), and Ministry of the Environment, Conservation and Parks (MECP) guidelines.

1.3.1 City of Clarence-Rockland Design Guidelines

Generally, Part 4 – Design Requirements, of the City of Clarence-Rockland's Design Guidelines for Subdivisions and Site Plans was utilized for this study and should be followed in development of the proposed Expansion Lands. A brief summary of the key design criteria is provided below:

Watermains:

- Fire protection demand is to be per the requirements of the Fire Underwriters Survey;
- An average flow of 350 L/person/day and the per unit population provided in Table 4-12 of the design guidelines was used to develop flows for residential land use areas;
- An average flow of 28 m^3/ha per day was used to develop flows for commercial and community facility land use areas;
- Domestic peaking factors used for minimum hour, maximum day and peak hour were obtained from Table 4-14 of the design guidelines; and
- The watermain system must be designed to meet the pressure requirements outlined in Table 4-15 in the design guidelines.

Sanitary Sewers:

- An average flow of 350 L/person/day and the per unit population provided in Table 4-1 of the design guidelines was used to develop flows for the residential land use areas;
- An average flow of 28 m^3/ha per day was used to develop flows for commercial and community facility land use areas;
- Extraneous flows of 0.28 L/s/ha and 0.14 L/s/ha were used for residential and commercial areas, respectively;

- The peaking factor for residential areas was determined using the Harmon formula and a peaking factor of 1.5 was used for commercial areas;
- Full flow velocity in sanitary sewers is to be a minimum of 0.6 m/s and a maximum of 3.0 m/s; and
- Actual velocities have been considered to ensure self-cleansing velocities are achieved.

Storm Sewers and Stormwater Management:

- Storm sewers were designed to convey a 5-year return frequency storm and sized using the Rational Method;
- An inlet time of 15 minutes was utilized;
- Runoff coefficients used for sewer sizing were obtained from Table 4-5 of the design guidelines;
- IDF curves based on Ottawa rainfall intensities and the Ottawa Sewer Design Guidelines were used;
- Depth of rainfall data was obtained from MTO's IDF Curve Lookup tool for the project site;
- The 100-year post-development peak flow shall not exceed the 100-year pre-development peak flow, and the 5-year post-development peak flow shall not exceed the 5-year pre-development peak flow;
- A minimum of 80% total suspended solids (TSS) removal is to be provided;
- The SCS Type II storm event distribution for both the 24-hour storm event duration was used to size the SWM ponds; and
- Full flow velocity is storm sewers is to be a minimum of 0.8 m/s and a maximum of 3.0 m/s.

1.3.2 Ministry of Environment, Conservation and Parks (MECP)

Additional stormwater runoff from new pavement can impact receiving watercourse and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. A Stormwater Management Plan should be prepared in accordance with the MOECC "Stormwater Management Planning and Design Manual" dated May 2003.

The MOECC Design Guidelines for Sewage Works and Design Guidelines for Drinking Water Systems should be referenced where applicable.

1.3.3 South Nation Conservation Authority (SNCA)

No specific design criteria were identified by SNCA at the time of this study. However, the following two documents should be considered at the detailed design stage:

- Clarence Creek Floodplain Mapping Report DRAFT prepared by SNCA, dated April 2019; and
- UCPR Stormwater Facilities Planning and Maintenance Guide DRAFT 2 prepared by SNCA, dated May 27, 2019.

2. Existing Conditions

This section is provided to summarize key components of the City's existing infrastructure which will be utilized to support the Expansion Lands. The following observations are based on a review of as-built drawings as well as background reports and documents supplied by the City.

This is a preliminary review of existing water, sanitary and stormwater servicing. Prior to development, the exact location and capacity of relevant services should be determined.

2.1 Water Distribution System

The City's water distribution system consists of a water treatment plant, transmission mains, distribution mains, reservoirs and pump stations. The sections below provide further details regarding existing capacities and any significant constraints.

2.1.1 Water Treatment Plant Capacity and Demand

Based on the information presented in the Final Report for the Clarence-Rockland and Limoges Water Servicing Study by CH2MHILL, provided by the City to CIMA+, the following existing capacities have been identified for the Clarence-Rockland Water Treatment Plant (WTP):

- Existing WTP capacity is 13,500 m^3/day; and the
- Existing WTP high lift pumping capacity is 13,500 m^3/day.

These values represent the maximum amount of treated water that the WTP can produce using existing equipment and processes. An excerpt from the report is provided in **Appendix C1**.

Consumption rates are compiled into an annual Summary Report by Ontario Clean Water Agency (OCWA). OCWA is a quasi-private sector corporation that operates the urban water system under contract with the City. The 2016 Summary Report of water consumption is provided in **Appendix C2**. Key items drawn from this report include:

- The highest value of the Daily Flow Maximums for 2016 was 8,823.4 m^3/day. This represents the highest water demand day during the year;
- The average of the Daily Flow Averages for 2016 was 6,170.51 m^3/day. This represents an average day of water consumption over the year.

Based on this information, it is evident that water treatment plant capacity (13,500 m^3/day) exceeds 2016 average day usage (6,170 m^3/day). It also exceeds peak water consumption as

recorded in 2016 (8,823 m^3/day). Not considering any on-going or other future development within the City, the available information suggests that an additional 4,677 m^3/day of treated water can be produced by the WTP in support of Expansion Lands development.

Although the WTP appears to have capacity, the Final Report for the Clarence-Rockland and Limoges Water Servicing Study recommended that around the year 2027, to be able to meet future water demand based on growth estimated in the report, the existing WTP will have to undertake capacity upgrades. The capacity upgrades identified in the report are listed below:

- Acquire land adjacent to the existing WTP to expand the WTP;
- Increase the WTP treatment capacity;
- Increase the WTP high lift pumping capacity;
- Increase the clear well storage volume at the WTP;
- Replace existing 300 mm diameter Edwards St. watermain with a new 500 mm diameter watermain; and
- Increase Caron Booster Station capacity.

2.1.2 Water Distribution Mains and Transmission Mains

Based on water distribution system model information provided by the City, the proposed Expansion Lands area is currently not serviced by the City's water distribution system. Figure 4-1 from the CH2MHILL report found in **Appendix C1,** shows existing pressure zones for the City. Based on this information, the proposed Expansion Lands will be located within existing Pressure Zone 2 (green highlighted area) and have the following water infrastructure nearby which are expected to be instrumental in servicing the Expansion Lands area:

- Existing 200 mm diameter watermain on David Street;
- Existing high pressure 300 mm diameter transmission main on Caron Street; and the
- Caron Street Booster Station.

It is expected that the Expansion Lands can be serviced by the Caron Street Booster Station. Based on the CH2MHILL report in **Appendix C1**, the existing capacity of the Caron Street Booster Station is 3,975 m^3/day. Currently, the existing capacity exceeds the monthly maximum usage which was measured at 2,563 m^3/day in 2016. Based on this information, it is estimated that the available capacity in the Caron Street Booster Station is 1,412 m^3/day. See the Quarterly Operations Report Card by the OCWA in **Appendix C3**.

Although the Caron Street Booster Station appears to have capacity, the Final Report for the Clarence-Rockland and Limoges Water Servicing Study recommended that around the year 2027, to be able to meet future water demand based on growth estimated in the report, the existing Caron Street Booster Station will have to undertake capacity upgrades.

2.2 Sanitary Sewer System

The City's sanitary sewer system consists of sewers, numerous pumping stations and a wastewater treatment plant (WWTP). The sections below provide further details regarding existing capacities and any significant constraints.

2.2.1 Sanitary Sewers

Based on City provided as-built drawings from the Caron Street Reconstruction project dated November 25, 2015 (**Appendix C4**), existing sanitary sewers adjacent to the proposed Expansion Lands development consist of the following:

- A 300 mm diameter sanitary sewer on Caron Street flowing to the south, which starts as a 200 mm diameter sewer north of Fairway Drive. This sewer terminates in a manhole approximately 35 m south of David Street;
- A 450 mm diameter forcemain on Caron Street, capped south of David Street and connected to the deep sanitary sewer near the intersection of Caron Street and Docteur Corbeil Boulevard; and
- A 250 mm diameter sanitary sewer on David Street, from Caron Street to the capped location approximately 20 m east of the sanitary sewer in Caron Street.

It should be noted that the above identified sewers and forcemain are currently not in service.

As part of the Caron Street Reconstruction project, the deep sanitary trunk sewer near the intersection of Caron Street and Docteur Corbeil Boulevard was upgraded to accommodate future flows from on-going and identified development areas. The sanitary sewer calculation sheet for the deep sanitary trunk sewer along with a sketch showing the sanitary servicing areas can be found in **Appendix C4**. The Expansion Lands are identified as Area 33 and Area 34 in the Sanitary Servicing Areas sketch, SK1.23. Based on this information, the deep sanitary trunk sewer along Caron Street considers future development in the proposed Expansion Lands area as well as other development areas. In ultimate build out conditions the deep sanitary trunk sewer along Caron Street will be operating with a theoretical 13% reserve capacity. Further investigation should be conducted to measure the actual sanitary flow to determine actual sanitary sewer capacity.

2.2.2 Sanitary Pumping Stations

The City has constructed several sewage pumping stations in the existing urban area to pump sewage flows towards the WWTP. Currently, a total of eight existing sanitary pumping stations are in operation and one is being designed.

Pumping Station No. 1 is the City's largest pumping station, as it transfers collected sewage from the full urban service area to the Clarence-Rockland WWTP. It is located south of Highway 17, next to Caron Street, and would collect flow from the proposed Expansion Lands. A review of the

Sewage Pumping Station Capacity and Condition Assessment and Sanitary Treatment Facility Capacity and Capital Investment Report by WSP, dated June 9, 2014, found in **Appendix C5**, was conducted and the following list of information for Pumping Station No. 1 was identified:

- Existing average daily flow is 44.14 L/s (estimated 2013 flows from 2005 data);
- Existing maximum daily flow is 82.19 L/s (estimated 2013 flows from 2005 data);
- Existing peak instantaneous sewage flow is 203.91 L/s (estimated 2013 flows from 2005 data);
- Existing firm rated capacity is 200 L/s; and
- Flows more than 200L/s from Pumping Station No. 1 have been reported by O.W.C.A. in the past 5 years.

Based on this information, it appears that Pumping Station No. 1 is currently operating at or even beyond its firm capacity and requires upgrades to accommodate any additional flows from future developments. The WSP report went further into options for increasing the capacity of Pumping Station No. 1 and associated cost estimates. An excerpt from the WSP report has been provided in **Appendix C5**. Further investigation into the capacity of Pumping Station No. 1 is required before development of the Expansion Lands.

Pumping Station No. 9 will be located within the Morris Village development and is currently under review by the City. When constructed, Pumping Station No. 9 will have a capacity to accommodate the flows for a proposed development of 260 L/s. The flows from Pumping Station No. 9 will be discharged to the deep sanitary trunk sewer near the intersection of Docteur Corbeil Boulevard and Caron Street.

The sanitary drainage area for Pumping Station No. 9 accounts for a portion of the proposed Expansion Lands development, located on the west side of Caron Street. This portion of the proposed Expansion Lands development falls within area External 3 as shown on the Issued for Approval drawings. An excerpt from the Design Brief dated November 2018 as well as the Issued for Approval Sanitary Drainage Area Master Plan (Drawing No. 110704-PSSANMI) dated November 16, 2018, have been provided in **Appendix C6**.

Although the portion of the Expansion Lands on the west side of Caron Street was accounted for in the design of Pumping Station No. 9, it is assumed all areas within the Expansion Lands will be serviced by a pumping station located within the Expansion Lands.

2.2.3 Wastewater Treatment Plant

The system of sanitary sewers and pumping stations collectively direct sanitary flows to a single WWTP that supports the Clarence-Rockland serviced area. The City's WWTP is a secondary treatment facility based on sequencing batch reactor technology. Disinfection is provided by

chlorination prior to discharge to the Ottawa River. Sludge is stabilized through an aerobic digestion process prior to storage on site and land application.

According to the Amended Certificate of Approval Number 3-0466-93-967, dated February 14, 1996, found in **Appendix C5,** the current rated capacity of the WWTP is as follows:

- Rated Average Daily Flow Capacity of 6,800 m^3/day;
- Rated Maximum Daily Flow Capacity of 17,340 m^3/day; and a
- Rated Peak Flow Capacity of 20,400 m^3/day.

Under existing peak flow conditions, the WWTP does not provide enough retention time for chlorination prior to discharging to the Ottawa River.

Based on the Equalization Tank Conceptual Design Report by RVA, the City is undertaking the following upgrades to the WWTP to address capacity issues and provide for future growth:

- Increase the pumping capacity and conveyance capacity of Pumping Station No. 1 to 400 L/s; and
- Twinning the forcemain to convey an ultimate peak flow capacity of 850 L/s and for operation redundancy.
- Construction of a new headworks facility, complete with fine screening and grit removal system to improve both pre-treatment and secondary treatment effectiveness; and,
- Design and construction of an equalization tank, as previously identified within the long-term plan for the WWTP, to normalize peak flows from inflow and infiltration.

It is anticipated that these modifications will improve the WWTP's ability to accommodate future growth within the City. An excerpt of the RVA report has been provided in **Appendix C7**. Further investigation into the capacity of the WWTP is required before development of the Expansion Lands.

2.3 Drainage and Storm Sewer System

The pre-development condition of the proposed Expansion Lands is rolling cultivated fields which drain to low areas and eventually to adjacent ditches and creeks. The major creeks adjacent to the Expansion Lands are Clarence Creek and Lafontaine Creek, both creeks are tributaries to the Ottawa River. The proposed Expansion Lands are approximately 3 to 3.5 km upstream from the confluence of the creeks with the Ottawa River.

Caron Street (north of David Street) has an urban cross section and handles runoff from the roadway by catch basins and storm sewers. **Appendix C8** shows the catchment areas for the storm sewers, along with the associated storm sewer calculation sheet for sizing the piping network. The portion of Area M on David Street and south of David Street identified in

Appendix C8 fall within the proposed Expansion Lands. It has been assumed for this study, that drainage within this catchment will be serviced by the Expansion Lands.

Currently Caron Street (south of David Street) and David Street have a rural cross section and handle runoff from the roadway by roadside ditches and culverts until a stormwater outfall is reached. Runoff from the cultivated lands follows the path of least resistance until Clarence Creek or Lafontaine Creek is reached. No existing stormwater management (SWM) facilities were identified in the review of infrastructure servicing the Expansion Lands.

Two sources of topographical were reviewed as part of this study. One source was a topographical survey for Lot 23 Concession 2 by Arpentages SCHULTZ BARRETTE Surveying and the other source was LiDAR data provided by the City. A copy of both sources of topographical information have been attached in **Appendix C10.**

A pre-development catchment analysis was performed on LiDAR data, provided by the City, for the proposed Expansion Lands. It is estimated the study area consists of four subcatchments. Three of the subcatchments discharge to Clarence Creek in the East and one subcatchment discharges to Lafontaine Creek in the West. See **Figure 2** below and the Conceptual SWM Facility Locations Sketch **in Appendix C13**.

Preliminary stormwater runoff calculations were completed for the Expansion Lands under pre-development conditions using parameters listed in **Section 1.3.1** and taken from the City of Ottawa Sewer Design Guidelines. It was estimated that pre-development lands ranged from approximately 0.36% to 3.5% impervious surfaces. Percent impervious parameters were estimated by measuring impervious areas (i.e. roofs, driveways and roadways) and comparing them to the total subcatchment area. **Figure 2** below is a screenshot from the PCSWMM model used to estimate peak runoff. The figure is not to scale and the subcatchments as well as the outlets are shown schematically. The subcatchments are labeled as S1 through S4. Each subcatchment drains to an outlet which is identified by a red triangle. The number below the subcatchment ID is the estimated area in hectares.

Figure 2: Screenshot of Pre-Development Model Sub-Catchments

Information from **Figure 2** above is presented in **Table 1** below. The peak runoff shown in **Figure 2** and **Table 1** was estimated using the 24 hour 100-year SCS Type II design storm.

Table 1: Pre-Development Model - 24hr 100yr Design Storm

Sub-Catchment	Area (ha)	Peak Runoff (m^3/s)
S1	25	1.62
S2	26.4	3.05
S3	54.7	**4.13**
S4	45.5	**3.83**

The numbers in bold in **Table 1** above indicate the release rate used to control post-development flows to pre-development flows.

3. Proposed Conditions

From a servicing perspective, the Study will address how the Expansion Lands will increase water and wastewater demands, and how these demands will be accommodated by the municipal system. From a stormwater management perspective, the Study will address how increased impervious surfaces and runoff will be conveyed and controlled in order to meet quantity, quality and erosion control criteria for the City.

This section is provided to identify critical infrastructure required to service the study area as it relates to the Preferred Concept Plan as shown in **Appendix B**. The following estimates are based on a high-level analysis of projected land use areas and densities as well as background reports and documents supplied by the City.

At this time, the future population and demands for the proposed Expansion Lands are not certain, but they have been estimated for the purposes of this Study. Further analysis will be required during the design development and approvals stage that will quantify water, sanitary and stormwater demands based on proposed phasing. These demands will be used to determine how new developments can be serviced through the existing infrastructure.

3.1 Population Estimate

Table 2 below shows the estimated population for the Expansion Lands which were used to develop water demands and sanitary flows.

Table 2: Population Density Estimate

Land Use Designation	Gross Area (ha)	Medium Scenario		Employment	
		Projected Units	Projected Population	Projected Floor Area (m^2)	Projected Employment
Low Density Residential	76.46	688	2,339	N/A	N/A
Medium Density Residential	22.55	203	548	N/A	N/A
High Density Residential	11.14	100	180	N/A	N/A
Commercial	2.91	N/A	N/A	7,283	182
Other (parks, etc.)	24.17	N/A	N/A	N/A	N/A
Total	**137.23**	**991**	**3,067**	**7,283**	**182**

The population project above is based on projected units for specific land use areas provided by Fotenn and person per unit ratios as identified in the City's design guidelines.

3.2 Water Servicing

Future water demands for the ultimate build out of the Expansion Lands were estimated using the design criteria for watermains listed in **Section 1.3.1**, the Preferred Concept Layout and the population density estimate. **Table 3** below shows the person per unit type that was used for each land use type.

Table 3: City of Clarence-Rockland Design Guidelines Table 4-12 Average Persons per Unit (Residential Uses)

Land Use Type	Unit Type	Persons Per Unit
Low Density	Residential, single family	3.4
Medium Density	Residential, townhouse (row)	2.7
High Density	Apartment, average	1.8

Based on the population density estimate in **Section 3.1**, the ultimate build out population of the proposed Expansion Lands is approximately 3,067 people. Using this estimated population along with Table 4-14 from the City design guidelines, the following peaking factors were used to estimate water demand for residential land use areas:

- Minimum Hour Factor of 0.50;
- Maximum Day Factor of 2.00; and
- Peak Hour Factor of 3.00.

Peaking Factors for Commercial/Community Center land use areas were obtained from City of Ottawa Water Design Guidelines and are 1.5 for Maximum Day and 1.8 for Maximum Hour. The estimated water demand for the ultimate build out of the Expansion Lands are shown in **Table 4** below and supporting calculations can be found in **Appendix C11**.

Table 4: Water demand for the ultimate build out

Land Use Type	Average Daily Consumption (L/s)	Daily Peak Flow (L/s)	Hourly Peak Flow (L/s)
Low Density	9.48	18.95	28.43
Medium Density	2.22	4.44	6.66
High Density	0.73	1.46	2.19
Commercial/Community Center	16.60	24.90	29.88
Total	29.03	49.75	67.16

As indicated in **Section 2.1.2** above, it is estimated that the available capacity of the Caron Street Booster Station is 1,412 m^3/day. When comparing the estimated Average Daily Consumption of the proposed Expansion Lands, 29.03 L/s (2,508.19 m^3/day), to the available capacity of the Caron Street Booster Station, 1,412 m^3/day, it appears there is insufficient capacity of the Caron Street Booster Station to meet the estimated water demand of the ultimate build out. Further investigation and analysis prior to development of the Expansion Lands is recommended to determine the appropriate capacity improvements and timing of the capacity improvements to support the proposed Expansion Lands.

At the time of detailed design, the water system should be looped through the Expansion Lands. The specific connections and extensions of the water infrastructure to create a looped system are to be determined at the detailed design stage. Furthermore, this development will be serviced by a high pressure watermain. Individual services to each unit will likely require pressure reducing valves (PRVs) or PRVs will likely be required on the watermain within the right-of-way. A detailed watermain analysis will assist in determining requirements and appropriate locations of the PRVs. See the Proposed Water Servicing Sketch in **Appendix A** for a conceptual layout.

Fire flow requirements were not evaluated as a result of specific development information not being known at the time of this study (i.e. building size, location, use, setbacks, etc.). A fire flow analysis will need to be conducted at the time of detailed design.

Further analysis and hydrant flow tests will be required to determine capacities and servicing opportunities for individual developments and the reserve pressure within the municipal system. These calculations are dependent on individual site plans and the results of surrounding hydrant flow tests and cannot be accurately estimated at this stage.

3.3 Sanitary Servicing

Preliminary sanitary demand calculations were completed for the Expansion Lands assuming ultimate build out. A demand was calculated by using the design criteria for sanitary sewers listed in **Section 1.3.1**, **Table 5** below, the Preferred Concept Layout and the estimated population density. Assuming a standard infiltration rate of 0.28 L/ha/s for residential land use areas, 0.14 L/s/ha for commercial/community center land use areas and using the Harmon Peaking Factor Formula for residential land use areas only, the estimated peak sanitary flows for the proposed Expansion Lands were calculated as **77.45 L/s**. An infiltration rate of 0.14 L/s/ha for commercial/community center land use areas was used to fall in line with the sanitary model used in the Sanitary Master Plan Update. An excerpt of the Sanitary Master Plan Update has been provided in **Appendix C9.**

Table 5: City of Clarence-Rockland Design Guidelines Table 4-1 Average Persons per Unit (Residential Uses)

Land Use Type	Unity Type	Person Per Unit
Low Density	Residential, single family	3.4
Medium Density	Residential, townhouse (row)	2.7
High Density	Apartment, average	1.8

Sanitary design calculations can be found in **Appendix C12**. During the preliminary sanitary sewer design, catchment areas 34_5 and 34_4 were only able to meet the cleansing velocity requirement with relatively steep slopes when compared to the rest of the system. If the steep slopes were implemented, it would cause the need for deep trunk sewers downstream. Therefore, to reduce the risk of these complications, we recommend maintaining minimum slopes in the upstream sewer network and to implement a flushing program. Further analysis will be required at the detailed design stage to assess the capacity of individual sewer connections as well as the requirement of flushing programs.

Due to the topography of the proposed Expansion Lands, a sanitary pumping station will be required for servicing. As part of the Caron Street Reconstruction project, a 450 mm diameter forcemain was installed in Caron Street. The existing forcemain is capped south of David Street and connected to the deep sanitary sewer near the intersection of Caron Street and Docteur Corbeil Boulevard. Currently, the forcemain is not in use and studies supporting its size have not been provided. Further analysis will be required at the detailed design stage to assess the capacity of the forcemain.

The pumping station location is recommended to be placed in the northeast corner of the proposed Expansion Lands, south of David Street and west of Clarence Creek. This location is the lowest point within the proposed Expansion Lands which is closest to an existing City road. Having the pumping station located near the low spot on site reduces the risk of having long deep sanitary sewers and a deep sanitary pumping station. CIMA+ recommends the location of the sanitary pumping station be revisited at the time of development when more accurate information is available on the phasing of development. Depending on the desired phasing of the Expansion Lands, a second sanitary pumping station or a temporary sanitary pumping station may be required. See the Proposed Sanitary Servicing Sketch in **Appendix A** for a conceptual layout of the sanitary network.

As indicated in **Section 2.2** above, it is estimated that both the WWTP and Pumping Station No. 1 will require capacity improvements to support the proposed Expansion Lands. Further investigation into the capacity of the WWTP and Pumping Station No. 1 is required before development of the Expansion Lands.

3.4 Storm Servicing and Stormwater Management

To direct drainage from future developed lots and roadways, a storm sewer system will need to be designed and constructed. The Rational Method was used to conduct a preliminary analysis for storm sewer sizing of the trunk sewers. Future runoff for the ultimate build out of the Expansion Lands was estimated using the design criteria for storm sewers and stormwater management listed in **Section 1.3.1** and the Preferred Concept Layout. Runoff coefficients used in this analysis are shown below in **Table 6** below:

Table 6: Runoff Coefficients Used in Storm Sewer Sizing Calculations

Land Use Type	Source	Runoff Coefficient (C)
Low Density	Single Family (urban)	0.40
Medium Density	Row housing, townhouses	0.60
High Density	Apartments	0.70
Commercial/Community Center	Commercial	0.80

The results of the preliminary analysis can be found in **Appendix C13** and are shown on the Proposed Storm Servicing Sketches (SK-01 and SK-02) in **Appendix A**. Although the storm sewers were designed to convey a 5-year return frequency storm, it should be noted that the high density and commercial/community center land use areas are restricted to releasing the quality event volume as defined in Table 3.2 from the Stormwater Management Planning and Design Manual from the MOECC (currently MECP). Further discussion of the SWM facilities is provided below.

SWM facilities will be required within the Expansion Lands in order to meet quantity, quality, and erosion control criteria defined in the City's design guidelines. Such end of pipe facilities as wetlands, wet ponds and dry ponds need to be correctly implemented to meet stormwater objectives. As identified in **Section 2.3**, four possible outlets were identified from existing topographical information during a pre-development catchment analysis. Generally, the four outlets are located near the low spots within the proposed Expansion Lands and were considered as potential locations for future SWM facilities.

Through consultation with the City, it was decided to limit the number of stormwater management facilities servicing the proposed Expansion Lands to two facilities in order to reduce the future operation and maintenance costs. Furthermore, each pond will provide quality control for the entire catchment area serviced by it, but only quantity control for the low and medium density land use areas serviced by it. Therefore, on-site quantity controls for the high density and commercial/community land use areas will be required at detailed design. As a result of reducing the potential number of SWM facilities from four to two, there is an increased risk of significant grading requirements to ensure positive drainage to the SWM facilities.

Preliminary stormwater runoff calculations were completed for the Expansion Lands under pre and post-development conditions. It was assumed that post-development lands will increase to approximately 55% impervious surfaces. A post-development approximation of 55% was assumed as this would generally represent a low to medium density development. A post-development approximation of 90% was assumed for high density and commercial development. There are opportunities to reduce the impervious area, but this value provides a fair and conservative estimate for the purpose of this study. CIMA+ recommends that this value be revisited at the time of development when more accurate information is available on the form of development.

The computer software PCSWMM was used to estimate runoff and approximate storage volumes, using the parameters listed in **Section 1.3.1** and taken from the City of Ottawa Sewer Design Guidelines. **Figure 3** below is a screenshot from the PCSWMM model used to estimate peak runoff for the post-development scenario. The figure is not to scale and the subcatchments as well as the outlets are shown schematically. The subcatchments are labeled as S3 and S4 as well as H1 through H3. Each subcatchment drains to an outlet which is identified by a red triangle. The number below the subcatchment ID is the estimated area in hectares.

Figure 3: Screenshot of Post-Development Model Sub-Catchments

When comparing the pre-development subcatchments shown in **Figure 2** to the post-development subcatchments shown in **Figure 3**, it should be noted that the post-development subcatchment S3 incorporates the pre-development subcatchment areas S1 and S2. Furthermore, high density land use areas as well as commercial/community centers, identified as H1 and H2, have been subtracted from the overall subcatchment area for S3 due to these areas proposed requirements for on-site quantity control. The same approach was used for the post-development subcatchment area S4. As a rough estimate, **Table 7 and 8** below provide a quick

summary of estimated pre-development peak runoff (allowable release rate), post-development peak runoff and associated storage volumes for the 24 hour 100-year SCS Type II design storm.

Table 7: Post-Development Model - 24hr 100yr Design Storm, Catchment S3

Sub-Catchment	Area (ha)	Pre-Development Peak Runoff (m^3/s)	Post-Development Peak Runoff (m^3/s)	Quantity Storage (m^3)	Quality Plus Permanent Storage (m^3)
S3	93.6	4.13	33.17	37,000	17,784
H1	11.4	N/A	N/A	N/A	2,850
H2	1.1	N/A	N/A	N/A	275

The total estimated storage requirement for Subcatchment S3, which would service the west side of the site, is approximately 58,000 m^3. This reflects the sum of the quantity storage and quality plus permanent storage volumes identified in **Table 7** above rounded up to the nearest thousand.

Table 8: Post-Development Model - 24hr 100yr Design Storm, Catchment S4

Sub-Catchment	Area (ha)	Pre-Development Peak Runoff (m^3/s)	Post-Development Peak Runoff (m^3/s)	Quantity Storage (m^3)	Quality Plus Permanent Storage (m^3)
S4	41.5	3.83	15.04	13000	7885
H3	4	N/A	N/A	N/A	1000

The total estimated storage requirement for Subcatchment S4, which would service the east side of the site, is approximately 22,000 m^3. This reflects the sum of the quantity storage and quality plus permanent storage volumes identified in **Table 8** above rounded up to the nearest thousand.

It should be noted that the total catchment area is larger than the proposed Expansion Lands area due to adjacent lands and roadways that are anticipated to contribute runoff to the proposed Expansion Lands.

The Quantity Storage column reflects the quantity storage required to control the post-development peak runoff rate to the pre-development peak runoff rate. The Quality Plus Permanent Storage column reflects the quality storage required per Table 3.2 from the Stormwater Management Planning and Design Manual from the MOECC (currently MECP). The criteria used for Table 3.2 from the Stormwater Management Planning and Design Manual is as follows:

- 80% long term S.S. removal level;
- SWMP Type is a Wet Pond;
- 55% impervious level for low and medium density residential areas; and
- 85% impervious level for high density and commercial/community center areas.

The total storage requirements are rough estimates and they should be confirmed/further optimized during the detailed design stage. Hydrographs produced by the PCSWMM model which show the estimated storage volumes and respective release rates can be found in **Appendix C13.**

The proposed locations of the SWM facilities, as shown in **Appendix A**, are based on LiDAR information and discussions with the City. A preliminary analysis was conducted to verify cover requirements are met and the SWM facility can have a gravity outlet to adjacent watercourses. This preliminary analysis identified that fill will likely be required around the upstream storm sewer located on Street C. The storm sewer in the southern end of Street B has roughly 1 meter of cover when taking into consideration the existing ground elevation. During detailed design when more accurate information becomes available, the exact location of the SWM facilities should be reviewed to ensure gravity discharge to their identified outlets.

4. Dry Utilities

The term dry utilities commonly refer to hydro, gas and communication infrastructure. Currently, there has been no correspondence with Owners of dry utility infrastructure that service the City. A draft of this report should be circulated to known utility companies in the area prior to any development of the Expansion Lands to identify constraints or specific requirements associated with the development.

5. Implementation, Phasing and Costing

Based on the previously mentioned engineering studies and estimated demands for water and sanitary services, the ultimate build out scenario for proposed Expansion Lands requires the City to implement capacity upgrades to the following critical City infrastructure:

- Water Treatment Plant;
- Caron Street Booster Station;
- Wastewater Treatment Plant; and
- Pumping Station No. 1.

The phasing of the proposed Expansion Lands poses implications on the cost of developing the lands. Development considerations such as stormwater management facility locations, significant grading (cut and/or fill), the sanitary pumping station and deep trunk sewers have been identified for planning purposes on the Civil Infrastructure Figures in **Appendix A** and should be optimized during detailed design.

Depending on the desired phasing of the Expansion Lands, a second sanitary pumping station or a temporary sanitary pumping station may be required. The location of any sanitary pumping station should be reviewed when further information is known about the phasing of the development.

Currently, phasing for the proposed Expansion Lands is unknown. It is recommended that the City conduct a Master Phasing Study to assess which area of the proposed Expansion Lands should be developed first and the timing of capacity upgrades to critical City infrastructure.

6. Conclusions and Recommendations

The report has described the existing conditions with respect to municipal infrastructure and the proposed municipal infrastructure for implementation of the expansion lands. The findings of this study are summarized as follows:

1. The Expansion Lands projected population used to estimate water and sanitary demand was estimated at 3,067 people.

2. Based on the Final CH2MHILL report for the servicing Clarence-Rockland and Limoges, around the year 2027 the City's WTP will be required to undertake capacity upgrades to meet further demand. This is for the scenario in the report which discusses only servicing the City.

3. It appears there is insufficient capacity of the Caron Street Booster Station to meet the estimated water demand of the ultimate build out. Further investigation and analysis prior to development of the Expansion Lands is recommended to determine the appropriate capacity improvements and timing of the capacity improvements to support the proposed Expansion Lands.

4. At the time of detailed design, the water system should be looped through the Expansion Lands. The specific connections and extensions of the water infrastructure to create a looped system are to be determined at the detailed design stage. Further analysis will be required to calculate individual fire flow rates and confirm that minimum and maximum pressure requirements are maintained under the various demand scenarios (i.e. maximum day + fire flow).

5. In ultimate build out conditions the deep sanitary trunk sewer along Caron Street will be operating with a theoretical reserve capacity of 13%. Further investigation should be conducted to measure the actual sanitary flow to determine actual sanitary sewer capacity.

6. Further investigation into the capacity of Pumping Station No. 1 is required before development of the Expansion Lands.

7. A new sanitary pumping station will be required to provide sanitary servicing for the proposed Expansion Lands. This pumping station will connect to an existing 450 mm diameter forcemain in Caron Street. The pumping station is recommended to be in the northeast corner of the development. CIMA+ recommends that the number of sanitary pumping stations and their location be revisited at the time of development when more accurate information is available on the phasing of development. Further analysis will be required at the detailed design stage to assess the capacity of the forcemain.

8. A flushing program for the proposed upstream sewers in the sanitary network may be required as a result of the sewers not achieving self cleansing velocity.

9. The City is undertaking upgrades to the WWTP. It is anticipated that these modifications will improve the WWTP's ability to accommodate future growth within the City. Further investigation into the capacity of the WWTP is required before development of the Expansion Lands.

10. At a minimum, two SWM facilities will be required to meet quality, quantity and erosion control criteria to comply with the City's design guidelines. Significant grading (cut and fill) will be required to have the proposed Expansion Lands drain to two SWM facilities.

11. From a preliminary cover analysis for the proposed storm sewers, it was identified that fill will likely be required for the upstream sewers on Street C and the southern sewer on Street B to met minimum fill requirements.

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July 2, 2019
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Tim Kennedy, P.Eng.
Project Engineer, Infrastructure

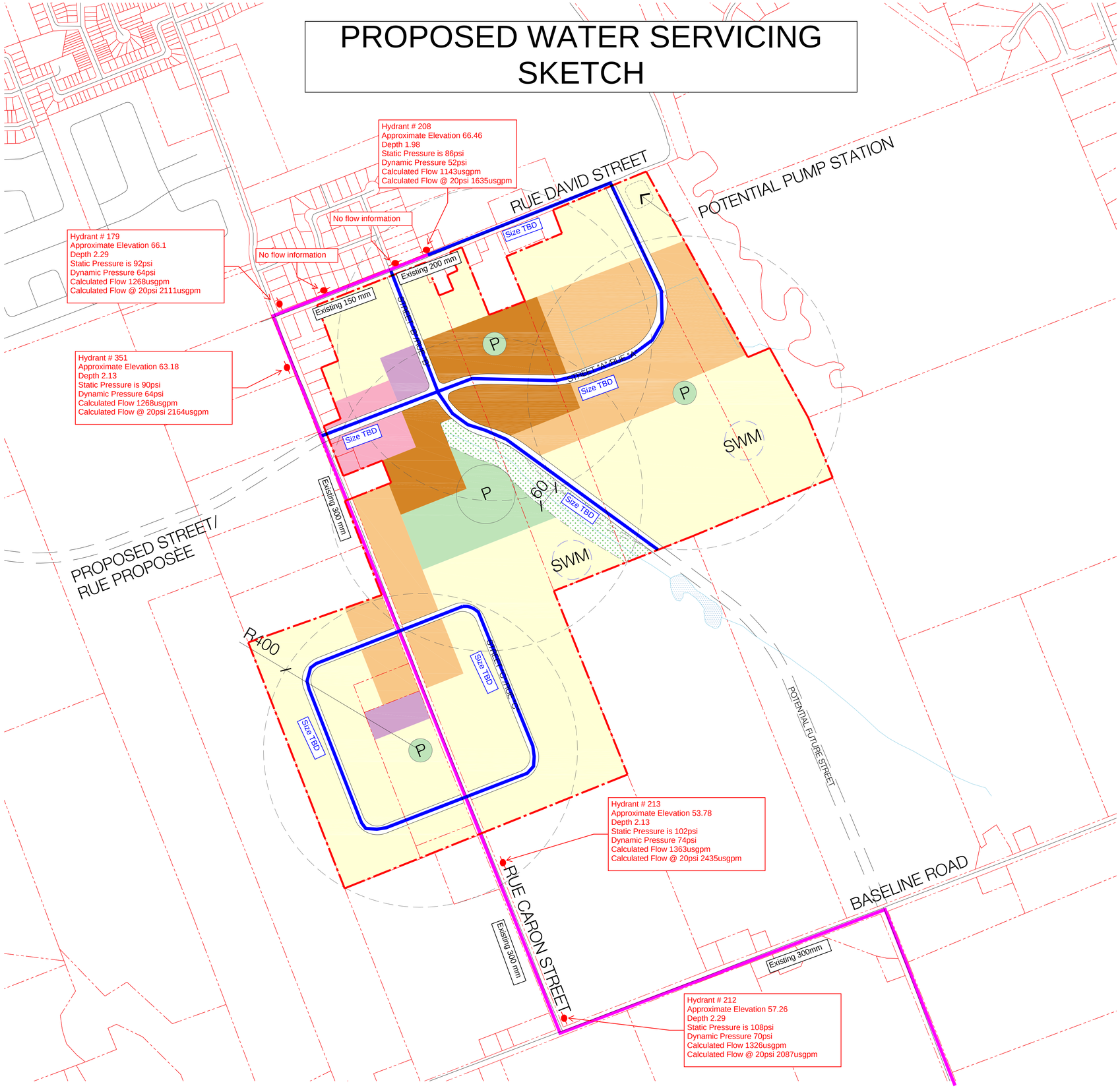
A

Appendix A

Civil Infrastructure Figures

CIMA+

PROPOSED WATER SERVICING SKETCH



LAND USE STATISTICS

SITE AREA

Total Site Area:	1,372,345m^2
	137 hectares

AREA		% Res
Low Density Residential:	764,561m^2	69.41
Medium Density Residential:	225,472m^2	20.47
High Density Residential:	111,433m^2	10.12
Commercial:	29,130m^2	
Open Space/Parkland:	64,023m^2	
Institutional:	22,274m^2	
Environmental Protection Area:	39,719m^2	

NOTES

1. The base plan (lot lines, existing roads and surrounding areas) is based on the City's Open Data and aerial images. The site area is approximate and all dimensions need to be confirmed by a proper survey.

2. Assume 30.0m setback from centreline of stream.

3. Assume road ROW of 26.0m.

Legend:

- Existing watermain
- Proposed watermain

CIMA+ Project No.: A000846
Prepared By: Brian O'Dell, P.Eng.
Date: 2019-04-29

EXPANSION LANDS SECONDARY PLAN

PREFERRED CONCEPT LAND USE PLAN

LEGEND/LÉGENDE

- LOW DENSITY RESIDENTIAL/ RÉSIDENCES À FAIBLE DENSITÉ
- MEDIUM DENSITY RESIDENTIAL RÉSIDENCES À DENSITÉ MOYENNE
- HIGH DENSITY RESIDENTIAL RÉSIDENCES À HAUTE DENSITÉ
- COMMERCIAL COMMERCES
- COMMUNITY FACILITIES INSTALLATIONS COMMUNAUTAIRE
- ENVIRONMENTAL PROTECTION AREA ZONE DE PROTECTION ENVIRONNEMENTALE
- WATER EAU
- OPEN SPACE/PARKLAND PARCS ET ESPACES OUVERTS
- APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)

0 125m 250m 500m

No.	REVISION	DATE	BY
8	REVISIONS	2019.03.04	BL
7	REVISIONS	2019.02.08	BL
6	PREFERRED CONCEPT	2019.01.17	BL
5	PUBLIC MEETING	2019.01.07	BL
4	DRAWING	2018.12.20	ET
3	DRAWING	2018.12.19	BL
2	CLIENT REVIEW	2018.11.22	BL
1	DRAWING	2018.11.21	BL

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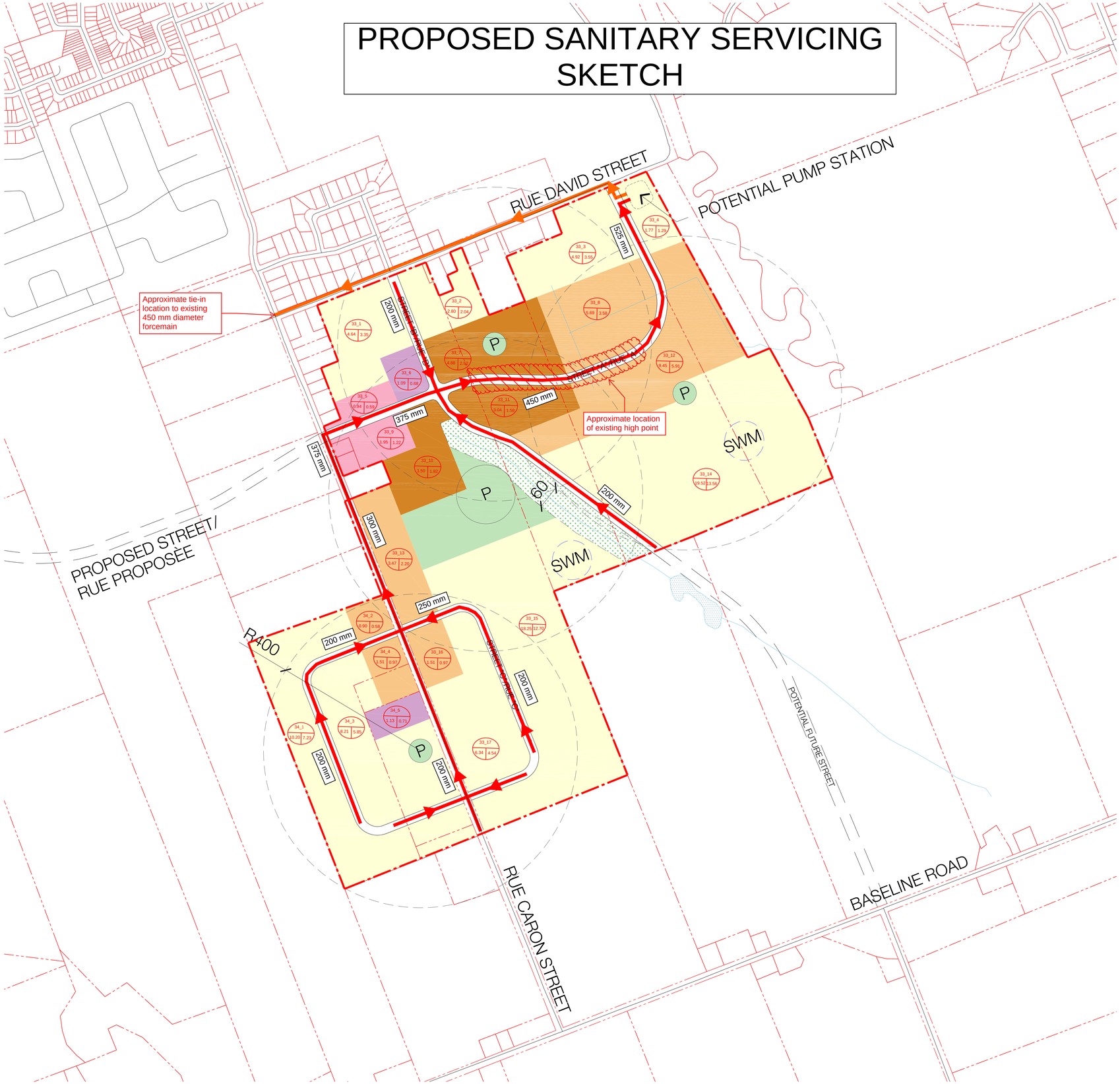
REVIEWED	UMG
DATE	2018.11.20

P1

PROPOSED SANITARY SERVICING SKETCH



LAND USE STATISTICS

SITE AREA		
Total Site Area:	1,372,345m^2	
	137 hectares	

AREA		% Res
Low Density Residential:	764,561m^2	69.41
Medium Density Residential:	225,472m^2	20.47
High Density Residential:	111,433m^2	10.12
Commercial:	29,130m^2	
Open Space/Parkland:	64,023m^2	
Institutional:	22,274m^2	
Environmental Protection Area:	39,719m^2	

NOTES

1. The base plan (lot lines, existing roads and surrounding areas) is based on the City's Open Data and aerial images. The site area is approximate and all dimensions need to be confirmed by a proper survey.

2. Assume 30.0m setback from centreline of stream.

3. Assume road ROW of 26.0m.

LEGEND:
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY FORCEMAIN
- FLOW DIRECTION
- SANITARY CATCHMENT ID
- ESTIMATED SANITARY FLOW (L/s)
- SANITARY CATCHMENT AREA (ha)

CIMA+ Project No.: A000846
Prepared By: Brian O'Dell, P.Eng.
Date: 2019-05-03

Note:

1) See Appendix C12 for sanitary flow calculations and sewer sizing.

EXPANSION LANDS SECONDARY PLAN

PREFERRED CONCEPT LAND USE PLAN

LEGEND/LÉGENDE
- LOW DENSITY RESIDENTIAL/ RÉSIDENCES À FAIBLE DENSITÉ
- MEDIUM DENSITY RESIDENTIAL RÉSIDENCES À DENSITÉ MOYENNE
- HIGH DENSITY RESIDENTIAL RÉSIDENCES À HAUTE DENSITÉ
- COMMERCIAL COMMERCES
- COMMUNITY FACILITIES INSTALLATIONS COMMUNAUTAIRE
- ENVIRONMENTAL PROTECTION AREA ZONE DE PROTECTION ENVIRONNEMENTALE
- WATER EAU
- OPEN SPACE/PARKLAND PARCS ET ESPACES OUVERTS
- APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)

0 125m 250m 500m

No.	REVISION	DATE	BY
8	REVISIONS	2019.03.04	BL
7	REVISIONS	2019.02.08	BL
6	PREFERRED CONCEPT	2019.01.17	BL
5	PUBLIC MEETING	2019.01.07	BL
4	DRAWING	2018.12.20	ET
3	DRAWING	2018.12.19	BL
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DATE	2018.11.20

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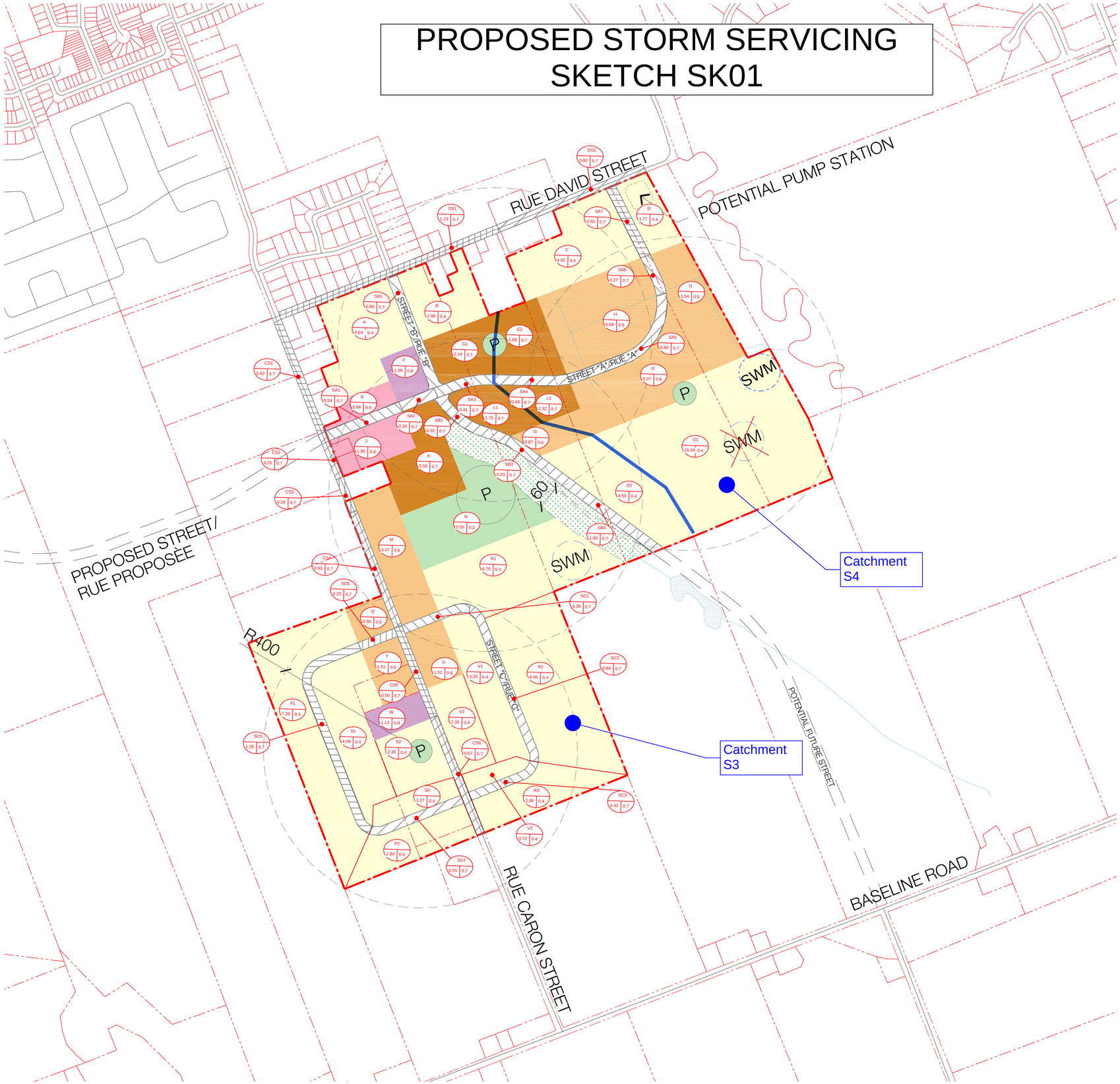
PROPOSED STORM SERVICING SKETCH SK01



LAND USE STATISTICS

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	137 hectares

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LEGEND:

- PROPOSED STORM SEWER
- APPROXIMATE LOCATION OF CATCHMENT SPLIT
- FLOW DIRECTION
- SUBCATCHMENT ID
- RUNOFF COEFFICIENT
- STORM CATCHMENT AREA (ha)

CIMA+ Project No.: A000846
Prepared By: Brian O'Dell, P.Eng.
Date: 2019-05-03

Note:

1) See Appendix C13 for storm flow calculations and sewer sizing.

EXPANSION LANDS SECONDARY PLAN

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- COMMUNITY FACILITIES INSTALLATIONS COMMUNAUTAIRE
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- APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)

0 125m 250m 500m

No.	REVISION	DATE	BY
8	REVISIONS	2019.03.04	BL
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2	CLIENT REVIEW	2018.11.22	BL
1	DRAWING	2018.11.21	BL

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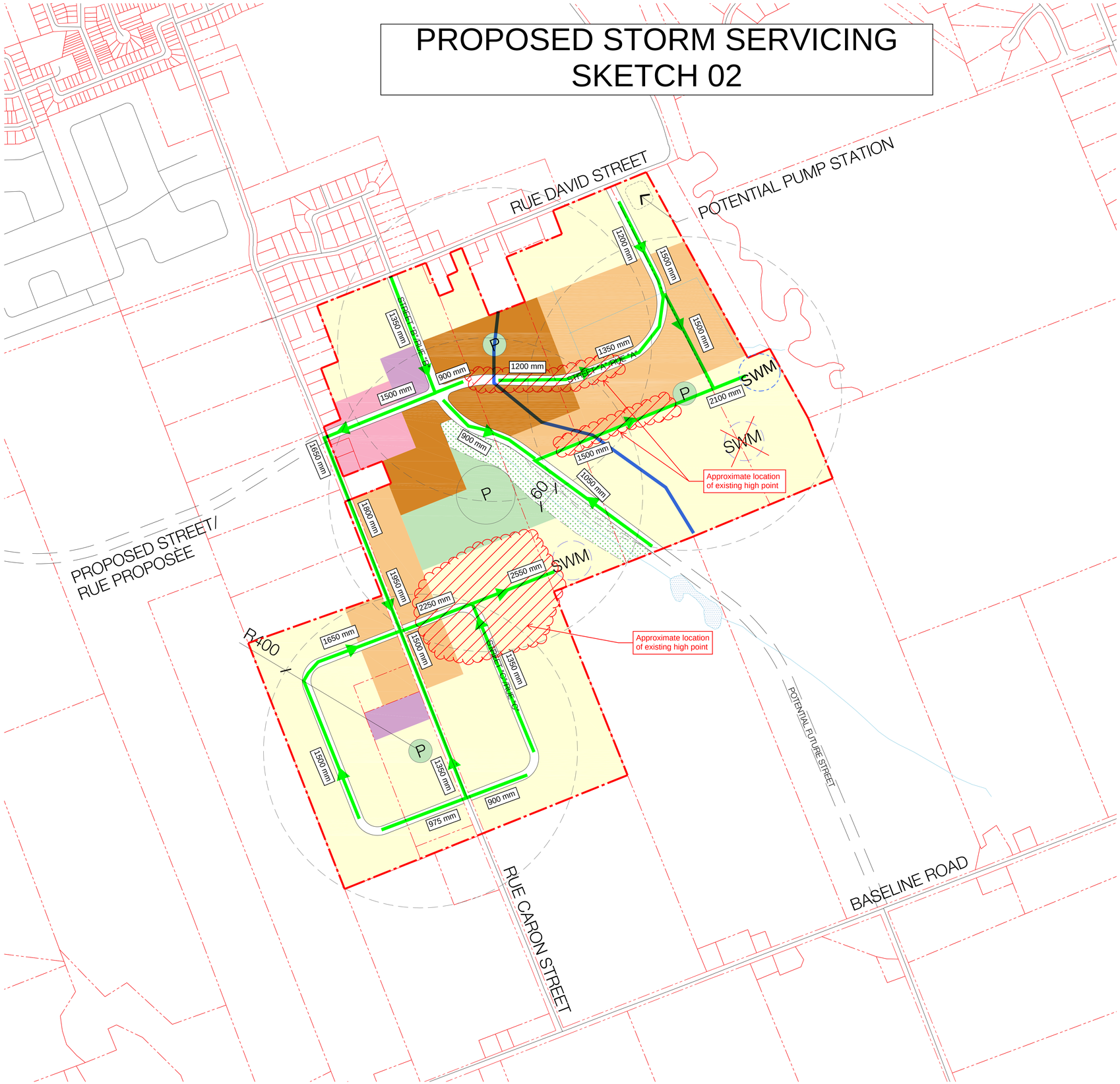
PROPOSED STORM SERVICING SKETCH 02



LAND USE STATISTICS

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	137 hectares

AREA		% Res
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3. Assume road ROW of 26.0m.

LEGEND:

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- APPROXIMATE LOCATION OF CATCHMENT SPLIT
- FLOW DIRECTION
- SUBCATCHMENT ID
- RUNOFF COEFFICIENT
- STORM CATCHMENT AREA (ha)

CIMA+ Project No.: A000846
Prepared By: Brian O'Dell, P.Eng.
Date: 2019-05-03

Note:

1) See Appendix C13 for storm flow calculations and sewer sizing.

EXPANSION LANDS SECONDARY PLAN

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- PROPERTY LINE LIMITE DE PROPRIÉTÉ
- NEIGHBOURHOOD SIZE (400m RADIUS) TAILLE DU QUARTIER (RAYON DE 400 MÈTRES)

0 125m 250m 500m

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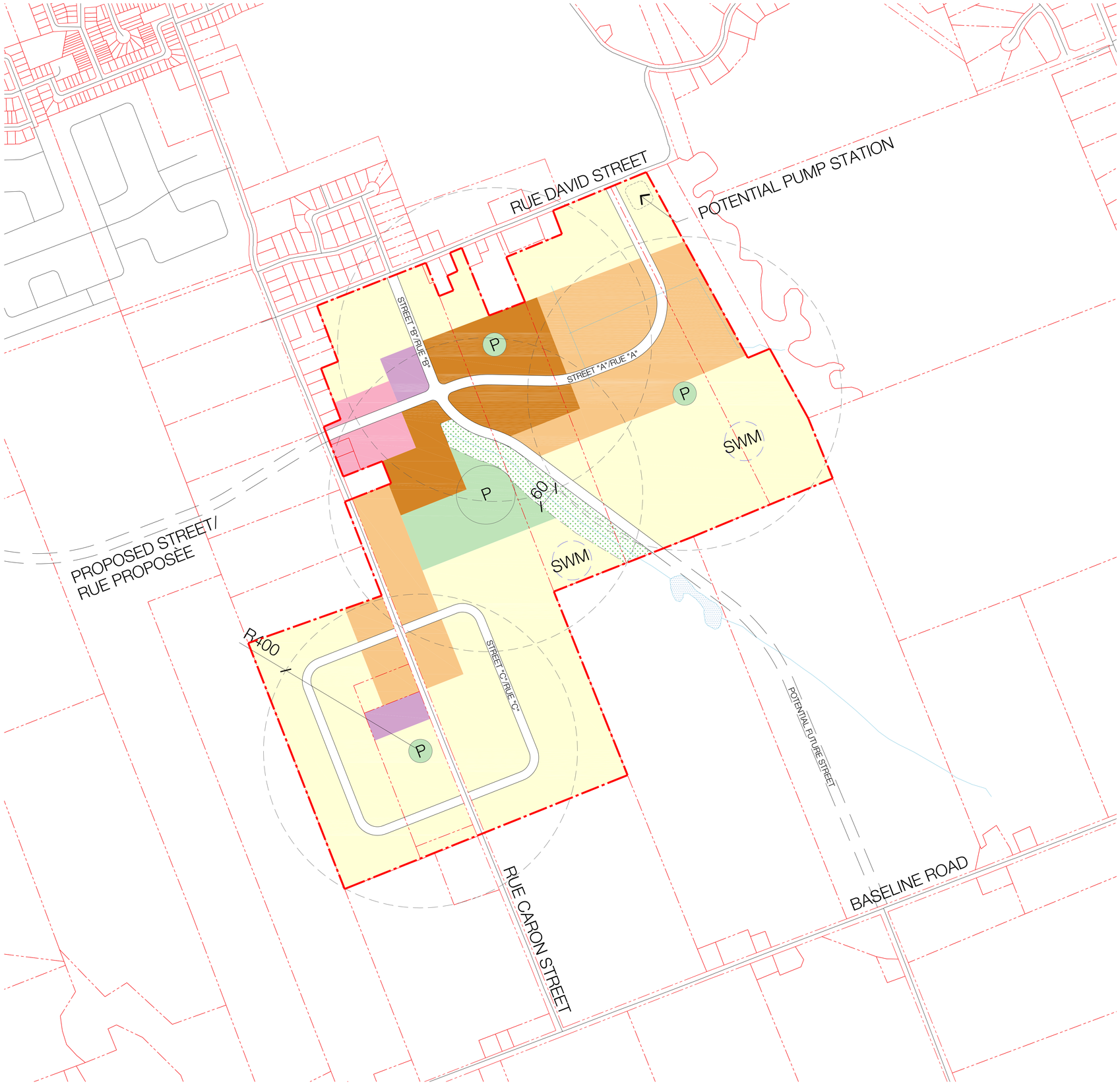
B

Appendix B

Population Estimate Documents



LAND USE STATISTICS

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Environmental Protection Area:	39,719m^2	

NOTES

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3. Assume road ROW of 26.0m.

EXPANSION LANDS SECONDARY PLAN

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- WATER EAU
- (P) OPEN SPACE/PARKLAND PARCS ET ESPACES OUVERTS
- (SWM) APPROXIMATE LOCATION OF STORMWATER MANAGEMENT POND EMPLACEMENT APPROXIMATIF DU SYSTÈME DE GESTION DES EAUX PLUVIALES
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0 125m 250m 500m

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CLARENCE-ROCKLAND EXPANSION LANDS SECONDARY PLAN

PROJECTED DENSITIES AND POPULATION

This projection uses the methodology described in the 2012 Hemson report.

Land Use Designation	Gross Area (ha)	Medium Scenario		Employment	
		Projected Units	Projected Population	Projected Floor Area (m2)	Projected Employment (jobs)
Low Density Residential	76.46	688	1,789		
Medium Density Residential	22.55	203	528		
High Density Residential	11.14	100	261		
Commercial	2.91			7,283	182
Other (parks, etc.)	24.17				
TOTAL	**137.23**	**991**	**2,577**	**7,283**	**182**

Projected Density (Medium Scenario): 17 people and jobs/gross hectare

Assumptions

Density scenarios are based on the 2012 Hemson Growth Study	Low	7
	Med	9
	High	12
Employment Density	25% of land area at 1 job per 40 square metres	

Land Use Distribution

Designation	Area (square metres)	Area (hectares)	Percentage of Total Area
Low Density Residential	764,561	76.46	56%
Medium Density Residential	225,472	22.55	16%
High Density Residential	111,433	11.14	8%
Commercial (Retail)	29,130	2.91	2%
Parks and Open Space	64,023	6.40	5%
Institutional/Community Facility	22,274	2.23	2%
Environmental Protection Area	39,719	3.97	3%
Roads	115,733	11.57	8%
TOTAL	**1,372,345**	**137.23**	**100%**

C

Appendix C

Supporting Civil Figures

CIMA+

C1

Appendix C

Clarence-Rockland and Limoges Water Servicing Study Excerpt

CIMA+

SECTION 2

2 Model Parameters and Assumptions

2.1 Water Demands

2.1.1 Historical Clarence-Rockland Water Demands

Existing SCADA daily flow data was examined to determine existing demands and peaking factors (see Figure 2-1 for graphical, and Table 2-1 for tabular representation of the data). From the Rockland WTP and the Caron BS flows, the PZ-1 and PZ-2 flows were calculated. The total system flow was taken from the Rockland WTP flow meter. The PZ-1 flow was calculated by subtracting the Caron BS flow from the Rockland WTP flow. The PZ-2 flow was taken from the Caron BS flow meter.

Figure 2-1. Daily SCADA Flow Records – January 2012 to May 2017

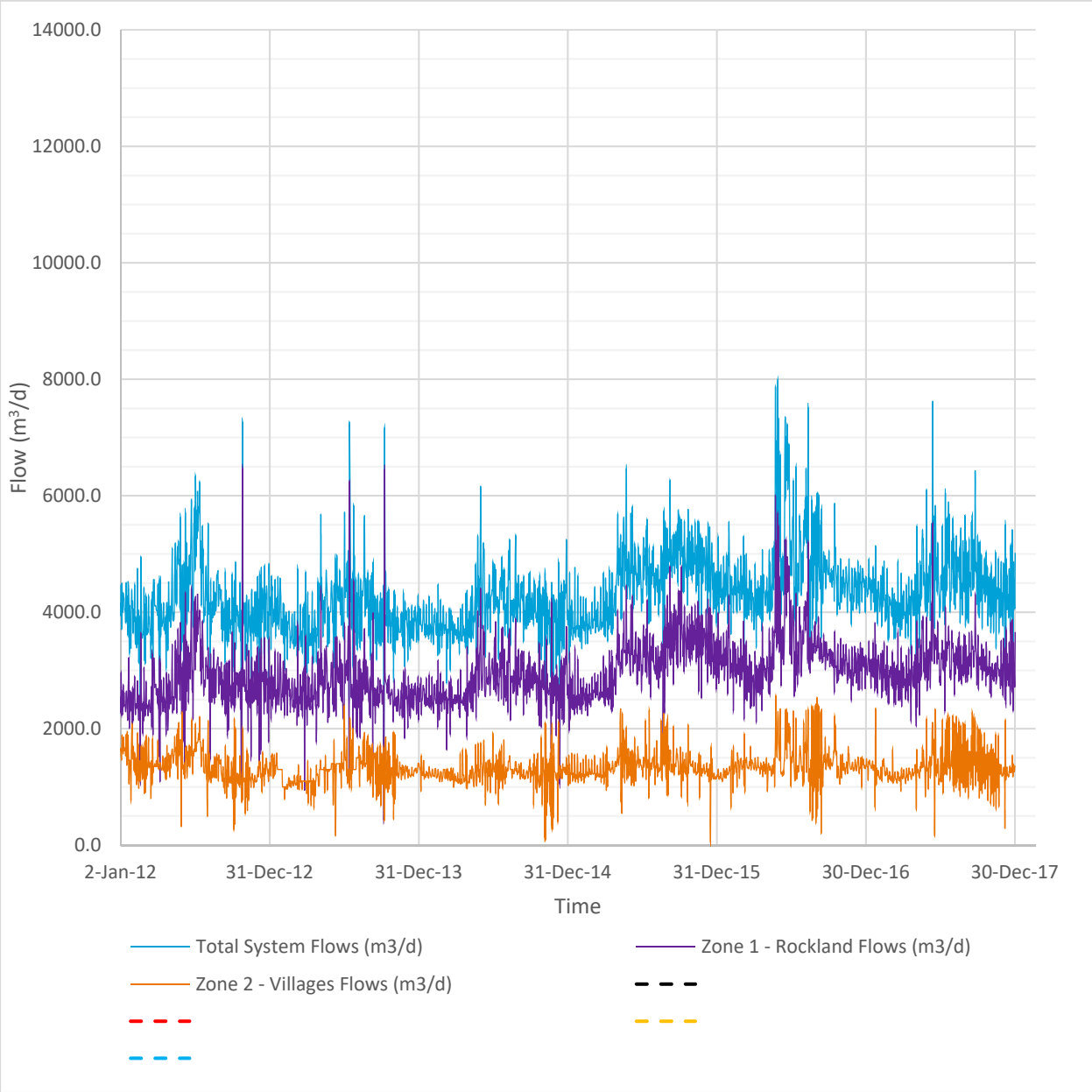

Table 2-1. Daily SCADA Flow Records – Annual Average – 2012 to 2017

Year	Total System	Zone 1 – Rockland	Zone 2 – Villages
2012	4,128.5	2,752.3	1,376.1
2013	3,960.1	2,698.6	1,261.5
2014	3,985.4	2,748.4	1,237.0
2015	4,508.5	3,156.8	1,351.7
2016	4,573.5	3,197.0	1,376.5
2017	4,427.3	3,092.8	1,334.5

Table 2-2. Daily SCADA Flow Records – Total System Average Day, Maximum Day, and 99th Percentile Maximum Day Demands – 2012 to 2017

Year	Average Day	Maximum Day	Maximum Day 99th Percentile
2012	4,128.5	7,260.1	5,981.8
2013	3,960.1	7,182.1	5,751.7
2014	3,985.4	6,161.1	5,242.7
2015	4,508.5	6,461.7	5,749.3
2016	4,573.5	7,942.6	6,938.0
2017	4,427.3	7,619.2	5,946.4

2.1.2 Future Clarence-Rockland Water Demands

The future City water demand projections are based on the following sources:

- Table: Province of Ontario *Residential Population by Age Groups (2016-2041)* (Province of Ontario)
- Report: *United Counties of Prescott and Russell Official Plan (2016-2035)*, Planning Department of the United Counties of Prescott and Russell (April, 2017) (Planning Department of the United Counties of Prescott and Russell, 2017)
- Report: *Official Plan of the Urban Area of the City of Clarence-Rockland (2016-2035)*, Planning Department of the City of Clarence-Rockland, (November 19, 2013) (Planning Department of the City of Clarence-Rockland, 2013)
- Table: *Development Charges Study – Growth Forecast – Residential Units* (April 7, 2017) (Planning Department of the City of Clarence-Rockland, 2017)
- Report: *Urban Area Statistiques – Lots approuvés (2015)*, City of Clarence-Rockland Planning Department, 2016 (Planning Department of the City of Clarence-Rockland, 2016)
- Table: Daily SCADA flow records for the WTP and the Caron BS (2012-2017) (City of Clarence-Rockland, 2017)
- GIS shapefile: UCPR Zoning layer (United Counties of Prescott and Russell, 2017)
- Map: The City of Clarence-Rockland – Future Development (Planning Department of the City of Clarence-Rockland)

Using the 99th percentile maximum and average flows, a maximum day multiplier was calculated. The design maximum day multiplier was rounded up for each.

Hourly flow data from the pumping facilities and the elevated tower would be required to calculate a peak hour multiplier, however this data was not available. Therefore, the peak hour multiplier was assumed to be 1.5 times the maximum day multiplier as indicated in the Ministry of Environment (MOE) *Design Guidelines for Drinking-Water Systems, 2008* (Ministry of the Environment, 2008).

Table 2-5. Clarence-Rockland Residential and Employment Demand Multipliers

Description	PZ-2 – Villages	PZ-1 – Rockland	Total[3]
Minimum (m^3/d)	50.4	436.5	1,349.2
Average (m^3/d)	1,328.7	2,955.9	4,284.6
Maximum (m^3/d)	2,563.0	6,470.0	7,942.6
Maximum (percentile)[1] (m^3/d)	2,289.6	4,458.8	6,383.3
Maximum Day Multiplier (percentile) (times Average Day)	1.72	1.51	1.49
Peak Hour Multiplier (times Maximum Day)	1.5	1.5	1.5
Design Maximum Day Multiplier (times Average Day)	1.8	1.6	1.66[2]
Design Peak Hour Multiplier (times Maximum Day)	1.5	1.5	1.5

Notes:
1. Max (percentile) is used for 99th percentile of the observed data to exclude the outliers or erroneous data point
2. Calculated based on total maximum day demand divided by total average day demand with PZ specific demand multipliers
3. The Totals are the combined PZ-1 + PZ-2 flows. The minimum and maximum total flows do not occur concurrently with the PZ-1 or PZ-2 minimum or maximum flows and therefore are not additive.

2.1.2.4 Projected Future Clarence-Rockland Water Demands

With the total connected residential and employment populations from Section 2.1.2.1, and the unit residential and employment demand factors from Section 2.1.2.2, the total projected future City average day water demands were calculated. Using the maximum day and peak hour multipliers from Section 2.1.2.3, the maximum day and peak hour demands were also calculated. A summary of the average day, maximum day, and peak hour demands are presented in Table 2-6 for each design year.

Table 2-6. Clarence-Rockland Total Water Demands (2016-2047)

Year	ADD (m^3/d)	MDD (m^3/d)	PHD (m^3/d)
2016	4,575.7	7,610.9	11,416.3
2017	4,793.4	8,008.0	12,012.0
2022	5,631.4	10,247.0	15,370.5
2027	6,518.2	11,929.6	17,894.4
2032	7,259.2	13,413.6	20,120.4
2037	8,044.7	15,202.9	22,804.3
2042	8,760.5	16,866.6	25,300.0
Beyond 2042	10,695.2	19,912.8	29,869.3

Notes:
1. Definitions: ADD – Average Day Demands, MDD – Maximum Day Demands, PHD – Peak Hour Demands

2.1.2.5 Clarence-Rockland Diurnal Curve

The diurnal curve is a theoretical maximum day pattern with the peak hour multiplier of 1.5 times maximum day demand. This pattern is applied to both the average day, and maximum day EPS scenarios.

SECTION 5

5 Recommendations

5.1 Scenario 1 – Clarence-Rockland Only

5.1.1 Scenario 1-1 – 2017 Recommendations

This scenario represents the existing conditions in the system. No capacity upgrades are required for this scenario. However, the following operational upgrades are recommended:

- New 300 mm diameter watermain on St. Jean St. from Patricia St. to Docteur Corbeil Blvd. Note that this watermain is not required to meet the design criteria for Scenario 1-1, but is needed for redundancy and to improve pressures in future scenarios. However, it will be built in the short-term due to the timing of work on the Morris development.
- New 350 mm watermain from the Caron BS to the intersection of Bouvier Rd. and Labonte St. totaling approximately 6.2 km including pressure reducing valves to create sub-PZ-2A.

5.1.2 Scenario 1-2 – 2022 Recommendations

This scenario is an incremental increase in water demands compared to the 2017 scenario. No additional upgrades are required beyond what has been indicated in previous scenarios.

5.1.3 Scenario 1-3 – 2027 Recommendations

This scenario is an incremental increase in water demands compared to the 2022 scenario. The following capacity upgrades are recommended:

- Acquire land adjacent to the existing WTP to expand the WTP.
- Increase the Rockland WTP treatment capacity from 13,500 m^3/d to 23,000 m^3/d to meet the Beyond 2042 scenario maximum day demand (assuming an extra 10% for filter backwashes).
- Increase the Rockland WTP high lift pumping capacity from 13,500 m^3/d to 25,500 m^3/d to meet the Beyond 2042 scenario maximum day demand plus additional capacity to compensate for PZ-1 storage deficiency.
- Expand the Rockland WTP clearwell storage volume to meet the Beyond 2042 scenario storage requirements for PZ-1.
- Replace existing 300 mm Edwards St. watermain (east side of road) with new 500 mm watermain. Extent of replacement from the WTP to the south side of Highway 17.
- Expand the Caron BS capacity from 3,975 m^3/d to 8,000 m^3/d.

5.1.4 Scenario 1-4 – 2032 Recommendations

This scenario is an incremental increase in water demands compared to the 2027 scenario. No additional upgrades are required beyond what has been indicated in previous scenarios.

5.1.5 Scenario 1-5 – 2037 Recommendations

This scenario is an incremental increase in water demands compared to the 2032 scenario. No additional upgrades are required beyond what has been indicated in previous scenarios.

5.1.6 Scenario 1-6 – 2042 Recommendations

This scenario is an incremental increase in water demands compared to the 2037 scenario. No additional upgrades are required beyond what has been indicated in previous scenarios.

5.1.7 Scenario 1-7 – Beyond 2042 Recommendations

This scenario includes all water demands that are anticipated beyond the year 2042 and is not an incremental increase from the 2042 scenario. The timing of these future developments and water demands is currently unknown. This scenario is included in the analysis so that the recommended infrastructure is sized to account for these future known water demands. No additional upgrades are required beyond what has been indicated in previous scenarios.

5.2 Scenario 2 – Clarence-Rockland Plus Limoges

5.2.1 Scenario 2-1 – 2017 Recommendations

This scenario represents the existing conditions in the system with the addition of the 2017 Limoges demands. The following capacity and operational upgrades are recommended:

- New 400 mm watermain main from the Cheney ET to the existing Limoges WTP totaling approximately 9.8 km to connect Limoges to the Clarence-Rockland water system.
- New 300 mm diameter watermain on St. Jean St. from Patricia St. to Docteur Corbeil Blvd. Note that this watermain is not required to meet the design criteria for Scenario 2-1, but is needed for redundancy and to improve pressures in future scenarios. However, it will be built in the short-term due to the timing of work on the Morris development.
- New 450 mm watermain from the Caron BS to the Bouvier ET totaling approximately 9.3 km including pressure reducing valves to create sub-PZ-2A.
- New 450 mm watermain on Caron St. from Docteur Corbeil Blvd. to the Caron BS totaling approximately 0.2 km.
- Expand the Caron BS capacity from 3,975 m^3/d to 15,000 m^3/d.

5.2.2 Scenario 2-2 – 2022 Recommendations

This scenario is an incremental increase in water demands compared to the 2017 scenario. The following capacity upgrades are recommended:

- Increase the Rockland WTP treatment capacity from 13,500 m^3/d to 30,500 m^3/d to meet the Beyond 2042 scenario maximum day demand (assuming an extra 10% for filter backwashes). This includes land acquisition adjacent to the existing WTP for the expansion.
- Increase the Rockland WTP high lift pumping capacity from 13,500 m^3/d to 32,700 m^3/d to meet the Beyond 2042 scenario maximum day demand plus additional capacity to compensate for PZ-1 storage deficiency.
- Expand the Rockland WTP clearwell storage volume to meet the Beyond 2042 scenario storage requirements for PZ-1.
- Replace existing 300 mm Edwards St. watermain (east side of road) with new 500 mm watermain. Extent of replacement from the WTP to the south side of Highway 17.
- New 350 mm watermain from the Bouvier ET to the intersection of Bouvier and Lacroix totaling approximately 2.6 km.

5.2.3 Scenario 2-3 – 2027 Recommendations

This scenario is an incremental increase in water demands compared to the 2022 scenario. The following capacity upgrades are recommended:

- New watermain from the Bouvier and Lacroix to the Cheney ET totaling approximately 8.3 km. This includes approximately 3.0 km of 350 mm diameter watermain and 5.3 km of 300 mm diameter watermain.

SECTION 6

6 Capital Works Plan

6.1 Infrastructure Costs

6.1.1 Recommended Infrastructure Upgrades – Scenario 1 – Clarence-Rockland Only

A Class D estimate was prepared for each recommended infrastructure upgrade for Scenario 1 from Section 5.1 and the estimated costs are shown in Table 6-3 and Table 6-2. The cost estimates in Table 6-3 and Table 6-2 are estimated using the two watermain unit price calculations shown in Section 6.1.4 (Conservative, and Aggressive unit cost estimates).

Table 6-1. Summary of Recommended Infrastructure Upgrade Costs – Scenario 1 – Conservative Cost Estimate

Infrastructure Recommendation Description	Estimated Base Cost ($ M)	Base Cost Markups[1] ($ M)	Subtotal ($ M)	Subtotal Markups[2] ($ M)	Total[3] ($ M)
Zone 1 - Rockland					
Rockland WTP Upgrades[4]	8.10	4.46	12.56	1.88	14.44
Replace Watermain – Edwards St: Rockland WTP to Highway 17 (east side pipe)	0.40	0.16	0.56	0.08	0.65
New Watermain – Caron St: Docteur Corbeil Blvd. to the Caron BS	0.14	0.06	0.20	0.03	0.23
New Watermain – St. Jean St: Patricia St. to Docteur Corbeil Blvd.	0.28	0.11	0.39	0.06	0.45
Zone 2 – Villages					
Caron BS Upgrades	1.23	0.67	1.90	0.28	2.18
New Watermain – Caron BS to Bouvier Rd. and Labonte St.	4.37	1.75	6.11	0.92	7.03
New Watermain – Bouvier Rd. and Labonte St. to Bouvier ET	2.52	1.01	3.52	0.53	4.05
Total	**17.04**	**8.22**	**25.24**	**3.78**	**29.03**

Notes:

1. Contractor's overhead, profit, mobilization, bonds, and insurance (15%), and design contingency (40% for facility upgrades, and 25% for watermain upgrades).
2. Construction contingency (5%), and average price escalation (10%).
3. Excludes HST.
4. The Rockland WTP Upgrades cost estimate includes low lift and high lift pumping and treatment capacity. It assumes that a new intake in the Ottawa River is not required.

Table 6-2. Summary of Recommended Infrastructure Upgrade Costs – Scenario 1 – Aggressive Cost Estimate

Infrastructure Recommendation Description	Estimated Base Cost ($ M)	Base Cost Markups[1] ($ M)	Subtotal ($ M)	Subtotal Markups[2] ($ M)	Total[3] ($ M)
Zone 1 - Rockland					
Rockland WTP Upgrades[4]	8.10	4.46	12.56	1.88	14.44
Replace Watermain – Edwards St: Rockland WTP to Highway 17 (east side pipe)	0.28	0.11	0.39	0.06	0.45
New Watermain – Caron St: Docteur Corbeil Blvd. to the Caron BS	0.10	0.04	0.15	0.02	0.17
New Watermain – St. Jean St: Patricia St. to Docteur Corbeil Blvd.	0.25	0.10	0.34	0.05	0.40
Zone 2 – Villages					
Caron BS Upgrades	1.23	0.67	1.90	0.28	2.18
New Watermain – Caron BS to Bouvier Rd. and Labonte St.	3.21	1.28	4.49	0.67	5.16
New Watermain – Bouvier Rd. and Labonte St. to Bouvier ET	1.85	0.74	2.59	0.39	2.97
Total	**15.02**	**7.40**	**22.42**	**3.35**	**25.77**

Notes:

1. Contractor's overhead, profit, mobilization, bonds, and insurance (15%), and design contingency (40% for facility upgrades, and 25% for watermain upgrades).
2. Construction contingency (5%), and average price escalation (10%).
3. Excludes HST.
4. The Rockland WTP Upgrades cost estimate includes low lift and high lift pumping and treatment capacity. It assumes that a new intake in the Ottawa River is not required.

6.1.4 Unit Cost Assumptions

The cost estimates for the watermain upgrade recommendations, and for compensation costs discussed in previous sections are based on the watermain unit costs indicated in Table 6-6, and **Error! Reference source not found.**.

The conservative unit price calculations were derived using the cost data in the City of Ottawa June 20, 2016 Unit Spec Code List document. The following unit items were referenced: G030.03 (200 mm), G030.04 (250 mm), G030.05 (300 mm), and G030.06 (400 mm). The 350 mm diameter cost was interpolated between the 300 mm and 400 mm costs. The 450 mm, and 500 mm diameter costs were extrapolated from the costs for the other sizes.

Table 6-6. Unit Costs for Watermains – Conservative Calculations

Diameter (mm)	Base Cost[1]	Subtotal[2]	Total[3]
200	$ 443.15	$ 620.41	$ 713.47
250	$ 504.19	$ 705.87	$ 811.75
300	$ 571.12	$ 799.57	$ 919.50
350	$ 595.65	$ 833.91	$ 959.00
400	$ 620.18	$ 868.25	$ 998.49
450	$ 680.50	$ 952.70	$1,095.61
500	$ 725.05	$ 1,015.07	$1,167.33

Notes:

1. The base cost includes the pipe material and installation cost, trench reinstatement, and valves.
2. The subtotal includes a 40% markup on the base cost for contractor's overhead, profit, mobilization, bonds, and insurance (15%), and design contingency (25%).
3. The total includes a 15% markup on the subtotal for construction contingency (5%) and average price escalation (10%). Excludes HST.

The aggressive cost estimates were calculated using a base unit price of $500/m provided by EXP, for the installation of new transmission watermains.

LEGEND:

- Watermains - Existing
- Zone 1 - Existing
- Zone 2 - Existing
- Parcels

BASE MAP SOURCE:

0 0.5 1 2
KM

City of Clarence-Rockland	*Limoges Water Supply Analysis*

FIGURE NUMBER 4-1
EXISTING PRESSURE
ZONE CONFIGURATION

CREATED BY: SH
REVIEWED BY: AL

ch2m

C2

Appendix C

2016 Annual Record of Surface Water Taking

CIMA+

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Annual Record Of Surface Water Taking
Relevé annuel des prises d'eau de surface

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the respective hub office in your area.

Les renseignements personnels qui figurent dans le présent formulaire sont recueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. Ce formulaire sert à dossiers les détails et les renseignements concernant la prise d'eau annuelle. Prière d'adresser toutes questions au personnel du bureau régional de votre secteur.

Year(Année): **2016** Permit No.(N° de permis):**2563-7H9QE8** Source: **Ottawa River**

Name of Permittee: **Corporation of the City of Clarence**
Nom du titulaire du permis

Mailing Address: **1560 rue Laurier, Rockland ,Ontario,K4P 1P7**
Adresse postale

Concession: I
Concession:

Lot: 27
Lot:

Location Of Taking: **Rockland WTP**
Lieu de la prise d'eau

Twp. or Municipality: **City of Clarence-Rockland**
Canton ou municipalité

Month	Monthly Flow Total (m3/month)	Daily Flow Average (m3/day)	Daily Flow Maximum (m3/day)	Daily Flow Peak Flow Rate (L/min)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking	Maximum Daily Run Time (hr)
Jan	143,884.2	4,641.43	5,477.8	4,798.8	69.24	31	24.0
Feb	133,453.5	4,601.84	5,407.7	4,611.3	69.23	29	22.0
Mar	142,111.8	4,584.25	5,439.7	8,481.3	70.28	31	22.7
Apr	136,936.1	4,564.54	5,537.0	8,695.0	69.9	30	23.0
May	170,584.9	5,502.74	8,823.4	9,211.3	106.18	31	23.9
Jun	185,115.2	6,170.51	7,810.6	9,166.3	112.17	30	23.3
Jul	166,299.4	5,364.50	7,171.8	9,217.5	114.09	31	21.9
Aug	176,702.5	5,700.08	8,246.5	9,313.8	111.67	31	21.2
Sep	156,914.0	5,230.47	6,972.3	9,263.8	112.63	30	18.6
Oct	153,298.2	4,945.10	6,151.3	9,232.5	112.71	31	16.7
Nov	141,775.3	4,725.84	5,391.9	9,192.5	113.27	30	14.2
Dec	147,531.3	4,759.07	6,727.2	9,933.8	116.07	31	16.1
Total	1,854,606.4					366	
Avg	154,550.5	5,067.23			98.12		
Max	185,115.2	6,170.51	8,823.4	9,933.8	116.07		24.0
Criteria			**14,500**	**10,089**		366	24.0

C3

Appendix C

OCWA Quarterly Operations Report Card, 4th Quarter of 2016

CIMA+

OCWA
Quarterly Operations Report Card

For the City of Clarence-Rockland Water and Wastewater Facilities

Alfred Hub Operations
4th Quarter 2016

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Quarterly Operations Report - 2016

1.0 FACILITY LISTINGS

1.1 Water Treatment & Distribution

Facility	Appurtenances
6847W Rockland Water Treatment Plant	1 Raw Water Low Lift Station 1 WTP (Actiflo Process)
6847D Clarence-Rockland Water Distribution System	3 Water Storage Towers 1Water Booster Station An Area Water Distribution System supplying Rockland, Clarence Creek, St. Pascal, Bourget, Hammond and Cheney

1.2 Wastewater Treatment & Collection

Facility	Appurtenances
6816S Rockland Wastewater Treatment System	1 Sequential Batch Reactor Treatment system 2 Biosolids Storage and Drying Lagoons
6816C Rockland Wastewater Collection System	7 Sewage Pumping Stations in Rockland 11 Low Pressure Residential pumping stations in Rockland 1 Communal Sewage System In Clarence-Creek

2.0 COMPLIANCE

2.1 Water Treatment and Distribution

Most Recent MOE Compliance Inspection Report - Rating

ORG	Facility	Inspection Date	Report Period	Inspector Name	MOE CIR Rating	Inspection Report Received	Inspection Report Reply Submitted
6847D	Rockland WTP and WD	02/09/2016	2015	Jean Veilleux	100%	13/04/16	N/A

Annual Reports (Water)

All 2015 Annual Reports required under the Drinking Water Systems Regulation (O. Reg. 170/03) of the Safe Drinking Water Act: Water Taking, Section 10 and Schedule 22 Reports, were completed and submitted by February 27th, 2016.

Adverse Water Quality Incidents (AWQI's)

Date	Facility	AWQI#	ISSUE	Date Resolved
N/A		N/A		

2.2 Wastewater Treatment & Collection

Most recent MOE Inspections

ORG	Facility	Inspection Date	Report Period	Inspector Name	Inspection Report Received	Inspection Report Reply Submitted
6816S	Rockland WWT	Oct.31st 2014	Odor issue	Jean Veilleux	N/A	N/A
6816S	Rockland WWT	March 13th 2015	Acute Lethality non compliance	Ian Rumbolt Environment Canada	N/A	N/A
6816S	Rockland biosolids	October 20th 2015	2015	Brent Winters	Jan. 5th 2016	Jan.14th 2016
6816S	Rockland WPCP and collection	May 10th 2016	2016	Jean Veilleux	Aug. 22nd	N/A
6816S	Rockland biosolids Roy Farm	October 5th 2016	2016	Brent Winters		

Non Compliance, Reportable Spills and Bypasses

Facility	Event	Date Reported
Rockland Sewage	Raw sewage spill due to forcemain break at Pumping Station #1 SAC Report # 7083-AF5TWL	October 27th 2016
Rockland Sewage	Contained raw sewage spill in the Greenbelt trench when connecting new forcemain on Laurier St. SAC Report # 5765-AFYNS5	November 23rd 2016
Rockland WTP	Monthly Total Suspended Solids collected in the backwash supernatant tank above 25mg/l	December 23rd 2016

Annual Reports (Wastewater)

The 2015 Annual Report required under the Certificate of Approval No. 3-0466-93-967 and ECA No. 1990-9P3PRG was completed and issued on March 29th, 2016.

3.0 FACILTY PERFORMANCE

3.1 Water Treatment and Distribution System

Facility	Reporting Period	Attachments
Rockland WTP & Distribution	Jan 1st – Dec 31st 2016	Attachment I; Performance Assessment Report

3.2 Wastewater Treatment and Collection System

Facility	Reporting Period	Attachments
Rockland WPCP & WWC	Jan 1st – Dec 31st 2016	Attachment II: Performance Assessment Report

4.0 DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS)

An internal audit of the Operational Plan was conducted February 10th by OCWA staff. The operational plan and reviews were then sent to SAI Global (external auditors) for review and they were an on-site for an audit March 7th and no **non-compliances were identified**. The municipality received their new Drinking Water Permit and License March 14th 2016 and OCWA received their Certificate of Accreditation April 14th 2016.

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5.0 MAINTENANCE / CAPITAL / VALUE ADDED

5.1 Water Treatment and Distribution

Facility	Date	Description
Rockland WTP	Oct.12th	Water intake crib inspection by ODS
Clarence Rockland dist.	Oct 12th	PRV inspection in Hamlets
Cheney distribution	Oct.14th	Fused service repair at 3262 Drouin rd.
Cheney distribution	Oct.19th	Fused service repair at Corner store
Clarence-Creek dist.	Oct. 25th	Inspected new water connection at 1591 Bouvier
Clarence Rockland dist.	November	Completed all hydrant winterizing and inspections
Rockland distribution	Nov.24th	New water main for Greenbelt project on line
Clarence-Rockland dist.	Nov.29th	Repaired hydrants: R-099AD (Marble) R-214AD (David)

		R-285 (Giroux) CC-016 (Landry) H-252AD (Gagnée). And one on St-Jean
Rockland distribution	Dec.7th	2" water service repair at 220 Laurier, Poupart
Rockland distribution	Dec.16th	Water main leak on Baseline rd. near Caron, ordered parts to repair, work done Jan.25th, Martin Normand

5.2 Wastewater Treatment and Collection

Facility	Date	Description
Rockland collection	On-going	Cleaned inlet basket at sta.#1 bi-weekly
Rockland WPCP	Oct.12th	Sewage outfall inspection by ODS
Rockland collection	Oct.27th	Sewage forcemain failure due to core drilling at sta.#1, repaired temporarily, spill reported to SAC
Rockland collection	Nov.10th	Pump failures at sta.#3 due to faulty wiring, rebuilt both motors and replaced control wiring and components
Rockland collection	Nov.21st	Cleaned all pumping station wet wells
Rockland WPCP	Oct.-Nov.	Hauled 3,482m3 biosolids to farmland

5.3 Preventive Maintenance Plan (PMP) Quarterly Work Order Summary

Please refer to attachment III and IV outlining the work order status for the water and wastewater facilities

6.0 COMMUNICATIONS

6.1 Water Treatment & Distribution

Facility	Date	Complaint/Incident	Actions Taken
Rockland distribution	Oct.20th	Odour complaint at 1447 Laurier	Called home owner, seems to be plumbing issue
Hammond distribution	Nov.9th	Car hit hydrant at 3115 Gendron	Repaired
Clarence-Creek dist.	Nov.29th	Water quality complaint at 2804 Bouvier	Visted home, wrong anode in hot water tank

6.2 Wastewater Treatment and Collection

Facility	Date	Complaint/Incident	Actions Taken
Rockland collection	Nov.1st	Slow flowing drain at 835 St-Jacques	Inspected municipal sewers all OK service lateral issue
Rockland collection	Dec. 19th	Sewer back up at 278 Hélène st.	Municipal sewer cleaned on Hélène and Caron in that area, Aqua Drain

7.0 RECOMMENDATIONS / GENERAL COMMENTS

7.1 Water Treatment and Distribution

- ASPEC Automation was at the water treatment plant several times in the past months to perform various repairs and PLC maintenance

7.2 Wastewater Treatment and Collection

- Hauled 3,482 m3 of biosolids from lagoons to three NASM approved farms this fall (Pascal Roy, Serge Ethier and André-Jean Pilon). These volumes are increasing due to the heavier flows in 2016. Extra cost are possible in 2017 due to this increase and extra removal of biosolids (one lagoon holds 1800 m^3)

Ontario Clean Water Agency
Performance Assessment Report Water

January 1st to December 31st 2016

Facility: [6847] ROCKLAND DRINKING WATER SYSTEM

Works: [6847] ROCKLAND DRINKING WATER SYSTEM

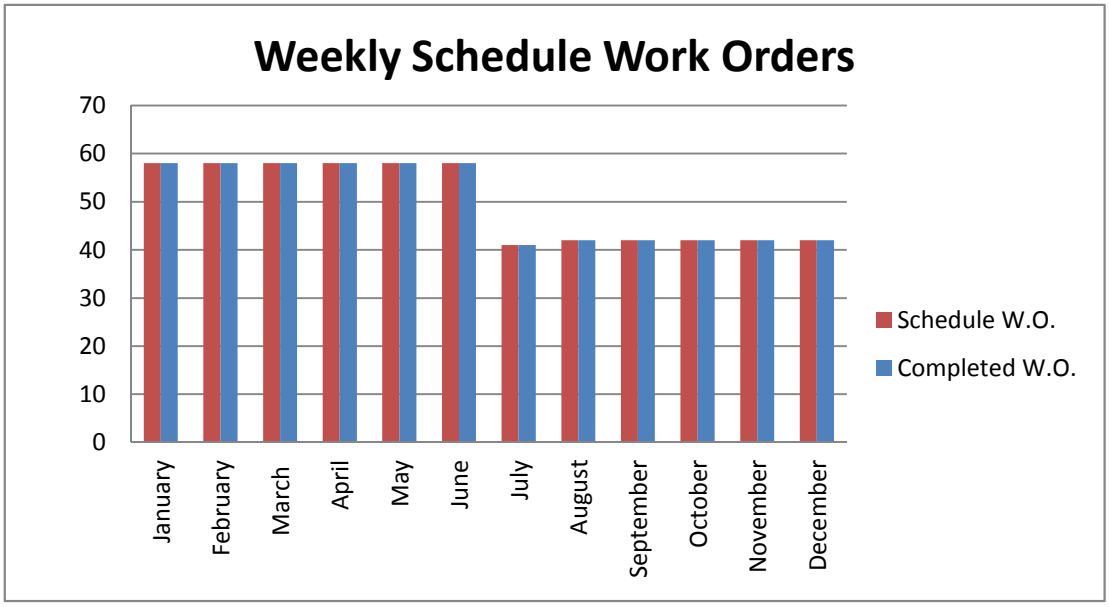
		01/2016	02/2016	03/2016		04/2016	05/2016	06/2016		07/2016	08/2016	09/2016	10/2016	11/2016	12/2016	<--Total-->	<--Avg.-->		<--Max.-->	<--Min.-->	<--Criteria-->
Flows:																					
Raw Flow: Monthly Total - Raw Water (m^3)		143884.2	133453.5	142111.8		136936.1	170584.9	185115.2		166299.4	176702.5	156914	153298.2	141775.3	147531.3	1854606.4					
Raw Flow: Monthly Avg - Raw Water (m^3/d)		4641.43	4601.84	4584.25		4564.54	5502.74	6170.51		5364.5	5700.08	5230.47	4945.1	4725.84	4759.07		5065.86				
Raw Flow: Monthly Max - Raw Water (m^3/d)		5477.8	5407.7	5439.7		5537	8823.4	7810.6		7171.8	8246.5	6972.3	6151.3	5391.9	5364.5				8823.4		
Treated Flow: Monthly Total - Treated Water WTP (m^3)		139389.9	127700.4	133083.8		126195.9	157818.9	168595		149890.3	158898.5	143813.6	142323.9	133116.6	138429.7	1719256.5					
Treated Flow: Monthly Total - Treated Water Booster Station (m^3)		37588	38516	42829		40090	45945	48646		44571	46530	43360	44825	40925	42530	516355					
Treated Flow: Monthly Avg - Treated Water WTP (m^3/d)		4496.45	4403.46	4293.03		4206.53	5090.93	5619.83		4835.17	5125.76	4793.79	4591.09	4437.22	4465.47		4696.56				
Treated Flow: Monthly Avg - Treated Water Booster Station (m^3/d)		1212.52	1328.14	1381.58		1336.33	1482.1	1621.53		1437.77	1500.97	1445.33	1445.97	1364.17	1371.94		1410.7				
Treated Flow: Monthly Max - Treated Water WTP (m^3/d)		5543.3	4955.9	5254.3		5073.8	7942.6	7333.4		6492.3	7511.7	6040.9	5853.9	4910	4863.6				7942.6		
Treated Flow: Monthly Max - Treated Water Booster Station (m^3/d)		1320	1680	1909		1510	2563	2337		2303	2408	2535	2216	1678	1512				2563		
Turbidity:																					
Raw: Max Turbidity - Raw Water (NTU)		20.08	16.82	48.87		68	34.04	32.67		27	50	24.11	16.71	21.34	50				68		
Treated: Min Turbidity - Treated Water WTP (NTU)		0.06	0.09	0.12		0.1	0.09	0.08		0.1	0.06	0.09	0.1	0.08	0.08					0.06	
Treated: Max Turbidity - Treated Water WTP (NTU)		0.49	0.26	0.2		0.43	0.12	0.55		0.21	0.15	0.14	0.2	0.63	0.14				0.63		
Filter Eff: Min Turbidity - Actiflo Filter #1 (NTU)		0.05	0.08	0.16		0.12	0.02	0.08		0.12	0.14	0.12	0.11	0.08	0.09					0.02	
Filter Eff: Min Turbidity - Actiflo Filter #2 (NTU)						0.07	0.04	0.06		0.06	0.08	0.09	0.09	0.06	0.13						
Filter Eff: Max Turbidity - Actiflo Filter #1 (NTU)		0.37	0.28	0.3		0.45	0.44	0.38		0.27	0.29	0.27	0.31	0.25	0.43				0.45		1.0 NTU
Filter Eff: Max Turbidity - Actiflo Filter #2 (NTU)						0.39	0.29	0.74		0.55	0.42	0.32	0.38	0.34	0.55				0.74		1.0 NTU
Chemical Parameters:																					
Treated: Max Nitrite - Treated Water WTP (mg/L)	<	0.1			<	0.1			<	0.1								<	0.1		
Treated: Max Nitrate - Treated Water WTP (mg/L)		0.4				0.4				0.2									0.4		
Distribution: Max THM - Distribution Water (µg/l)		46.7				41.5				72.5			45.5						72.5		100 µg/l
Chlorine Residuals:																					
Treated: Min Free Cl2 Resid - Treated Water WTP (mg/L)		0.56	1.15	0.75		0.56	0.86	1.3		0.86	0.56	0.8	0.45	0.45	0.65					0.45	0.05mg/l
Treated: Max Free Cl2 Resid - Treated Water WTP (mg/L)		2.66	2.71	2.46		2.71	2.46	2.4		2.18	2.56	2.47	2.56	2.84	2.61				2.84		4.0mg/l
Treated: Min Combined Cl2 Resid - Treated Water WTP (mg/L)		0.55	0.7	0.51		0.56	0.6	1.48		0.81	0.56	0.92	0.67	0.44	0.73					0.44	.30mg/l
Treated: Max Combined Cl2 Resid - Treated Water WTP (mg/L)		2.94	2.95	2.88		2.93	2.88	2.52		2.91	2.96	2.79	2.83	2.86	2.71				2.96		3.0mg/l
Dist: Min Combined Cl2 Resid - Distribution Water (mg/L)		1.52	1.37	1.17		1.19	1.3	1.16		0.76	0.8	1.64	1.25	1.51	1.2					0.76	.30mg/l
Dist: Max Combined Cl2 Resid - Distribution Water (mg/L)		1.9	1.95	2.17		2.22	2.41	1.74		1.33	1.73	2.29	1.81	2.18	2.05				2.41		3.0mg/l
Bacti Samples Collected:																					
Raw Bacti: # of samples - Raw Water		4	4	5		4	5	4		4	5	4	5	5	4	53					
Treated Bacti: # of samples - Treated Water WTP		4	4	5		4	5	4		4	5	4	4	5	4	52					
Dist Bacti: # of samples - Distribution Water		30	32	38		32	39	32		32	38	28	32	40	30	403					
Treated Bacti: # of TC exceedances - Treated Water WTP		0	0	0		0	0	0		0	0	0	0	0	0	0					
Treated Bacti: # of EC exceedances - Treated Water WTP		0	0	0		0	0	0		0	0	0	0	0	0	0					
Dist Bacti: # of TC exceedances - Distribution Water		0	0	0		0	0	0		0	0	0	0	0	0	0					
Dist Bacti: # of EC exceedances - Distribution Water		0	0	0		0	0	0		0	0	0	0	0	0	0					

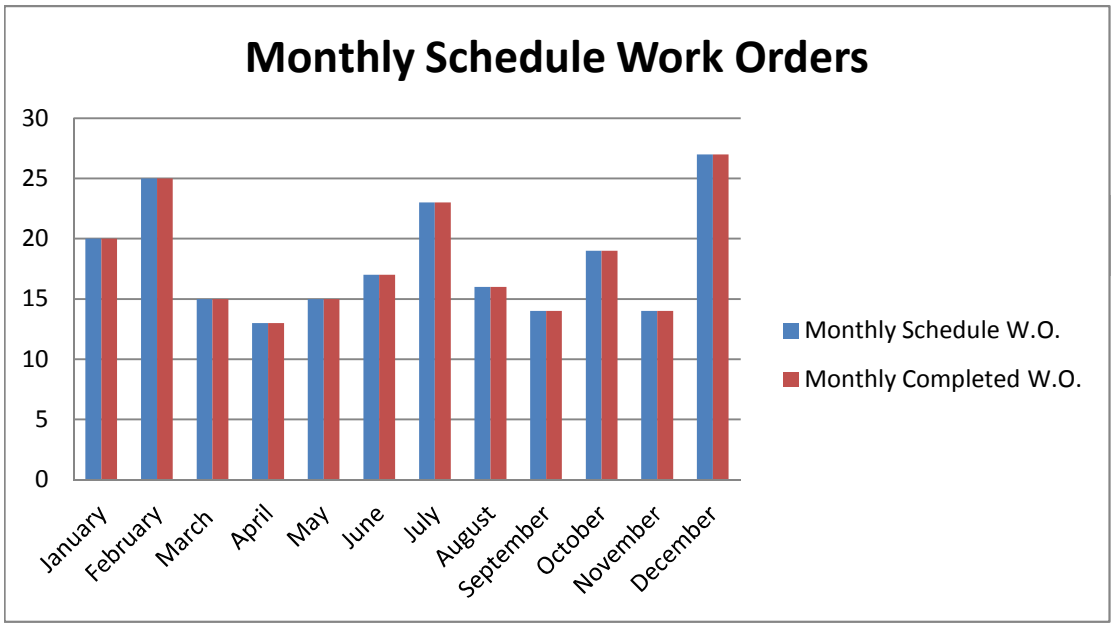
Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon
January 1st to cember 31st 2016

Facility: [6816] ROCKLAND WASTEWATER TREATMENT FACILITY
Works: [6816] ROCKLAND WASTEWATER TREATMENT FACILITY

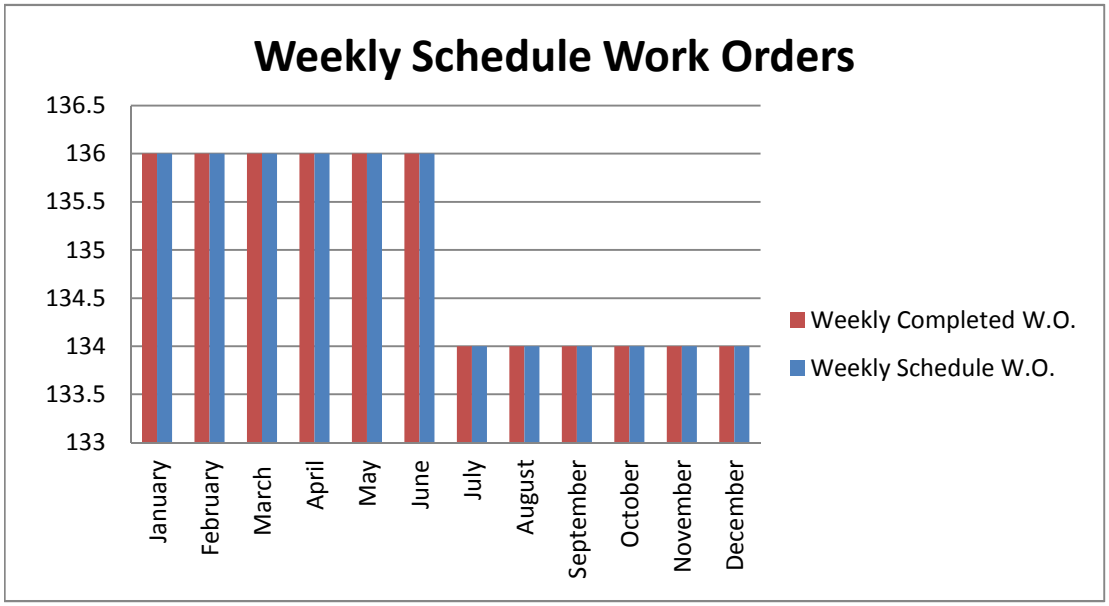
	01/2016	02/2016	03/2016	04/2016	05/2016	06/2016	07/2016	08/2016	09/2016	10/2016	11/2016	12/2016	<--Total-->	<--Avg.-->	<--Max.-->	<--Criteria-->
Flows:																
Raw Flow: Total - Raw Sewage (m³)	131237	124983	200134	188478	123931	109661	107221	123332	108678	122218	115956	131635	1587464			
Raw Flow: Avg - Raw Sewage (m³/d)	4233.45	4309.76	6455.94	6282.6	3997.77	3655.37	3458.74	3978.45	3622.6	3942.52	3865.2	4246.29		4337.39		Rated Capacity 6800m3
Raw Flow: Max - Raw Sewage (m³/d)	5842	6680	11442	9690	4303	4316	3753	5811	4184	5858	4666	6299			11442	
Eff. Flow: Total - WPCP Effluent (m³)	131237	124983	200134	188478	123931	109661	107221	123332	108678	122218	115956	131635	1587464			
Eff. Flow: Avg - WPCP Effluent (m³/d)	4233.45	4309.76	6455.94	6282.6	3997.77	3655.37	3458.74	3978.45	3622.6	3942.52	3865.2	4246.29		4337.39		
Eff. Flow: Max - WPCP Effluent (m³/d)	5842	6680	11442	9690	4303	4316	3753	5811	4184	5858	4666	6299			11442	
Carbonaceous Biochemical Oxygen Demand: CBOD:																
Eff: Avg cBOD5 - WPCP Effluent (mg/L)	< 4	< 15.25	< 3	< 3.25	< 11	< 6.5	< 8.25	< 7.6	< 12.5	< 3	< 3	< 3.25		< 6.717	< 15.25	Annual Avg. 25mg/l
Loading: cBOD5 - WPCP Effluent (kg/d)	< 16.934	< 65.724	< 19.368	< 20.418	< 43.976	< 23.76	< 28.535	< 30.236	< 45.283	< 11.828	< 11.596	< 13.8		< 27.621	< 65.724	170 kg/d
Biochemical Oxygen Demand: BOD5:																
Raw: Avg BOD5 - Raw Sewage (mg/L)	291.75	177.5	113.2	143	250.4	213.75	203.75	228.6	146.75	191.6	169.25	183.5		192.754	291.75	
Raw: # of samples of BOD5 - Raw Sewage (mg/L)	4	4	5	4	5	4	4	5	4	5	4	4	52			
Total Suspended Solids: TSS:																
Raw: Avg TSS - Raw Sewage (mg/L)	1565	324	474	493.5	342.4	276	339	422.4	210	282.857	239	895		488.596	1565	
Raw: # of samples of TSS - Raw Sewage (mg/L)	4	4	5	4	5	4	4	5	4	7	4	4	54			
Eff: Avg TSS - WPCP Effluent (mg/L)	7.5	< 9	14.4	8.5	28.2	12.25	28.25	16.444	23.143	21.4	8.5	21.5		< 16.591	28.25	Annual Avg. 25 mg/l
Eff: # of samples of TSS - WPCP Effluent (mg/L)	4	4	5	4	5	4	4	9	7	5	4	4	59			
Loading: TSS - WPCP Effluent (kg/d)	31.751	< 38.788	92.965	53.402	112.737	44.778	97.709	65.423	83.837	84.37	32.854	91.295		< 69.159	112.737	170 kg/d
Percent Removal: TSS - Raw Sewage (mg/L)	99.521	97.222	96.962	98.278	91.764	95.562	91.667	96.107	88.98	92.434	96.444	97.598			99.521	
Total Phosphorus: TP:																
Raw: Avg TP - Raw Sewage (mg/L)	17.365	5.94	4.42	4.86	7.716	6.68	7.125	7.434	6.273	6.467	6.313	6.6		7.266	17.365	
Raw: # of samples of TP - Raw Sewage (mg/L)	4	4	5	4	5	4	4	5	4	7	4	4	54			
Eff: Avg TP - WPCP Effluent (mg/L)	0.267	0.345	0.418	0.308	0.842	0.493	0.762	0.548	0.731	0.636	0.215	0.415		0.498	0.842	Monthly Avg. 1.0 mg/l
Eff: # of samples of TP - WPCP Effluent (mg/L)	4	4	5	4	5	4	6	9	7	5	4	4	61			
Loading: TP - WPCP Effluent (kg/d)	1.132	1.487	2.699	1.932	3.366	1.8	2.634	2.179	2.65	2.507	0.831	1.762		2.082	3.366	6.8 kg/d
Percent Removal: TP - Raw Sewage (mg/L)	98.46	94.192	90.543	93.673	89.088	92.627	89.31	92.631	88.339	90.166	96.594	93.712			98.46	
Nitrogen Series:																
Raw: Avg TKN - Raw Sewage (mg/L)	72.7	49.55	38.04	37.975	53.86	53.775	55.725	53.34	55.025	50.7	52.275	55.6		52.38	72.7	
Raw: # of samples of TKN - Raw Sewage (mg/L)	4	4	5	4	5	4	4	5	4	7	4	4	54			
Eff: Avg TAN - WPCP Effluent (mg/L)	16.3	17.025	10.836	10.155	18.72	23.025	19.725	19.02	21.5	20.26	19.05	18.425		17.837	23.025	
Eff: # of samples of TAN - WPCP Effluent (mg/L)	4	4	5	4	5	4	4	5	4	5	4	4	52			
Loading: TAN - WPCP Effluent (kg/d)	69.005	73.374	69.957	63.8	74.838	84.165	68.224	75.67	77.886	79.875	73.632	78.238		74.055	84.165	
Eff: Avg NO3-N - WPCP Effluent (mg/L)	0.6	0.5	1.06	0.875	< 0.2	0.15	0.15	0.12	< 0.65	0.2	0.15	0.25		< 0.409	1.06	
Eff: # of samples of NO3-N - WPCP Effluent (mg/L)	4	4	5	4	5	4	4	5	4	5	4	4	52			
Eff: Avg NO2-N - WPCP Effluent (mg/L)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.15	< 0.15	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2		< 0.117	< 0.2	
Eff: # of samples of NO2-N - WPCP Effluent (mg/L)	4	4	5	4	5	4	4	5	4	5	4	4	52			
Disinfection:																
Eff: GMD E. Coli - WPCP Effluent (cfu/100mL)	1.682	2	8.025	2	2.993	2	9	9.236	6.535	2	2	2		4.122	9.236	200cfu/100ml
Eff: # of samples of E. Coli - WPCP Effluent (cfu/100mL)	4	4	5	4	5	4	4	5	4	5	4	4	52			

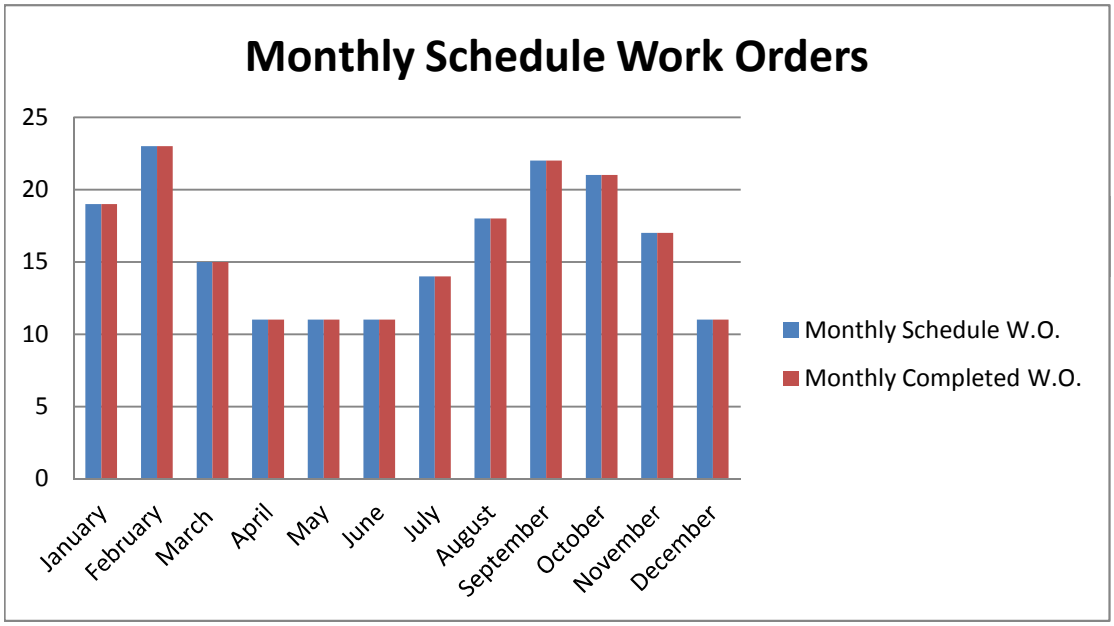
Rockland Water Treament Plant Work Order Status Report





Rockland Wastewater Treament Plant Work Order Status Report



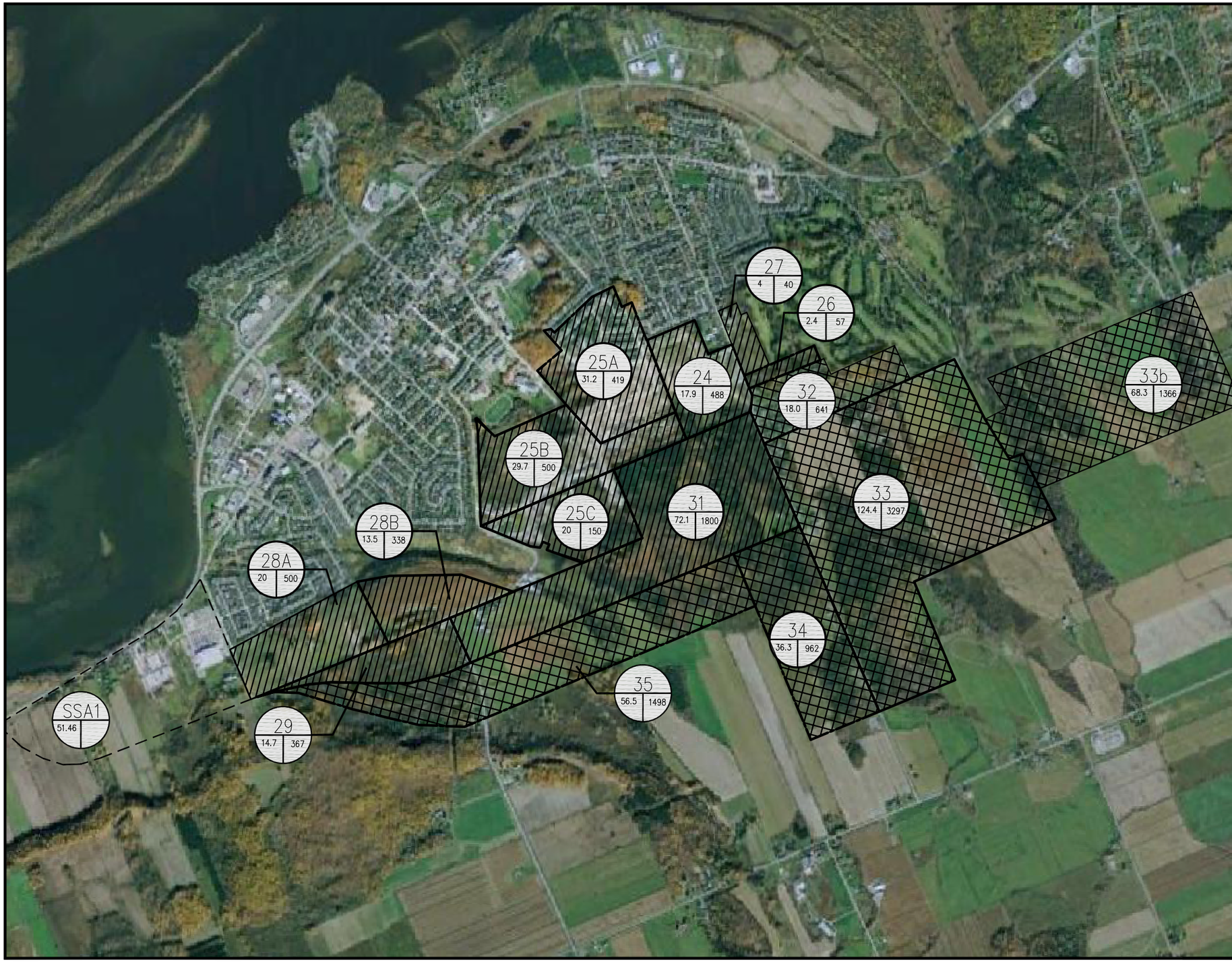


C4

Appendix C

Caron Street Sanitary Sewer Catchment Area, Sewer Calculation Sheet and As-Built Drawings

CIMA+



GENIVAR
1224 GARDINERS ROAD, SUITE 201
KINGSTON, ONTARIO
CANADA K7P 0G2
PHONE: 613-634-7373 FAX: 613-634-3523
WWW.GENIVAR.COM

CLIENT:

CITY OF
CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:

CARON STREET
RECONSTRUCTION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
1		2013/01/23	ISSUED FOR ECA

PROJECT NO: 065038

DATE: MAY, 2010

ORIGINAL SCALE: 1:20000

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

1"

DESIGNED BY: MS

DRAWN BY: MF/MS

CHECKED BY: MM

DISCIPLINE: CIVIL

TITLE:

PROPOSED SANITARY
SERVICING AREAS

SHEET NUMBER: SK1.23

SHEET #: -- OF --

ISSUE: ISSUED FOR ECA

DATE OF: JANUARY 23, 2013

REV #: 0

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Sanitary Sewer Calculation Sheet

DRAINAGE AREA DESCRIPTION																	OUTLET PIPE DATA						
	MANHOLE				CONTRIBUTING	POPULATION			Σ	q	M	Peak Flow	Σ	IA	Q *(INCOMMING FROM SIDE STREET)*	Q	SIZE	Slope	CAP	Q/Qfull	VEL	LENGTH	FALL
LOCATION	FROM	TO	No.	Ha	AREAS	Ppha	P	P(1000)	P(1000)	l/cap/d)		(l/s)	AREA (ha)	(l/s)	(l/s)	(l/s)	(mm)	(%)	(l/s)		(m/s)	(m)	(m)
Caron St	SAM250	SAM251	26	2.40		67.50	162	0.162	0.162	400	4.00	3.00	2.4	0.67	-	3.83	200	2.10%	47.53	0.08	1.51	22.8	0.479
Caron St	SAM251	SAM252	32	24.20	26,32	67.50	1633.5	1.6335	1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	1.16%	64.05	0.61	1.30	55.5	0.644
Caron St	SAM252	SAM253			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	1.29%	67.54	0.58	1.38	33.8	0.436
Caron St	SAM253	SAM254			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	250	0.60%	46.06	0.85	0.94	62.5	0.375
Caron St	SAM254	SAM255			26,32				1.7955	400	3.62	30.11	26.6	7.45	-	38.97	300	0.40%	61.16	0.64	0.87	96.7	0.387
Caron St	SAMH201	SAMH202	26,32,33,33b,34,35	312.10		67.50	21066.8	21.0668	21.06675	400	2.63	256.49	312.1	87.39	-	343.88	750	0.15%	431.17	0.80	0.98	95.1	0.143
Caron St	SAMH202	SAMH203	Refer to CH2MHILL Master Sanitary Servicing Plan for the South Development Area for respective calculations												241.00	584.88	750	0.40%	704.10	0.83	1.59	100.2	0.401
Caron St	SAMH203	SAMH204													0.00	584.88	750	0.40%	704.10	0.83	1.59	100.2	0.401
Caron St	SAMH204	SAMH205													0.00	584.88	750	0.40%	704.10	0.83	1.59	99.9	0.400
Caron St	SAMH205	SAMH206													0.00	584.88	750	0.40%	704.10	0.83	1.59	99.8	0.399
Caron St	SAMH206	SAMH207													0.00	584.88	750	0.50%	787.20	0.74	1.78	100.1	0.501
Caron St	SAMH207	SAMH208													0.00	584.88	750	0.50%	787.20	0.74	1.78	100.1	0.501
Caron St	SAMH208	SAMH209													16.00	600.88	750	0.50%	787.20	0.76	1.78	100.2	0.501
Caron St	SAMH209	SAMH210													1.00	601.88	750	0.50%	787.20	0.76	1.78	75.8	0.379
Caron St	SAMH210	SAMH211													8.00	609.88	750	0.50%	787.20	0.77	1.78	105.0	0.525
Caron St	SAMH211	SAMH212													1.00	610.88	750	0.50%	787.20	0.78	1.78	99.8	0.499
Caron St	SAMH212	SAMH213													0.00	610.88	900	0.20%	809.59	0.75	1.27	102.3	0.205
Caron St	SAMH213	SAMH214													92.00	702.88	900	0.20%	809.59	0.87	1.27	70.7	0.141
Caron St	SAMH214	SAMH215													21.00	723.88	675	1.00%	840.59	0.86	2.35	93.3	0.933
EXISTING PIPE	SAMH215	EX SAMH216	Existing Pipes (Covered Under Seperate ECA)																				
EXISTING PIPE	EX SAMH216	EX SAMH217																					
EXISTING PIPE	EX SAMH217	MH608																					
Caron St	MH608	PS1														732.80	675	1.00%	840.59	0.87	2.35	94.9	0.949

DESIGN PARAMETER

Mannings n = 0.0130
Average Daily Flow (q)= 400 l/cap/d
Infiltration Rate (I) = 0.28 l/s/ha

Designed By: Matt Scanlan, EIT

Checked By: Matt Morkem, P.Eng

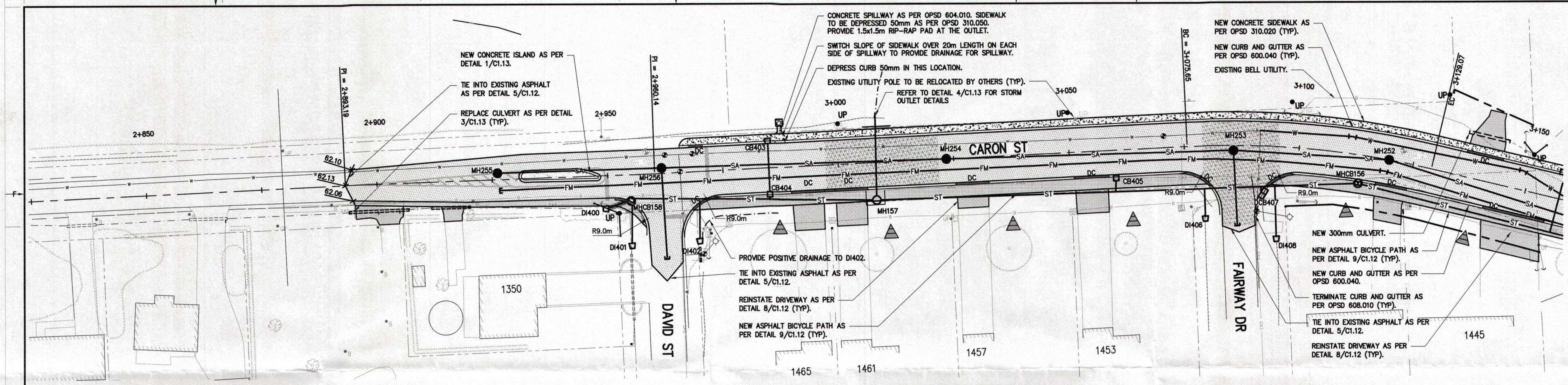
Dwg. Reference: SK1-23rev1 -Sanitary Area

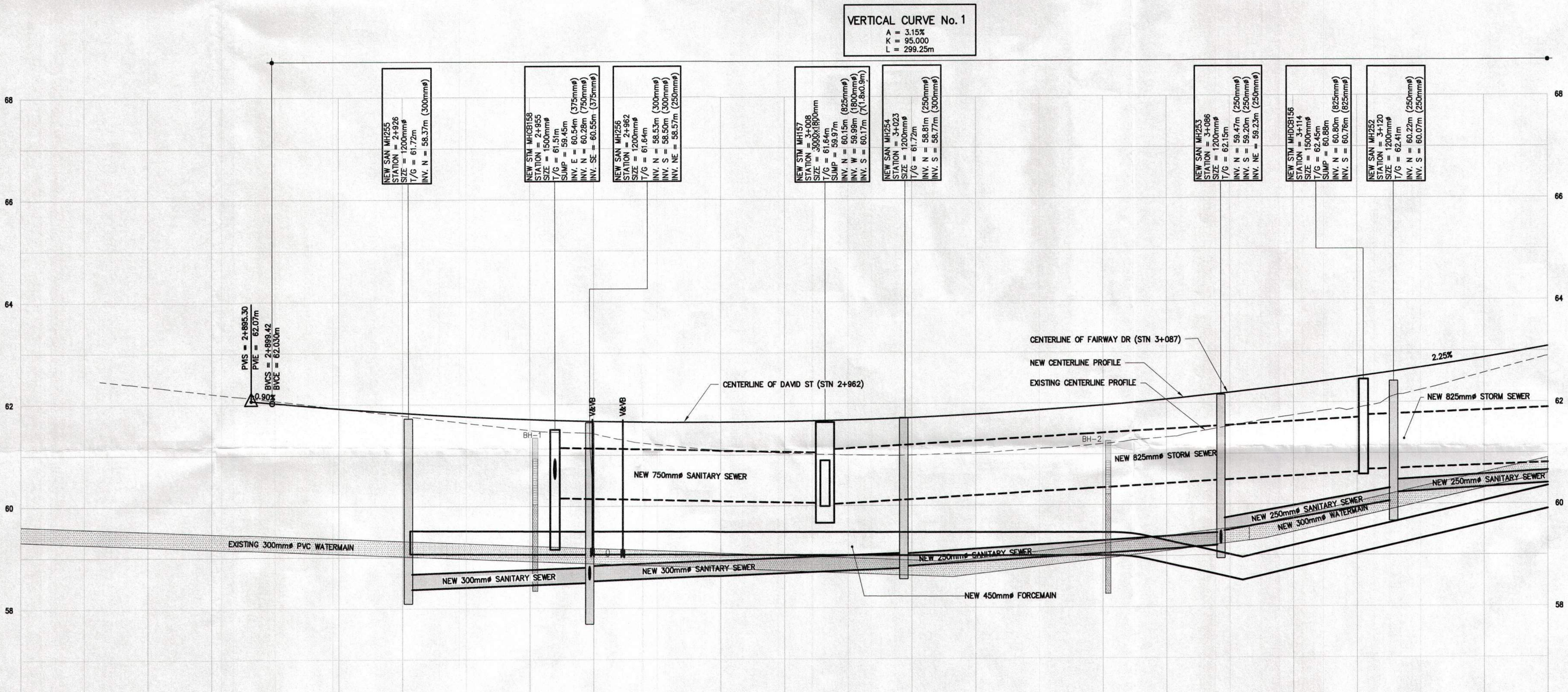
PROJECT: Caron St. Reconstruction

LOCATION: Rockland, Ontario

Project Number: 65038

Date: 29-Apr-13





STATION	2+875	2+900	2+925	2+950	2+975	3+000	3+025	3+050	3+075	3+100	3+125	3+150
CENTERLINE GRADE FINISHED		62.02	61.83	61.71	61.65	61.66	61.73	61.87	62.07	62.34	62.68	63.08
CENTERLINE GRADE EXISTING	62.36	62.07	61.78	61.49	61.21	61.03	60.99	61.11	61.33	61.75	62.24	62.90
SANITARY SEWER INVERT	58.37; NEW 35.55m 300mmø SANITARY SEWER @ 0.37%	58.50 / 58.53; NEW 61.71m 300mmø SANITARY SEWER @ 0.39%	58.77 / 58.81; NEW 62.27m 250mmø SANITARY SEWER @ 0.63%	59.20 / 59.47; NEW 33.86m 250mmø SANITARY SEWER @ 1.77%	60.07 / 60.22; NEW 55.56m 250mmø SANITARY SEWER @ 0.61%	60.56						
STORM SEWER INVERT	60.28; NEW 53.00m 750mmø STORM SEWER @ 0.21%	60.17 / 60.15; NEW 51.76m 825mmø STORM SEWER @ 0.58%	60.45 / 60.45; NEW 52.57m 825mmø STORM SEWER @ 0.58%	60.76 / 60.80; NEW 78.96m 825mmø STORM SEWER @ 0.38%	61.10							
TOP OF FORCEMAIN				59.51	59.50	59.49	59.48	59.47	59.30	59.19	59.77	60.35
SUPERELEVATION	CURVE 1 −3.00% −3.00% 3+021.25	CURVE 1 0.00% −3.00% 3+055.25	CURVE 1 3.00% −3.00% 3+089.25	CURVE 1 3.00% −3.00% 3+115.46								

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY ARPENTAGE DUTRISAC SURVEYING INC.
3. ALL DISTURBED AREAS TO BE REINSTATED USING 100mm OF TOP SOIL AND SOD (UNLESS OTHERWISE NOTED).
4. SEE DRAWINGS C1.11 TO C1.15 FOR LINE PAINTING AND SIGNAGE DETAILS.

LEGEND:

EXISTING PROPERTY LINE
NEW CENTERLINE OF ROAD
NEW EDGE OF PAVEMENT
EXISTING EDGE OF PAVEMENT
NEW CURB
DC NEW DEPRESSED CURB
EXISTING CURB
NEW EDGE OF SHOULDER
EXISTING EDGE OF SHOULDER
NEW DITCH
EXISTING DITCH
NEW BOTTOM OF SLOPE
EXISTING BOTTOM OF SLOPE
EXISTING TOP OF SLOPE
EXISTING FENCE
FM NEW SANITARY FORCEMAIN
SA NEW SANITARY SEWER
SA EXISTING SANITARY SEWER
ST NEW STORM SEWER
ST EXISTING STORM SEWER
W NEW WATERMAIN
W EXISTING WATERMAIN
COMB EXISTING COMBINED SEWER
GAS EXISTING GAS LINE
B EXISTING BELL LINE
NEW GUIDERAIL
EXISTING GUIDERAIL
NEW SANITARY MANHOLE
EXISTING SANITARY MANHOLE
NEW STORM MANHOLE
EXISTING STORM MANHOLE
NEW CATCHBASIN
NEW DOUBLE CATCHBASIN
NEW CATCHBASIN DITCH INLET
EXISTING CATCHBASIN
NEW HYDRANT
EXISTING HYDRANT
NEW VALVE
EXISTING VALVE
EXISTING REDUCER
UP EXISTING UTILITY POLE
UP NEW UTILITY POLE
UP UTILITY POLE TO BE RELOCATED
LS NEW LIGHT STANDARD
LS EXISTING LIGHT STANDARD
HH NEW HAND HOLE
HH EXISTING HAND HOLE
GV EXISTING GAS VALVE
B EXISTING BELL MANHOLE
B C EXISTING BELL/CABLE PEDESTAL
BELL PEDESTAL TO BE MOVED (BY OTHERS)
EXISTING TREES/HEDGES
NEW TREES/HEDGES
BFP NEW BACKFLOW PREVENTOR ON STORM SERVICE @ ℄
BH 1 EXISTING BORE HOLE
SANITARY & WATER SERVICE
STORM, SANITARY & WATER SERVICE
TW-54.35 NEW TOP OF WALL GRADE
BW-53.35 NEW BOTTOM OF WALL GRADE
NEW CULVERT
EXISTING CULVERT
NEW SIDEWALK
EXISTING SIDEWALK
NEW ASPHALT ROADWAY
NEW ASPHALT DRIVEWAY / PATH
NEW GRANULAR DRIVEWAY
NEW FROST TAPER

GENIVAR
2611 QUEENSVIEW DRIVE
OTTAWA, ONTARIO
CANADA K7P 0G2
PHONE: 613-829-2800 FAX: 613-829-8299
WWW.GENIVAR.COM

CONSULTANT:

SEAL:

CLIENT:

CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:

RECONSTRUCTION OF CARON STREET

KEY PLAN:

NORTH

DISCLAIMER: COPYRIGHT:

THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY GENIVAR. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.
THIS DRAWING IS NOT TO BE SCALED.

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
2		NOV 25, 2015	AS-BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111-55504-00
DATE: NOVEMBER 2015
ORIGINAL SCALE: H: 1:500 V: 1:50
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm
DESIGNED BY: MM/MS
DRAWN BY: MS/STR
CHECKED BY: MM
DISCIPLINE: MUNICIPAL
TITLE:

PLAN & PROFILE OF CARON STREET FROM STA. 2+850 TO STA. 3+150

SHEET NUMBER: C1.1
SHEET #: 1 OF 13
ISSUE: AS-BUILTS
REV #: 0
DATE OF: 11/25/2015

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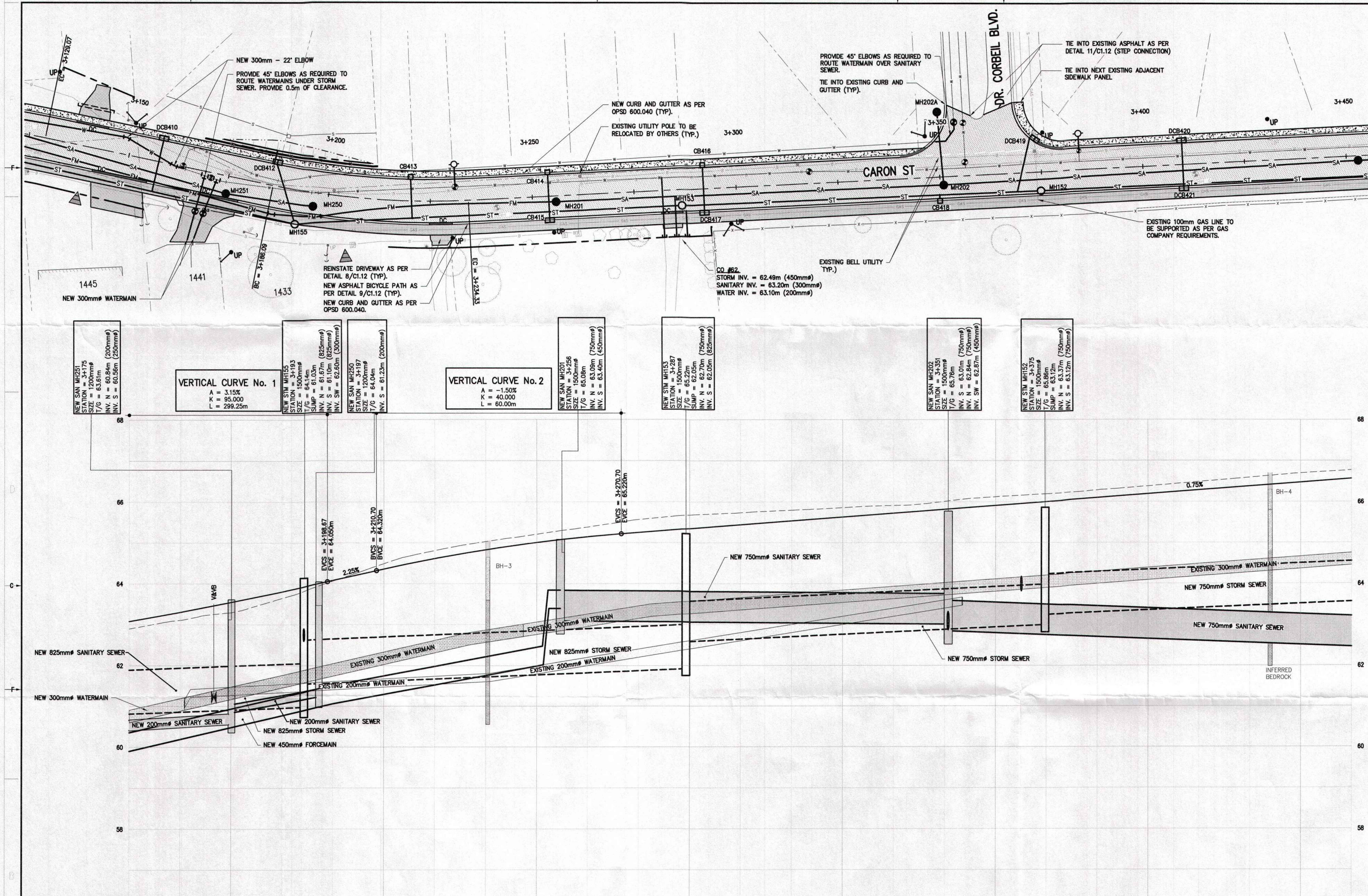
@ DAVID ST.



STATION		3+175	3+200	3+225	3+250	3+275	3+300	3+325	3+350	3+375	3+400	3+425	3+450	STATION
CENTERLINE GRADE (FINISHED / EXISTING)	63.08 / 62.90	63.55 / 63.30	64.08 / 64.06	64.62 / 64.81	65.01 / 65.21	65.25 / 65.57	65.44 / 65.73	65.63 / 65.86	65.82 / 66.01	66.00 / 66.19	66.19 / 66.38	66.38 / 66.59	66.57 / 66.77	CENTERLINE GRADE
SANITARY SEWER INVERT	60.22 NEW 55.56m 250mm⌀ SANITARY SEWER @ 0.61%	60.56 60.84 NEW 21.68m 200mm⌀ SANITARY SEWER @ 1.80%	61.23		63.09		NEW 95.09m 750mm⌀ SANITARY SEWER @ 0.08%		63.01 62.84		NEW 102.03m 750mm⌀ SANITARY SEWER @ 0.39%		62.45	SANITARY SEWER INVERT
STORM SEWER INVERT	60.80 NEW 78.96m 825mm⌀ STORM SEWER @ 0.38%	61.10 61.67		NEW 95.14m 825mm⌀ STORM SEWER @ 0.40%		62.05 62.70		NEW 88.06m 750mm⌀ STORM SEWER @ 0.48%		63.12 63.37	NEW 108.57m 750mm⌀ STORM SEWER @ 0.41%		63.82	STORM SEWER INVERT
TOP OF FORCEMAIN	61.68	62.24	62.80	63.36	63.79 63.84									TOP OF FORCEMAIN
SUPERELEVATION	CURVE 1/2 0.00% 0.00% 3+157.58		CURVE 2 −3.00% 3.00% 3+199.69	CURVE 2 −3.00% 3.00% 3+220.72	CURVE 2 −3.00% 0.00% 3+254.72	CURVE 2 −3.00% −3.00% 3+288.72								SUPERELEVATION

NOTES:

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LEGEND:

EXISTING PROPERTY LINE
NEW CENTERLINE OF ROAD
NEW EDGE OF PAVEMENT
EXISTING EDGE OF PAVEMENT
NEW CURB
DC NEW DEPRESSED CURB
EXISTING CURB
NEW EDGE OF SHOULDER
EXISTING EDGE OF SHOULDER
NEW DITCH
EXISTING DITCH
NEW BOTTOM OF SLOPE
EXISTING BOTTOM OF SLOPE
EXISTING TOP OF SLOPE
EXISTING FENCE
FM NEW SANITARY FORCEMAIN
SA NEW SANITARY SEWER
SA EXISTING SANITARY SEWER
ST NEW STORM SEWER
ST EXISTING STORM SEWER
W NEW WATERMAIN
W EXISTING WATERMAIN
COMB EXISTING COMBINED SEWER
GAS EXISTING GAS LINE
B EXISTING BELL LINE
NEW GUIDERAIL
EXISTING GUIDERAIL
NEW SANITARY MANHOLE
EXISTING SANITARY MANHOLE
NEW STORM MANHOLE
EXISTING STORM MANHOLE
NEW CATCHBASIN
NEW DOUBLE CATCHBASIN
NEW CATCHBASIN DITCH INLET
EXISTING CATCHBASIN
NEW HYDRANT
EXISTING HYDRANT
NEW VALVE
EXISTING VALVE
EXISTING REDUCER
UP EXISTING UTILITY POLE
UP NEW UTILITY POLE
UP UTILITY POLE TO BE RELOCATED
LS NEW LIGHT STANDARD
LS EXISTING LIGHT STANDARD
NEW HAND HOLE
EXISTING HAND HOLE
GV EXISTING GAS VALVE
EXISTING BELL MANHOLE
EXISTING BELL/CABLE PEDESTAL
BELL PEDESTAL TO BE MOVED (BY OTHERS)
EXISTING TREES/HEDGES
NEW TREES/HEDGES
BFP NEW BACKFLOW PREVENTOR ON STORM SERVICE @ PL
BH 1 EXISTING BORE HOLE
SANITARY & WATER SERVICE
STORM, SANITARY & WATER SERVICE
TW-54.35 NEW TOP OF WALL GRADE
BW-53.35 NEW BOTTOM OF WALL GRADE
NEW CULVERT
EXISTING CULVERT
NEW SIDEWALK
EXISTING SIDEWALK
NEW ASPHALT ROADWAY
NEW ASPHALT DRIVEWAY / PATH
NEW GRANULAR DRIVEWAY
NEW FROST TAPER

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CONSULTANT:

SEAL:

CLIENT:

CITY OF CLARENCE–ROCKLAND

CLIENT REF. #:

PROJECT:

RECONSTRUCTION OF CARON STREET

KEY PLAN:

NORTH

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ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
2		NOV 25, 2015	AS–BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111-55504-00
DATE: NOVEMBER 2015
ORIGINAL SCALE: H: 1:500 V: 1:50
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm
DESIGNED BY: MM/MS
DRAWN BY: MS/STR
CHECKED BY: MM
DISCIPLINE: MUNICIPAL
TITLE:

PLAN & PROFILE OF CARON STREET FROM STA. 3+150 TO STA. 3+450

SHEET NUMBER: C1.2
SHEET #: 2 OF 13
ISSUE: AS–BUILTS
REV #: 0
DATE OF: 11/25/2015

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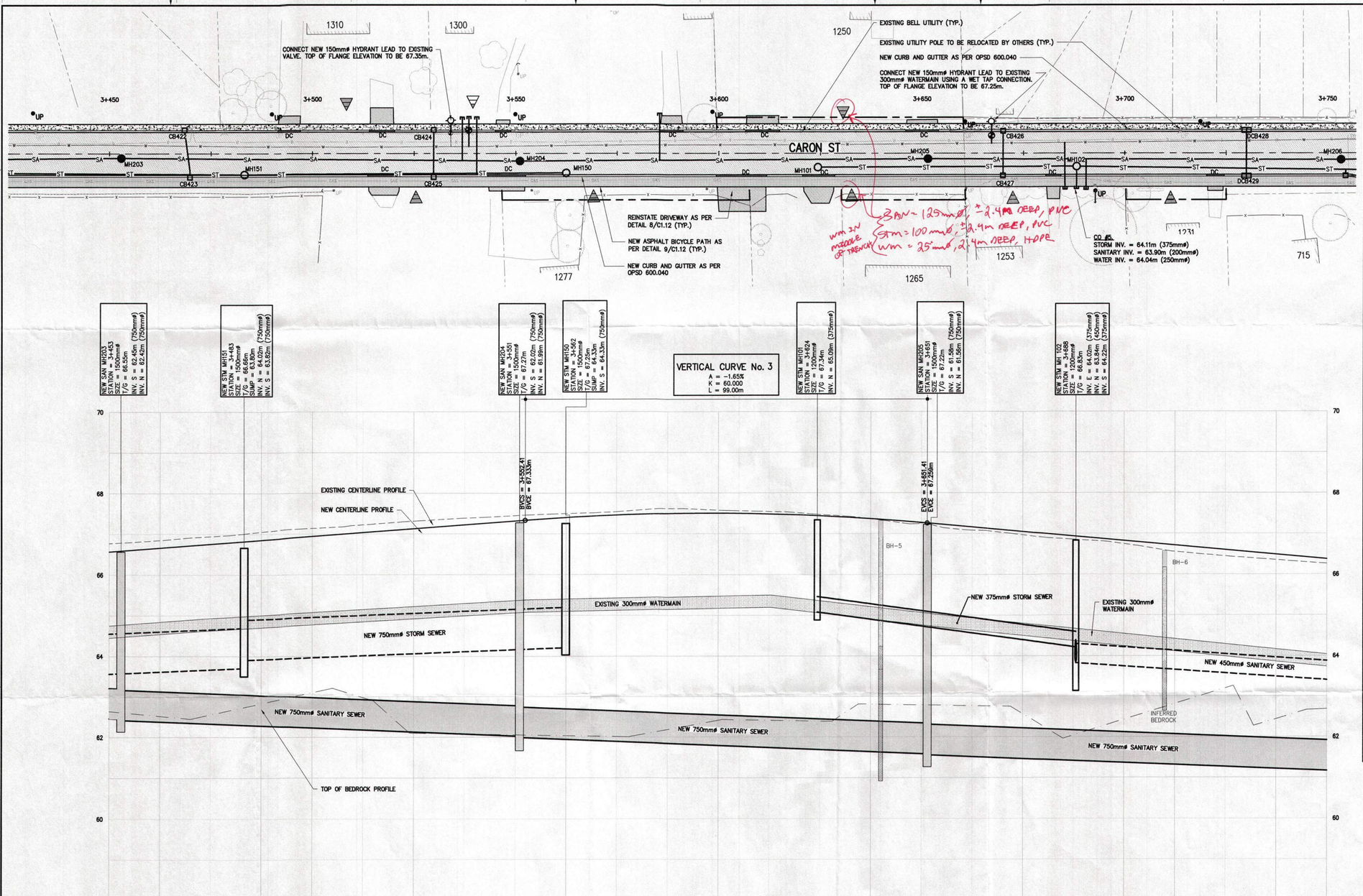
@ DR. CORBEIL BLVD



HIGH POINT

STATION			3+475		3+500		3+525		3+550		3+575		3+600		3+625		3+650		3+675		3+700		3+725		3+750		STATION
CENTERLINE GRADE	FINISHED	66.57	66.75	66.94	66.94	67.14	67.13	67.31	67.32	67.44	67.46	67.54	67.50	67.58	67.44	67.47	67.27	67.26	67.05	66.97	66.82	66.74	66.60	66.44	66.37	66.26	CENTERLINE GRADE
	EXISTING	66.77		66.94																						FINISHED / EXISTING
SANITARY SEWER INVERT		62.45 62.42	NEW 98.15m 750mmø SANITARY SEWER @ 0.41%						62.02 61.99	NEW 100.42m 750mmø SANITARY SEWER @ 0.40%							61.58 61.55	NEW 101.86m 750mmø SANITARY SEWER @ 0.40%							61.15		SANITARY SEWER INVERT
STORM SEWER INVERT		63.37	NEW 108.57m 750mmø STORM SEWER @ 0.41%		63.82 64.02	NEW 79.18m 750mmø STORM SEWER @ 0.39%					64.33					65.09		NEW 63.75m 375mmø STORM SEWER @ 1.36%				64.22						STORM SEWER INVERT
SUPERELEVATION																											SUPERELEVATION

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY ARPENTAGE DUTRISAC SURVEYING INC.
3. ALL DISTURBED AREAS TO BE REINSTATED USING 100mm OF TOP SOIL AND SOD (UNLESS OTHERWISE NOTED).
4. SEE DRAWINGS C1.11 TO C1.15 FOR LINE PAINTING AND SIGNAGE DETAILS.

LEGEND:

- EXISTING PROPERTY LINE
- NEW CENTERLINE OF ROAD
- NEW EDGE OF PAVEMENT
- EXISTING EDGE OF PAVEMENT
- NEW CURB
- DC — NEW DEPRESSED CURB
- EXISTING CURB
- NEW EDGE OF SHOULDER
- EXISTING EDGE OF SHOULDER
- NEW DITCH
- EXISTING DITCH
- NEW BOTTOM OF SLOPE
- EXISTING BOTTOM OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING FENCE
- FM — NEW SANITARY FORCEMAIN
- SA — NEW SANITARY SEWER
- SA — EXISTING SANITARY SEWER
- ST — NEW STORM SEWER
- ST — EXISTING STORM SEWER
- W — NEW WATERMAIN
- W — EXISTING WATERMAIN
- COMB — EXISTING COMBINED SEWER
- GAS — EXISTING GAS LINE
- BELL — EXISTING BELL LINE
- NEW GUIDERAIL
- EXISTING GUIDERAIL
- NEW SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- NEW STORM MANHOLE
- EXISTING STORM MANHOLE
- NEW CATCHBASIN
- NEW DOUBLE CATCHBASIN
- NEW CATCHBASIN DITCH INLET
- EXISTING CATCHBASIN
- NEW HYDRANT
- EXISTING HYDRANT
- NEW VALVE
- EXISTING VALVE
- EXISTING REDUCER
- EXISTING UTILITY POLE
- UP — NEW UTILITY POLE
- UTILITY POLE TO BE RELOCATED
- NEW LIGHT STANDARD
- EXISTING LIGHT STANDARD
- NEW HAND HOLE
- EXISTING HAND HOLE
- GV — EXISTING GAS VALVE
- EXISTING BELL MANHOLE
- EXISTING BELL/CABLE PEDESTAL
- BELL PEDESTAL TO BE MOVED (BY OTHERS)
- EXISTING TREES/HEDGES
- NEW TREES/HEDGES
- BFP — NEW BACKFLOW PREVENTOR ON STORM SERVICE @ ℄
- BH — EXISTING BORE HOLE
- SANITARY & WATER SERVICE
- STORM, SANITARY & WATER SERVICE
- TW-54.35 / BW-53.35 — NEW TOP OF WALL GRADE / NEW BOTTOM OF WALL GRADE
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CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:

RECONSTRUCTION OF CARON STREET

KEY PLAN:

NORTH

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ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
2		NOV 25, 2015	AS-BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111-55504-00

DATE: NOVEMBER 2015

ORIGINAL SCALE: H: 1:500 V: 1:50

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE. 25mm

DESIGNED BY: MM/MS

DRAWN BY: MS/STR

CHECKED BY: MM

DISCIPLINE: MUNICIPAL

TITLE:

PLAN & PROFILE OF CARON STREET FROM STA. 3+450 TO STA. 3+750

SHEET NUMBER: C1.3

SHEET #: 3 OF 13

ISSUE: AS-BUILTS

DATE OF: 11/25/2015

REV #: 0

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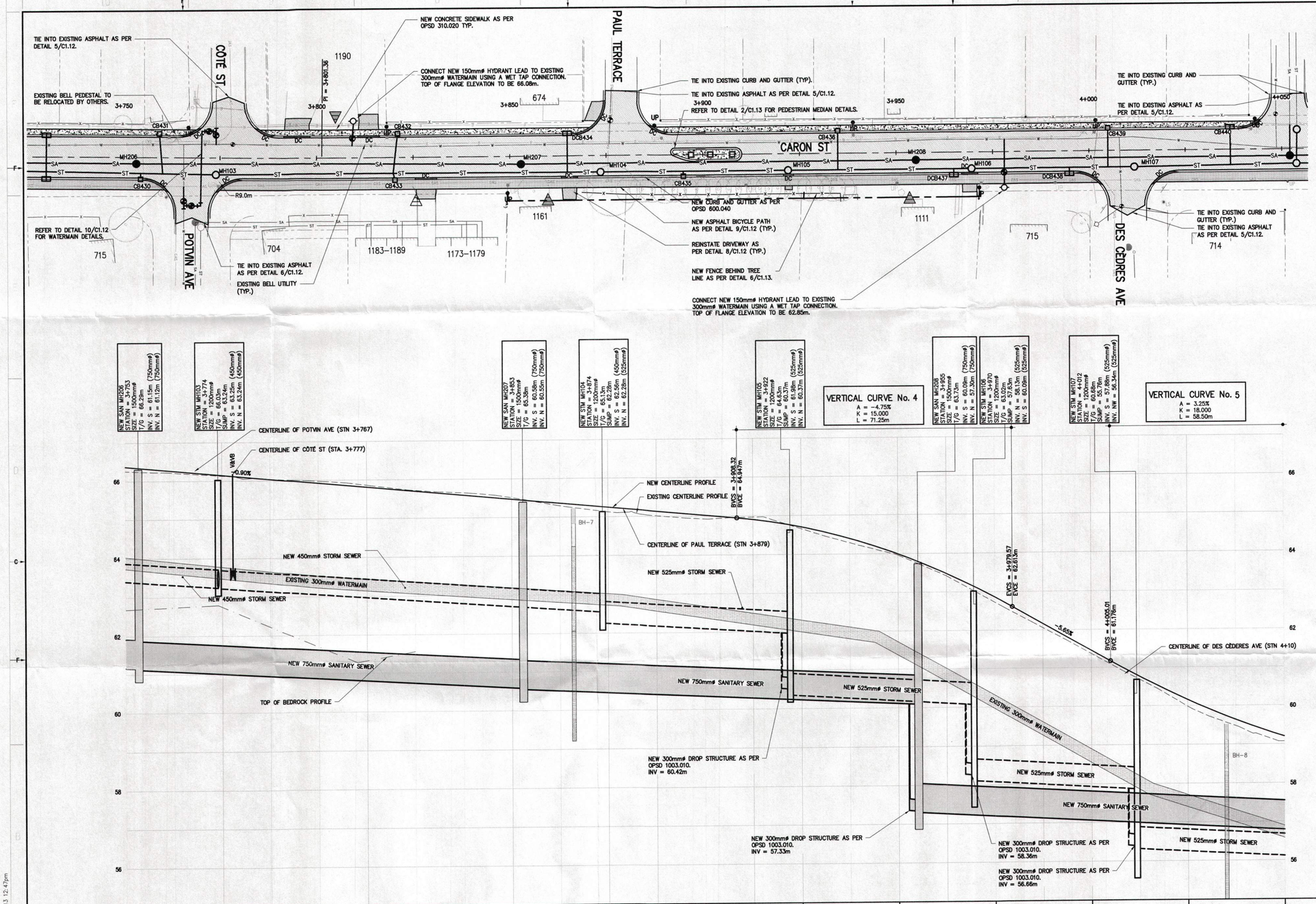

STATION			3+775	3+800	3+825	3+850	3+875	3+900	3+925	3+950	3+975	4+000	4+025	4+050	STATION
CENTERLINE GRADE	FINISHED	66.37	66.15	65.92	65.70	65.47	65.25	65.02	64.70	63.99	62.86	61.46	60.18	59.20	CENTERLINE GRADE
	EXISTING	66.26	66.13	65.97	65.72	65.51	65.13	64.92	64.66	63.96	62.73	61.37	59.98	59.06	EXISTING
SANITARY SEWER INVERT		61.15 / 61.12	NEW 99.60m 750mmø SANITARY SEWER @ 0.55%			60.58 / 60.55	NEW 102.23m 750mmø SANITARY SEWER @ 0.45%			60.09 / 57.30	NEW 97.01m 750mmø SANITARY SEWER @ 0.53%			56.78	SANITARY SEWER INVERT
STORM SEWER INVERT			63.24	NEW 99.64m 450mmø STORM SEWER @ 0.68%			62.56 / 62.28	NEW 48.51m 525mmø STORM SEWER @ 0.62%	61.98 / 60.37	NEW 47.51m 525mmø STORM SEWER @ 0.59%	60.09 / 58.13	NEW 42.21m 525mmø STORM SEWER @ 0.59%	57.88 / 56.34	NEW 42.08m 525mmø STORM SEWER @ 0.52%	56.12	STORM SEWER INVERT
SUPERELEVATION															SUPERELEVATION

NOTES:

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4. SEE DRAWINGS C1.11 TO C1.15 FOR LINE PAINTING AND SIGNAGE DETAILS.

LEGEND:

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- NEW CENTERLINE OF ROAD
- NEW EDGE OF PAVEMENT
- EXISTING EDGE OF PAVEMENT
- NEW CURB
- DC — NEW DEPRESSED CURB
- EXISTING CURB
- NEW EDGE OF SHOULDER
- EXISTING EDGE OF SHOULDER
- NEW DITCH
- EXISTING DITCH
- NEW BOTTOM OF SLOPE
- EXISTING BOTTOM OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING FENCE
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- SA — EXISTING SANITARY SEWER
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- TW–54.35 — NEW TOP OF WALL GRADE
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CITY OF CLARENCE–ROCKLAND

CLIENT REF. #:

PROJECT:

RECONSTRUCTION OF CARON STREET

KEY PLAN:

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ISSUED FOR – REVISION:

IS	RE.	DATE	DESCRIPTION
2		NOV 25, 2015	AS–BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111–55504–00

DATE: NOVEMBER 2015

ORIGINAL SCALE: H: 1:500 V: 1:50

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE. 25mm

DESIGNED BY: MM/MS

DRAWN BY: MS/STR

CHECKED BY: MM

DISCIPLINE: MUNICIPAL

TITLE:

PLAN & PROFILE OF CARON STREET FROM STA. 3+750 TO STA. 4+050

SHEET NUMBER: C1.4

SHEET #: 4 OF 13

ISSUE: AS–BUILTS

DATE OF: 11/25/2015

REV #: 0

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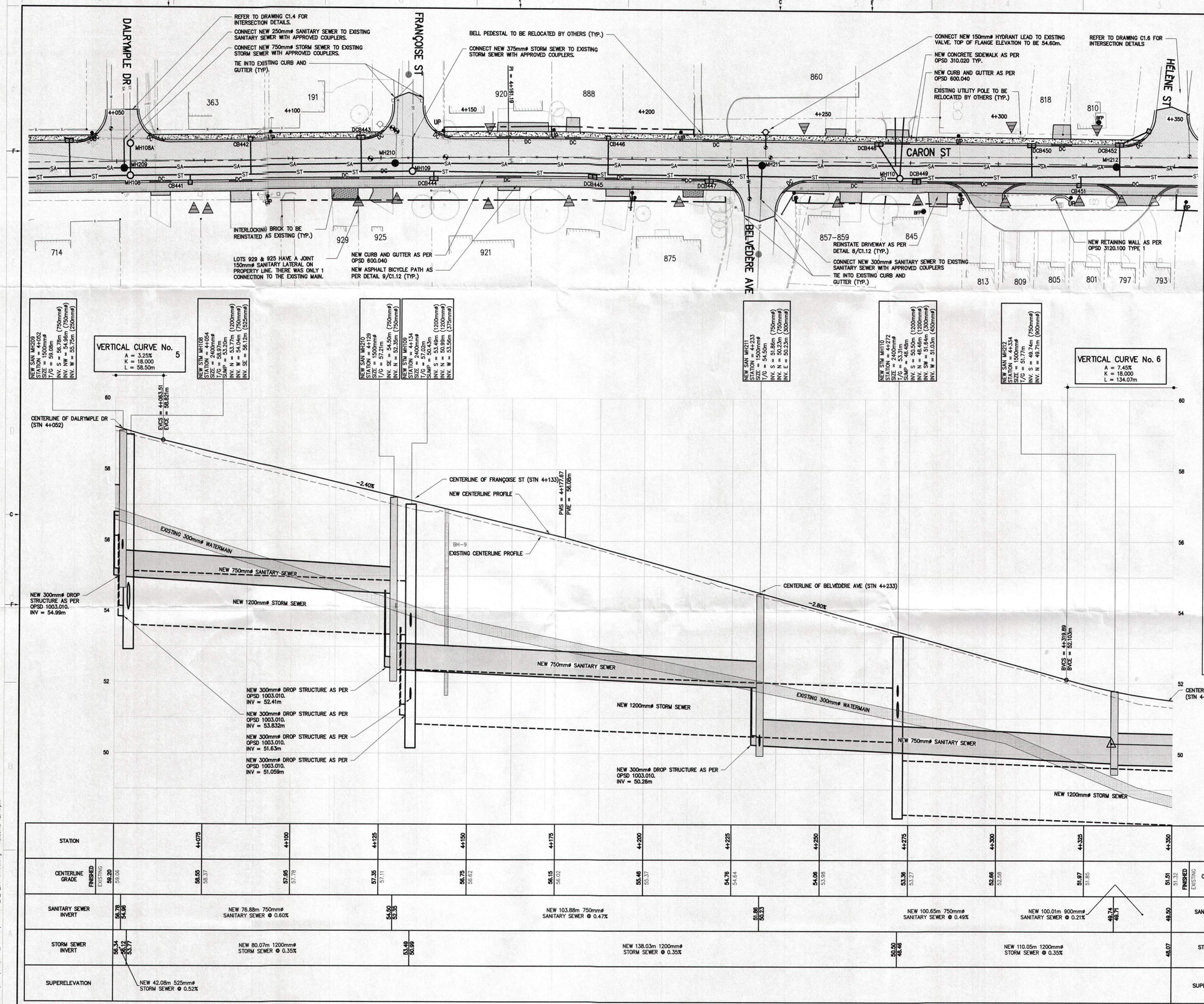

STATION		4+075	4+100	4+125	4+150	4+175	4+200	4+225	4+250	4+275	4+300	4+325	4+350	STATION
CENTERLINE GRADE	FINISHED 59.20 / EXISTING 59.06	56.55 / 56.37	57.95 / 57.78	57.35 / 57.11	56.75 / 56.62	56.15 / 56.02	55.46 / 55.37	54.76 / 54.64	54.06 / 53.98	53.36 / 53.27	52.66 / 52.58	51.97 / 51.85	51.51 / 51.32	FINISHED / EXISTING CENTERLINE GRADE
SANITARY SEWER INVERT	56.78 / 54.96	NEW 76.88m 750mmø SANITARY SEWER @ 0.60%		54.50 / 53.35	NEW 103.88m 750mmø SANITARY SEWER @ 0.47%			51.86 / 50.23	NEW 100.65m 750mmø SANITARY SEWER @ 0.49%		NEW 100.01m 900mmø SANITARY SEWER @ 0.21%	49.74 / 49.71	49.50	SANITARY SEWER INVERT
STORM SEWER INVERT	56.34 / 55.17 / 53.77	NEW 80.07m 1200mmø STORM SEWER @ 0.35%		53.48 / 50.99	NEW 138.03m 1200mmø STORM SEWER @ 0.35%				50.50 / 48.46	NEW 110.05m 1200mmø STORM SEWER @ 0.35%			48.07	STORM SEWER INVERT
SUPERELEVATION	NEW 42.08m 525mmø STORM SEWER @ 0.52%													SUPERELEVATION

NOTES:

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LEGEND:

EXISTING PROPERTY LINE
NEW CENTERLINE OF ROAD
NEW EDGE OF PAVEMENT
EXISTING EDGE OF PAVEMENT
NEW CURB
NEW DEPRESSED CURB
EXISTING CURB
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EXISTING EDGE OF SHOULDER
NEW DITCH
EXISTING DITCH
NEW BOTTOM OF SLOPE
EXISTING BOTTOM OF SLOPE
EXISTING TOP OF SLOPE
EXISTING FENCE
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EXISTING SANITARY SEWER
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PROJECT:
RECONSTRUCTION OF CARON STREET

KEY PLAN:

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IS	RE	DATE	DESCRIPTION
2		NOV 25, 2015	AS-BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111-55504-00
DATE: NOVEMBER 2015
ORIGINAL SCALE: H: 1:500 V: 1:50
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE. 25mm
DESIGNED BY: MM/MS
DRAWN BY: MS/STR
CHECKED BY: MM
DISCIPLINE: MUNICIPAL

TITLE:
PLAN & PROFILE OF CARON STREET FROM STA. 4+050 TO STA. 4+350

SHEET NUMBER: C1.5
SHEET #: 5 OF 13
ISSUE: AS-BUILTS
DATE OF: 11/25/2015
REV #: 0

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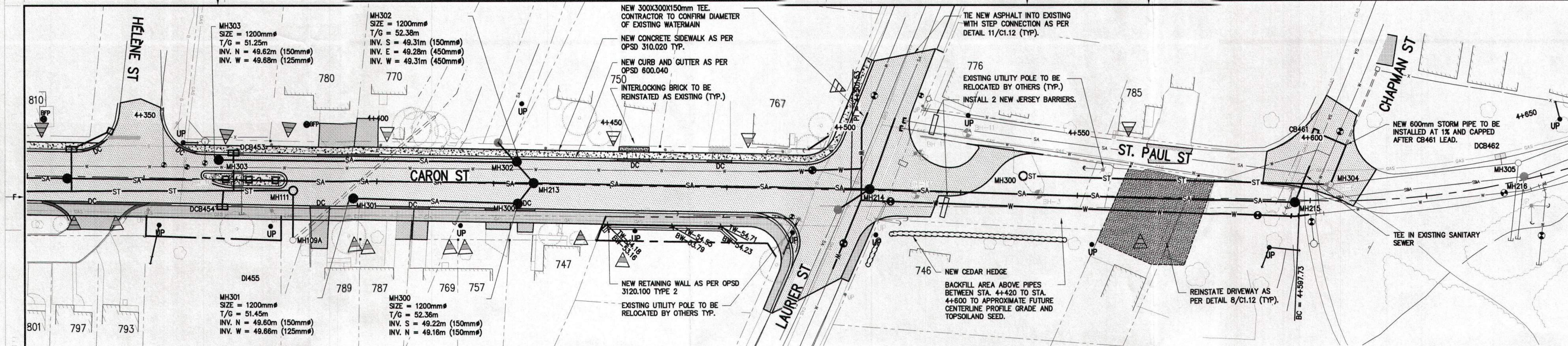

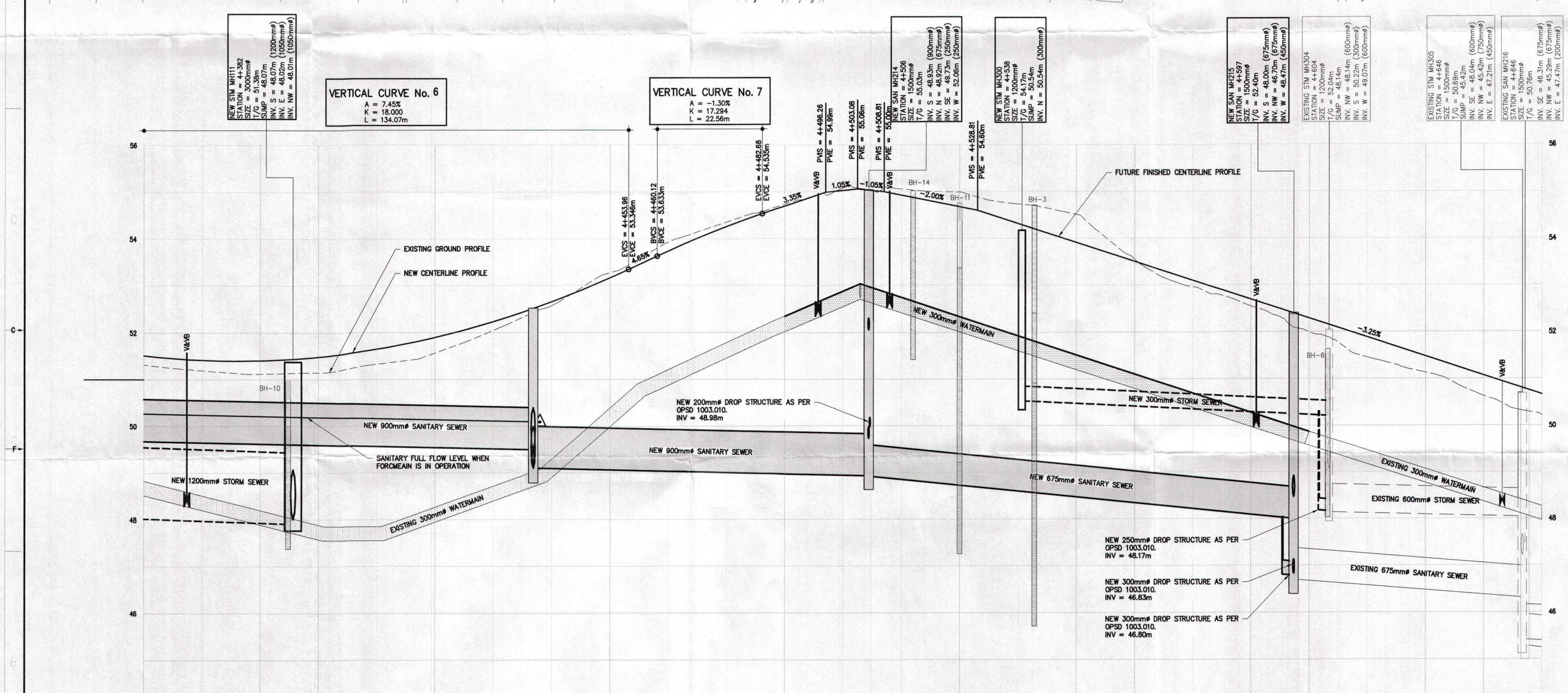

STATION		4+375	4+400	4+425	4+450	4+475	4+500	4+525	4+550	4+575	4+600	4+625	4+650
CENTERLINE GRADE – FINISHED	51.51	51.41	51.65	52.23	53.17	54.26	55.03	54.68	53.91	53.10	52.29	51.47	50.66
CENTERLINE GRADE – EXISTING	51.32	51.12	51.32	52.05	53.27	54.35	55.09	54.99	54.51	52.96	51.99	51.13	50.21
TOP OF WATERMAIN	48.82	48.20	47.85	48.72	50.39	51.78	52.88	52.33	51.51	50.69			

SANITARY SEWER INVERT	
49.71	NEW 100.01m 900mmø SANITARY SEWER @ 0.21%
49.50 / 49.10	NEW 71.94m 900mmø SANITARY SEWER @ 0.24%
48.93 / 48.92	NEW 91.19m 675mmø SANITARY SEWER @ 1.01%
48.00 / 46.70	EX. 49.51m 675mmø SANITARY SEWER @ 0.79%
46.31 / 45.29 / 44.23	

STORM SEWER INVERT	
48.46	NEW 110.05m 1200mmø STORM SEWER @ 0.35%
48.07	
50.54	NEW 65.92m 300mmø STORM SEWER @ 0.49%
50.22 / 48.14	EX. 40.59m 600mmø STORM SEWER @ 0.25%
48.04 / 45.42 / 44.98	

SUPERELEVATION		
CURVE 3: −3.00% −3.00% 4+543.33	CURVE 3: −3.00% −0.00% 4+577.33	CURVE 3: −3.00% 3.00% 4+611.33

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
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NEW DEPRESSED CURB
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BELL PEDESTAL TO BE MOVED (BY OTHERS)
EXISTING TREES/HEDGES
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CONSULTANT:

SEAL:

CLIENT: CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT: RECONSTRUCTION OF CARON STREET

KEY PLAN: NORTH

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ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
2		NOV 25, 2015	AS-BUILTS
1		AUG 22, 2013	ISSUED FOR CONSTRUCTION

PROJECT NO: 065038/111-55504-00
DATE: NOVEMBER 2015
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DISCIPLINE: MUNICIPAL
TITLE: PLAN & PROFILE OF CARON STREET FROM STA. 4+350 TO STA. 4+650
SHEET NUMBER: C1.6
SHEET #: 6 OF 13
ISSUE: AS-BUILTS
DATE OF: 11/25/2015
REV #: 0

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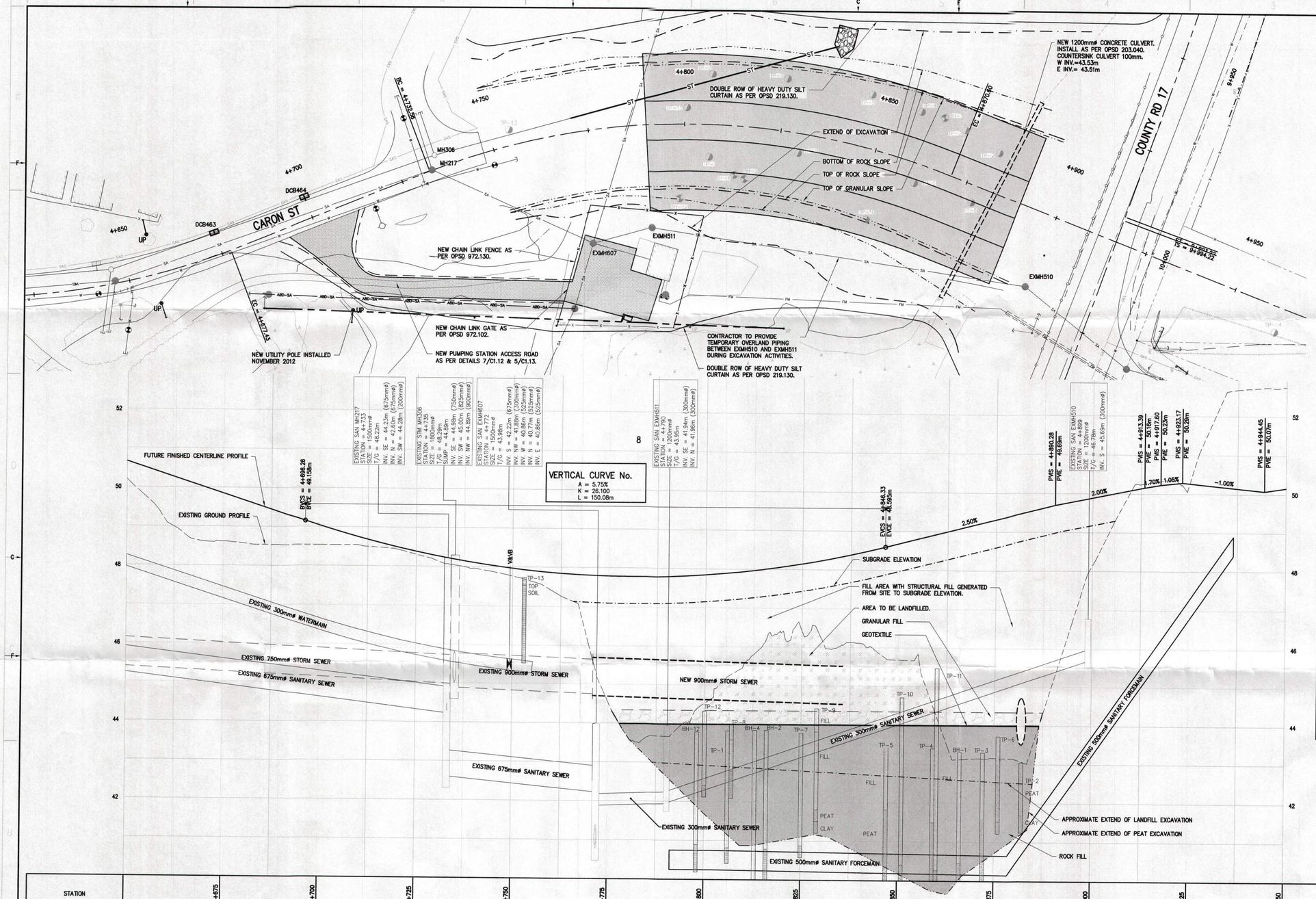

STATION			4+675	4+700	4+725	4+750	4+775	4+800	4+825	4+850	4+875	4+900	4+925	4+950		STATION
CENTERLINE GRADE	FINISHED	50.68	49.85	49.04	48.38	47.96	47.79	47.85	48.15	48.69	49.31	49.99	50.27	50.18	FINISHED	CENTERLINE GRADE
	EXISTING	50.21	48.62	48.33	48.31	47.76	44.54	44.53	46.42	45.69	43.16	48.15	50.24	50.16	EXISTING	
TOP OF WATERMAIN																TOP OF WATERMAIN
SANITARY SEWER INVERT		45.29	EX. 86.64m 675mmø SANITARY SEWER @ 1.22%		44.23 42.60	EX. 45.88m 675mmø SANITARY SEWER @ 0.83%	42.22 41.88	41.94 41.96	EX. 15.76m 300mmø SANITARY SEWER @ -0.38%	EXISTING 97.70m 300mmø SANITARY SEWER @ -3.82%		45.69				SANITARY SEWER INVERT
STORM SEWER INVERT		45.42	EX. 88.62m 750mmø STORM SEWER @ 0.50%		44.88 44.89	EX. 36.53m 900mmø STORM SEWER @ 0.38%	44.75 44.75	NEW 71.68m 900mmø STORM SEWER @ 0.25%		44.57						STORM SEWER INVERT
SUPERELEVATION			CURVE 3 -3.00% 3.00% 4+663.82		CURVE 3/4 0.00% 0.00% 4+705.01	CURVE 4 3.00% -3.00% 4+746.18				CURVE 4 3.00% -3.00% 4+857.00	CURVE 4 0.00% -3.00% 4+878.50	CURVE 4 -3.00% -3.00% 4+900.00		TIE-IN		SUPERELEVATION

LOW POINT

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY ARPENTAGE DUTRISAC SURVEYING INC.
3. ALL DISTURBED AREAS TO BE REINSTATED USING 100mm OF TOP SOIL AND SOD (UNLESS OTHERWISE NOTED).
4. SEE DRAWINGS C1.11 TO C1.15 FOR LINE PAINTING AND SIGNAGE DETAILS.

LEGEND:

EXISTING PROPERTY LINE
NEW CENTERLINE OF ROAD
NEW EDGE OF PAVEMENT
EXISTING EDGE OF PAVEMENT
NEW CURB
NEW DEPRESSED CURB
EXISTING CURB
NEW EDGE OF SHOULDER
EXISTING EDGE OF SHOULDER
NEW DITCH
EXISTING DITCH
NEW BOTTOM OF SLOPE
EXISTING BOTTOM OF SLOPE
EXISTING TOP OF SLOPE
EXISTING FENCE
NEW SANITARY FORCEMAIN
NEW SANITARY SEWER
EXISTING SANITARY SEWER
NEW STORM SEWER
EXISTING STORM SEWER
NEW WATERMAIN
EXISTING WATERMAIN
EXISTING COMBINED SEWER
EXISTING GAS LINE
EXISTING BELL LINE
NEW GUIDERAIL
EXISTING GUIDERAIL
NEW SANITARY MANHOLE
EXISTING SANITARY MANHOLE
NEW STORM MANHOLE
EXISTING STORM MANHOLE
NEW CATCHBASIN
NEW DOUBLE CATCHBASIN
NEW CATCHBASIN DITCH INLET
EXISTING CATCHBASIN
NEW HYDRANT
EXISTING HYDRANT
NEW VALVE
EXISTING VALVE
EXISTING REDUCER
EXISTING UTILITY POLE
NEW UTILITY POLE
UTILITY POLE TO BE RELOCATED
NEW LIGHT STANDARD
EXISTING LIGHT STANDARD
NEW HAND HOLE
EXISTING HAND HOLE
EXISTING GAS VALVE
EXISTING BELL MANHOLE
EXISTING BELL/CABLE PEDESTAL
BELL PEDESTAL TO BE MOVED (BY OTHERS)
EXISTING TREES/HEDGES
NEW TREES/HEDGES
NEW BACKFLOW PREVENTOR ON STORM SERVICE @ ℄
EXISTING BORE HOLE
SANITARY & WATER SERVICE
STORM, SANITARY & WATER SERVICE
TW-54.35 NEW TOP OF WALL GRADE
BW-53.35 NEW BOTTOM OF WALL GRADE
NEW CULVERT
EXISTING CULVERT
NEW SIDEWALK
EXISTING SIDEWALK
NEW ASPHALT ROADWAY
NEW ASPHALT DRIVEWAY / PATH
NEW GRANULAR DRIVEWAY
NEW FROST TAPER

VERTICAL CURVE #8

STA.	ELEVATION
4+694.89	49.221
4+700	49.06
4+710	48.77
4+720	48.53
4+730	48.32
4+740	48.15
4+750	48.01
4+760	47.92
4+770	47.86
4+780	47.84
4+790	47.86
4+800	47.92
4+810	48.02
4+820	48.16
4+830	48.33
4+840	48.54
4+844.89	48.658

GENIVAR
2611 QUEENSVIEW DRIVE
OTTAWA, ONTARIO
CANADA K2P 0G2
PHONE: 613-829-2800 FAX: 613-829-8299
WWW.GENIVAR.COM

CONSULTANT:

SEAL:

CLIENT:
CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:
RECONSTRUCTION OF CARON STREET

KEY PLAN:

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PLAN & PROFILE OF CARON STREET FROM STA. 4+650 TO STA. 4+950

SHEET NUMBER: C1.7
SHEET #: 7 OF 13

ISSUE: AS-BUILTS
DATE OF: 11/25/2015
REV #: 0

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Appendix C

Sewage Pumping Station Capacity and Condition Assessment and Sanitary Treatment Facility Capacity and Capital Investment Report Excerpt

CIMA+

3. Pumping Station Capacity Assessment

3.1 Capacity

The detailed pump test data and flow calculation are included in Appendix G. A summary of the station capacities, average flows & firm capacity are presented below. In cases where data was inconclusive and inconsistent, SCADA information was gathered to supplement the pump tests.

Pump capacities were determined by running the pumps and measuring the drop in the wet well level over a measured time period. The volume pumped was calculated using the difference in level and the area of the wet well. This was divided by the elapsed time to determine the pump capacity. The inflow immediately before and/or after the pump test was also recorded, averaged and added to the pump capacity to determine the total pump capacity.

Pump test that appear to have inaccurate and inconsistent results due to unavailability of pumps, level sensor inaccuracies and other issues were reviewed against SCADA level and time data provided by the OCWA to correlate pump capacities.

Table 3-1 presents the results from the recent pump tests as well as the previous test completed in 2005 (CH2MHILL)

Table 3-1: Pump Station Capacities

Pumping Station	Pump Number	Rated Capacity	2005 Pump Test (L/s)	2005 Average for all Pumps (L/s)	2013 Pump Test (L/s)	2013 Average for all Pumps	Firm Capacity (L/s)
1	1	170.5	130.1	104.1	143.8	124.2	200[5]
	2	170.5	110.4		139.7		
	3	94.7	71.9		89.1		
2	1	63.0	81.0	79.1	50.09[1]	73.9[2]	70.7[4]
	2	63.0	77.1		73.93		
3	1	28.4	23.1	31.5	N/A[3]	33.9[2]	31.8[4]
	2	28.4	26.6		39.8		
4	1	49.0	25.7	31.5	22.0[1]	31.2[2]	28.1[4]
	2	49.0	37.2		37.4		
5	1	31.0	29.8	31.7	26.9	25.6	24.3
	2	31.0	33.6		24.3		
6	1	19.5	24.8	24.5	9.5[1]	21.7[2]	18.6[4]
	2	19.5	24.1		N/A[3]		
7	1	65.4	New PS - No flow sources connected to PS				
	2	65.4					

Inflow and infiltration for the ultimate build out was reviewed and varied to account for the actually flows, topography and age of infrastructure to ensure that projected flows are accurate. The Peak Instantaneous Flows values are compared to the current firm capacities to indicate the short, intermediate and ultimate effects on the pumping stations.

Table 3-8 presents the firm capacity of each pumping station in relation to the projected Peak Instantaneous flow data and the required Increase to meet the project time period.

Table 3-8: 2018 Flow Data Summary

Pump Station	Firm Capacity	2018		2023		Ultimate	
		Peak Inst. Flow (L/s)	Required Increase (L/s)	Peak Inst. Flow (L/s)	Required Increase (L/s)	Peak Inst. Flow (L/s)	Required Increase (L/s)
1	200±	233.65	33.65	267.72	67.72	837.2	637.2
2	70.7	111.84	41.14	128.15	57.45	121.6	50.9
3	31.8	85.48	53.68	97.95	66.15	107.5	75.7
4	28.1	87.33	59.23	100.07	71.97	98.1	70.0
5	24.3	39.18	14.88	44.89[1]	20.59	74.1	49.8
6	18.6	49.86	31.26	57.13	38.53	50.0	31.4
7	59.0[2]	N/A	N/A	N/A	N/A	74.3	15.3

1. Max. Daily Flow shown for minimum required increase. Flow monitoring should be conducted to determine Peak Instantaneous Flow
2. Design value from CofA permit

The current size of the forcemain's would allow upgrades to the pumping station equipment alone without increasing the size of the forcemain's (i.e. velocities <3m/s), except pumping station No. 1. Pumping station No.1 would be able to be upgraded to the intermediate date and beyond but the forcemain would need further upgrades to handle to ultimate flows.

3.4 Recommended Upgrades

In general, the stations typically operate effectively; however the majority of the pumping station have reached or exceeded their anticipated design flows and life expectancy. Below are some recommendations with regards to capacity issues but does not relate to the maintenance and repair items identified in the above section

Pumping Station #1

It appears that some maintenance and repairs have been completed to the pumping station and have increased the firm capacity from 170L/s (2005) to approximately 200L/s (2013). These modifications bring the firm capacity in conformance with the MOE guidelines for 2013; however there is no further room for growth at this pumping station. It appears that the station will require an upgrade to continue to services this catchment area and provide room for growth. Modifications to the pumps and piping could be accommodated to increase firm capacity at an approximate cost ranging from $350K to 2 million. Refer to the Appendix C for a detailed review of the pumping station and recommended.

6. Capital Investment Plan

6.1 Pumping Stations

During the condition assessment items were identified that required maintenance and repairs. These items were prioritized and the summary of the combined costs for each level of maintenance and repair costs for each pumping station is provided in Table 6.1.

Table 6.1 – Summary of Maintenance and Repair Costs

Maintenance/Repair		PS#1	PS#2	PS#3	PS#4	PS#5	PS#6	PS#7	Total
LEVEL 1 ITEMS	1	$40,000	$39,750	$20,500	$21,300	$28,500	$19,500	$50,000	$219,550
LEVEL 2 ITEMS	2	$49,150	$29,750	$23,250	$26,800	$15,250	$27,000	$12,250	$183,650
LEVEL 3 ITEMS	3	$80,850	$8,500	$18,500	$2,050	$5,150	$7,500	$13,500	$136,050
LEVEL 4 ITEMS	4	$7,000	$600	$10,200	$0	$1,500	$0	$0	$19,300
TOTAL		$135,000	$78,600	$72,950	$50,150	$50,400	$54,000	$75,750	$516,850

Additionally, capacity upgrades are required to meet the current and future growth.

Table 6.2 – Capital Upgrades at Pumping Stations

Pumping Station	Cost
No.1	$350,000 – $2,000,000
No. 2	$600,00 – $800,000
No. 3	$600,000 – $800,000
TOTAL	$1,550,000 – $3,600,000

6.2 SCADA Upgrades

It order to monitor and control the pumping stations from one central location, the Township can upgrade all of the sewage pumping stations with PLC based control panels. An estimate for this cost is presented in Table 6.2.

Table 5.2 – SCADA Upgrade

Component	# Units	Unit Price	Total Cost
PS PLC Control Panels	7	$20,000	$140,000
HUB Computer, Software, and Printer	1	$20,000	$20,000
Integration of Hub Computer with WTP or WWTP SCADA System	1	$20,000	$20,000
		Total Construction SCADA Upgrade	$180,000
Engineering	LS	%15	$27,000
		Total SCADA Cost	$207,000

Ministry of Environment and Energy
Ministère de l'Environnement et de l'Énergie
Ontario

AMENDED CERTIFICATE OF APPROVAL
SEWAGE
NUMBER 3-0466-93-967

Town of Rockland
1560 Laurier Street
Rockland, Ontario
K4K 1L5

RECEIVED
FEB 14 1996
ONTARIO CLEAN WATER AGENCY

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

Expansion of the existing sewage treatment plant (consisting of an aerated lagoon system) having a rated capacity of 3,340 m^3/d to a new modified plant consisting of a Sequential Batch Reactor (SBR) treatment process and associated appurtenances having a rated capacity of 6,800 m^3/d, located on part of Lots 21, 22, and 23 in the Town of Rockland (formerly Township of Clarence) as follows:

DESIGN CRITERIA

Average daily flow	= 6,800 m^3/d
Maximum day flow rate	= 17,340 m^3/d
Peak flow rate	= 20,400 m^3/d

ARON STREET SEWAGE PUMPING STATION

Upgrading of the existing instrumentation system to incorporate the station controls with a new plant wide Supervisory Control and Data Acquisition (SCADA) system;

TREATMENT PLANT

construction of a below grade concrete structure having overall dimensions 76.15 m x 28.65 m x 6.1 m depth, located north of the existing sludge storage lagoon area, divided into five (5) equal cells consisting of Sequential Batch Reactors (3 cells), an effluent decant/equalization tank (1 cell) and an aerobic digestion tank (1 cell) as follows:

Sequential Batch Reactor

Three (3) parallel SBR tanks each 28.6 m x 14.6 m with a side water depth (SWD) of 5.49 m to provide a complete mix batch treatment with an automatic control of cyclic sequence to operate each reactor in a six hour cycle, with each cycle consisting of "Fill", "Aeration", "Settle" and "Decant" modes and equipped with:

- a jet aeration system consisting of a single jet header with 22 jets per tank (total of three) to provide a total Standard Oxygen Requirement of 2,621 Kg oxygen per day,

GENIVAR

TECHNICAL MEMORANDUM

To: Yves Rousselle, CET, Director of Physical Services, City of Clarence-Rockland
Date: December 18, 2013
From: Matt Morkem, P.Eng.
Project: Rockland PS Evaluation
Subject: **Pumping Station 1** GENIVAR Project #:121-20569

The purpose of this technical memorandum is to provide a comprehensive analysis of Pumping Station #1 (PS#1) with regards to capacity, upgrade for the future to optimize its capacity, phasing of the proposed future upgrade and associated costs to accommodate the proposed flows from the new proposed Rockland urban expansion area.

1. Pumping Station Capacity

Based on a review of the current Pumping Station #1 equipment, data provided by the City of Clarence-Rockland, and discussion with Ontario Clean Water Agency (O.C.W.A) the pumping station control logic operates with a small pump (middle) as lead pump until the lag pump level is reached, at which time the lead pump is shut off and one of the lag pumps (east or west) is started. If the next set point is reached while there is one lag pump in operation, then the other lag pump will activate. If this second lag pump is out of commission, then the lead pump will start again to help the first lag pump.

The theoretical capacity of the pumps based on the pumps currently installed in PS#1 are as follows:

Table 1.1

Pump Number	Rated Capacity (L/s)
West	170
East	170
Middle	95

The current pump capacities were determined by running the pumps and measuring the drop in the wet well level over a measured time period. The volume pumped was calculated using the difference in level and the area of the wet well. This was divided by the elapsed time to determine the pump capacity. The inflow immediately before and/or after the pump test was also recorded, averaged and added to the pump capacity to determine the total pump capacity. The current pump capacities are as follows:

Table 1.2

Pump Number	Rated Capacity (L/s)
West	145
East	140
Middle	90

201-1224 Gardiners Road, Kingston, Ontario CANADA K7P 0G2
Telephone: 613-634-7373 ~ Fax: 613-634-3523 ~ www.genivar.com

Table 2.1

2005			Stats Canada Annual Growth Rate (%)	2013		
Avg. Daily Flow (L/s)	Max. Daily Flow (L/s)	Peak Inst. Flow (L/s)		Avg. Daily Flow (L/s)	Max. Daily Flow (L/s)	Peak Inst. Flow (L/s)
35.5	66.1	164	2.76	44.14	82.19	203.91

It should be noted that flows in excess of 200L/s from PS#1 have been reported by O.W.C.A. in the past 5 years.

Based on the current status of PS#1 and a review of the MOE guidelines indicated in the previous section, it would suggest that the Pumping Station #1 is currently operating at or even beyond its firm capacity.

3. Future Pumping Station Flows

For the purpose of projecting flows for the total build out of the Clarence Rockland area, a detailed analysis of each pumping station land use and estimated flows was completed. The following assumptions were made for growth component that are serviced by the collection system:

- Assumed Population Per Unit: 2.7
- Rural Density (units/ha): 2
- Low Density (units/ha): 20
- Medium Density (units/ha): 35
- High Density (units/ha): 55
- Residential low generation (l/cap/day): 350
- Commercial flow generation (l/ha/day): 15000
- Inflow and Infiltration (l/s/ha): 0.28,0.56,1.12

The table below summarizes the total build out flows for PS#1 of the Clarence Rockland area based on updates to the 2003 Master Plan in conjunction with the official plan and discussions with the City of Clarence Rockland Planner. Refer to Appendix 1 for ultimate servicing map.

Table 3.1

Pump Station	Land Use	Area (ha)	Residential Average Daily Flow (m^3/day)	Commercial Average Daily Flow (m^3/day)	Peak Daily Flow (l/s)
PS 1	Commercial Core	9.46	-	141.92	6.8
	Service Commercial	77.16	-	1157.46	55.1
	Business Park	0.00	-	0.00	0.0
	Community Facilities	30.42	-	456.26	21.7
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	106.55	2013.86		104.14
	Medium Density Residential	3.15	104.12		5.70
	High Density Residential	0.00	0.00		0.00
	Contributing PS: 2,3,4,5,6,7,8,South of David				643.8
	Total				**837.2**
PS 2	Commercial Core	3.95	-	59.19	2.8
	Service Commercial	1.24	-	18.65	0.9
	Business Park	0.00	-	0.00	0.0
	Community Facilities	12.32	-	184.75	8.8
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	103.45	1955.13		101.38
	Medium Density Residential	4.28	141.66		7.76
	High Density Residential	0.00	0.00		0.00
	Contributing PS: None				0.0
	Total				**121.6**
PS 3	Commercial Core	3.20	-	48.01	2.3
	Service Commercial	79.87	-	1198.02	57.0
	Business Park	0.00	-	0.00	0.0
	Community Facilities	2.27	-	34.11	1.6
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	27.07	511.64		29.42
	Medium Density Residential	9.83	325.17		17.13
	High Density Residential	0.00	0.00		0.00
	Contributing PS: None				0.0
	Total				**107.5**
PS 4	Commercial Core	2.16	-	32.36	1.5
	Service Commercial	0.00	-	0.00	0.0
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.00	-	0.00	0.0
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	18.35	346.79		20.40
	Medium Density Residential	1.15	38.06		2.08
	High Density Residential	0.00	0.00		0.00
	Contributing PS: 5				74.1
	Total				**98.1**
PS 5	Commercial Core	0.00	-	0.00	0.0
	Service Commercial	2.72	-	40.79	2.7
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.31	-	4.62	0.3
	Tourist Recreational	4.82	-	72.34	4.0
	Special Study Area #1	25.53	-		0.0
	Low Density Residential	49.48	935.13		65.42
	Medium Density Residential	0.81	26.63		1.68
	High Density Residential	0.00	0.00		0.00
	Contributing PS: None				0.0
	Total				**74.1**

Pump Station	Land Use	Area (ha)	Residential Average Daily Flow (m^3/day)	Commercial Average Daily Flow (m^3/day)	Peak Daily Flow (l/s)
PS 6	Commercial Core	0.00			0.0
	Service Commercial	3.48	-	52.17	5.4
	Business Park	0.00	-	0.00	0.0
	Community Facilities	1.14	-	17.12	1.8
	Tourist Recreational	2.57	-	38.48	4.0
	Low Density Residential	19.92	376.58	-	38.79
	Medium Density Residential	0.00	0.00	-	0.00
	High Density Residential	0.00	0.00	-	0.00
	Contributing PS:	None			0.0
	Total				**50.0**
PS 7	Commercial Core	0.00	-	0.00	0.0
	Service Commercial	0.00	-	0.00	0.0
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.00	-	0.00	0.0
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	73.59	1390.91		74.31
	Medium Density Residential	0.00	0.00		0.00
	High Density Residential	0.00	0.00		0.00
	Contributing PS:	None			0.0
	Total				**74.3**
PS 8	Commercial Core	0.00	-	0.00	0.0
	Service Commercial	0.00	-	0.00	0.0
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.00	-	0.00	0.0
	Tourist Recreational	0.00	-	0.00	0.0
	Low Density Residential	245.09	4632.12		220.51
	Medium Density Residential	0.00	0.00		0.00
	High Density Residential	0.00	0.00		0.00
	Contributing PS:	None			0.0
	Total				**220.5**
PS Clearance Point	Commercial Core	0.00	-	0.00	0.0
	Service Commercial	0.00	-	0.00	0.0
	Highway Commercial	10.99	-	164.84	9.8
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.00	-	0.00	0.0
	Tourist Recreational	20.91	-	313.70	14.9
	Low Density Residential	540.96	10224.08		445.96
	Medium Density Residential	0.00	0.00		0.00
	High Density Residential	0.00	0.00		0.00
	Contributing PS:	None			0.0
	Total				**470.6**
PS South of David	Commercial Core	0.00	-	0.00	0.0
	Service Commercial	0.00	-	0.00	0.0
	Business Park	0.00	-	0.00	0.0
	Community Facilities	0.00	-	0.00	0.0
	Tourist Recreational	0.00	-	0.00	0.0
	Rural	0.00	0.00		0.00
	Low Density Residential	210.34	3975.47		192.31
	Medium Density Residential	0.00	0.00		0.00
	High Density Residential	0.00	0.00		0.00
	Contributing PS:	None			0.0
	Total				**192.3**

Based on a similar method that was used to project the flows from 2005 to 2013, the current flows were projected to the ultimate scenario to provide a timeline for reaching the ultimate build out. These results are indicated in the table below:

Table 3.2

Year	Avg. Daily Flow (L/s)	Max. Daily Flow (L/s)	Peak Inst. Flow (L/s)	Stats Canada Annual Growth Rate (%)
2013	44.14	82.19	203.91	2.76
2018	50.58	94.17	233.65	
2023	57.95	107.90	267.72	
2033	89.59	166.81	413.87	
2043	117.62	219.01	543.38	
2053	154.43	287.54	713.42	
2059	181.83	338.57	840.02	

4. Pumping Station Upgrades

1. Modifications

The following section reviews potential modifications that could be made to the existing pumping station to gain additional capacity. Refer to Appendix 2 for preliminary pumping station capacity analysis

a) Replace existing middle pump with an equivalent to the west and east pumps.
The existing smaller (40hp - 90L/s) pump could be replaced with a pump of similar capacity to the other pumps. This would increase the firm capacity to approximately 275L/s as it would mean that it would be based on 2 -145l/s pumps (less allowance for losses with two pumps running). Variable Frequency Drives (VFD's) should also be installed to ensure that with the removal of the smaller pump average day or low flow conditions can still be pumped while minimizing the start/stops of the pumps. MOE guidelines also indicated that if a pumping station discharges into a WWTP they should be equipped with VFD's to minimize flow surges and provide flow pacing. Additionally, due to the increase flow from the new pump, the grinder and grit removal capacity will need to be increased. A third grinder (120L/s) and second grit removal system (236L/S) is recommended to be installed. It should be noted that if screening is install at PS#1 then the third grinder would not be required.

b) Installed a 4th pump using the current pump intakes locations
The current pumping station configuration could be modified to allow for a forth pump to be installed of equal capacity to the other 3 pumps. This would increase the firm capacity

to approximately 400L/s. A VFD should also be installed as indicated above. Additionally, a fourth grinder (120L/s) would need to be installed to handle the increase flow. It should be noted that if screening is install at PS#1 then the forth grinder would not be required.

c) Install four (4) new pumps with increase capacity

Remove and replace all four (4) pumps (approximately 90HP – 290L/s@21m TDH) with larger pumps to increase the capacity and maximize the velocity in the forcemain (i.e. ≈3m/s). This would increase the firm capacity to approximately 600L/s. A VFD should also be installed as indicated above. The flow meter would also need to be replaced as this flow rate exceeds the maximum capacity. As indicated above additional grit removal would be required to accommodate this upgrade; however further plant upgrades would also be required to treat this flow and therefore these aspect have not been included in the upgrades.

d) Increase and/or Twin Forcemain to Sewage Plant

Replace and/or twin the existing forcemain with a 900mm (or equivalent) to provide additional capacity. The pumps and flow meter from the previous expansion could be reused to provide the additional capacity to meet the ultimate building. This would increase the firm capacity to approximately 850L/s. As indicated above additional grit removal would be required to accommodate this upgrade; however further plant upgrades would also be required to treat this flow and therefore these aspect have not been included in the upgrades.

2. Forcemain

Based on the above modifications, the velocity in the forcemain would be 1.4m/s, 2m/s, 3m/s and 1.3m/s, respectively. Although maintaining a velocity above 1.1m/s is not an ideal operating condition, such a velocity would be a result of peak instantaneous flows and would not be maintained for long periods of time. These velocities would still be below the maximum velocity of 3m/s stipulated by the MOE guidelines for a forcemain.

3. Modification Phasing

Based on the current firm capacity as defined by the MOE, PS#1 has reached its capacity. The projected flows anticipated at PS#1 indicate that the following timelines for upgrades are required:

Table 4.1

Year	Peak Inst. Flow (L/s)	Required Upgrade	Firm Capacity (L/s)	Expansion
2013	203.91	none	200	N/A
2018	233.65	a	275	2014/2015
2023	267.72	none	275	N/A
2033	413.87	b	400	2024/2025
2043	543.38	c	600	2034/2035

2053	713.42	d	840	2045/2046
2059	840.02	none	840	N/A

It should also be noted that the plant capacity of ADF = 6800m3/d (79L/s) and MDF = 17,340m3/d (200L/s) would be reached around 2030 that will require further upgrades not discussed in this report. Some upgrades to the Peak Flow Rate have been incorporated into this report (i.e. grit removal system). A detail flow analysis should be completed on a regular basis to verify the projected flows

4. Upgraded Servicing

As it is difficult to determine the exact type of growth that will occur in the City of Clarence-Rockland, it is difficult to state the number of units that the above indicated upgrades will provide. However, as it is anticipated that the majority of growth will be low density the following table provides the additional number (beyond current levels) of units for each upgrade based on low density residential growth using the design parameters indicated in section 3:

Table 4.2

Expansion	No. of Units	Population Increase	Additional Peak Flow (L/S)
a	2100	5,670	75
b	6600	17,820	215
c	16000	43,200	400
d	28500	76,950	650

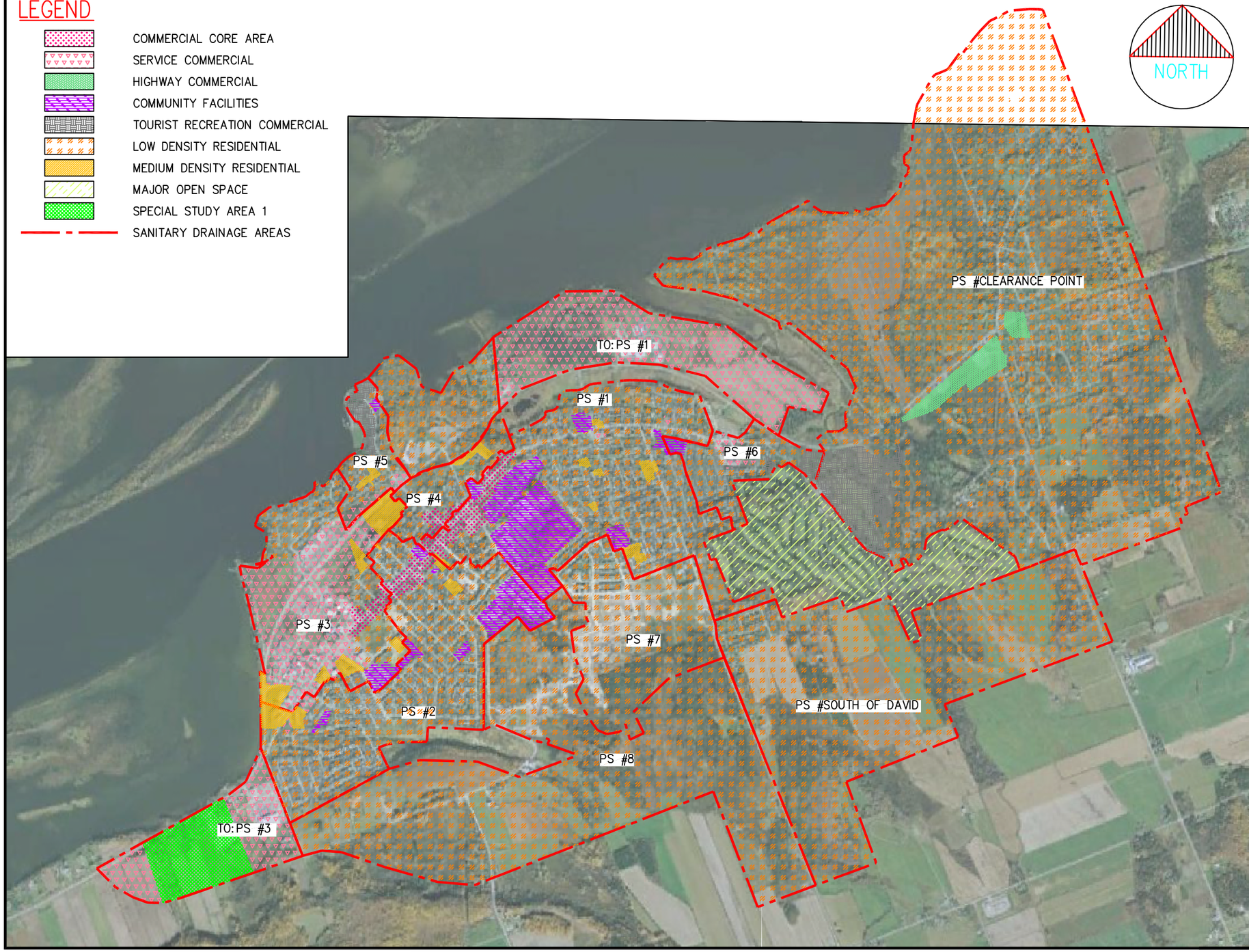
It should be noted that not all growth in the City of Clarence Rockland will be low density residential and the total number of units will vary based on the variety of growth type that is experienced.

5. Modifications Cost

The following section provides cost estimates for the modifications indicated in section one (1):

LEGEND

- COMMERCIAL CORE AREA
- SERVICE COMMERCIAL
- HIGHWAY COMMERCIAL
- COMMUNITY FACILITIES
- TOURIST RECREATION COMMERCIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- MAJOR OPEN SPACE
- SPECIAL STUDY AREA 1
- SANITARY DRAINAGE AREAS



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PHONE: 613-634-7373 FAX: 613-634-3523
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CLIENT:
CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:
CLARENCE-ROCKLAND
PUMPING STATION EVALUATION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION

PROJECT NO: 121-20569-00

DATE: MAY 2013

ORIGINAL SCALE: 1:25000

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

1"

DESIGNED BY: MS

DRAWN BY: STR

CHECKED BY: MM/MS

DISCIPLINE: CIVIL

TITLE:
PUMP STATION CATCHMENT
AREA PLAN

SHEET NUMBER: SK1.1

SHEET #: OF

ISSUE: ISSUED FOR REVIEW

DATE OF: MAY 22, 2013

REV #: 0

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C6

Appendix C

Morris Village Pumping Station
No. 9 Design Brief Excerpt

CIMA+

DESIGN BRIEF

1.0 INTRODUCTION

1.1 General

The residential development associated with this new pumping station consists of approximately 219.87 ha and is located along St-Jean Street, mid-way between Poupart Road and Docteur Corbeil Boulevard in the City of Clarence-Rockland (see location map SK-1, in Appendix "A"). The proposed sanitary drainage area serviced by pumping station No. 9 includes over 5600 residential units.

The first four stages of the Morris Village development are currently serviced by gravity sewers and directed to the pumping station No.7 located at the intersection of Sterling Avenue and Platinum Drive. As was previously planned, the western parts of Stage 4 will be redirected to the pumping station No. 9 and allow for the northern part of Stage 5 as well as an external area located between Caron Street and Stage 5 to be directed to the existing pumping Station No.7 (see sketch 110704-SANPS in Appendix 'B'). Pumping Station No.7 was approved under MOECC Certificate #0402-78NQJ9.

2.0 SANITARY FLOWS AND HYDRAULICS

2.1 Sanitary Sewer

2.1.1 Proposed Site

The portion of the proposed subdivision that is directed by gravity towards pumping station No.7 is then pumped to the sanitary sewers at the intersection of Crystal Crescent and Quartz Street and directed by gravity towards Avenue des Pins.

On the other hand, the majority of the proposed Morris Village Stage 5 along with external areas located east and future lands located west of St-Jean Street will drain towards pumping station No. 9. The sewage shall then be pumped via a twin 400mm diameter forcemain through the Hydro Corridor, Sterling Avenue, Docteur Corbeil Boulevard before reaching the existing gravity sanitary sewers on Caron Street (see sketch 110704-SANPS in Appendix 'B').

2.1.2 Tributary Area Characteristics

The sanitary drainage area as shown on plan 110704-PSSANM1, is divided into several sub-catchments area. The plan shows the total areas, populations to be directed to each pumping station.

6.0 ELECTRICAL SPECIFICATIONS

The pumping station has been designed to allow for a communication space on the wall in order to communicate to the City of Clarence-Rockland information centre. In summary, a system will be installed by OCWA to properly communicate with the City's information center. The proposed system will control and provide information on such equipment as the pumps, water levels, the security system and system failures. The power supply for this site will be provided by a proposed transformer adjacent to the pumping station; a 600 volts, 3 phase service line will be provided for this pumping station. The electrical design specifications can be found on plan E1 to E9 separate from this report. A backup power system (UPS) will be installed to allow continuous communication in case of failure.

7.0 CONCLUSION

The proposed pumping station has the capacity to accommodate the flows for a proposed development up to 260 l/s. In case of failure, the following events could occur.

i. The standby generator will start to allow the pumps to run as usual, and a signal will be sent to a city representative.

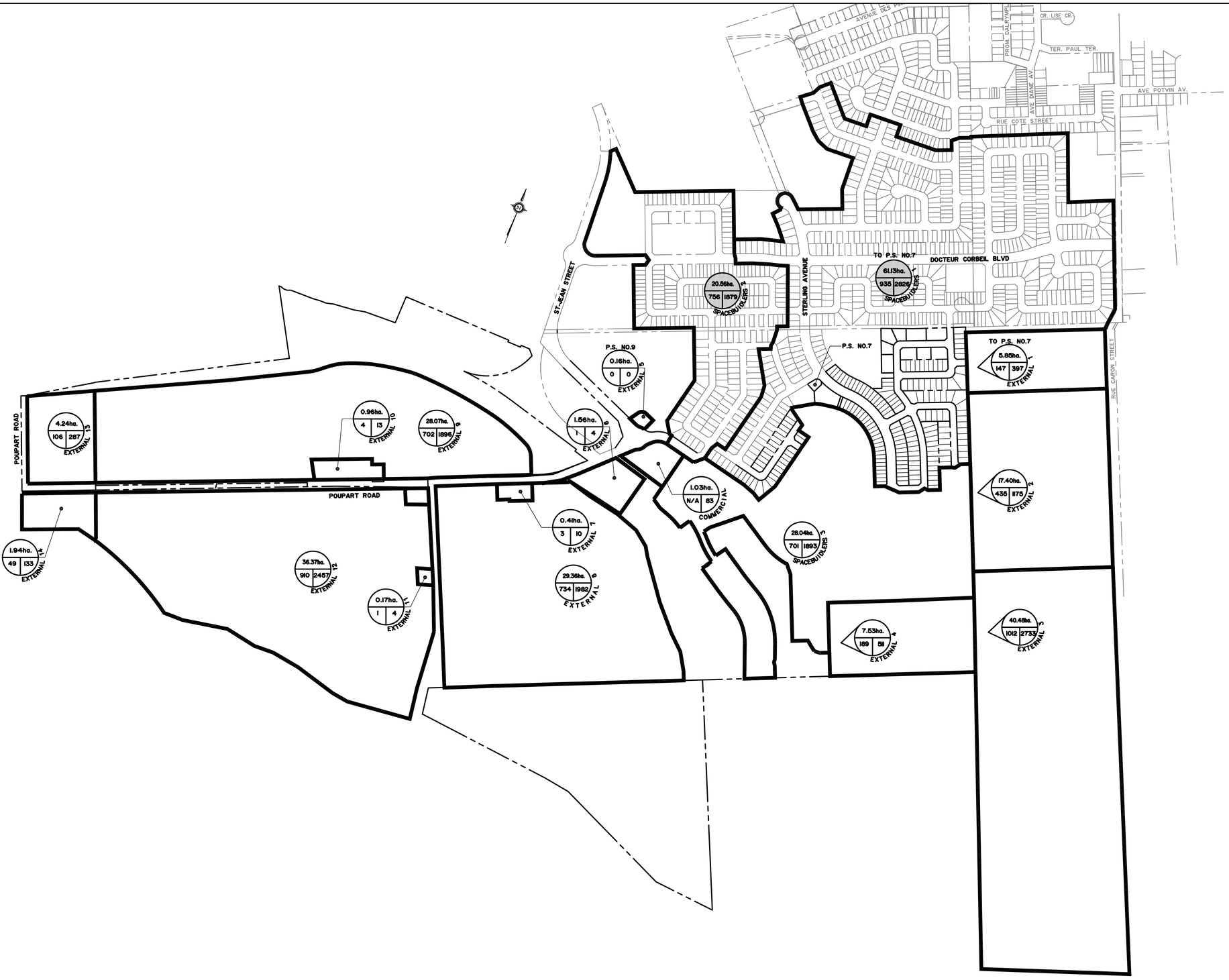
ii. A sewage pump could be used with the by-pass forcemain.

iii. The overflow pipe would carry the sewage towards the closeby storm water management pond and would keep the hydraulic grade line of the sanitary system below the basement levels of the proposed Stage 5.

Prepared by:

ATREL ENGINEERING LTD

Jean M. Décoeur, P.Eng.
President



LEGEND

- 7.53ha. / 189 | 511 — SANITARY DRAINAGE SUB AREA; POPULATION EQUIVALENT; NUMBER OF UNITS IN SUB AREA
- 7.53ha. / 189 | 511 — DATA BASED ON actual COUNTS
- DRAINAGE AREA BOUNDARY

SUMMARY

	TO P.S. No. 7	TO P.S. No. 9
RESIDENTIAL AREA (ha)	66.98	217.25
UNITS (25 UNITS/ha)	1082	5613
POPULATION (2.7 persons/unit)	3223	14967
COMMERCIAL AREA (ha)	N/A	1.03
EQUIVALENT COMMERCIAL POPULATION	N/A	83
OUTLET TO	PAYER ST.	CARON ST.
PUMPED FLOW	64 L/s	260 L/s (Design)

SUBMITTED FOR APPROVAL ONLY NOVEMBER 16/2018

THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION △-APPLIES WHEN DRAWING MODIFIED	DATE	BY
1	AS PER CITY COMMENTS	NOV. 16/18	JMD

SCALE 1 : 5 000 (50m 0 150m)

DESIGN JMD
CHECKED
DRAWN PNC
CHECKED
APPROVED JMD

LICENSED PROFESSIONAL ENGINEER — JAN J. DECOEUR — Nov 16/2018 — PROVINCE OF ONTARIO

ATREL Engineering Ltd. Ltée
Engineers - Ingénieurs
1-2584 CHAMBERLAND STREET, ROCKLAND, ONTARIO K4K 1M6
TEL.: (613) 446-7423

CITY OF ROCKLAND
MORRIS VILLAGE
PUMPING STATION No. 9

SPACE BUILDERS

PLAN SANITARY DRAINAGE AREA MASTER PLAN

CLIENT No. 168
PROJECT No. 110704
DATE OCTOBER 2017
DRAWING No. 110704-PSSANMI

C7

Appendix C

RVA Equalization Tank
Conceptual Design Report Excerpt

CIMA+

1.0 INTRODUCTION

Municipal wastewater from the City of Clarence-Rockland (City) is treated at the Clarence Rockland Sewage Treatment Sewage Treatment Plant (CRSTP), located at 700 Industrial Road, in Clarence-Rockland, Ontario. Currently, all wastewater from the urbanized areas of the City of Clarence-Rockland is pumped directly from Pumping Station No. 1 into the treatment plant. The plant has pre-treatment (grit removal only) and operates as a sequencing batch reactor (SBR) activated sludge plant followed by chlorine disinfection, prior to undergoing dechlorination and discharging into the Ottawa River.

The facility has a Rated Capacity of 6,800 m^3/day under Environmental Compliance Approval Number 1990-3P3PRG. The rated peak flow capacity is currently 20,400 m^3/day.

The City of Clarence Rockland is undertaking upgrades to the wastewater treatment plant to include:

- Increase the pumping capacity and conveyance capacity of PS#1 to 400 L/s;
- Twinning the force main to convey an ultimate peak flow capacity of 850 L/s and for operational redundancy;
- Construction of a new headworks facility, complete with fine screening and grit removal system to improve both pre-treatment and secondary treatment effectiveness; and,
- Concrete repairs to the suspended floor slab in the main treatment building.

As part of the preliminary design investigation, it was noted that the City may achieve some long-term advantages and potential cost savings by combining the design and construction of a proposed equalization tank with the headworks facility. The concept would be to have the equalization tank constructed directly underneath the headworks facility and be combined with the tender package for the upgrades to the plant. Construction of a new equalization tank has been previously identified within the long-term plan for the Rockland Sewage Treatment plant (within the next 2-3 years) to normalize peak flows from inflow and infiltration.

This proposed approach of including the equalization tank underneath the headworks facility would offer the following benefits:

- Provides the best use of existing land at the STP to free up space for future additional plant upgrades;

2.0 EQUALIZATION STORAGE BELOW HEADWORKS BUILDING

The *Rockland Wastewater Treatment Plant Review* (OCWA, 2015) noted that equalization storage constructed in the next few years would alleviate peak flows to the STP and delay plant wide capacity expansion until average daily flows reach 90% flow capacity (6,120m^3/d). This finding was echoed based on the hydraulic modeling described in the Hydraulic Flow Technical Memorandum (RVA August 2016), which noted that some form of bypass, modifications or equalization storage is required to convey the new proposed peak pumping flows from PS#1.

An overview of the proposed storage scenario is shown below in **Figure 2-1** through **Figure 2-3** below.

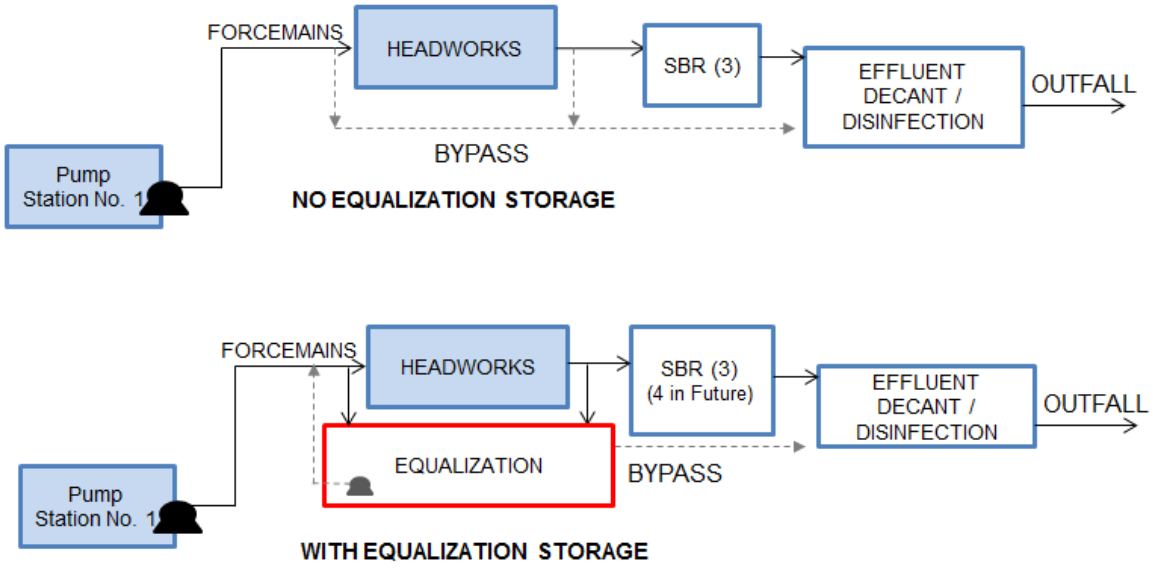


Figure 2-1: Potential Equalization Storage Below Headworks Building

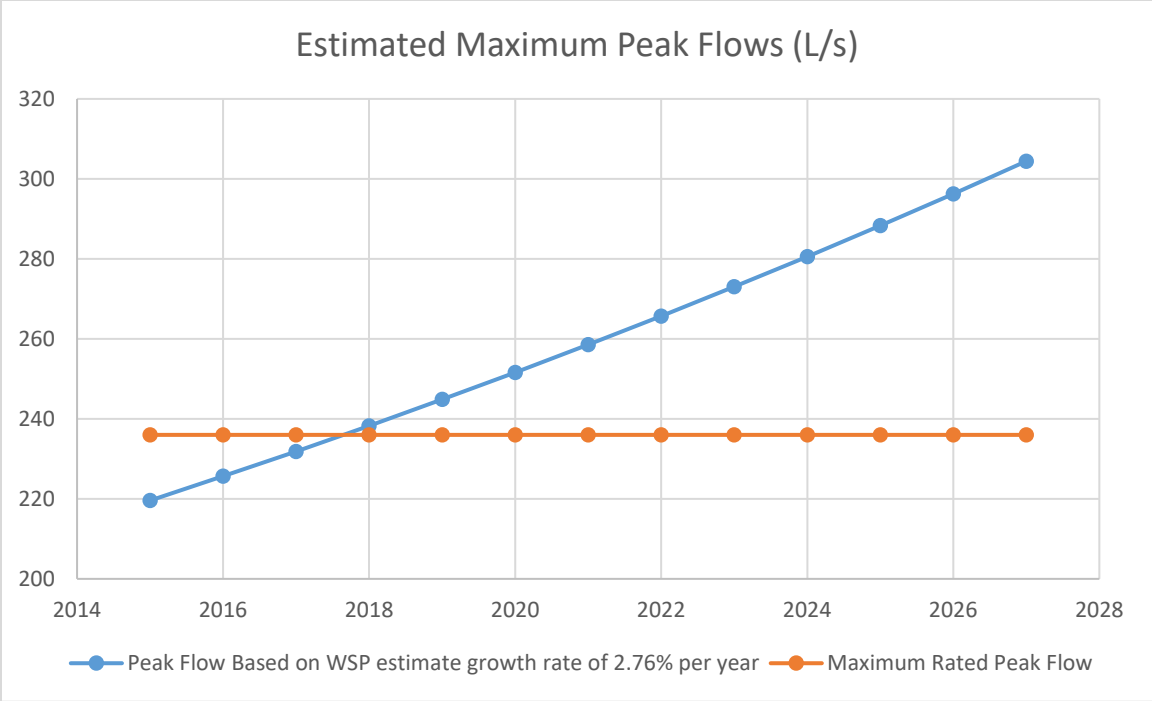


Figure 2-5: Estimated Maximum Peak Flows at Plant Over Time

3.0 GEOTECHNICAL AND STRUCTURAL CONSIDERATIONS

A Geotechnical Investigation Report has been prepared by DST Consulting Engineers, which discusses the ground conditions in the vicinity of the proposed headworks facility, and makes recommendations related to founding the building, both with and without the equalization tank. Refer to Appendix A for the full report.

In summary, the soils at the proposed location of the headworks facility is generally silty clay, Rock was not reached in any boreholes, but local well records indicate it is in the order of 60m below grade in the area.

Based on the Report and discussions with the geotechnical engineer, it has been determined that the soils do not have enough bearing capacity to support the headworks facility and equalization tank using conventional strip or spread footings, or a raft foundation. The increase in stress imposed on the soil by the foundations and slab of the structure, and by placement of backfill around the structure, will result in large compression of the clay, which leads to significant consolidation settlements and damage to the structure.

5.0 ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Adding the equalization tank to the project will mean the works will be classified as a Schedule 'B' activity. From the Municipal Class EA document prepared by the Municipal Engineers Association:

> **"Schedule B:**
>
> Establish sewage flow equalization tankage in existing sewer system or at an existing sewage treatment plants, or at existing pumping stations for influent and/or effluent control."

As such the project would be subject to the requirements of a Schedule B EA process. This will require documentation of the planning process (assess alternative solutions and their impacts) followed by a Notice of Completion, and allowing 30 days for public input.

The schedule impacts will include the allowance for public input for 30 calendar days. During this time, it would be expected that other design elements of the project would continue.

6.0 COST ESTIMATE

The intention of combining the equalization tank below the headworks facility is to offer operational and space savings, with the potential to offer cost savings over installing the tank at a later date as part of a separate contract. The tables below serve to provide a cost estimate for the two options: 1) the equalization tank constructed below the headworks facility, or 2) headworks facility constructed as per the original scope of work, with the tank constructed at a later date as a separate contract.

Table 6-1: Cost Estimate: Equalization Tank Below Headworks Facility

	Structure	Equipment	Electrical	Yard Works	Capital Cost
Pump Station	$200,000	$574,500	$373,500	$19,500	$1,167,500
Equalization Tank	$94,000	$190,000	$123,000	$2,500	$410,000
Headworks	$3,943,500	$1,107,000	$719,500	$30,500	$5,800,500
Forcemain	-	-	-	$400,000	$400,000
Slab Repairs	$125,000	-	-	-	$125,000
SUB TOTAL	$4,362,500	$1,872,000	$1,216,000	$452,500	**$7,903,000**
				Bonding and Insurance	$158,000
				Mobilization and Demobilization	$118,500
				Contractor Markup	$1,185,500
				Scope and Construction Contingency	$2,371,000
				Engineering (Equalization Tank)	$200,000
				TOTAL CAPITAL COST	**$11,936,000**

Table 6-2: Cost Estimate: Separate Contracts

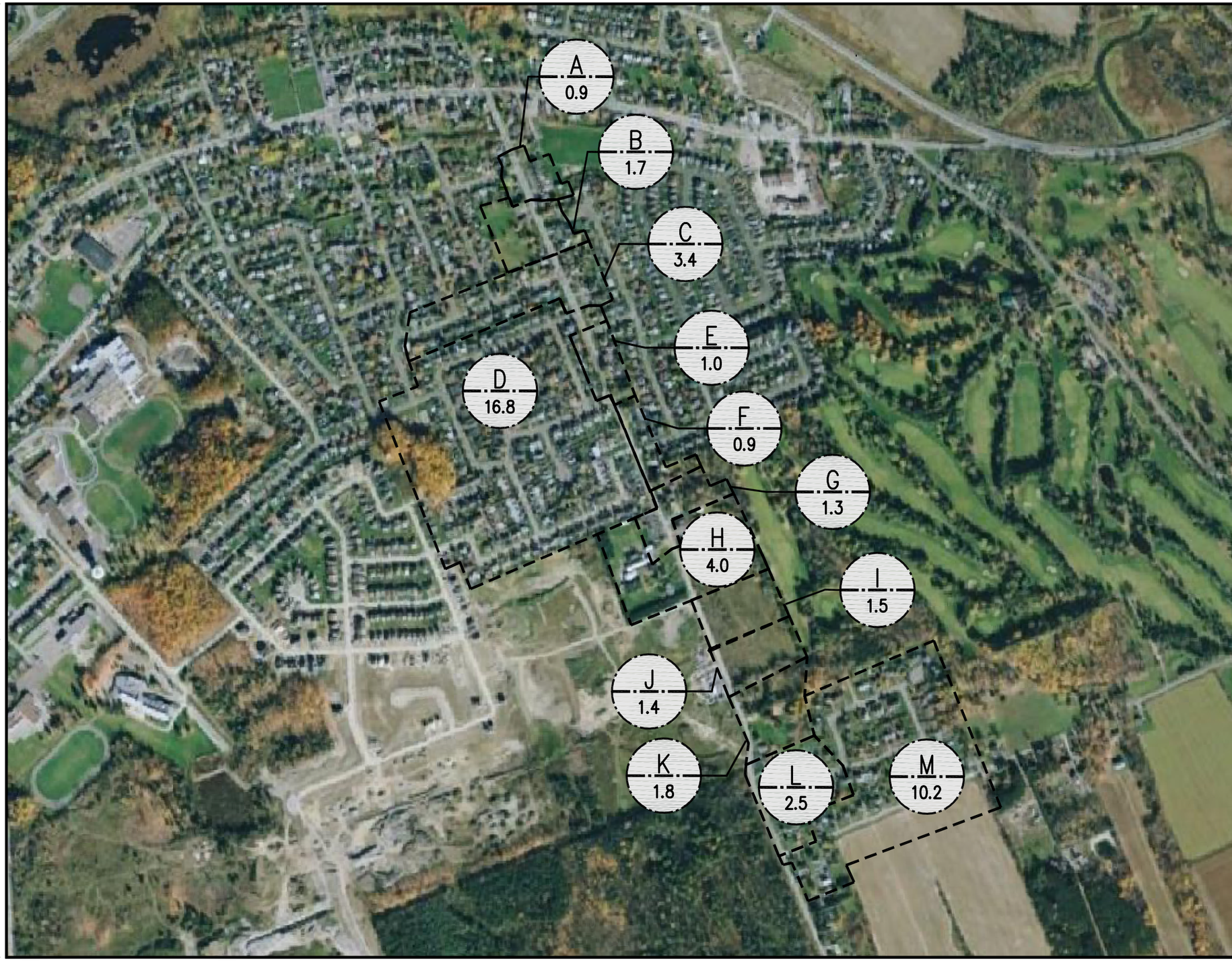
	Structure	Equipment	Electrical	Yard Works	Capital Cost
Pump Station	$200,000	$574,500	$373,500	$19,500	$1,167,500
Headworks	$1,904,000	$1,079,000	$701,500	$30,500	$3,715,000
Forcemain	-	-	-	$400,000	$400,000
Slab Repairs	$125,000	-	-	-	$125,000
SUB TOTAL	$2,229,000	$1,653,500	$1,075,000	$450,000	**$5,407,500**
				Bonding and Insurance	$108,000
				Mobilization and Demobilization	$81,000
				Contractor Markup	$810,000
				Scope and Construction Contingency	$1,622,000
				TOTAL CAPITAL COST	**$8,028,500**
Equalization Tank	$1,970,000	$190,000	$150,000	$40,000	$2,350,000
				Bonding and Insurance	$57,000
				Mobilization and Demobilization	$42,000
				Contractor Markup	$420,000
				Scope and Construction Contingency	$703,000
				Engineering Design	$250,000
				Separate Contract Administration	$150,000
				TOTAL CAPITAL COST	**$3,972,000**

C8

Appendix C

Caron Street Storm Sewer Catchment Areas and Sewer Calculation Sheet

CIMA+



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CLIENT:
CITY OF CLARENCE-ROCKLAND

CLIENT REF. #:

PROJECT:
CARON STREET RECONSTRUCTION

ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
1		2013/01/22	ISSUED FOR ECA

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DATE: MAY, 2013
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DESIGNED BY: MS
DRAWN BY: MF/MS
CHECKED BY: MM
1"

DISCIPLINE: CIVIL

TITLE:
PROPOSED STORM CATCHMENT AREAS

SHEET NUMBER: SK1.32
SHEET #: -- OF --

ISSUE: ISSUED FOR ECA
DATE OF: JANUARY 22, 2013
REV #: 0

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Storm Sewer Calculation Sheet

Caron Street Reconstruction

STREET	MANHOLE From	MANHOLE To	AREA No	AREA Ha	CONTRIBUTING AREAS	RUNOFF DATA C	AC	Σ AC	Tc (min.)	I (mm/hr)	Q (L/s)	PIPE DATA Size (mm)	Slope (%)	Capacity (L/s)	Q/Q_{full}	Velocity (m/s)	Length (m)	FALL (m)
CARON ST	STM300	STM304	S1	0.220	S1	0.75	0.165	0.165	15.000	83.56	38.33	300	0.50%	68.4	0.56	0.97	65.92	0.330
CHAPMAN ST	-	STM304																
CARON ST	STM304	STM305																
ATREL ST CUL DE SAC EAST	-	STM305																
CARON ST	STM305	STM306							Existing Pipes									
ATREL ST	STM103	STM306																
CARON ST	STM306	STM307																
CARON ST	STM307	STM309																
CARON ST	STM308	STM309	S6	0.240	S6	0.75	0.180	0.180	15.000	83.56	41.81	300	0.50%	68.4	0.61	0.97	44.04	0.220
CARON ST	STM307	STM309	-	-	A1,A2,A3,S1,S2,S3,S4,S5	-	-	4.041	18.228	74.40	835.67	900	0.40%	1144.9	0.73	1.80	41.59	0.166
CARON ST	STM309	OUTLET	-	-	A1,A2,A3,S1,S2,S3,S4,S5,S6	-	-	4.221	18.613	73.45	861.80	900	0.35%	1071.0	0.80	1.68	20.00	0.070
CARON ST	MH101	MH102	G	1.308	G	0.40	0.523	0.523	15.0	84	122.45	375	0.70%	146.7	0.83	1.33	82.53	0.578
CARON ST	MH102	MH103	F	0.915	F,G	0.40	0.366	0.889	15.8	81	201.86	450	0.70%	238.5	0.85	1.50	72.3	0.506
CARON ST	MH103	MH104	F		F,G		0.000	0.889	16.5	79	196.77	450	0.70%	238.5	0.82	1.50	62.7	0.439
CARON ST	MH104	MH105	E	1.039	E,F,G	0.40	0.416	1.305	17.0	78	283.44	525	0.60%	333.1	0.85	1.54	47.5	0.285
	MH105	MH106					0.000	1.305	17.5	76	278.40	525	0.60%	333.1	0.84	1.54	47.5	0.285
	MH106	MH107					0.000	1.305	18.0	75	274.08	525	0.60%	333.1	0.82	1.54	42.2	0.253
CARON ST	MH107	MH108			E,F,G		0.000	1.305	18.5	74	269.73	525	0.55%	318.9	0.85	1.47	42.2	0.232
CARON ST	MH108	MH109	C+D	20.296	C,D,E,F,G	0.40	8.118	9.423	19.1	72	1906.36	1200	0.35%	2306.5	0.83	2.04	80	0.280
CARON ST	MH109	MH110	B	1.671	B,C,D,E,F	0.40	0.668	10.092	20.2	70	1974.94	1200	0.35%	2306.5	0.86	2.04	128.1	0.448
CARON ST	MH110	MH111	A	0.979	A,B,C,D,E,F,G	0.40	0.392	10.483	21.1	68	1991.48	1200	0.35%	2306.5	0.86	2.04	119.32	0.418
CARON ST	MH111	MH112			A,B,C,D,E,F,G		0.000	10.483	21.2	68	1989.28	1050	1.00%	2730.7	0.73	3.15	7	0.070
CARON ST	MH150	MH151	H	4.038	H	0.40	1.615	1.615	15.0	84	377.94	750	0.40%	704.1	0.54	1.59	70.96	0.284
CARON ST	MH151	MH152	I	1.553	H,I	0.40	0.621	2.237	16.0	80	503.21	750	0.45%	746.8	0.67	1.69	105.0	0.473
CARON ST	MH152	MH153	J	1.460	H,I,J	0.40	0.584	2.821	16.9	78	615.60	750	0.50%	787.2	0.78	1.78	90.0	0.450
CARON ST	MH153	MH155	K	1.843	H,I,J,K	0.40	0.737	3.558	17.8	75	751.44	825	0.40%	907.8	0.83	1.70	96.1	0.384
CARON ST	MH155	MH156			H,I,J,K		0.000	3.558	18.7	73	728.86	825	0.39%	896.4	0.81	1.68	91.7	0.358
CARON ST	MH156	MH157	L	2.905	H,I,J,K,L	0.40	1.162	4.720	19.5	71	944.59	825	0.60%	1111.9	0.85	2.08	89.8	0.539
CARON ST	MH158	MH157	M	4.338	M	0.40	1.735	1.735	15.0	84	406.00	750	0.20%	497.9	0.82	1.13	54	0.108
	MH157	HEADWALL			H,I,J,K,L,M						1350.59	1200	0.20%	1743.6	0.77	1.54	14	0.028

DESIGN PARAMETER

Mannings n = 0.013

Infiltration Rate (I) = 0.28 l/s/ha

Designed By: Matt Scanlan

Checked By: Matt Morkem

PROJECT: Caron St. Reconstruction

LOCATION: Rockland, Ontario

Dwg. Reference:
SK1-6rev1 - Storm Area North Caron
SK.32rev1 - Storm Areas South Caron

Project Number: 65038

Date: 20-Jun-13

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Appendix C

Sanitary Master Plan 2009 Update Excerpt

CIMA+

2. Sanitary Sewer System

2.1 Sanitary Sewer Model Update

In the context of this report, "existing sanitary sewer system" refers to the system as of October 2008. The City's wastewater collection system has seven (7) pump stations and a trunk sewer system network that convey sewage to the wastewater treatment plant in the north end of the City via PS #1.

Sewer flows, including sanitary dry-weather flow plus I/I (Inflow/Infiltration), have been estimated using the Harmon Formula for residential flows based on:

- 350 litres per capita per day (Lpcd)
- extraneous residential flows of 0.28 L/s/ha

Industrial, commercial, and industrial flows have been estimated based on the following:

- extraneous ICI flows of 0.14 l/s/ha
- industrial/commercial/institutional sanitary flows of 15,000 L/ha/d
- a peaking factor of 2.5

Sewers identified as being near, at, or beyond capacity based on current development and estimates of current flows are shown in Table 2-1 and use the current system including new sewers with sanitary pump station flows as measured in the 2005 Sanitary Pump Station Assessment Report. For modeling purposes the pump station capacity was taken to be the highest flowrate pump from each of the pump stations. The use of the higher capacity pump was used as it was assumed to represent the serviced condition of both pumps. This scenario seeks to identify existing issues given the 2005 status of the pump stations and the existing development condition and does not rely on future upgrades to pump stations. Pipe capacity has been calculated based on Manning's equation assuming full pipe flow.

As noted in Table 2-1 some gravity sewers upstream of PS #2 have a condition of marginal to poor, meaning they are operating above their theoretical capacity limit. Close being defined as 90-100% of capacity, marginal as 100-110% of capacity and poor as being greater than 110% of capacity. Additional areas with capacity issues are located on the central portion of Laurier Street, near the discharge of the forcemains from PS #2 and 3, as well as locations on the eastern portion of Laurier at the discharge of PS #6. Critical north-south sewer segments at Caron Street and Laurier Street and at Simoneau Street and Laurier Street also indicate operation beyond capacity.

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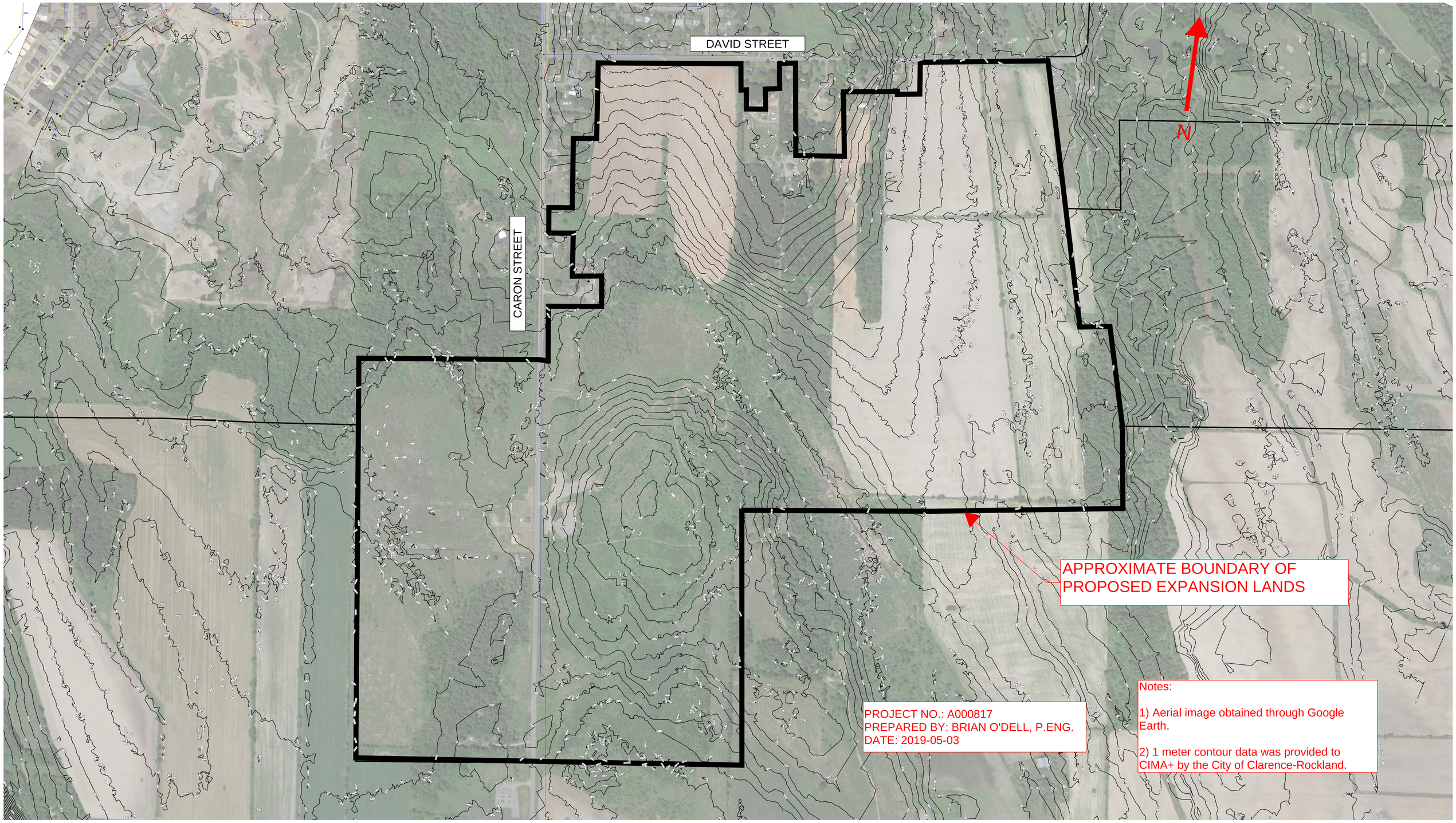
Appendix C

Topographic Mapping

984
LOT 22
CONCESSION 2
(OLD SURVEY)
LOT 23
CONCESSION 2
(OLD SURVEY)
LOT 24
CONCESSION 2
(OLD SURVEY)
PART 1
PLAN 50R-9754
PART 3
PLAN 50R-9754
PART 2
PLAN 50R-1675
PART 4
PLAN 50R-7616
PART 1
PLAN 50R-5836
PART 1
PLAN 50R-770
PART 2
PLAN 50R-8672
PART 1
PLAN 50R-8672
PART 1
PLAN 50R-1425
PART 1
PLAN 50R-4299
PART 1
PLAN 50R-6059
PART 1
PLAN 50R-2176
PART 1
PLAN 50R-9392
PART 1
PLAN 50R-9185
LOT 1
REGISTERED
PLAN 50M-98
LOT 2
REGISTERED
PLAN 50M-98
LOT 3
REGISTERED
PLAN 50M-98
LOT 4
REGISTERED
PLAN 50M-98
LOT 5
REGISTERED
PLAN 50M-98
BLOCK 6 REGISTERED PLAN 50M-98
BLOCK 54
RUE CARON STREET
CHEMIN DAVIDROAD
CHEMIN BASELINE ROAD
CLUB HOUSE DRIVE
ROAD ALLOWANCE BETWEEN CONCESSION 2 (O.S.) & LOT 1, CONCESSION 7 (N.S.)
TESTHOLE No. 1
TESTHOLE No. 2
TESTHOLE No. 3
TESTHOLE No. 4
TESTHOLE No. 5
TESTHOLE No. 6
TESTHOLE No. 7
TESTHOLE No. 8
TESTHOLE No. 9
TESTHOLE No. 10
TESTHOLE No. 11
TESTHOLE No. 12
TESTHOLE No. 13
TESTHOLE No. 14
TESTHOLE No. 15
TESTHOLE No. 16
TESTHOLE No. 17
TESTHOLE No. 18
TESTHOLE No. 19
TESTHOLE No. 20
TESTHOLE No. 21
TESTHOLE No. 22
TESTHOLE No. 23
TESTHOLE No. 24
TESTHOLE No. 25
TESTHOLE No. 26
TESTHOLE No. 27
TESTHOLE No. 28
TESTHOLE No. 29
TESTHOLE No. 30
TESTHOLE No. 31
TESTHOLE No. 32
TESTHOLE No. 33
KEY PLAN
200m 0 200 400 600 800 1000m
SCALE 1 : 12,000
SCALE 1 : 750
20m 0 20 40 60m
Distances shown on this plan are in metres and can be converted to feet by dividing by 0.3048.
Arpentages SCHULTZ BARRETTE Surveying
Ontario Land Surveyors
Hawkesbury, Ontario
Tel: 613-632-7611 Fax: 613-632-2897
Job No. 16227(5)
Ref. No. CON. 2(O.S.)-28

1M CONTOUR DATA AND AERIAL IMAGE OF PROPOSED EXPANSION LANDS



PROJECT NO.: A000817
PREPARED BY: BRIAN O'DELL, P.ENG.
DATE: 2019-05-03

Notes:

1) Aerial image obtained through Google Earth.

2) 1 meter contour data was provided to CIMA+ by the City of Clarence-Rockland.

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Appendix C

Water Demand

May 2, 2019

City of Clarence Rockland
Expansion Lands - Seconday Plan
A000817 (360)
DESIGN FLOWS - WATER DEMAND

Low Density Residential Design Parameters:

Base flow:	350	L/pers/d
Ratio pers/residence	3.4	pers/residence
Daily peak flow factor	2	
Hourly peak flow factor	3	
Hourly minimum factor	0.5	

Institutional / Commercial Design Parameters:

Base flow:	28000	L/(1000m^2-d)
Gross hectares	5.1223	ha
Daily peak flow factor	1.5	
Hourly peak flow factor	1.8	
Hourly minimum factor	0.5	

Medium Density Residential Design Parameters:

Base flow:	350	L/pers/d
Ratio pers/residence	2.7	pers/residence
Daily peak flow factor	2	
Hourly peak flow factor	3	
Hourly minimum factor	0.5	

High Density Residential Design Parameters:

Base flow:	350	L/pers/d
Ratio pers/residence	1.8	pers/residence
Daily peak flow factor	2	
Hourly peak flow factor	3	
Hourly minimum factor	0.5	

Water Demand - Ultimate Build Out

Phase	Number of Residences units	Average Daily Consumption		Daily Peak Flow		Hourly Peak Flow		Hourly Minimum Flow	
Low Density Residential	688	9.48	l/s	18.95	l/s	28.43	l/s	4.74	l/s
		150.20	galUS/min	300.39	galUS/min	450.59	galUS/min	75.10	galUS/min
Medium Density Residential	203	2.22	l/s	4.44	l/s	6.66	l/s	1.11	l/s
		35.19	galUS/min	70.39	galUS/min	105.58	galUS/min	17.60	galUS/min
High Density Residential	100	0.73	l/s	1.46	l/s	2.19	l/s	0.36	l/s
		11.56	galUS/min	23.12	galUS/min	34.67	galUS/min	5.78	galUS/min
Institutional / Commercial	1	16.60	l/s	24.90	l/s	29.88	l/s	8.30	l/s
		263.12	galUS/min	394.67	galUS/min	473.61	galUS/min	131.56	galUS/min
Total		29.03	l/s	49.75	l/s	67.16	l/s	14.51	l/s
		460.06	galUS/min	788.57	galUS/min	1064.45	galUS/min	230.03	galUS/min

Prepare by: Brian O'Dell, P.Eng. PEO No.: 100529918 Date: 2019-05-02

Verified by: Brian O'Dell, P.Eng. PEO No.: 100529918 Date: 2019-05-02

* Design parameters from City of Clarence-Rockland Design Guidelines 2018

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Appendix C

Sanitary Calculations

CIMA+

CIMA+

CITY OF CLARENCE-ROCKLAND EXPANSION LANDS - SECONDARY PLAN
A000817 (360)

SANITARY SEWER FLOWS - COMMERCIAL & INSTITUTIONAL SECTORS

Table 4-2 Commercial & Industrial Flow Allowances

Development Type	Average Flow
Commercial, average	28 m^3/ha per day
Industrial, light	35 m^3/ha per day
Industrial, heavy	55 m^3/ha per day

Source: City of Ottawa Design Guidelines - Water Distribution

Base Flow: 28000 L/ha/d
Peaking factor: 1.5
Infiltration: 0.14 L/s/ha See Section 1.4 of the Sanitary Master Plan Update, dated November 2009

Sewershed Area	Proportional Area ha	Average Daily Flow (L/s)	Peaking Factor	Peak Flow (L/s)	Extraneous Flow (L/s)	Maximum Flow (L/s)
33_5	0.94	0.31	1.50	0.46	0.13	0.59
33_6	1.09	0.35	1.50	0.53	0.15	0.68
33_9	1.95	0.63	1.50	0.95	0.27	1.22
34_5	1.13	0.37	1.50	0.55	0.16	0.71
				Qmax - Total (L/s) =		**3.20**

NOTES:

1. Base sanitary flow is based on City of Clarence-Rockland design guidelines and shown in Table 4-2 above.
2. Peaking factor is based on City of Clarence-Rockland design guidelines Section 4.1.3.
3. Infiltration rate is based on Section 1.4 of the Sanitary Master Plan Update, dated November 2009.
4. See Proposed Sanitary Servicing Sketch in Appendix A for identification of sewershed area.

Prepared by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 100529918

Verified by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 100529918

Z:\Cima-C10\Ott_Projects\A\A000817_Clarence-Rockland – Expansion Lands Secondary Plan\300_CALCULATIONS\360\sanitary\spreadsheets\[190321_C10-05 360 CIMA+ Sanitary Sewer Flow - Commercial.xlsx]SANITARY FLOWS

CITY OF CLARENCE-ROCKLAND EXPANSION LANDS - SECONDARY PLAN
A000817 (360)

SANITARY SEWER FLOWS - RESIDENTIAL SECTOR

Base Flow: 350 L/cap/day
Ratio pers/dwelling: See Table 4-1
Infiltration: 0.28 L/s/ha

Land Use Designation	Gross Area (ha)	Projected Units (ea)
Low Density	76.46	688
Medium Density	22.55	203
High Density	11.14	100

Table 4-1 Average Persons per Unit (Residential Uses)

Unit Type	Persons per unit
Residential, single family	3.4
Residential, semi-detached	2.7
Residential, duplex	2.3
Residential, townhouse (row)	2.7
Apartment, bachelor	1.4
Apartment, 1 bedroom	1.4
Apartment, 2 bedroom	2.1
Apartment, 3 bedroom	3.1
Apartment, average	1.8

Source: City of Ottawa Design Guidelines - Water Distribution

Harmon Equation:

$$P.F. = 1 + \left(\frac{14}{4 + \left(\frac{P}{1000}\right)^{\frac{1}{2}}} \right) * K$$

where:
P=Population
K=Correction Factor =0.8

Sewershed Area	Number of dwellings	Proportional Area	Ratio	Equivalent Population	Peaking Factor	Average Daily Flow	Peak Flow	Extraneous Flow	Maximum Flow
	units	ha	pers/dwelling	pers		(L/s)	(L/s)	(L/s)	(L/s)
33_1	42	4.64	3.4	142	3.56	0.58	2.05	1.30	3.35
33_2	25	2.80	3.4	86	3.61	0.35	1.26	0.78	2.04
33_3	44	4.92	3.4	151	3.55	0.61	2.17	1.38	3.55
33_4	16	1.77	3.4	54	3.65	0.22	0.80	0.50	1.29
33_7	44	4.88	1.8	79	3.62	0.32	1.16	1.37	2.52
33_8	51	5.69	2.7	138	3.56	0.56	1.99	1.59	3.58
33_10	31	3.50	1.8	57	3.64	0.23	0.84	0.98	1.82
33_11	27	3.04	1.8	49	3.65	0.20	0.73	0.85	1.58
33_12	85	9.45	2.7	230	3.50	0.93	3.26	2.65	5.91
33_13	31	3.47	2.7	84	3.61	0.34	1.23	0.97	2.20
33_14	176	19.52	3.4	597	3.35	2.42	8.09	5.47	13.56
33_15	164	18.25	3.4	558	3.36	2.26	7.59	5.11	12.70
33_16	14	1.51	2.7	37	3.67	0.15	0.55	0.42	0.97
33_17	57	6.34	3.4	194	3.52	0.79	2.77	1.78	4.54
34_1	92	10.20	3.4	312	3.46	1.26	4.37	2.86	7.23
34_2	8	0.90	2.7	22	3.70	0.09	0.33	0.25	0.58
34_3	74	8.21	3.4	251	3.49	1.02	3.55	2.30	5.85
34_4	14	1.51	2.7	37	3.67	0.15	0.55	0.42	0.97
							Qmax - Total (L/s) =		**74.25**

NOTES:

1. Base sanitary flow, population densities and infiltration rate are based on City of Clarence-Rockland design guidelines.
2. Harmon Equation has been used to calculate the residential peak factor for sanitary flows (see above) - Maximum 4.0.
3. Population densities specified by the City of Clarence-Rockland are shown in Table 4-1 above.
4. See Proposed Sanitary Servicing Sketch in Appendix A for identification of sewershed area.

Prepared by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 100529918

Verified by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 1000529918

May 29, 2019

CLARENCE-ROCKLAND EXPANSION LANDS
A000817 (360)
HYDRAULIC CALCULATIONS FOR SANITARY SEWERS

Manning's 'n' :	0.013
Maximum permitted velocity :	3.00
Minimum permitted velocity :	0.60

Section	Dia.	Slope	Capacity (full)	Velocity (full)	Flow	Velocity (actual)	Error Message			% Full
							Flow Velocity		Pipe Capacity	
	mm	%	m³/s	m/s	m³/s	m/s	maximum	minimum		
34_5	200	0.32%	0.019	0.59	0.00071	0.28	O.K.	increase velocity	O.K.	4%
34_4	200	0.32%	0.019	0.59	0.00168	0.36	O.K.	increase velocity	O.K.	9%
34_3	200	0.50%	0.023	0.74	0.00585	0.61	O.K.	O.K.	O.K.	25%
34_1	200	0.32%	0.019	0.59	0.01308	0.63	O.K.	O.K.	O.K.	69%
34_2	200	0.32%	0.019	0.59	0.01366	0.64	O.K.	O.K.	O.K.	72%
33_17	200	0.60%	0.025	0.81	0.00454	0.60	O.K.	O.K.	O.K.	18%
33_15	250	0.24%	0.029	0.59	0.01728	0.61	O.K.	O.K.	O.K.	60%
33_16	250	0.24%	0.029	0.59	0.01825	0.62	O.K.	O.K.	O.K.	63%
33_13	300	0.19%	0.042	0.59	0.03579	0.66	O.K.	O.K.	O.K.	85%
33_10	375	0.14%	0.065	0.59	0.03761	0.61	O.K.	O.K.	O.K.	58%
33_9	375	0.14%	0.065	0.59	0.03883	0.61	O.K.	O.K.	O.K.	60%
33_5	375	0.14%	0.065	0.59	0.03942	0.62	O.K.	O.K.	O.K.	61%
33_6	375	0.14%	0.065	0.59	0.04010	0.62	O.K.	O.K.	O.K.	62%
33_1	200	0.75%	0.028	0.90	0.00335	0.60	O.K.	O.K.	O.K.	12%
33_2	200	0.55%	0.024	0.77	0.00539	0.62	O.K.	O.K.	O.K.	22%
33_14	200	0.32%	0.019	0.59	0.01356	0.64	O.K.	O.K.	O.K.	71%
33_7	450	0.11%	0.094	0.59	0.06157	0.63	O.K.	O.K.	O.K.	66%
33_11	450	0.11%	0.094	0.59	0.06315	0.63	O.K.	O.K.	O.K.	67%
33_12	450	0.11%	0.094	0.59	0.06906	0.64	O.K.	O.K.	O.K.	73%
33_8	450	0.11%	0.094	0.59	0.07264	0.65	O.K.	O.K.	O.K.	77%

May 29, 2019

CLARENCE-ROCKLAND EXPANSION LANDS
A000817 (360)
HYDRAULIC CALCULATIONS FOR SANITARY SEWERS

Manning's 'n' :	**0.013**
Maximum permitted velocity :	**3.00**
Minimum permitted velocity :	**0.60**

Section	Dia.	Slope	Capacity (full)	Velocity (full)	Flow	Velocity (actual)	Error Message			% Full
							Flow Velocity		Pipe Capacity	
	mm	%	m³/s	m/s	m³/s	m/s	maximum	minimum		
33_3	525	0.10%	0.136	0.63	0.07619	0.65	O.K.	O.K.	O.K.	56%
33_4	525	0.10%	0.136	0.63	0.07748	0.65	O.K.	O.K.	O.K.	57%

Remarks :

1. Minimum pipe sizes and slopes were obtained from Table 4-3 of the City of Clarence-Rockland Design Guidelines.
2. Sections 34_5 and 34_4 utilized the minimum slope as an effort to mitigate the need for deep sanitary sewers. These sections will require a flushing program for maintenance. For all other sewers, if the minimum velocity requirement was not met, the pipe slope was increased incrementally by 0.05% until the minimum velocity requirement was met.
3. See Proposed Sanitary Servicing Sketch in Appendix A for identification of sewershed area (Section).

Prepared by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 100529918

Verified by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO # 100529918

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Appendix C

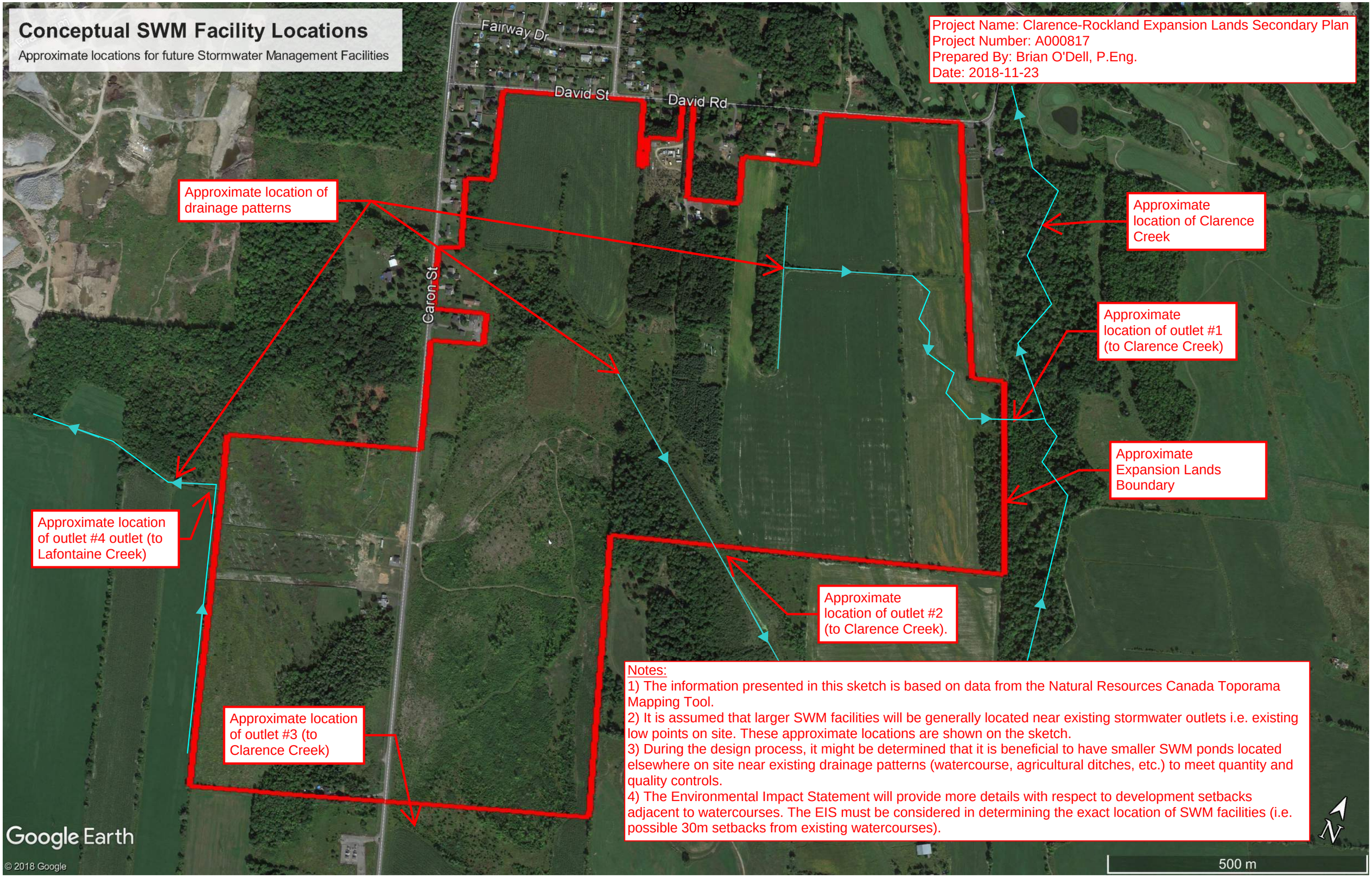
Stormwater Calculations

CIMA+

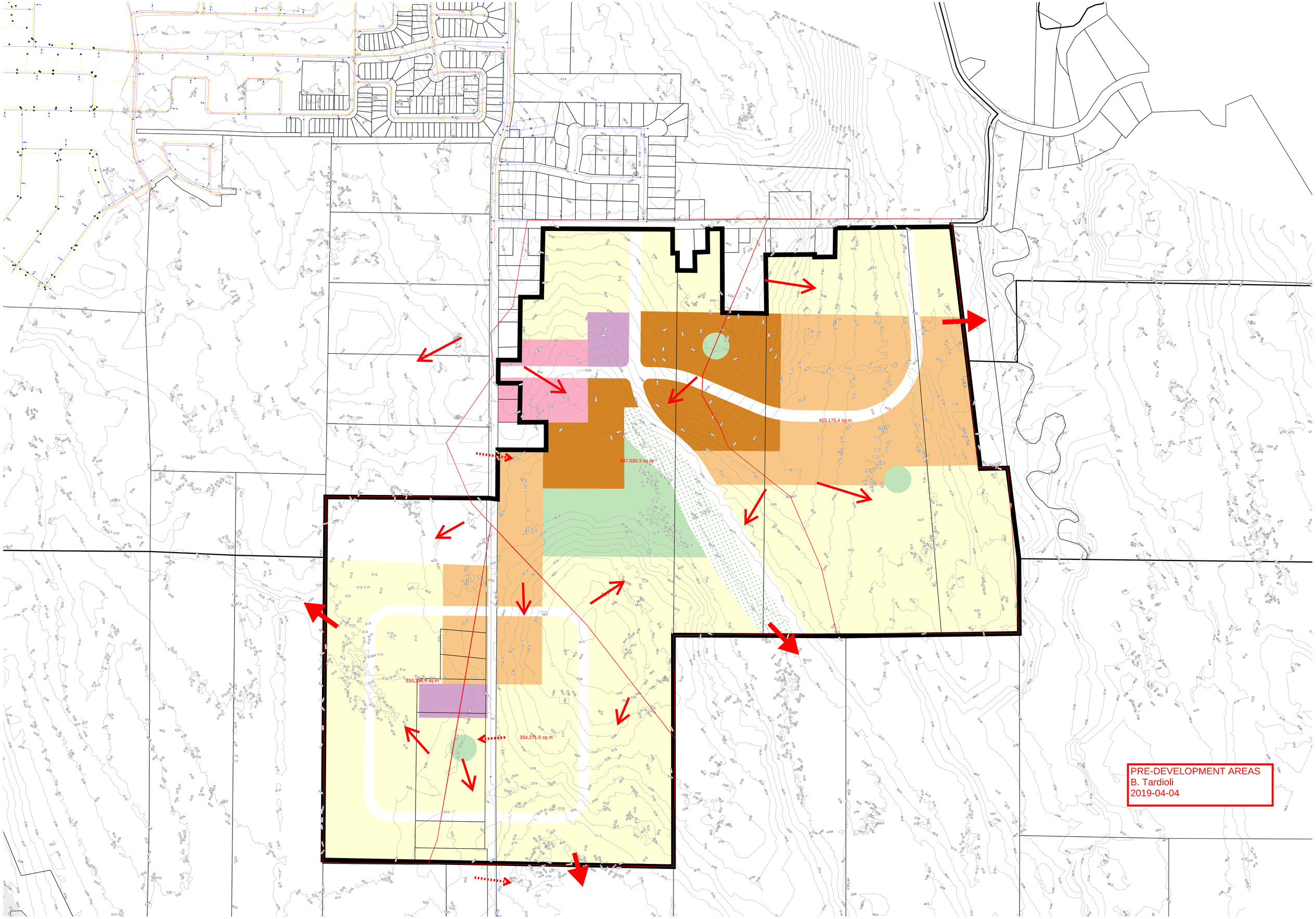
Conceptual SWM Facility Locations

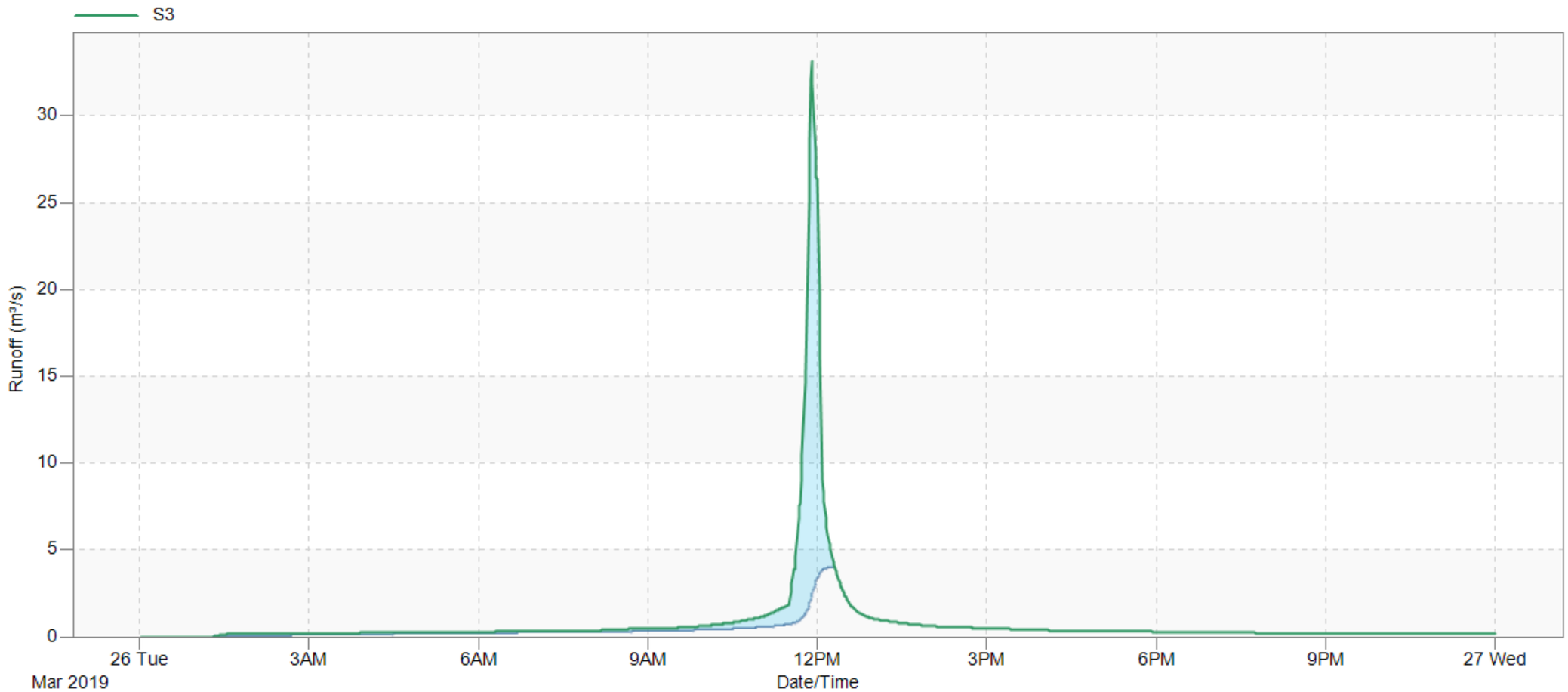
Approximate locations for future Stormwater Management Facilities

Project Name: Clarence-Rockland Expansion Lands Secondary Plan
Project Number: A000817
Prepared By: Brian O'Dell, P.Eng.
Date: 2018-11-23



Notes:
1) The information presented in this sketch is based on data from the Natural Resources Canada Toporama Mapping Tool.
2) It is assumed that larger SWM facilities will be generally located near existing stormwater outlets i.e. existing low points on site. These approximate locations are shown on the sketch.
3) During the design process, it might be determined that it is beneficial to have smaller SWM ponds located elsewhere on site near existing drainage patterns (watercourse, agricultural ditches, etc.) to meet quantity and quality controls.
4) The Environmental Impact Statement will provide more details with respect to development setbacks adjacent to watercourses. The EIS must be considered in determining the exact location of SWM facilities (i.e. possible 30m setbacks from existing watercourses).


455,175.4 sq m
547,030.3 sq m
250,208.9 sq m
264,271.5 sq m
PRE-DEVELOPMENT AREAS
B. Tardioli
2019-04-04



Data | Objectives | Error | Storage | Patterns | Edit | Derive | Audit | Events | Scatter | Duration | IDF

Storage required for S3 Runoff (m³/s)

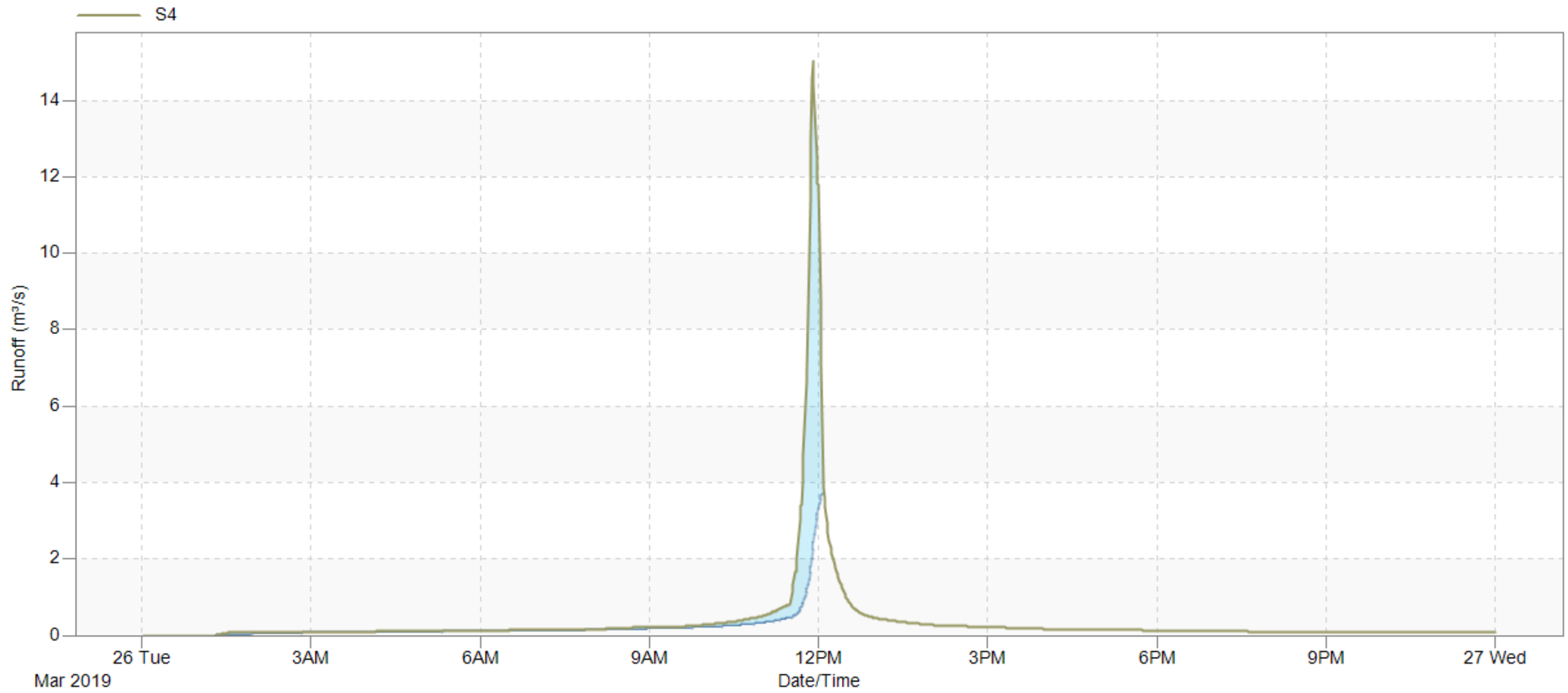
From 3/25/2019 10:49:03 PM to 3/27/2019 1:11:57 AM (26.38 hours)

Available storage before outflow: 0 m³

Maximum design outflow: 4 m³/s

Storage volume required to obtain a peak flow of 4 m³/s at location S3 is 36949.48 m³.

Hydrograph curve generated from the computer software PCSWMM approximating storage volume requirements for Subcatchment S3 during a 24 hour 100-year SCS Type II design storm.



Data | Objectives | Error | Storage | Patterns | Edit | Derive | Audit | Events | Scatter | Duration | IDF

Storage required for S4 Runoff (m³/s)

From 3/25/2019 10:49:03 PM to 3/27/2019 1:11:57 AM (26.38 hours)

Available storage before outflow: 0 m³

Maximum design outflow: 3.7 m³/s

Storage volume required to obtain a peak flow of 3.7 m³/s at location S4 is 12891.12 m³.

Hydrograph curve generated from the computer software PCSWMM approximating storage volume requirements for Subcatchment S4 during a 24 hour 100-year SCS Type II design storm.

STORM SEWER HYDRAULIC DESIGN SHEET (SSDS) - RATIONAL METHOD

Client: City of Clarence-Rockland
Project: Expansion Lands
Location: City of Clarence-Rockland
Project #: A000817

Manning Coefficient: 0.013
Maximum Permitted Velocity: 3.00 m/s
Minimum Permitted Velocity: 0.80 m/s
Return Frequency: 5 years

LOCATION			AREA		FLOW					SEWER DATA								
Street/Catchment	From	To	Area	C =	Section	Accum	Time of	Rainfall	Peak	Diameter	Material	Slope	Length	Capacity	Velocity	Velocity	Time of	Ratio
Name	MH/CB	MH/CB			2.78*AC	2.78*AC	Conc	Intensity	Flow		Type			(full)	(full)	(actual)	Flow	
			(ha)		(ha)	(ha)	(min)	(mm/hr)	(L/s)	(mm)		(%)	(m)	(L/s)	(m/s)	(m/s)	(min)	(%)
To SWM #1 (Catchment S3)																		
P2			2.94	0.400	3.27	3.27	15.00	83.557	273.17									
S0			1.27	0.400	1.41	1.41	15.00	83.557	118.00									
SC4	340	330	0.55	0.700	1.07	5.75	15.00	83.557	480.61	975	CONC	0.10%	235.00	708.68	0.95	1.02	3.85	68%
V3			0.72	0.400	0.80	0.80	15.00	83.557	66.90									
R3			2.95	0.400	3.28	3.28	15.00	83.557	274.10									
SC3	350	330	0.42	0.700	0.82	4.90	15.00	83.557	409.29	900	CONC	0.10%	170.00	572.47	0.90	0.98	2.90	71%
S2			2.36	0.400	2.62	2.62	15.00	83.557	219.28									
V2			2.33	0.400	2.59	2.62	15.00	83.557	219.28									
CS6	330	331	0.67	0.700	1.30	6.55	18.85	72.891	1367.52	1350	CONC	0.10%	230.00	1687.83	1.18	1.31	2.93	81%
W			1.13	0.800	2.51	2.51	15.00	83.557	209.99									
CS5	331	306	0.50	0.700	0.97	3.49	21.77	66.584	1599.64	1500	CONC	0.10%	240.00	2235.37	1.26	1.37	2.92	72%
P1			7.26	0.400	8.07	8.07	15.00	83.557	674.57									
S1			4.59	0.400	5.10	5.10	15.00	83.557	426.48									
SC5	320	321	1.28	0.700	2.49	15.67	15.00	83.557	1309.18	1500	CONC	0.10%	540.00	2235.37	1.26	1.32	6.83	59%
T			1.51	0.600	2.52	2.52	15.00	83.557	210.45									
Q			0.90	0.600	1.50	1.50	15.00	83.557	125.44									
SC6	321	306	0.22	0.700	0.43	4.45	21.83	66.478	1604.87	1650	CONC	0.10%	120.00	2882.24	1.35	1.38	1.44	56%
G1			2.19	0.700	4.26	4.26	15.00	83.557	356.10									
SA3	310	301	0.41	0.700	0.80	5.06	15.00	83.557	422.77	900	CONC	0.10%	75.00	572.47	0.90	0.98	1.28	74%

LOCATION			AREA		FLOW					SEWER DATA								
Street/Catchment	From	To	Area	C =	Section	Accum	Time of	Rainfall	Peak	Diameter	Material	Slope	Length	Capacity	Velocity	Velocity	Time of	Ratio
Name	MH/CB	MH/CB			2.78*AC	2.78*AC	Conc	Intensity	Flow		Type			(full)	(full)	(actual)	Flow	
DS1	David	300	1.13	0.700	2.20	2.20	15.00	83.557	183.74									
A			4.64	0.400	5.16	5.16	15.00	83.557	431.13									
B			2.80	0.400	3.11	3.11	15.00	83.557	260.16									
SB1	300	301	0.80	0.700	1.56	9.83	15.00	83.557	1005.11	1350	CONC	0.10%	315.00	1687.83	1.18	1.23	4.27	60%
F			1.09	0.800	2.42	2.42	15.00	83.557	202.56									
SA2	301	302	0.26	0.700	0.51	2.93	19.27	71.888	1638.52	1500	CONC	0.10%	95.00	2235.37	1.26	1.38	1.15	73%
E			0.94	0.800	2.09	2.09	15.00	83.557	174.68									
SA1	302	303	0.54	0.700	1.05	3.14	20.42	69.338	1856.34	1500	CONC	0.10%	210.00	2235.37	1.26	1.41	2.48	83%
CS1	Caron	303	0.62	0.700	1.21	1.21	15.00	83.557	100.81									
J			1.95	0.800	4.34	4.34	15.00	83.557	362.37									
CS2	303	304	0.25	0.700	0.49	4.82	22.91	64.457	2268.05	1650	CONC	0.10%	115.00	2882.24	1.35	1.49	1.29	79%
K			3.50	0.700	6.81	6.81	15.00	83.557	569.11									
CS3	304	305	0.18	0.700	0.35	7.16	24.20	62.211	2713.55	1800	CONC	0.10%	90.00	3634.96	1.43	1.56	0.96	75%
M			3.47	0.600	5.79	5.79	15.00	83.557	483.63									
CS4	305	306	0.63	0.700	1.23	7.01	25.16	60.648	3138.94	1950	CONC	0.10%	325.00	4499.86	1.51	1.63	3.33	70%
U			1.51	0.600	2.52	2.52	15.00	83.557	210.45									
SC1	306	307	0.39	0.700	0.76	3.28	28.49	55.842	4921.60	2250	CONC	0.10%	200.00	6590.62	1.66	1.81	1.84	75%
V1			3.29	0.400	3.66	3.66	15.00	83.557	305.69									
R2			8.55	0.400	9.51	9.51	15.00	83.557	794.43									
SC2	360	307	0.94	0.700	1.83	15.00	15.00	83.557	1252.97	1350	CONC	0.10%	415.00	1687.83	1.18	1.29	5.36	74%
R1			6.75	0.400	7.51	7.51	15.00	83.557	627.18									
N	307	SWM#1	5.55	0.200	3.09	10.59	30.33	53.534	6741.59	2550	CONC	0.10%	225.00	9201.96	1.80	1.96	1.91	73%
To SWM#2 (Catchment S4)																		
DS2	David	400	0.80	0.700	1.56	1.56	15.00	83.557	130.08									
C			4.92	0.400	5.47	5.47	15.00	83.557	457.14									
D			1.77	0.400	1.97	1.97	15.00	83.557	164.46									
SA7	400	401	0.50	0.700	0.97	8.41	15.00	83.557	832.99	1200		0.10%	155.00	1232.89	1.09	1.17	2.21	68%
H			5.69	0.600	9.49	9.49	15.00	83.557	793.03									
SA6	401	402	0.27	0.700	0.53	10.02	17.21	77.040	1604.65	1500		0.10%	110.00	2235.37	1.26	1.37	1.34	72%
G2			2.69	0.700	5.23	5.23	15.00	83.557	437.40									
L2			1.32	0.700	2.57	2.57	15.00	83.557	214.64									
SA4	410	411	0.49	0.700	0.95	8.76	15.00	83.557	731.71	1200		0.10%	175.00	1232.89	1.09	1.14	2.57	59%
SA5	411	402	0.90	0.700	1.75	1.75	17.57	76.085	864.97	1350		0.10%	350.00	1687.83	1.18	1.18	4.95	51%
I1	402	403	3.54	0.600	5.90	5.90	22.51	65.174	1249.80	1500		0.10%	270.00	2235.37	1.26	1.30	3.46	56%

LOCATION			AREA		FLOW					SEWER DATA								
Street/Catchment	From	To	Area	C =	Section	Accum	Time of	Rainfall	Peak	Diameter	Material	Slope	Length	Capacity	Velocity	Velocity	Time of	Ratio
Name	MH/CB	MH/CB			2.78*AC	2.78*AC	Conc	Intensity	Flow		Type			(full)	(full)	(actual)	Flow	
L1			1.73	0.700	3.37	3.37	15.00	83.557	281.30									
SB2	420	421	0.55	0.700	1.07	4.44	15.00	83.557	370.73	900		0.10%	200.00	572.47	0.90	0.96	3.49	65%
I3			0.87	0.600	1.45	1.45	15.00	83.557	121.25									
SB3	421	422	0.23	0.700	0.45	1.90	18.49	73.753	510.77	975		0.10%	90.00	708.68	0.95	1.03	1.46	72%
O2			4.55	0.400	5.06	5.06	15.00	83.557	422.77									
SB4	430	422	1.00	0.700	1.95	7.01	15.00	83.557	585.37	1050		0.10%	370.00	863.53	1.00	1.07	5.76	68%
I2	422	403	5.07	0.600	8.46	8.46	20.76	68.620	1676.44	1500		0.10%	490.00	2235.37	1.26	1.38	5.90	75%
O1	403	SWM#2	15.04	0.400	16.72	16.72	26.67	58.361	3902.30	2100		0.10%	75.00	5483.08	1.58	1.72	0.73	71%

Design Parameters:

Rational Formula: $Q_{peak} = 2.78*CIA$

Where:
- Q = Peak Flow (L/s)
- C = Runoff Coefficient
- I = Rainfall Intensity (mm/hr) = $A/(Td + C)^B$
- (City of Ottawa MacDonald Cartier Airport - See Table Below)
- A = Area (ha)
- T = Time of Concentration (min)

Time of Concentration: Tc = Ti + Tf (minutes)

Where:
- Ti = inlet time before pipe (minutes)
- Tf = time of flow in pipe (minutes)

Where:
- Tf = L/(60V)
- L = Pipe Length (m)
- V = Actual Velocity (m/s)

Manning Equation: $Q_{cap} = 1/n*A*R^{2/3}*S^{1/2}$

Where:
- n = Manning Roughness Coefficient
- A = Area of Flow (m^2)
- R = Hydraulic Radius (defined as area of flow (m^2) divided by wetted perimeter (m))
- S = Slope of Pipe (%)

Notes:

1. Runoff coefficients used were obatined from Table 4-5 of the City of Clarence-Rockland Design Guidelines.
2. City of Ottawa IDF parameters were used to calculate rainfall intensities.
3. An initial time of concentration of 15 minutes was used as per Section 4.2.3 of the City of Clarence-Rockland Design Guidelines.
4. See Proposed Storm Servicing Sketch SK-01 in Appendix A for identification of Catchment Name.

Prepared by: Benjamin Tardioli, EIT Date: 2019-05-29
PEO No.:

Verified by: Brian O'Dell, P.Eng. Date: 2019-05-29
PEO No.: 100529918

CITY OF CLARENCE-ROCKLAND

EXPANSION LANDS SECONDARY PLAN
TRANSPORTATION IMPACT ASSESSMENT

Report No. 01-2019
June 2019

A000817

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1. Introduction

The Town of Clarence-Rockland is part of the counties of Prescott and Russell. As part of the Official Plan of the United Counties of Prescott and Russell, the urban area of Clarence-Rockland was identified to be expanded to accommodate the long-term growth 2035 vision. This expanded urban area will accommodate additional new urban development to meet Clarence-Rockland's projected growth over the projected planning period. The expansion lands are located south of Clarence-Rockland on the west and east side of Caron Street. Fotenn, CIMA+ and Shore Tanner were retained by the Town of Clarence-Rockland to complete a Secondary Plan for the Expansion Lands. Once complete this Secondary Plan will be appended to the Official Plan for the Urban Area for the city of Clarence-Rockland as an amendment.

This report will assess the existing and proposed transportation network capacities for vehicles, cyclists and pedestrians and to highlight the existing transportation and traffic related conditions in the surrounding area of Clarence-Rockland. It is understood that the City is also concurrently undertaking a Transportation Master Plan (TMP), as well as a Multi-Modal Transportation Master Plan (MMTMP) in order to meet the anticipated growth and demand of the transportation network by all road users, including vehicles, cyclists and pedestrians in the near future. Both plans will serve as an update to the Strategic Transportation Plan for the Urban Area of the City of Clarence-Rockland, which was completed in 2005.

1.1 Planning Context

The following studies, planning policy and plans were consulted to understand the context of this transportation study from the perspective of each of the province, the county and the city of Clarence-Rockland's objectives for planning in this area.

- #CycleOn Strategy, 2013
- Prescott-Russell Recreational Trail Strategic Plan, 2014
- Prescott-Russell Recreational Trail Assessment and Improvement Plan, 2015
- Prescott-Russell Official Plan, 2018
- Strategic Transportation Plan for the Urban Area of the City of Clarence-Rockland, 2005
- Official Plan of the Urban Area of the City of Clarence-Rockland, 2014
- Development Charges Background Study, 2014
- Clarence-Rockland Transit Feasibility Study, 2014
- Clarence-Rockland Community Improvement Plan Background Study, 2016
- Clarence-Rockland Parks & Recreation Master Plan, 2016
- City of Clarence-Rockland Strategic Plan, 2018
- City of Clarence-Rockland Multi-Modal Transportation Master Plan Draft Memo, 2018

1.1.1 Provincial Planning

The province of Ontario is looking to have cycling recognized as a respected and valued mode of transportation in Ontario by the year 2033. The guiding principles of this strategy are:

- Safety
- Partnership
- Accessibility
- Connectivity

The strategic plans that apply to the City of Clarence-Rockland for the purpose of this report to meet this goal includes:

- Design healthy, active and prosperous communities;
- Improve cycling structure; and
- Make streets safer.

1.1.2 County Planning

The land that Clarence-Rockland is looking to make part of their urban area is currently under rural policy area with the County of Prescott-Russell. Their Official Plan provides guidance on the distribution of residential types and density. It is seeking to ensure that 70% of all new housing will be low density (up to 16 units per net ha), 20% medium density (up to 30 units per net ha) and 10% high density (more than 30 units per net ha). Caron Street and Baseline Road are identified as having a right-of-way of 26 meters. Baseline Road is identified as a local collector road and Caron Road is identified as a major collector.

The County of Prescott-Russell has a focus on improving recreational active transportation modes across the county. This includes the paving of road shoulders within the cycling network and integrating it into Public Works, improving active transportation uptake in municipal official plans, and including sidewalk and cycling facility requirements in municipal by-laws for new developments.

1.1.3 Municipal Planning Context

A future residential neighbourhood is projected to be developed in the lands located west of the study area, as the lands are designated for low density residential develop as per the Clarence-Rockland Official Plan (OP).

Key Issues

- Planned pathway system – integration of existing and proposed on/off-street pathway facilities (MMLOS considerations)
- Medium to Long term effects on Caron Street – Primary north-south roadway link to County Road 17 (HWY17), looking at a potentially expansion.

- New East-West Arterial Corridor – Proposed development lands may trigger this need as County Road 17 and Caron Street begin to reach capacity, as previously discussed in the 2005 strategic plan.

1.2 Study Area

The City of Clarence-Rockland is located within the United Counties of Prescott and Russell and is situated along County Road 17 (HWY 17), approximately 40 km east of the City of Ottawa's downtown. The Ottawa River is located immediately north while the United Counties of Stormont, Dundas, and Glengarry are located further south. An interprovincial connection between Ontario and Quebec is provided via a seasonal ferry (does not operate during winter months), which provides a link between Thurso, Quebec and Clarence-Rockland. Alternative interprovincial connections are provided via a bridge connection in the east (linking Hawkesbury, Ontario and Grenville, Quebec) or a four-season ferry in the west (linking Cumberland, Ontario and Masson-Angers, Quebec), which operates 24 hours a day, 7 days a week.

The location of the Secondary Plan Expansion Lands, in relation to the greater City of Clarence-Rockland is illustrated in **Figure 1**.

Figure 1: Expansion Lands

As depicted in **Figure 1**, the subject expansion lands include area south of David Street and west of Clarence Creek. It is situated mostly to the east of Caron Street, with the exception of an area of approximately 23 hectares on the west side of Caron Street in the southwest of the study area. The Rockland Golf Club and the residential neighbourhood of Rockland East are located to the north of the study area.

2. Existing Conditions

2.1 Study Area Road Network

The roads within the greater study area are under a combination of jurisdictions, including the Counties of Prescott and Russell, and the City of Clarence-Rockland. The following is a summary of the roads within the greater study area of the proposed Secondary Plan boundaries, and the role these roadways play in the greater road network.

HWY 17: is a 2-lane east-west arterial road with a posted speed limit of 70 km/h designated under the Counties of Prescott and Russell's jurisdiction that is continuous between the County limits. HWY17 provides a major transportation link between the Ottawa region and the Greater Montreal area community, as well as providing direct access within the Counties of Prescott and Russell.

Caron Street: is a 2-lane north-south major collector road. A posted speed limit of 50 km/h is present from the north extension of the road at its intersection with HWY 17 to 500 metres south of David Street. South of David Street, Caron Street extends to Baseline Road with a posted speed limit of 80 km/h. A centre two-way-left-turn lane is currently provided along Caron Street between HWY 17 and David Street, which provides refuge for left-turn movements to/from a number of local roads and adjacent land uses.

Docteur Corbeil Boulevard: is a 2-lane east-west major collector road with a posted speed limit of 50 km/h. In the west, Docteur Corbeil Boulevard extends from St. Jean Street (as a 'T' intersection) and terminates at Caron Street in the east (as a 'T' intersection). Laurier Street: is a 2-lane east-west major collector road with a posted speed limit of 50 km/h. In the west, Laurier Street extends from Popuart Road to HWY 17 in the east (as an unsignalized 'T' intersection). On-street parking is provided on both the north and south sides of Laurier Street where residential housing is provided.

David Street: is a 2-lane east-west local street with a posted speed limit of 50 km. In the west, David Street extends from Caron Street (as a 'T' intersection) to Tucker Road/Montée Outaouais in the east (as a 'T' intersection). David Street primarily serves a small residential and agricultural land uses.

Baseline Road: is a 2-lane local collector with a posted speed limit of 80 km/h and a rural cross section. In the west, Baseline Road extends from Canaan Road to Division Road in the east.

2.2 Study Area Intersections

Caron Street at HWY 17 is a four-legged signalized intersection. Auxiliary left-turn lanes are provided in all directions, and auxiliary right-turn lanes are provided in the eastbound and westbound directions. A single lane is provided for through movements in all directions, with northbound and southbound through movements shared with right-turns.

Crosswalks with pedestrian actuated signals are provided for all crossing directions.

Caron Street at Laurier Street is a slightly skewed, four-legged signalized intersection. Auxiliary left-turn lanes are provided in all directions. A single shared through/right-turn lane is provided in all directions

Crosswalks with pedestrian actuated signals are provided for all crossing directions.

Caron Street at Hélène Street is a three-legged side street stop-controlled intersection. An auxiliary northbound left turn lane is provided as an extension of the continuous left-turn lane along Caron Street.

No pedestrian crosswalks are provided at the intersection. This intersection is similar to most local residential roads intersecting with Caron Street within the study area.

Caron Street at Docteur Corbeil Boulevard is a three-legged side street stop-controlled intersection. A continuous centre left-turn lane is provided through the intersection along Caron Street.

A pedestrian crossing is provided on the west side of the intersection. Bicycle lanes are provided along Docteur Corbeil Boulevard.

Caron Street at David Street is a three legged all-way stop controlled intersection. An auxiliary southbound left-turn lane is provided as an extension of the continuous left-turn lane along Caron Street.

No Pedestrian crosswalks are provided at the intersection.

Caron Street at Baseline Road is a three-legged side street stop-controlled intersection, with southbound vehicles along Caron Street required to stop. No auxiliary lanes are provided at the intersection.

No pedestrian crosswalks are provided at the intersection.

2.3 Existing Active Transportation

Active transportation facilities were reviewed to gain an understanding of existing pedestrian and cycling facilities within the greater City area. The City acknowledges that protecting and expanding the existing pedestrian and bicycle network in the City is essential to creating quality of place. Existing policies within the City's Official Plan are anticipated to be expanded with the future TMP and ATP currently being updated.

2.3.1 Pedestrian Facilities

A sidewalk, approximately 2.2 m in width is provided along the west side of Caron Street, while a paved asphalt path approximately 3.0 m in width is provided along the east side of this roadway, both extending from HWY 17 in the north and terminating at David Street in the south. The asphalt path is recognized as an 'off-street multi-use path' according to the Clarence-Rockland Official Plan; however, there is no signage present along the asphalt path (based on Google Street view imagery) to indicate its use as a 'multi-use' path.

Two (2) midblock crossing treatments are present along Caron Street connecting to local trails, as illustrated in **Figure 2**. Midblock crossing treatments have 'zebra' type pavement markings, side-mounted pedestrian crossover signs (Ra-5LR) on both sides of the road facing both directions, and pedestrian refuge islands. These midblock crossing treatments offer the only opportunity for pedestrians to cross Caron Street, with the exception of the east-west crosswalk provided at the signalized HWY 17/Caron and Laurier/Caron intersections.

Figure 2: Midblock Pedestrian Crossing (Caron Street north of Hélène Street)

Sidewalks are primarily located along collector roadways within the City, such as Laurier Street, St. Joseph Street, St. Jean Street, Heritage Drive, etc. Most local residential streets within the City do not have pedestrian facilities. An example of absent sidewalks along local roadways is depicted in **Figure 3**.

Some local roads within the City are identified as potential candidates for road widening as per the Official Plan (e.g. David Road is a candidate for widening). As defined in the City's Official Plan[1], the addition of dedicated pedestrian facilitates should be considered at the time when road reconstruction projects are being undertaken within the City's urban area.

Figure 3: Absence of sidewalks north of David Rd

2.3.2 Cycling Facilities

As mentioned previously, a paved asphalt path is provided along the east side of Caron Street, extending from HWY 17 in the north and terminating at David Street in the south. The City has designated this path as a 'multi-use' facility; however, the elements attributed to it are more recognizable with a dedicated cycling facility, such as a two-way cycle-track. The width of the asphalt path is approximately 3.0 metres, with a solid yellow centre-line running down the centre. Bicycle lane pavement markings are provided in both directions, as illustrated in **Figure 4.**

[1] Official Plan of the Urban Area of the City of Calrence-Rockland, Section 7.11 Pedestrian Policies

Figure 4: Paved Asphalt Pavement Markings – Caron Street South of HWY 17

Cyclist crossing facilities are also provided in multiple locations along Caron Street. Crossing facilities have custom double-sided bicycle crossing signage present on both sides of the road to alert oncoming vehicles. Dashed pavement markings as well as directional arrows are present, which provide positive guidance for crossing cyclists, as illustrated in **Figure 5**.

Figure 5: Cyclist Crossing Facilities – Caron Street

Bicycle lanes are provided in the east and westbound directions along Docteur Corbeil Boulevard. As depicted in **Figure 6** bicycle lanes are shown to terminate when on-street parking is provided for the adjacent residential units, and 'Sharrow' pavement markings are provided within the centre of the travel lane to guide cyclists as to where they should ride within a travel lane, shared by both motorists and cyclists.

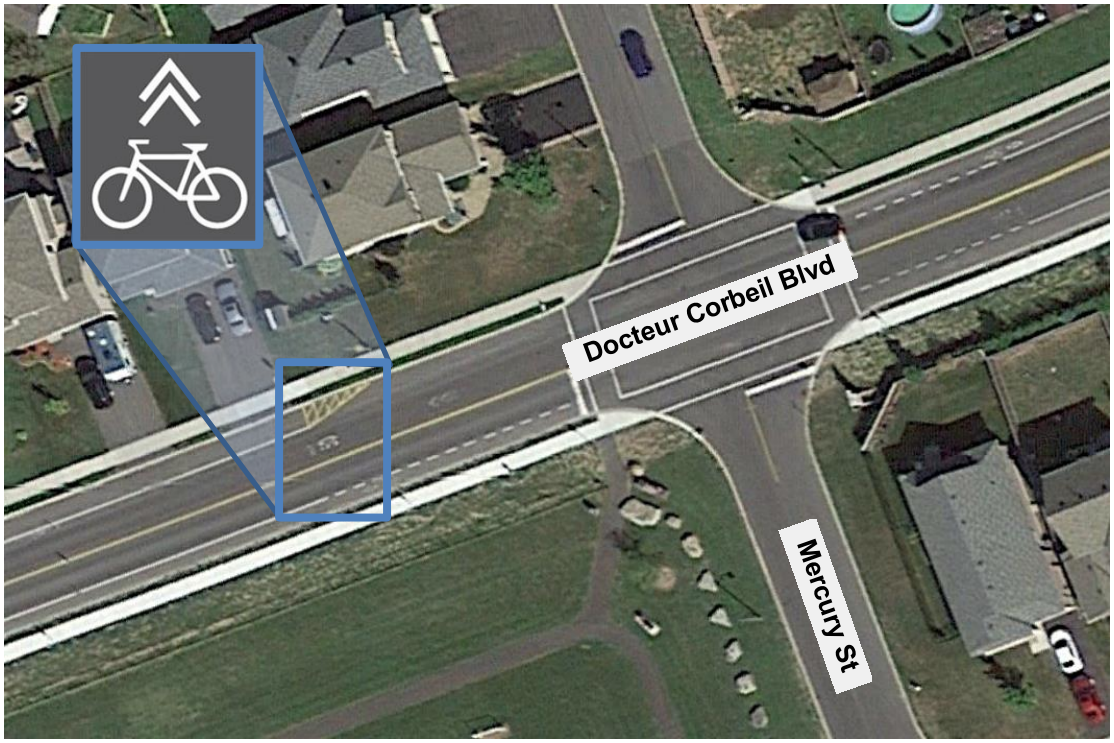

Figure 6: Bicycle Lane & 'Sharrow' Cyclist Pavement Markings (Docteur Corbeil Blvd 350m west of Caron St)

2.4 Existing Transit

Clarence-Rockland Transport (CRT) operates three bus routes (No. 530, 530A and 535), which connect the City of Clarence-Rockland and downtown Ottawa, with some services continuing to Gatineau (Hull). Route 530 directly serves the study area, while route 535 provides service to/from Bourget along Russell Road and Highway 417.

Within the City of Clarence-Rockland, route 530 and 530A are understood to be a commuter-oriented express service operating inbound to Ottawa in the morning and outbound to Clarence-Rockland in the afternoon. In 2012, 11 daily trips were provided on Route 530, with an average daily ridership of 355 people using the service (per direction). Within Clarence-Rockland, this route is understood to travel on Laurier Street and Docteur Corbeil Boulevard (to/from Clarence Creek). Both routes and their respective bus stop locations are illustrated in **Figure 7** and **Figure 8.**

Based on information provided, it should be noted that the contract between Clarence-Rockland and the Leduc Bus Lines will expire on August 31st, 2019. However, Leduc Bus lines has indicated that buses will continue to operate on September 1st, although there could be an increase in fares without municipal funding.[2] This may have an impact on future transit ridership.

[2] CBC. (2019). *Clarence-Rockland hands public transit system to private sector* | *CBC News*. [online].

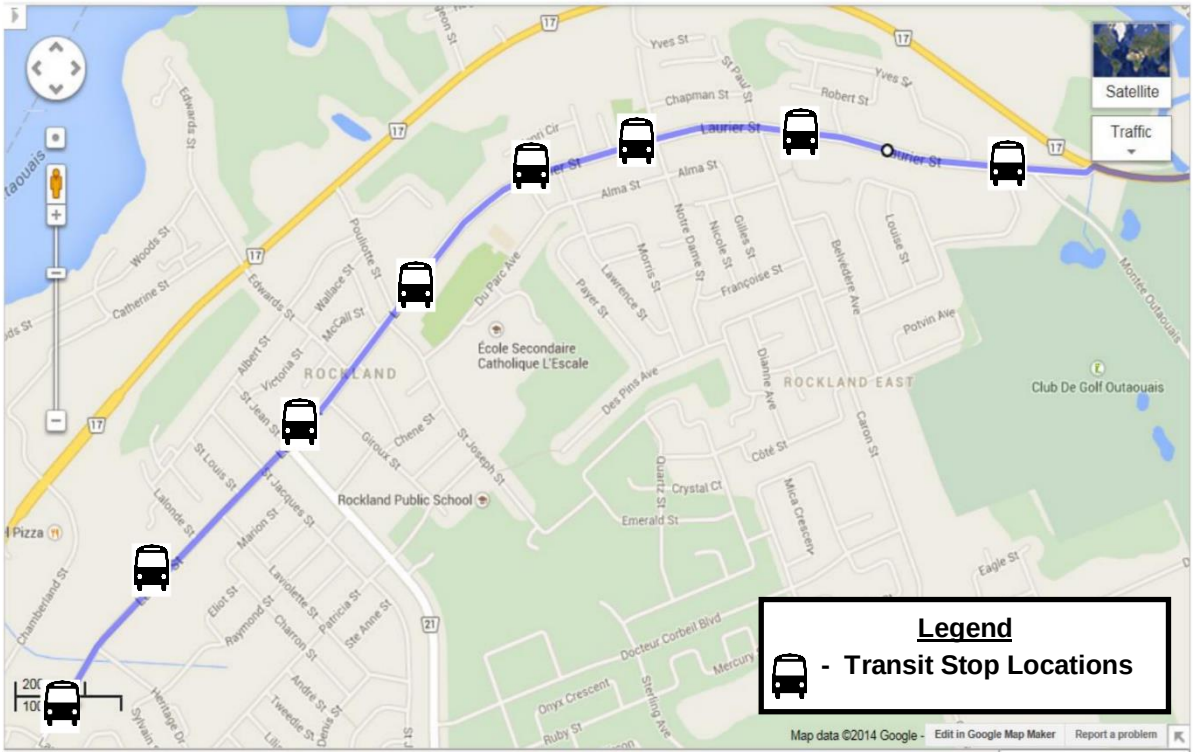

Figure 7: CRT Route 530

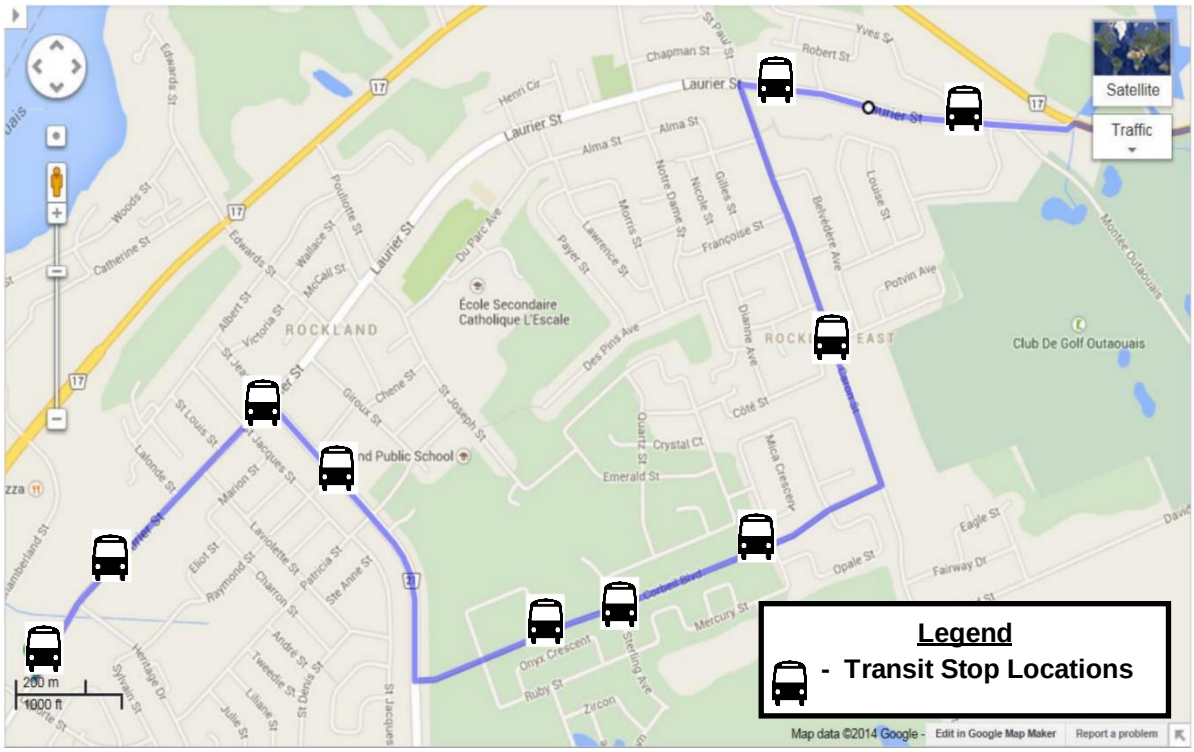

Figure 8: CRT Route 530A

2.5 Existing Network Operations

2.5.1 Methodology

Intersection capacity analysis was undertaken using procedures described in the Highway Capacity Manual (HCM). The analysis primarily focuses on performance measures such as level-of-service (LOS), volume to capacity (v/c) ratio, and 95th percentile queues. Additionally, delays reported with HCM methodology were compared to delays reported in SimTraffic simulation in certain cases where simulated results vary from reported results. LOS is a qualitative measure of operational performance and is based on control delay. The LOS criteria for signalized and unsignalized intersections are shown in **Table 1.**

Table 1: LOS Criteria for Signalized and Unsignalized Intersections

LOS	Control Delay (seconds/vehicle)		Traffic Flow Characteristics
	Signalized Intersections	Unsignalized Intersections	
A	0 – 10	0 – 10	Very Good
B	> 10 – 20	> 10 – 15	Good
C	> 20 – 35	> 15 – 25	Typically preferred planning objective
D	> 35 – 55	> 25 – 35	Typically acceptable
E	> 55 – 80	> 35 – 50	Undesirable; potentially unstable traffic flow
F	> 80	> 50	Failing movements may impede traffic flow

A v/c Ratio is the ratio between traffic volume and the theoretical capacity of an intersection or movement. A v/c Ratio greater than 1.0 indicates that an intersection or movement is operating over capacity. A 95th percentile queue is a queue length that has a 5% probability of being exceeded during the analysis period (i.e. during peak hours). It is common industry practice to use 95th percentile queues for design purposes.

Additionally, the review of intersection operations follows industry best practices which indicate that the analysis should identify intersections where:

- v/c ratios for overall intersection operations, through movements or shared through/turning movements are 0.90 or above;
- v/c ratios for exclusive movements are above 1.00; and
- 95th percentile queue lengths for individual movements exceed available lane storage.

The operational performance of signalized and stop-controlled intersections within the study area were reviewed using Synchro/SimTraffic (v9) software.

2.5.2 Traffic Analysis

Turning movement counts (TMCs) were collected during the week of April 5th to April 12th, 2018 during both AM and PM peak periods. Some TMCs at unsignalized intersections were estimated based on counts at similar locations throughout the study area. Link volume between intersections was balanced appropriately in the north-south direction along Caron Street, to minimize volume discrepancies between counts conducted on different days. Turning movement counts are illustrated in **Figure 9** and full turning movement counts are provided in **Appendix A**.

Intersection operational analysis was undertaken for the two (2) signalized and seven (7) unsignalized intersections within the study area using Synchro/SimTraffic 9 software to assess existing conditions. A signal timing plan was provided by the City of Clarence-Rockland for the intersection of Caron Street & HWY 17 and used in the existing conditions Synchro model. The signal timing at the intersection of Caron Street & Laurier Street was not provided and was measured in the field on April 10, 2018. The measured signal timing was compared with OTM Book 12 Signal Timing guidelines based on the roadway conditions and modified accordingly.

The existing conditions analysis is summarized in **Table 2** and the detailed Synchro/SimTraffic output results are provided in **Appendix B**.

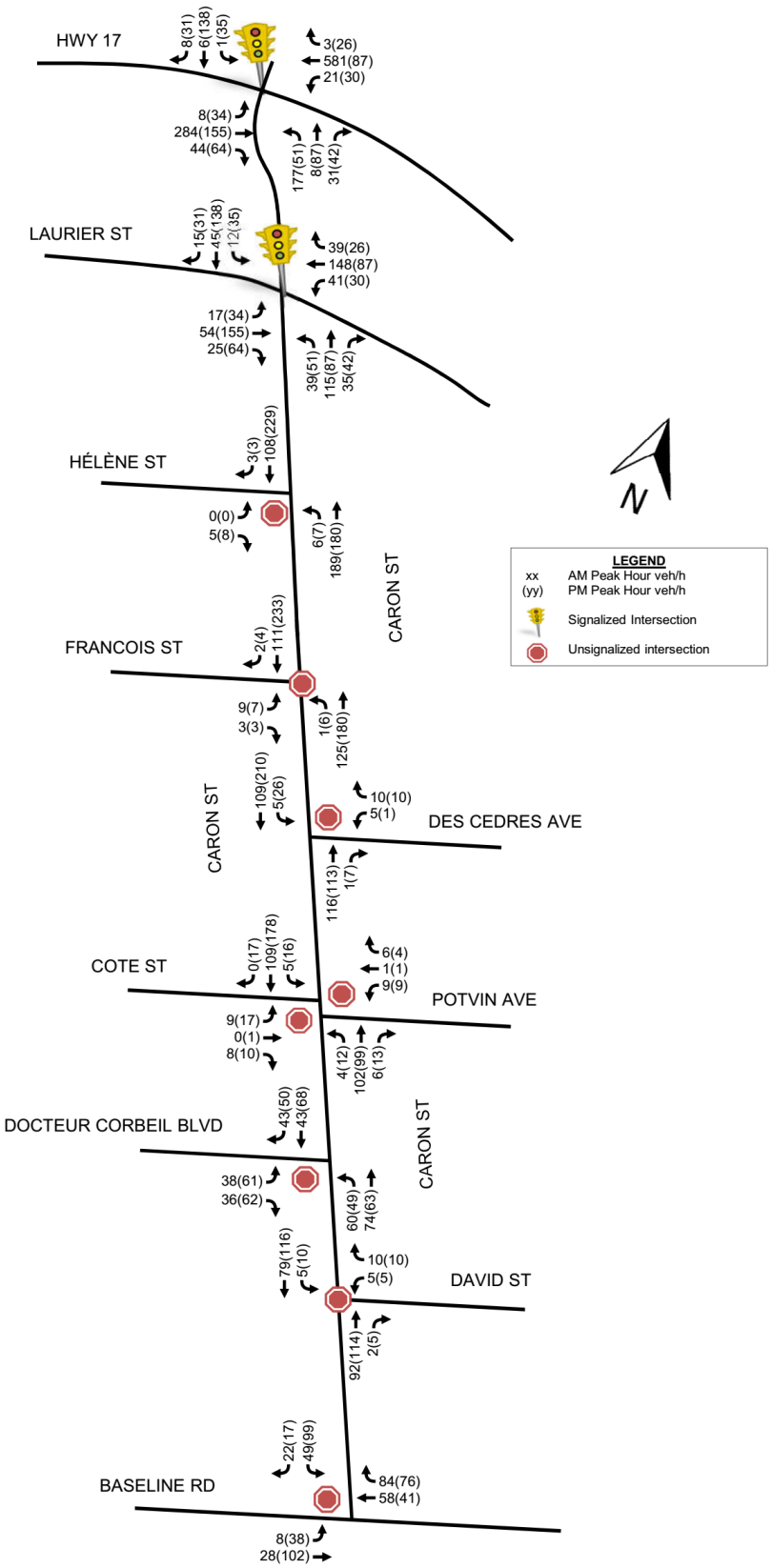

Figure 9: 2018 Existing Turning Movement Volumes

Table 2: 2018 Existing Intersection Operations

Direction	Mov	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.03	10	A	7	0.06	12	B	12
	T	-	0.33	12	B	34	0.20	16	B	26
	R	85	0.03	9	A	9	0.05	14	B	14
WB	L	60	0.04	8	A	8	0.05	12	B	12
	T	-	0.65	17	B	51	0.11	15	B	19
	R	56	0.00	9	A	2	0.02	14	B	9
NB	L	60	0.72	41	D	44	0.23	32	C	23
	T/R	-	0.07	35	C	12	0.42	39	D	35
SB	L	40	0.02	43	D	2	0.15	34	C	21
	T/R	-	0.26	48	D	8	0.64	46	D	49
Overall			**0.70**	**20**	**B**	**-**	**0.29**	**27**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	13	B	6	0.07	11	B	12
	T/R	-	0.10	14	B	12	0.32	16	B	30
WB	L	60	0.08	11	B	10	0.07	12	B	9
	T/R	-	0.26	14	B	23	0.17	15	B	16
NB	L	55	0.15	23	C	13	0.23	25	C	15
	T/R	-	0.44	28	C	34	0.42	29	C	31
SB	L	50	0.06	26	C	6	0.14	24	C	14
	T/R	-	0.18	28	C	19	0.59	32	C	42
Overall			**0.32**	**20**	**B**	**-**	**0.38**	**22**	**C**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	9	A	6	0.01	10	A	8
NB	L	15	0.00	1	A	2	0.01	8	A	4
	T	-	0.12	-	-	-	0.12	-	-	-
SB	T/R	-	0.07	-	-	-	0.15	-	-	-
Overall			**0.21**	**1**	**A**	**-**	**0.23**	**1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	8	A	10	0.02	8	A	10
NB	L	15	0.00	7	A	2	0.01	8	A	6
	T	-	0.18	8	-	17	0.26	-	-	19
SB	T/R	-	0.15	8	A	17	0.31	8	A	24
Overall			**0.17**	**8**	**A**	**-**	**0.23**	**9**	**A**	**-**
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.02	9	A	10	0.01	9	A	9
NB	T/R	-	0.08	-	-	-	0.08	-	-	-
SB	L	15	0.00	1	A	2	0.02	8	A	6
	T	-	0.07	-	-	-	0.14	-	-	-
Overall			**0.17**	**1**	**A**	**-**	**0.22**	**1**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.02	8	A	11	0.04	8	A	14
WB	L/T/R	-	0.02	8	A	10	0.02	8	A	10
NB	L	15	0.01	7	A	5	0.02	7	A	9
	T/R	-	0.16	-	-	18	0.16	-	-	16
SB	L	15	0.01	7	A	4	0.03	7	A	7
	T/R	-	0.16	-	-	15	0.17	-	-	14
Overall			**0.16**	**7**	**A**	**-**	**0.18**	**7**	**A**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										

Direction	Mov	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
EB	L/R	-	0.10	10	A	14	0.16	10	B	15
NB	L	15	0.04	8	A	8	0.04	8	A	8
	T	-	0.05	-	-	-	0.04	-	-	-
SB	T/R	-	0.06	-	-	-	0.08	-	-	-
Overall			**0.21**	**4**	**A**	**-**	**0.24**	**5**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.02	7	A	10	0.02	7	A	10
NB	T/R	-	0.12	8	A	17	0.15	8	A	17
SB	L	40	0.01	7	A	6	0.02	7	A	10
	T	-	0.11	7	-	16	0.17	7	-	15
Overall			**0.15**	**7**	**A**	**-**	**0.17**	**8**	**A**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.01	2	A	3	0.03	2	A	6
WB	T/R	-	0.09	-	-	12	0.08	-	-	16
SB	L/R	-	0.09	10	A	-	0.18	11	B	-
Overall			**0.20**	**3**	**A**	**-**	**0.28**	**4**	**A**	**-**

As shown in **Table 2**, all movements at signalized intersections are operating with a v/c ratio below 0.72 (i.e. with a LOS D or better). Regarding 95th percentile queues, the existing storage at signalized intersections is also noted as being sufficient (i.e. left-turn vehicle queues are not spilling back into and blocking adjacent through lanes). All movements at unsignalized intersections are operating with a v/c ratio below 0.31, (i.e. with a LOS B or better) and 95th percentile queues ranging between 1-3 vehicles in length.

Overall, there are no existing issues from a transportation perspective along Caron Street.

3. Transportation Master Plan

As part of the subject Secondary Plan and for the purpose of the following Transportation Master Planning exercise, future land use statistics were developed for the planned urban expansion area. Three residential scenarios were considered (e.g. a low, medium and high density scenario), and following public consultation and consultation with technical City Staff, a “medium” density scenario was selected as the preferred option. The following **Table 3** summarizes the estimated land use statistics for the subject expansion area.

Table 3: Medium Scenario Land Use Projected Densities

Land Use Designation	Area (ha)	Residential		Employment	
		Units	Population	Floor Area (m^2)	Employment
Low Density Residential	76.46	688	1,789	-	-
Medium Density Residential	22.55	203	528	-	-
High Density Residential	11.14	100	261	-	-
Commercial	2.91	-	-	7,283	182
Institutional/Community	24.17	-	-	-	-
Total	**137.23**	**911**	**2,577**	**7,283**	**182**

As a result of this projected increase in population and employment, new roads and multi-modal links should be considered, which the following sections outline potential future transportation needs.

It should be noted that as development applications come online, additional and more detailed analysis from a transportation perspective will be required to better develop future network needs (e.g. traffic signal control, auxiliary turns lanes, etc.). The estimated timing of full build-out is 25-years.

3.1 Planned Area Network Changes

An Environmental Study Report was prepared by AECOM in June of 2016 for the proposed widening of HWY 17[3]. Within the City of Clarence-Rockland, the proposed improvements included widening the existing HWY 17 as well as potentially widening/improving Baseline Road outside of the City Urban Boundary. The recommended plan is to widen both roadways from one lane in each direction to two lanes in both directions from east of the Trim Road interchange in the City of Ottawa, for a distance of approximately 21.5 km to Landry Road in the City of Clarence-Rockland.

A conceptual design of the future cross-section within the urban area of the Clarence-Rockland is illustrated in **Figure 10.**

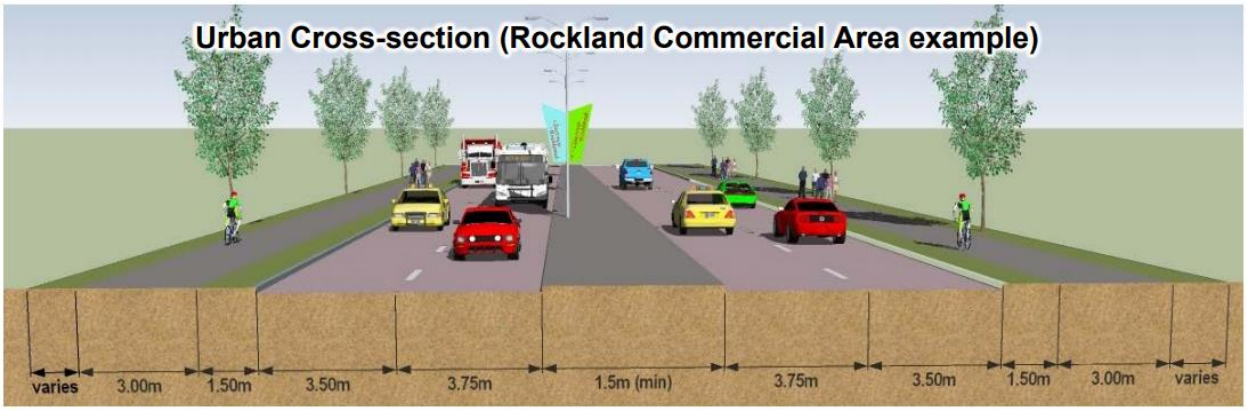

Figure 10: Conceptual Urban Cross-Section within the City of Clarence-Rockland

It should also be noted that it was identified in the Environmental Study Report that pedestrians and cyclists should be accommodated by multi-use pathways, paved shoulders and service roads along the HWY 17, with select pedestrian crossing treatments proposed within commercial zones where there will be desire lines.

[3] Environmental Study Report Ottawa Road 174 / County Road 17 Environmental Assessment Study, AECOM, June 2016

Based on the article provided by *CBC News,* MTO confirmed in 2016 that it would provide funding to widen HWY 17 in Clarence-Rockland. The planned construction is expected to commence in 2019[4].

With respect to the 2005 Strategic Planning report, prepared by *McCormick Rankin Corporation*, it was proposed that David Street will eventually extend to Poupart Road, which would be extended to HWY 17 to bolster the east-west network for the southern part of the city. Given the recent residential development west of Caron Street, this new east-west link is more likely to occur further south; however, the construction of the new east-west link is still uncertain and therefore, its timing is assumed to be beyond the scope of this assessment.

Without a new east-west link, more traffic will have to travel north or south in order to head east or west of the City. As a result, neighbourhoods may experience cut-through traffic once north-south become more congested.

3.2 Preferred Secondary Plan Concept

Following public consultation and consultation with technical City Staff, a preferred concept plan, outlining where certain land use types should be considered and where future collector roadways should be provided by the 2044 planning horizon year. This preferred concept plan is shown below in **Figure 11** and it should be noted that local roadways are not depicted, as future development will dictate where local roadways will be constructed. It should also be noted that there is currently no timeline for the extension of Street 'A' and Street 'B' beyond the study area, (i.e. a connection to the adjacent community to the west and Baseline Road to the south will ultimately be provided; however, this will likely occur beyond the 25-year planning horizon).

For the purpose of this assessment, the preferred concept plan was broken down into three phases. Phase 1 is assumed to be built-out within a 10-year time horizon (i.e. by the year 2029), Phase 2 is assumed to be built-out within a 20-year horizon (i.e. by the year 2039), and full build-out of the preferred concept plan is assumed to be built-out within a 25-year horizon (i.e. by the year 2044).

[4] CBC. (2016). *Ontario gives $40M to widen Rockland's County Road 17 | CBC News*. [online] Available at: https://www.cbc.ca/news/canada/ottawa/country-road-17-widen-1.3638456 [Accessed 2 May 2019].

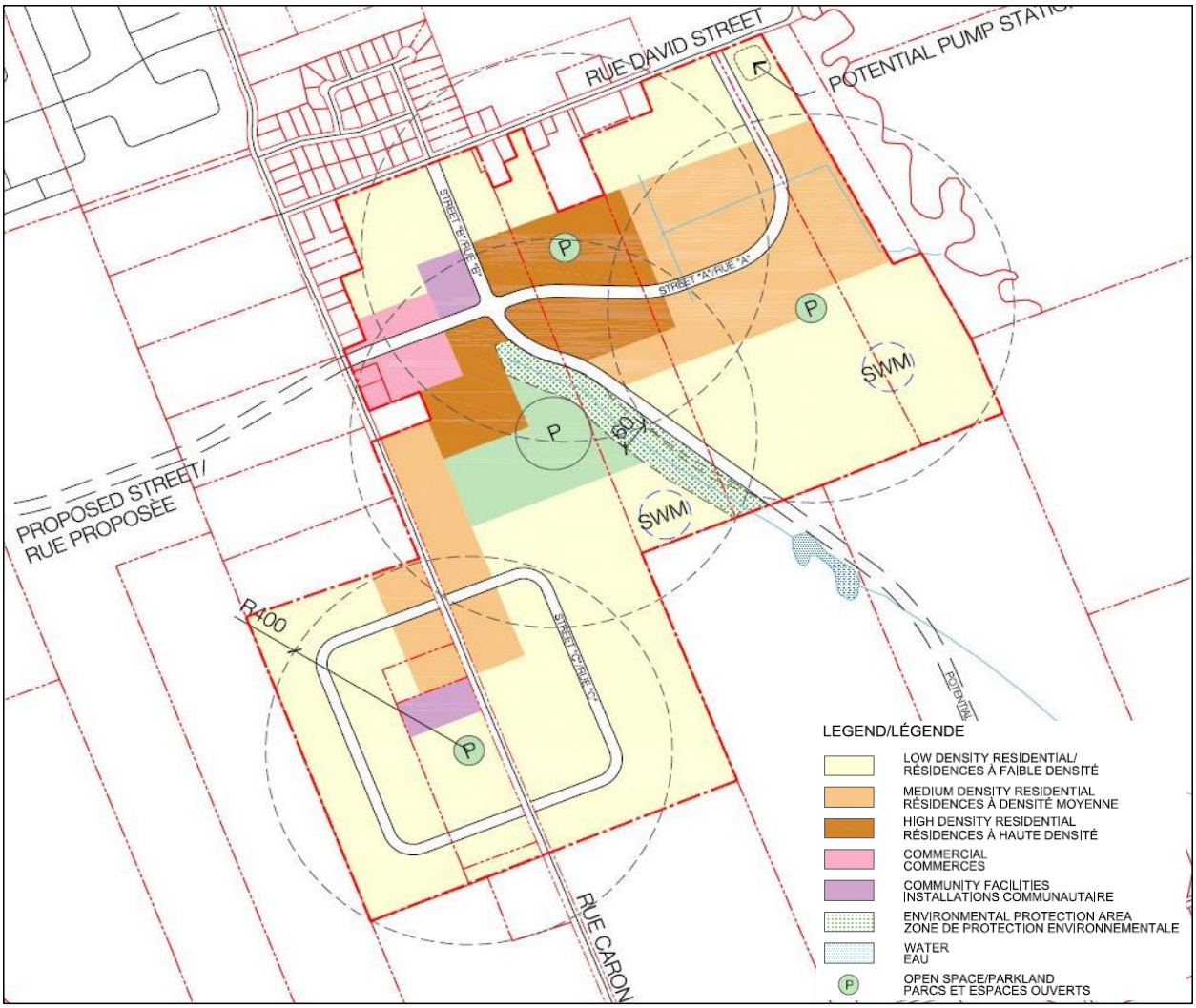

Figure 11: Preferred Concept Plan (prepared by FOTENN Consulting)

For analysis purposes, the following **Table 4** summarizes an assumed build-out and timing of the land uses depicted in **Figure 11**.

Table 4: Projected Build-Out Phasing

Land Use	Units or Gross Floor Area (GFA)		
	Phase 1 (year 2029)	Phase 2 (year 2039)	Full Build-out (year 2044)
Low Density Residential	273	480	688
Medium Density Residential	48	126	203
High Density Residential	31	65	100
Total Residential Units	**352**	**671**	**991**
Total Commercial GFA (m^2)	**7,283**	**7,283**	**7,283**

As shown in **Table 4**, it is anticipated that the planned commercial component of the expansion lands will be fully built-out by the 2029 horizon year and by the 2044 horizon year, an approximate total of 990 residential units will be constructed.

3.3 Future Transit

As mentioned previously in Section 2.4 of this report, the immediate future of transit service and ridership is somewhat unknown for Clarence-Rockland. However, as the subject expansion lands is built-out and as Clarence-Rockland continues to grow, it is assumed there will be an increase in transit demand. Therefore and for the purpose of this assessment, a transit modal share has been assumed when analyzing the total projected person trips generated by the subject expansion lands.

3.4 Future Cycling, Pedestrian & On-Street Parking

As previously mentioned, an approximate 2.2 m wide sidewalk is provided along the west side of Caron Street and a paved asphalt pathway, approximately 3.0 m in width, is provided along the east side of this roadway. Currently, these active transportation facilities are provided between HWY 17 in the north to David Street in the south. With the expansion of the urban boundary, these active transportation facilities should be extended south to the proposed new urban boundary (i.e. the existing sidewalk and pathway along Caron Street should be extended south, beyond the proposed Street 'C').

The cross-section of David Street currently consists of a relatively narrow travel lane in each direction for general purpose traffic, unpaved shoulders and rural ditches for drainage. Given David Street will be included in the expansion of the urban boundary, its cross-section should be upgraded to include sidewalks and dedicated cycling facilities (e.g. paved shoulders as a minimum or more preferably, a segregated bike facility should be provided along its length, such as cycle-tracks), which is considered to be a typical cross-section for urban collector roadways.

With respect to the City of Ottawa's *Road Corridor Planning & Design Guidelines*, the recommended right-of-way (ROW) width for David Street is 26 m, which is considered typical for new roads with segments that include on-road cycling routes. Typical cross-sections can be found in Appendix A of the City of Ottawa's *Road Corridor Planning & Design Guidelines.*

With regard to the new collector roadways (i.e. Street 'A', Street 'B' and Street 'C'), their cross-sections should also include sidewalks and dedicated cycling facilities, and along commercial, community and parkland frontages, on-street parking should also be considered.

By providing safe and efficient links for all modes of transportation, and ensuring sufficient on-street parking is provided for commercial/community spaces, the subject expansion lands will have the means to be a rich and sustainable community.

3.5 Background Growth

With respect to background traffic growth, as a result of new development outside the study area, a general 2% per annum growth rate was assumed as a way to capture the projected impacts of

new traffic travelling through the study area. Based on recent Census data[5], this is considered to be a conservative approach, as Clarence-Rockland has experienced a historical growth rate of 1.7% per annum.

Based on the surrounding network and area development potential, an annual background traffic growth rate was applied to the HWY 17 eastbound and westbound through movements only. It should be noted that background traffic volumes for all other movements at study area intersections will remain constant (i.e. with the exception of the eastbound and westbound through movements at the Caron/HWY 17 intersection, observed volumes depicted in **Figure 9** are not anticipated increase because of new development outside the study area).

The following **Table 5** summarizes the projected background traffic volumes on HWY 17 for each build-out horizon year.

Table 5: Projected Background Traffic Growth

Direction	Mov.	Background Traffic Volumes (veh/h)					
		Phase 1 (year 2029)		Phase 2 (year 2039)		Full Build-out (year 2044)	
		AM	PM	AM	PM	AM	PM
Caron Street at HWY 17 (Signalized)							
EB	**T**	346	189	422	230	466	254
WB	**T**	708	106	863	129	953	143

3.6 Projected Site Trip Generation

For the purpose of this assessment, projected site-generated traffic was estimated using the appropriate average vehicle trip generation rates (or fitted curve equation, if available) from the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. The following **Table 6** summarizes a number of appropriate ITE trip generation rates for estimating projected site-generated traffic.

Table 6: ITE Vehicle Trip Generation Rates

Land Use	Data Source	AM Peak	PM Peak
Single-Family Detached Housing	ITE 210	T = 0.74(X); T= 0.71(X) + 4.80	T = 0.99(X); Ln(T)= 0.96(X) + 0.20
Multifamily Housing	ITE 220	T = 0.46(X); Ln(T) = 0.95(X) - 0.51	T = 0.56(X); Ln(T) = 0.89(X) - 0.02

[5] Statistics Canada. 2017. *Clarence-Rockland, C [Census subdivision], Ontario and Ontario [Province]* (table). *Census Profile*. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed May 1, 2019).

Land Use	Data Source	AM Peak	PM Peak
Single Tenant Office Building	ITE 715	T = 1.78 (X); T= 1.68(X) + 17.26	T = 1.71(X); T= 1.54(X) + 27.59
Convenience Market	ITE 851	T = 62.54(X); n/a	T = 49.11(X); n/a
Fast Food Restaurant Without Drive Thru Window	ITE 933	T = 25.10(X); T= 89.03(X) - 157.40	T = 28.34(X); n/a
Mid-Rise Residential with 1st Floor Commercial	ITE 231	T = 0.45(X); n/a	T = 0.37(X); n/a
Drive in Bank	ITE 912	T = 9.50(X); n/a	T = 20.45(X); n/a
Coffee/Donut Shop with Drive-thru	ITE 937	T = 88.99(X); n/a	T = 43.38(X); n/a
Pharmacy Without Drive-thru	ITE 880	T = 2.94(X); n/a	T = 8.51(X); n/a
Medical Dental Clinic	ITE 720	T = 2.78(X); Ln(T) = 0.89(X) + 1.31	T = 3.46(X); T= 3.43(X) + 2.57
Fast Casual Restaurant	ITE 930	T = 2.07(X); n/a	T = 14.13(X); n/a
Day Care Centre	ITE 565	T = 11.0(X); n/a	T = 11.12(X); n/a
Clinic	ITE 630	T = 3.69(X); n/a	T = 3.28(X); Ln(T) = 0.72(X) + 1.97

Notes: T = Average Vehicle Trip Ends; and X = Number of residential units or 1,000 ft^2 GFA

With respect to ITE trip generation rates, the data used to develop these rates only include vehicle trips (i.e. walking, cycling or transit trips are not captured), and the data collection surveys are typically conducted in highly-suburban locations with limited access to transit and dedicated non-motorized facilities (e.g. sidewalks, bike lanes, etc. are limited). To properly consider the multi-modal trips generated by new development, projected site-generated traffic (estimated using ITE trip generation rates) is converted to projected site-generated *persons* trips.

To convert projected ITE vehicle trips to *person* trips, an auto occupancy factor and non-auto trip factor is applied to the ITE trip generation rates. With respect to available American Census data, the typical modal share of non-auto person trips is approximately 10% and the typical auto occupancy is 1.15. Therefore, when combined, a factor of 1.28 is used to convert vehicle trips to person trips.

Based on the foregoing, the projected weekday morning and afternoon peak hour person trip generation for the subject expansions lands is summarized in **Table 7, Table 8** and **Table 9**, for the planned 2029, 2039 and 2044 build-out years, respectively.

It should be noted, for the commercial component of the expansion lands, multiple trip generation rates were combined to estimate an overall commercial projected trip generation (i.e. trip generation rates for convenience market, drive-in bank, coffee shop, etc. were combined).

Table 7: Phase 1 Modified Person Trip Generation (Year 2029)

Land Use	Area	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing	273 Units	63	191	254	214	127	341
Multifamily Housing	48 Units	6	24	30	24	15	39
Mid-Rise Residential with 1st Floor Commercial	31 Units	4	14	18	10	5	15
Commercial	78,394 ft²	681	525	1,026	527	612	1,139
Total Person Trips/hr		**754**	**754**	**1,508**	**775**	**759**	**1,534**

As summarized in **Table 7**, the build-out of Phase 1 is projected to generate approximately 1,508 and 1,534 person trips per hour during weekday morning and afternoon peak hours, respectively.

Table 8: Phase 2 Modified Person Trip Generation (Year 2039)

Land Use	Area	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing	480 Units	110	332	442	369	217	586
Multifamily Housing	126 Units	17	59	76	58	35	93
Mid-Rise Residential with 1st Floor Commercial	65 Units	8	29	37	22	9	31
Commercial	78,394 ft²	681	525	1,206	527	612	1,139
Total Person Trips/hr		**816**	**945**	**1,761**	**976**	**873**	**1,849**

As summarized in **Table 8**, the build-out of Phase 2 is projected to generate approximately 1,761 and 1,849 person trips per hour during weekday morning and afternoon peak hours, respectively.

Table 9: Full Build-Out Modified Person Trip Generation (Year 2044)

Land Use	Area	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing	688 Units	157	474	631	521	307	828
Multifamily Housing	203 Units	27	93	120	89	53	142
Mid-Rise Residential with 1st Floor Commercial	100 Units	13	45	58	33	14	47
Commercial	78,394 ft²	681	525	1,206	527	612	1,139
Total Person Trips/hr		**878**	**1,137**	**2,015**	**1,170**	**986**	**2,156**

As summarized in **Table 9**, the full build-out of the expansion lands is projected to generate approximately 2,015 and 2,156 person trips per hour during weekday morning and afternoon peak hours, respectively.

3.6.1 Travel Mode Shares

Estimating the number of person trips arriving/departing by different travel modes, total projected person trips are subdivided by mode share values that take into consideration proximity and quality of transit, pedestrian and cycling facilities, and the main purpose of trips.

With respect to the Transportation Impact Study (TIS), prepared by *Castleglenn Consultants Inc*., for the Morris Village development, which is located directly adjacent to and west of the subject expansion lands, modal share values for Morris Village were assumed to be 85% auto drivers, 5% auto passenger, and 10% transit.

For the purpose of this assessment, similar modal share values were assumed, to be consistent with the previous analysis conducted for the Morris Village development. It should be noted that a non-motorized travel mode was not included in the Morris Village TIS and for the purpose this assessment, it was assumed that there will be a 5% mode share for non-motorized trips, resulting in the following modal splits for the proposed expansion lands:

- 80% Auto Driver
- 5% Auto Passenger
- 10% Transit
- 5% Non-motorized

100% Total Person Trips

It should also be noted, given the majority of the planned commercial will serve the community within the subject expansion lands, it is reasonable to conclude that a number of trips will be shared (e.g. a single person can visit a drive-in bank on their way home). As such, a 30% reduction in total projected site-generated traffic was assumed.

The following **Table 10, Table 11,** and **Table 12** summarize the weekday morning and afternoon peak hour trip generation, by mode, for the planned 2029, 2039 and 2044 build-out years, respectively.

Table 10: Phase 1 Site Trip Generation (Year 2029)

Travel Mode	Mode Share	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver	80%	604	604	1,208	620	608	1,228
Auto Passenger	5%	38	38	76	39	38	77
Transit	10%	75	75	150	78	76	154
Non-motorized	5%	37	37	74	38	37	75
Total Person Trips	100%	754	754	1,508	775	759	1,534
Total Auto Trips		**604**	**604**	**1,208**	**620**	**608**	**1,228**
Less Multi-Purpose Trips		**-181**	**-181**	**-362**	**-186**	**-182**	**-368**
Total 'New' Auto Trips		**423**	**423**	**846**	**434**	**426**	**860**

As summarized in **Table 10**, the build-out of Phase 1 is projected to generate approximately 846 and 860 veh/h during weekday morning and afternoon peak hours, respectively.

Table 11: Phase 2 Site Trip Generation (Year 2039)

Travel Mode	Mode Share	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver	80%	653	756	1,409	781	699	1,480
Auto Passenger	5%	41	48	89	49	44	93
Transit	10%	82	94	176	98	87	185
Non-motorized	5%	40	47	87	48	43	91
Total Person Trips	100%	816	945	1,761	976	873	1,849
Total Auto Trips		**653**	**756**	**1,409**	**781**	**699**	**1,480**
Less Multi-Purpose Trips		**-196**	**-227**	**-423**	**-234**	**-210**	**-444**
Total 'New' Auto Trips		**457**	**529**	**986**	**547**	**489**	**1,036**

As summarized in **Table 11**, the build-out Phase 2 is projected to generate approximately 986 and 1,036 veh/h during weekday morning and afternoon peak hours, respectively.

Table 12: Full Build-out Site Trip Generation (Year 2044)

Travel Mode	Mode Share	AM Peak (Person Trips/hr)			PM Peak (Person Trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver	80%	703	910	1,613	936	789	1,725
Auto Passenger	5%	44	57	101	59	50	109
Transit	10%	88	114	202	117	98	215
Non-motorized	5%	43	56	99	58	49	107
Total Person Trips	100%	878	1,137	2,015	1,170	986	2,156
Total Auto Trips		**703**	**910**	**1,613**	**936**	**789**	**1,725**
Less Multi-Purpose Trips		**-211**	**-273**	**-484**	**-281**	**-237**	**-518**
Total 'New' Auto Trips		**492**	**637**	**1,129**	**655**	**552**	**1,207**

As summarized in **Table 12**, the full build-out of the expansion lands is projected to generate approximately 1,129 and 1,207 veh/h during weekday morning and afternoon peak hours, respectively.

3.7 Vehicle Traffic Distribution and Assignment

The projected distribution of site-generated traffic was based on volume splits at existing study area intersections and the assumptions found in the Morris Village TIS, prepared by *Castleglenn Consultants Inc*. As such, the assumed distribution is outlined as follows:

- 65% to/from the west (Ottawa) via HWY 17;
- 10% to/from the east (Hawkesbury) via HWY 17;
- 15% to/from the south via Baseline Road; and
- 10% to/from the City of Clarence Rockland.

  100%

3.8 Projected Conditions

3.8.1 Phase 1 Conditions

Based on the assumed distribution outlined in section 3.7, 'new' auto trips were assigned to the study area network (depicted as **Figure 12**) for the 2029 build-out year, and were layered onto projected background traffic volumes (i.e. background traffic volumes are essentially existing volumes, taking into consideration volume increases on HWY 17, as summarized in **Table 5**). As a result, the total projected traffic volumes for the 2029 build-out year is depicted as **Figure 13**.

Using the Synchro (v9) intersection capacity analysis software, **Appendix C** contains a projected performance summary for study area intersections and the detail output data from Synchro. It should be noted, a TWLTL (i.e. Two-way Left Turn Lane) median on Caron Street was extended from David Street to Street 'A'. It should also be noted that no additional modifications to network geometry or signal timing were assumed for the analysis contained in **Appendix C**.

As a result of increased traffic volumes for the 2029 build-out year, the northbound left-turn movement at the Caron/HWY 17 intersection is projected to operate with a LoS 'F' during both weekday morning and afternoon peak hours. All other study area intersections are projected to perform with an acceptable Level of Service.

The following **Table 13** summarizes the failing northbound left-turn movement at the Caron/HWY 17 intersection.

Table 13: Critical Movements Phase 1 (Year 2029)

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
NB	L	60	1.95	463	F	155	1.17	136	F	110

Improving the projected performance of the Caron/HWY 17 intersection, the following measures are recommended to support the additional traffic generated by the subject expansion lands.

Caron/HWY 17

- Implement dual northbound left-turns lanes;
- Provide dual westbound receiving lanes (i.e. two lanes are needed to receive northbound left-turning traffic);
- Implement a fully protected northbound left-turn signal phase; and
- Optimize Signal Phasing[6].

With the implementation of the above recommendations, the northbound left-turn movement at the Caron/HWY 17 intersection is projected to operate with a LoS of 'D', during both morning and afternoon peak hours.

A projected performance summary for study area intersections with improvements and the detail output data from Synchro is contained in **Appendix D**.

With regarding to the new study area intersections, All-Way STOP control is recommended at the Caron/Street 'A' intersection and at the Street 'A'/Street 'B' intersection. At the new David/Street 'B' intersection, STOP control on the minor approach will be sufficient.

Despite the extension of Street 'A' westward will not occur within the foreseeable future (i.e. extending Street 'A' west of Caron Street), the City may wish to protect sufficient right-of-way for a single lane roundabout at the intersection of Street 'A'/Street 'B'. A roundabout at this location will be consistent with the intersection treatments within the Morris Village development. However, for analysis purposes, All-Way STOP control will be assumed in the subsequent analysis and it should be noted that a single lane roundabout has more vehicle throughput capacity than an All-Way STOP controlled intersection.

[6] Optimization of the signalized intersection operations was based on modifications of operation parameters as part of the Synchro analysis. The minimum initial and total split parameters in Synchro were modified to optimize the operation of the actuated traffic signal system.

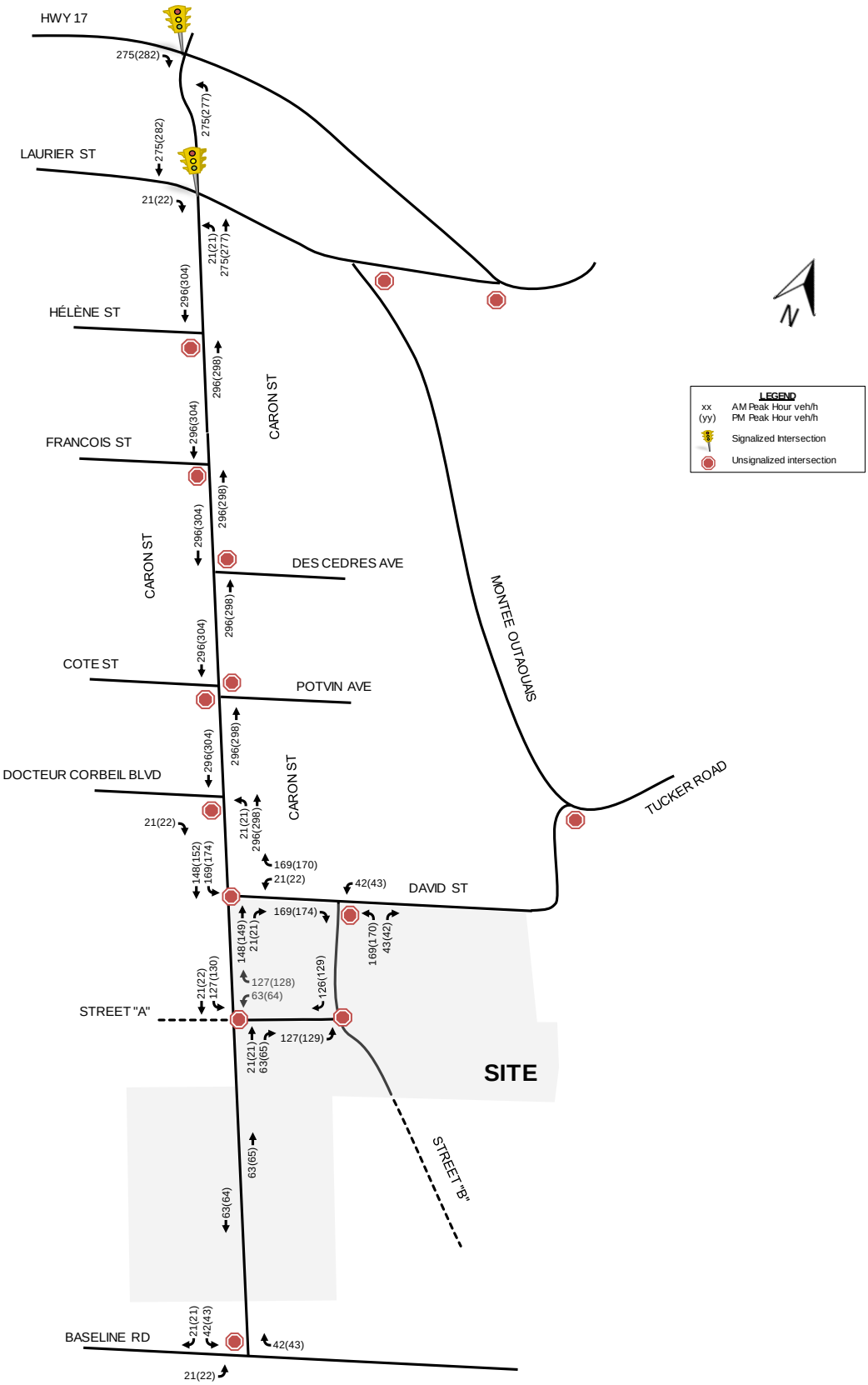

Figure 12: Phase 1 Total New Site-Generated Trips (Year 2029)

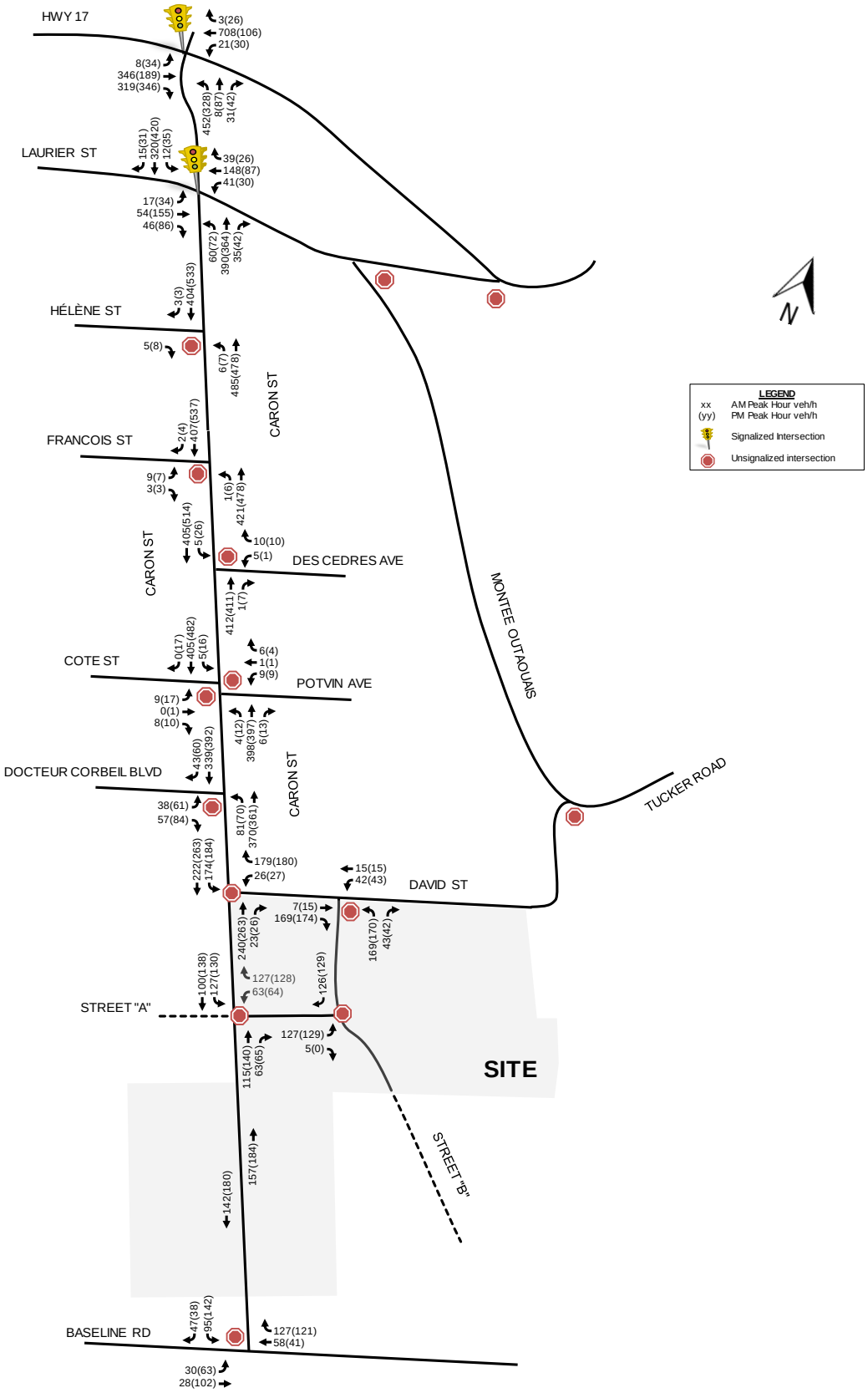

Figure 13: Phase 1 Total Projected Volume (Year 2029)

3.8.2 Phase 2 Conditions

Based on the assumed distribution outlined in section 3.7, 'new' auto trips were assigned to the study area network (depicted as **Figure 14**) for the 2033 build-out year, and were layered onto projected background traffic volumes (i.e. background traffic volumes are essentially existing volumes, taking into consideration volume increases on HWY 17, as summarized in **Table 5**). As a result, the total projected traffic volumes for the 2039 build-out year is depicted as **Figure 15**.

Using the Synchro (v9) intersection capacity analysis software, **Appendix E** contains a projected performance summary for study area intersections and the detail output data from Synchro. It should be noted, a TWLTL (i.e. Two-way Left Turn Lane) median on Caron Street was extended from David Street to Street 'A'. It should also be noted that the previously recommended modifications to the network geometry and signal timing adjustments to the Caron/HWY 17 intersection for Phase 1, are also assumed to be in place by the 2039 build-out year, which is reflected in the analysis contained in **Appendix E**.

As a result of increased traffic volumes for the 2039 build-out year, the northbound left-turn movement at the Caron/HWY 17 intersection, is projected to operate with a LoS 'F' during weekday morning peak hour. In addition, the southbound through/right-turn movement at the Caron/Laurier intersection, is projected to operate with a poorly performing LoS 'E' during the weekday afternoon peak hour. All other study area intersections are projected to perform with an acceptable Level of Service.

The following **Table 14** summarizes the failing northbound left-turn movement at the Caron/HWY 17 intersection, and the southbound through/right-turn movement at the Caron/Laurier intersection.

Table 14: Critical Movements Phase 2 (Year 2039)

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
NB	L	80	1.05	90	F	100	0.69	44	D	53
Caron Street at Laurier Street (Signalized)										
SB	T/R	-	0.73	36	D	94	1.01	71	E	165

Improving the projected performance of the Caron/HWY 17 and Caron/Laurier intersections, the following measures are recommended to support the additional traffic generated by the subject expansion lands.

Caron/HWY 17

- Optimize Signal Phasing

Caron/Laurier

- Optimize Signal Phasing

With the implementation of the above recommendations, the northbound left-turn movement at the Caron/HWY 17 intersection is projected to operate with a LoS ‘E’, during the weekday morning peak hour. With regard to the southbound through/right movement at Caron/Laurier intersection, it is projected to operate with a LoS ‘D’ during the afternoon peak hour.

A projected performance summary for study area intersections with improvements and the detail output data from Synchro is contained in **Appendix F**.

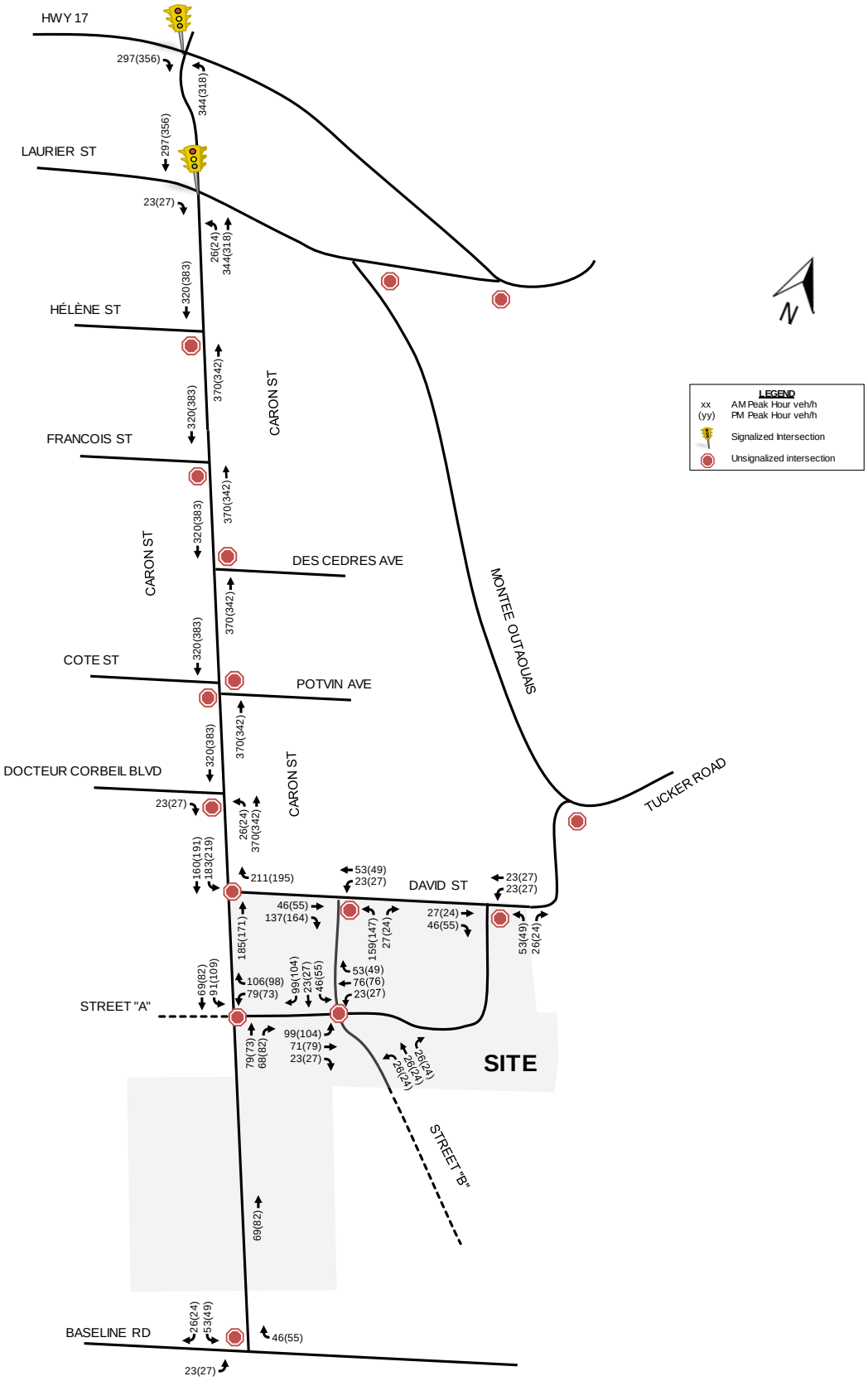

Figure 14: Phase 2 Total New Site-Generated Trips (Year 2039)

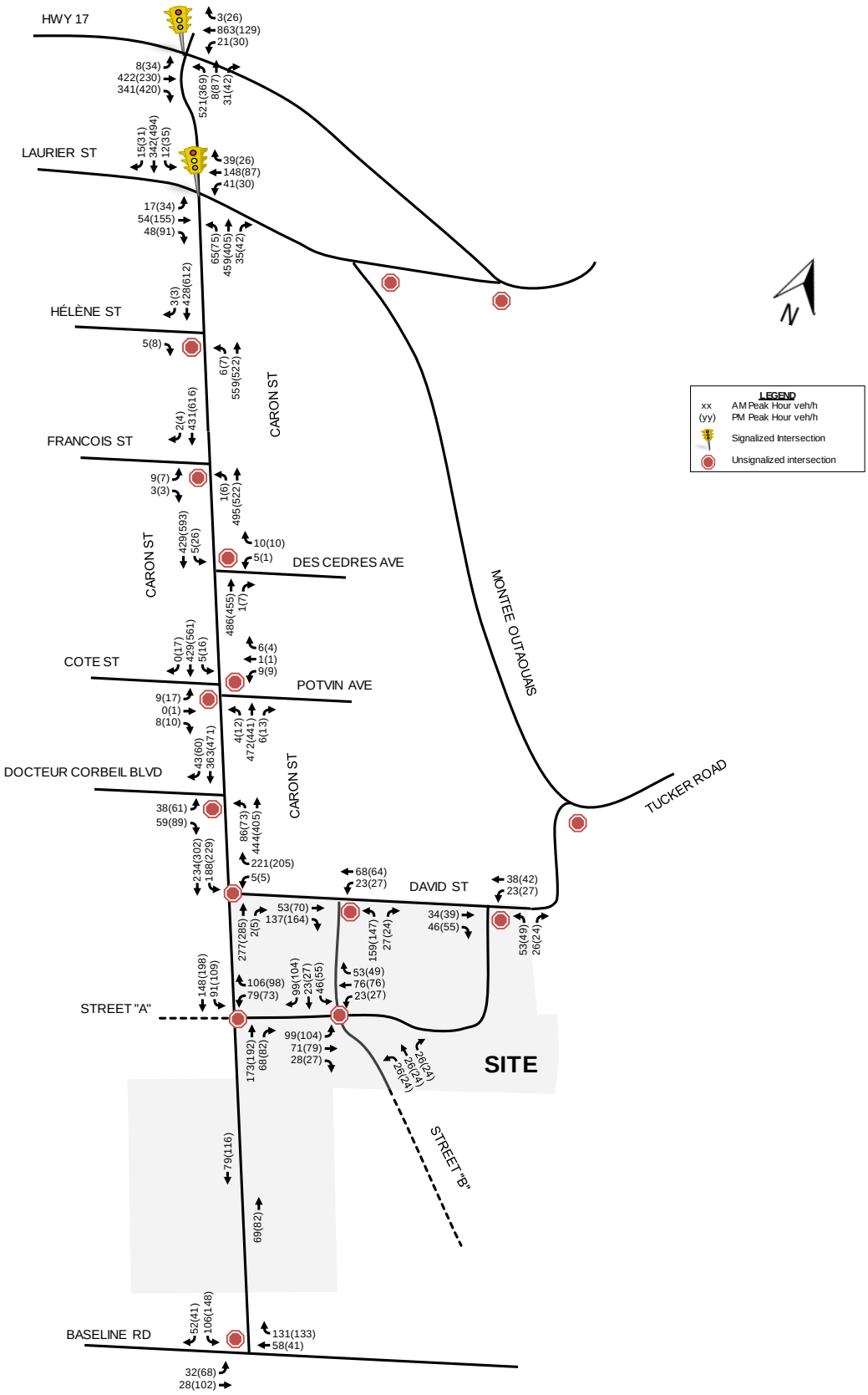

Figure 15: Phase 2 Total Projected Volume (Year 2039)

3.8.3 Full Build Out Conditions

Based on the assumed distribution outlined in section 3.7, 'new' auto trips were assigned to the study area network (depicted as **Figure 16**) for the full build-out 2044 horizon year, and were layered onto projected background traffic volumes (i.e. background traffic volumes are essentially existing volumes, taking into consideration volume increases on HWY 17, as summarized in **Table 5**). As a result, the total projected traffic volumes for the 2044 build-out year is depicted as **Figure 17**.

Using the Synchro (v9) intersection capacity analysis software, **Appendix G** contains a projected performance summary for study area intersections and the detail output data from Synchro. It should be noted, a TWLTL (i.e. Two-way Left Turn Lane) median on Caron Street was extended from Street 'A' to Street 'C'. It should also be noted that the previously recommended modifications to the network geometry and signal timing adjustments for Phase 2, are also assumed to be in place by the 2044 build-out year, which is reflected in the analysis contained in **Appendix G**.

As a result of increased traffic volumes for the 2044 build-out year, the northbound left-turn movement at the Caron/HWY 17, is projected to operate with a LoS 'F' during weekday morning peak hours. Similarly, the southbound through/right-turn movements at both the Caron/ Françoise and Caron/Cote/Potvin intersections are projected to operate with a LoS 'F' during the weekday afternoon peak hour. In addition, the southbound through/right-turn movement at the Caron/Laurier intersection, is projected to operate with a LoS 'E' during weekday afternoon peak hour. All other study area intersections are projected to perform with an acceptable Level of Service.

The following **Table 15** summarizes the poorly performing movements at study area intersections.

Table 15: Critical Movements Full Build-out (Year 2044)

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
NB	L	80	1.04	85	F	110	0.74	46	D	61
Caron Street at Laurier Street (Signalized)										
SB	T/R	-	0.72	34	C	90	1.05	79	E	125
Caron Street at Françoise Street (Unsignalized)										
SB	T/R	-	0.67	17	C	-	1.03	62	F	-
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
SB	T/R	-	0.72	19	C	-	1.04	66	F	-

Improving the projected performance of the critical movements listed above in **Table 15**, the following measures are recommended to support the additional traffic generated by the subject expansion lands.

Caron/HWY 17

- Widen the westbound through movement to two lanes; and
- Optimize Signal Phasing

Caron/Laurier

- Increase Signal Cycle Length to 120 seconds; and
- Optimize Signal Phasing.

Caron/Françoise

- Implement Traffic Signal Control.

Caron/Cote/Potvin

- Implement Traffic Signal Control.

With the implementation of the above recommendations, the northbound left-turn movement at the Caron/HWY 17 intersection is projected to operate with a LoS of 'C', during the weekday morning peak hour. The southbound through/right-turn movement at the Caron/Laurier intersection is projected to operate with a LoS of 'D, during afternoon peak hours.

The southbound through/right-turn movements at both Caron/Françoise and Caron/Cote/Potvin intersections are projected to operate with a LoS 'A' during the weekday afternoon peak hour.

A projected performance summary for study area intersections with improvements and the detail output data from Synchro is contained in **Appendix H**.

With regarding to the new study area intersections, STOP control on the minor approaches of the Caron/Street 'C' intersections will be sufficient to support future development contained within the subject expansion lands.

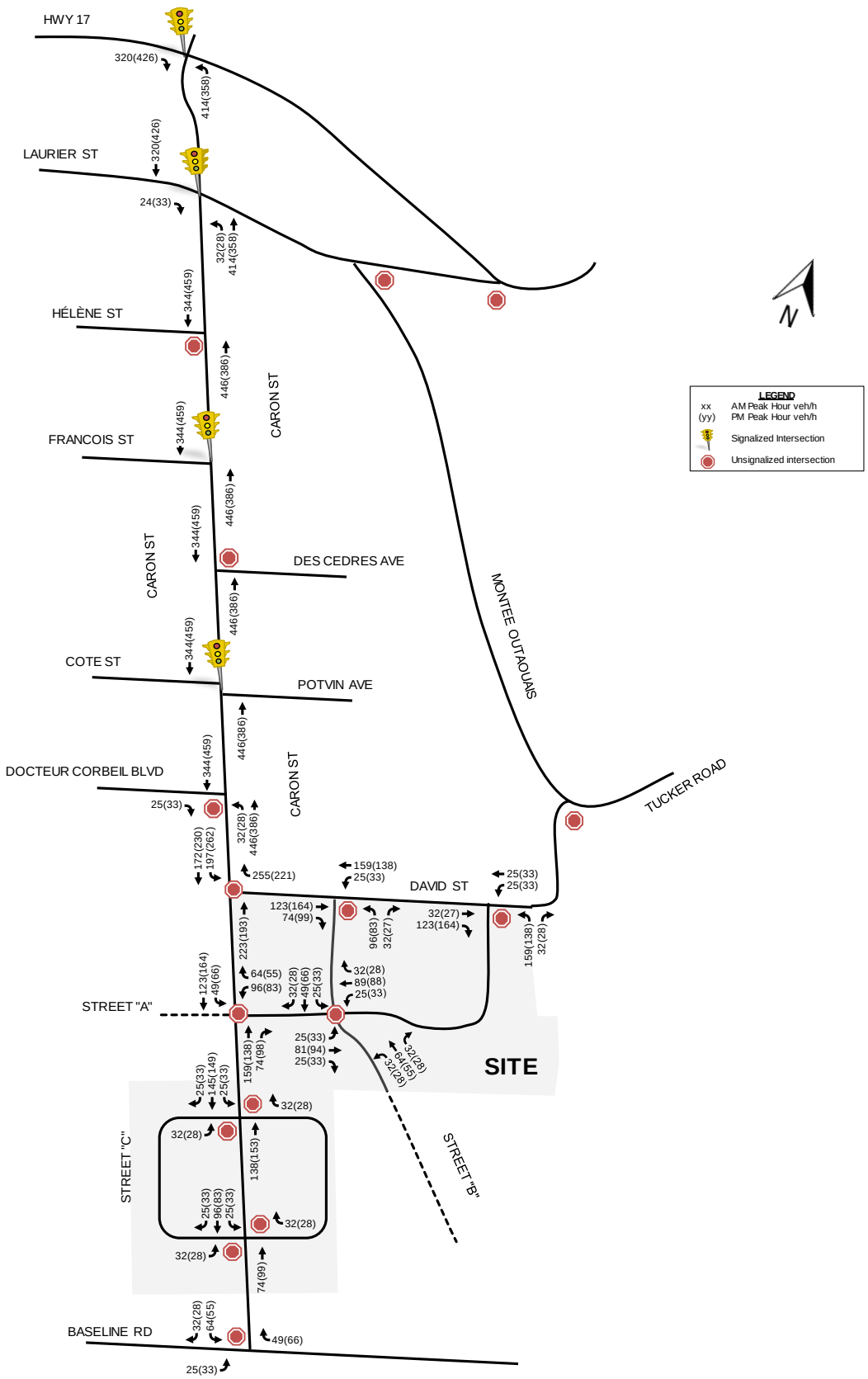

Figure 16: Full Build-out Total New Site-Generated Trips (Year 2044)

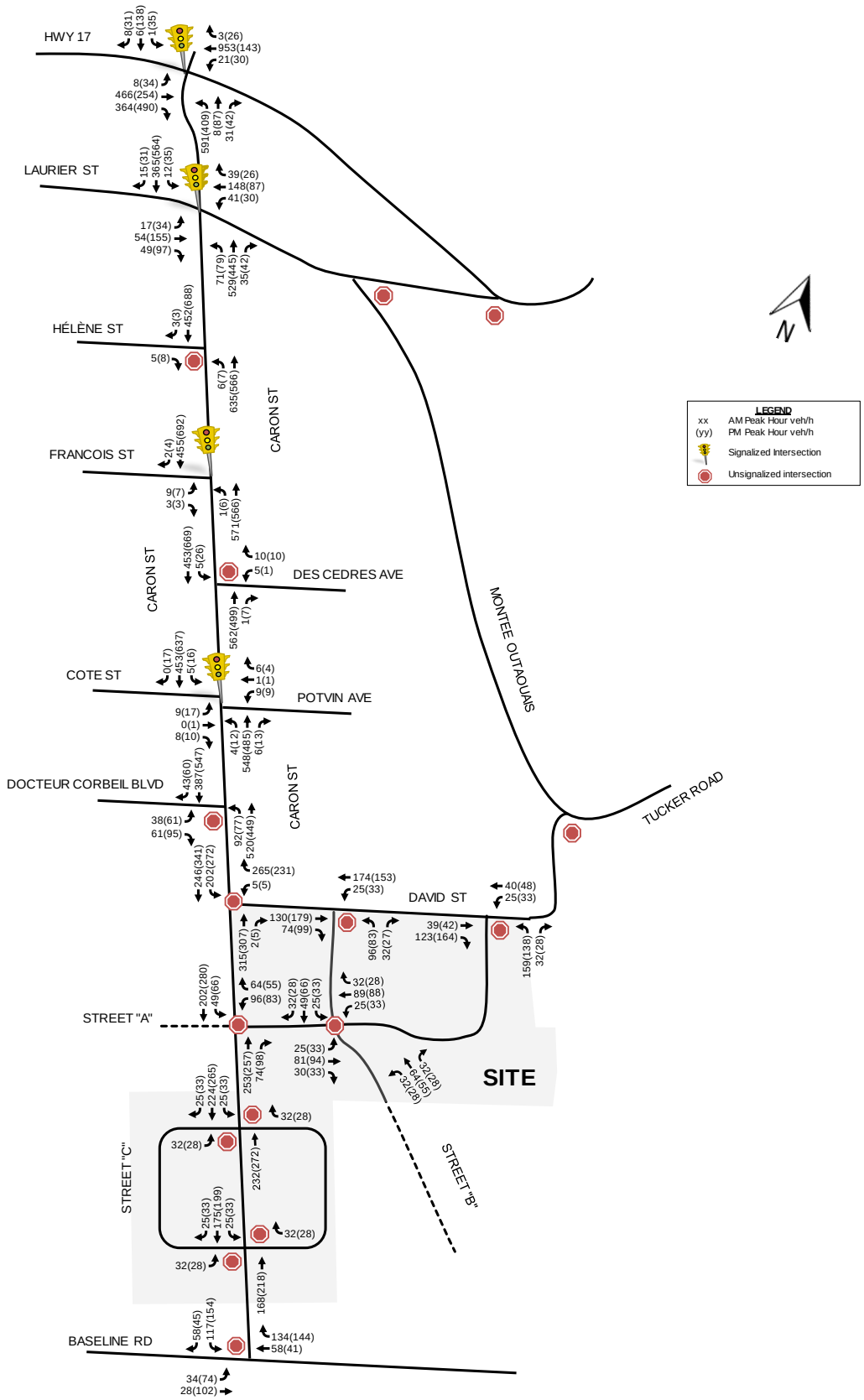

Figure 17: Full Build-out Total Projected Volume (Year 2044)

4. Network Improvement Plan

Based on the foregoing, the following network improvement plan is recommended to support future development contained within the subject expansion lands. It should be noted that the following plan is for collector and arterial roadway only. As new development is built-out, local roadways will be constructed to provide access/egress between new land uses and the higher-order transportation network (i.e. collector and arterial roadways).

As such, it is recommended that access management policies and roadway design standards be developed to direct future development during the City's development approval process.

4.1.1 Phase 1

Along Caron Street, the existing TWLTL should be extended from David Street to Street 'A'. In addition, the following study area intersection improvements are also recommended for Phase 1:

Caron/HWY 17

- Implement dual northbound left-turns lanes;
- Provide dual westbound receiving lanes (i.e. two lanes are needed to receive northbound left-turning traffic);
- Implement a fully protected northbound left-turn signal phase; and
- Optimize Signal Phasing.

All-Way STOP control is recommended at the new Caron/Street 'A' intersection and at the Street 'A'/Street 'B' intersection. At the new David/Street 'B' intersection, STOP control on the minor approach will be sufficient.

Despite the extension of Street 'A' westward, beyond Caron Street, will not occur within the foreseeable future, the City may wish to protect for a right-of-way that can accommodate a single lane roundabout for the intersection of Street 'A'/Street 'B'. A roundabout at this location will be consistent with the intersection treatments within the Morris Village development.

It should be noted that a typical range in diameter for a single-lane roundabout is 36-40 m if the design vehicle is a WB-17 or WB-20, and approximately 32 m if the design vehicle is smaller (i.e. fire truck, transit bus, etc.). If possible, the City should plan to protect a 40 m ROW for single-lane roundabouts where collector roadways intersect.

4.1.2 Phase 2

The previously recommended modifications to the network geometry and signal timing adjustments for Phase 1, are also assumed to be in place by the 2039 build-out year. In addition, the following study area intersection improvements are also recommended for Phase 2:

Caron/HWY 17

- Optimize Signal Phasing

Caron/Laurier

- Optimize Signal Phasing

4.1.3 Full Build-out

Along Caron Street, the TWLTL should be extended from Street 'A' to Street 'C'.

The previously recommended modifications to the network geometry and signal timing adjustments for Phase 2, are also assumed to be in place by the 2044 build-out year. In addition, the following study area intersection improvements are also recommended for the full build-out of the expansion lands:

Caron/HWY 17

- Widen the westbound through movement to two lanes; and
- Optimize Signal Phasing.

Caron/Laurier

- Increase Signal Cycle Length to 120 seconds; and
- Optimize Signal Phasing.

Caron/Françoise

- Implement Traffic Signal Control.

Caron/Cote/Potvin

- Implement Traffic Signal Control.

Additionally, STOP control on the minor approaches of the new Caron/Street 'C' intersections are recommended to support future development contained within the subject expansion lands.

5. Findings, Conclusions, and Recommendations

Based on the foregoing analysis, the following transportation findings, conclusions and recommendations are offered:

- Study area intersections are currently operating with an acceptable Levels of Service during both weekday morning and afternoon peak hours. This was confirmed with field observations;
- The pedestrian and cycling network contained within the urban sections of the study area are fairly well developed;
- Based on the preferred Concept Plan, full build-out is projected to generate new two-way traffic in the order of 1,100 to 1,200 veh/h, which is anticipated to occur over a 25-year time period;
- Mitigating the reliance on the private automobile, municipal funding for transit could be reconsidered to support future development (e.g. with municipal funding transit fares can

potentially be lowered to encourage ridership). Additionally, a new local transit route may be provided throughout the expansion lands, which can transport passengers to/from the route currently served by CRT Route 530;

- Sidewalks and dedicated cycling facilities should be provided along all urban collector roadways;
- Along commercial, community and parkland frontages, on-street parking should be considered; and
- With select road improvements (e.g. implementing traffic signal control, additional auxiliary turn lanes, widening HWY 17, etc.), the study area network is projected to operate acceptably.

As future development applications come online, additional and more detailed analysis from a transportation perspective will be required to better develop future network needs. However, by providing safe and efficient links for all modes of transportation, and ensuring sufficient on-street parking is provided for commercial/community spaces, the subject expansion lands will have the means to be a rich and sustainable community.

Based on the foregoing, the proposed expansion lands are recommended from a transportation perspective.

Prepared By:

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Reviewed By:

Gordon Scobie, P.Eng.
Project Manager, Transportation

A

Appendix A

Traffic Data

CMA+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.432940, Lon=-75.598433
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	2	2	7	140	0	41	1	7	1	53	13	267
07:45	1	1	2	4	158	3	52	4	10	2	75	14	326
08:00	0	2	1	1	136	0	46	3	6	3	73	5	276
08:15	0	1	3	9	147	0	38	0	8	2	83	12	303

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	2	2	7	140	0	41	1	7	1	53	13	267
07:45	1	1	2	4	158	3	52	4	10	2	75	14	326
08:00	0	2	1	1	136	0	46	3	6	3	73	5	276
08:15	0	1	3	9	147	0	38	0	8	2	83	12	303

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	1	6	8	21	581	3	177	8	31	8	284	44	1172
Factor	0.25	0.75	0.67	0.58	0.92	0.25	0.85	0.50	0.78	0.67	0.86	0.79	0.90
Approach Factor	0.94			0.92			0.82			0.87			

Peak Hour Vehicle Summary

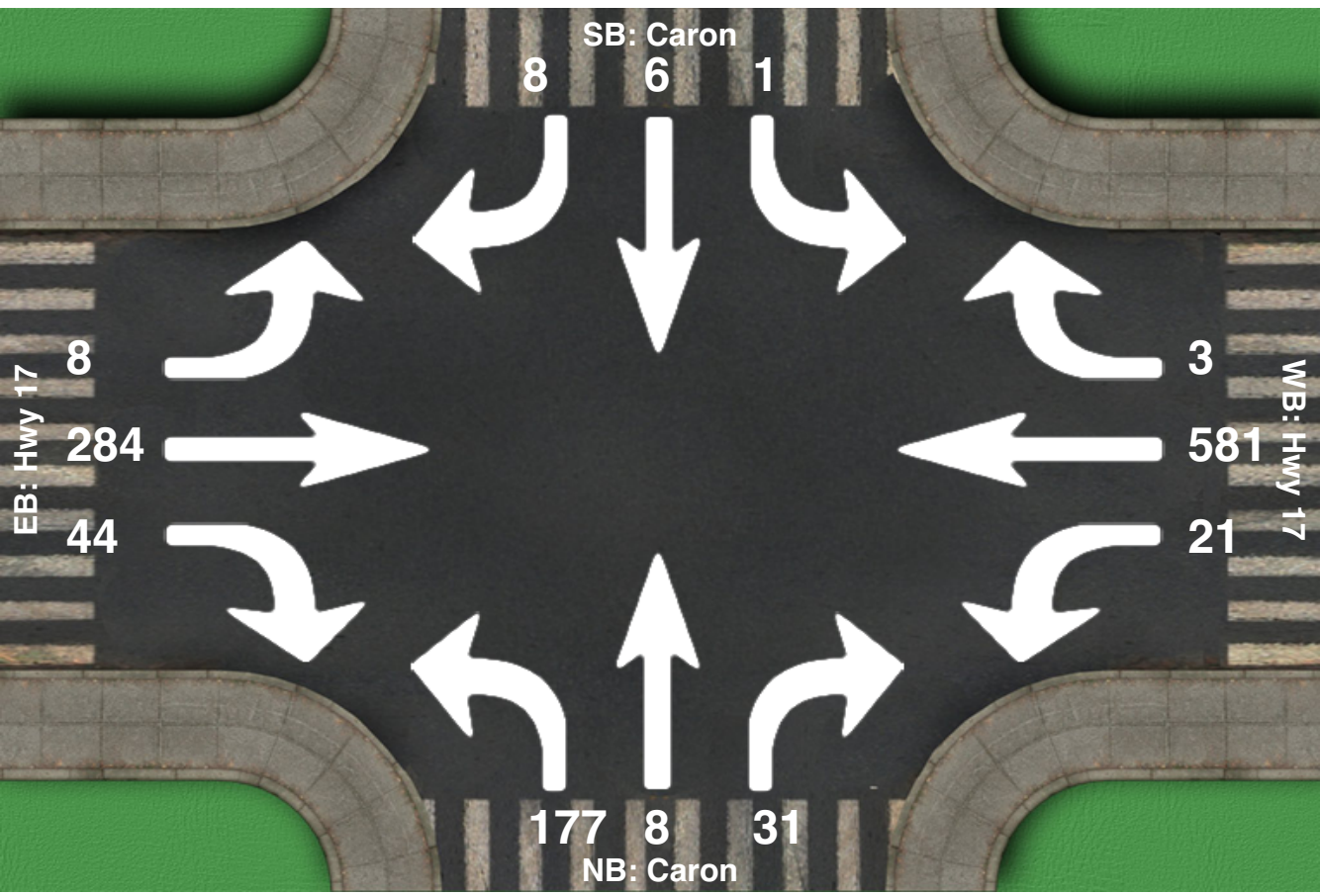
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	1	6	8	21	581	3	177	8	31	8	284	44	1172

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.432940, Lon=-75.598433
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	1	6	8	21	581	3	177	8	31	8	284	44	1172
Factor	0.25	0.75	0.67	0.58	0.92	0.25	0.85	0.50	0.78	0.67	0.86	0.79	0.90
Approach Factor	0.94			0.92			0.82			0.87			

Cima+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.557294, Lon=-75.279173
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	1	4	7	3	73	1	19	2	5	3	186	45	349
16:15	0	3	3	1	84	1	33	1	15	3	184	43	371
16:30	1	3	7	2	82	0	26	1	12	6	192	44	376
16:45	2	2	3	6	99	1	29	0	10	3	199	42	396
17:00	0	0	0	0	1	0	0	0	0	0	3	1	5

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	1	4	7	3	73	1	19	2	5	3	186	45	349
16:15	0	3	3	1	84	1	33	1	15	3	184	43	371
16:30	1	3	7	2	82	0	26	1	12	6	192	44	376
16:45	2	2	3	6	99	1	29	0	10	3	199	42	396
17:00	0	0	0	0	1	0	0	0	0	0	3	1	5

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	4	12	20	12	338	3	107	4	42	15	761	174	1492
Factor	0.50	0.75	0.71	0.50	0.85	0.75	0.81	0.50	0.70	0.62	0.96	0.97	0.94
Approach Factor	0.75			0.83			0.78			0.97			

Peak Hour Vehicle Summary

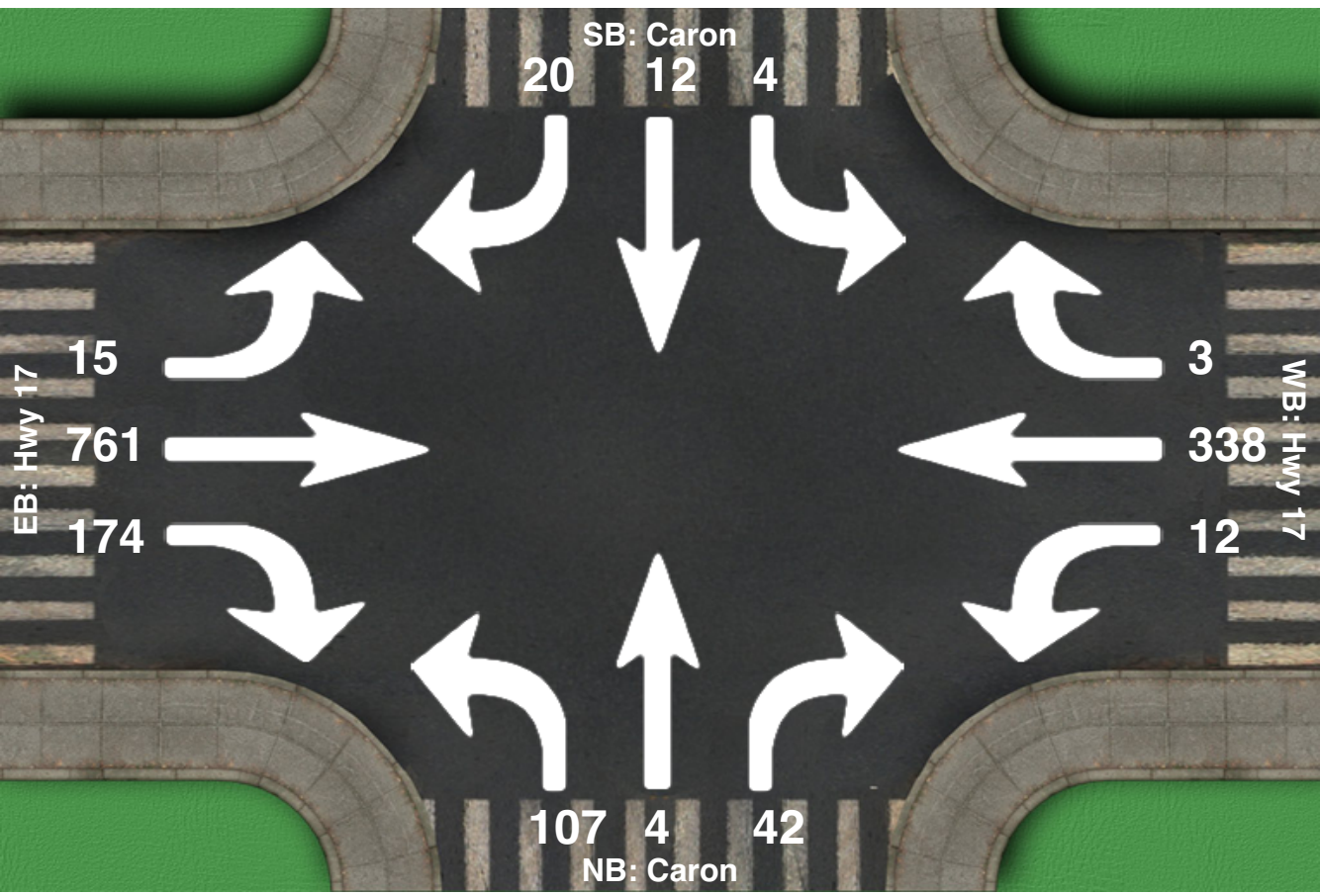
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	4	12	20	12	338	3	107	4	42	15	761	174	1492

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Hwy 17, Rockland, On
GPS Coordinates: Lat=45.557294, Lon=-75.279173
Date: 2018-04-05
Day of week: Thursday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	4	12	20	12	338	3	107	4	42	15	761	174	1492
Factor	0.50	0.75	0.71	0.50	0.85	0.75	0.81	0.50	0.70	0.62	0.96	0.97	0.94
Approach Factor	0.75			0.83			0.78			0.97			

CMA+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.555171, Lon=-75.276541
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	1	7	1	11	32	14	9	29	10	1	11	5	131
07:45	4	12	8	11	43	8	12	36	7	6	10	6	163
08:00	2	11	2	14	39	7	7	18	10	6	19	9	144
08:15	5	15	4	5	34	10	11	32	8	4	14	5	147

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	1	7	1	11	32	14	9	29	10	1	11	5	131
07:45	4	12	8	11	43	8	12	36	7	6	10	6	163
08:00	2	11	2	14	39	7	7	18	10	6	19	9	144
08:15	5	15	4	5	34	10	11	32	8	4	14	5	147

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	45	15	41	148	39	39	115	35	17	54	25	585
Factor	0.60	0.75	0.47	0.73	0.86	0.70	0.81	0.80	0.88	0.71	0.71	0.69	0.90
Approach Factor	0.75			0.92			0.86			0.71			

Peak Hour Vehicle Summary

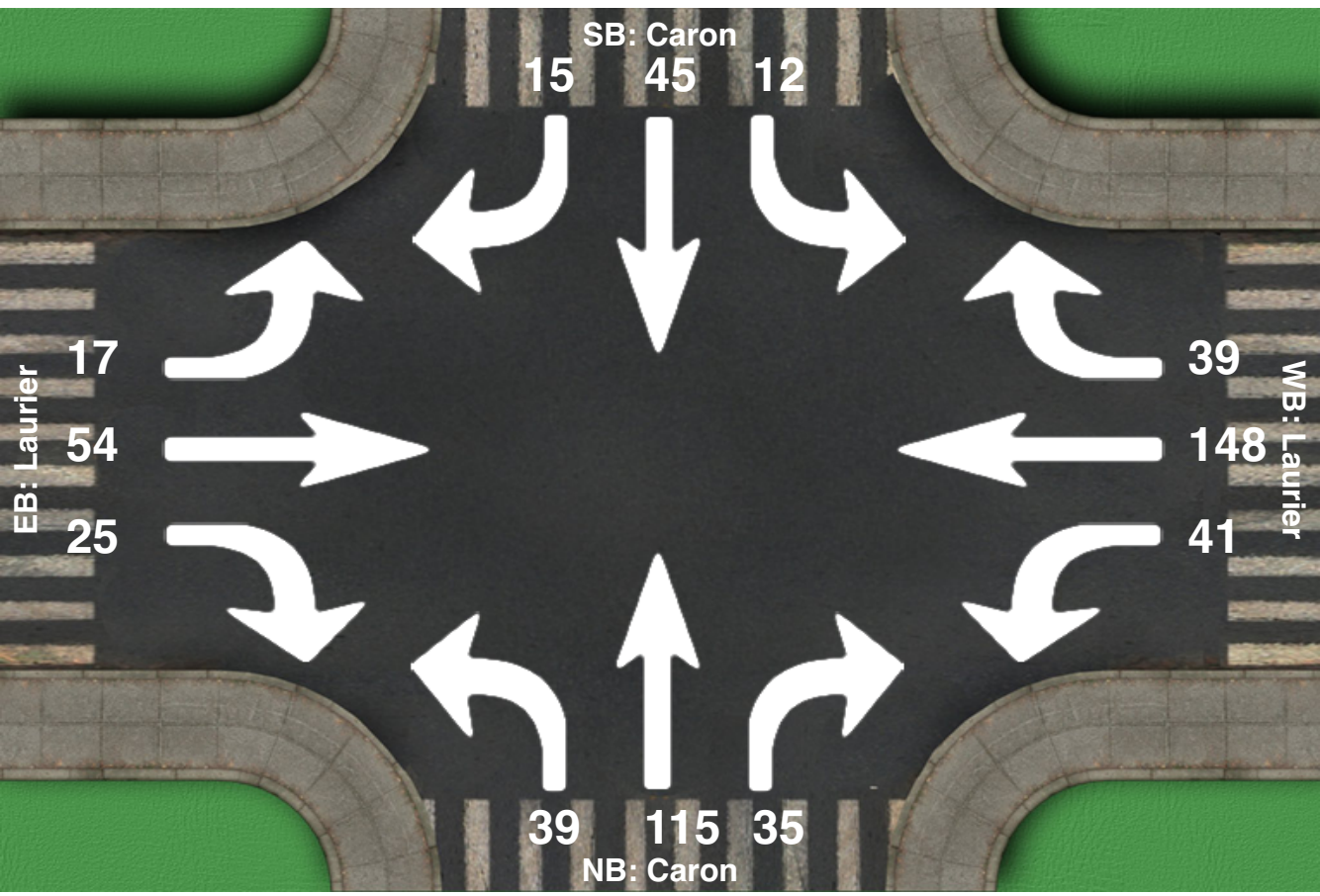
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	12	45	15	41	148	39	39	115	35	17	54	25	585

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.555171, Lon=-75.276541
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	45	15	41	148	39	39	115	35	17	54	25	585
Factor	0.60	0.75	0.47	0.73	0.86	0.70	0.81	0.80	0.88	0.71	0.71	0.69	0.90
Approach Factor	0.75			0.92			0.86			0.71			

1057
CMA+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.554743, Lon=-75.276561
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	16	34	6	7	20	8	10	18	8	9	40	14	190
16:15	4	41	8	7	23	7	13	18	14	8	42	15	200
16:30	7	32	11	8	24	6	14	24	8	8	34	23	199
16:45	8	31	6	8	20	5	14	27	12	9	39	12	191

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	16	34	6	7	20	8	10	18	8	9	40	14	190
16:15	4	41	8	7	23	7	13	18	14	8	42	15	200
16:30	7	32	11	8	24	6	14	24	8	8	34	23	199
16:45	8	31	6	8	20	5	14	27	12	9	39	12	191

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	2	0	2	0	0	0	0	1	1	0	0	0	3
16:15	0	2	2	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	2	0	2	0	0	0	2	0	2	4
16:45	1	0	1	0	1	1	0	1	1	1	0	1	4

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	35	138	31	30	87	26	51	87	42	34	155	64	780
Factor	0.55	0.84	0.70	0.94	0.91	0.81	0.91	0.81	0.75	0.94	0.92	0.70	0.97
Approach Factor	0.91			0.94			0.85			0.97			

Peak Hour Vehicle Summary

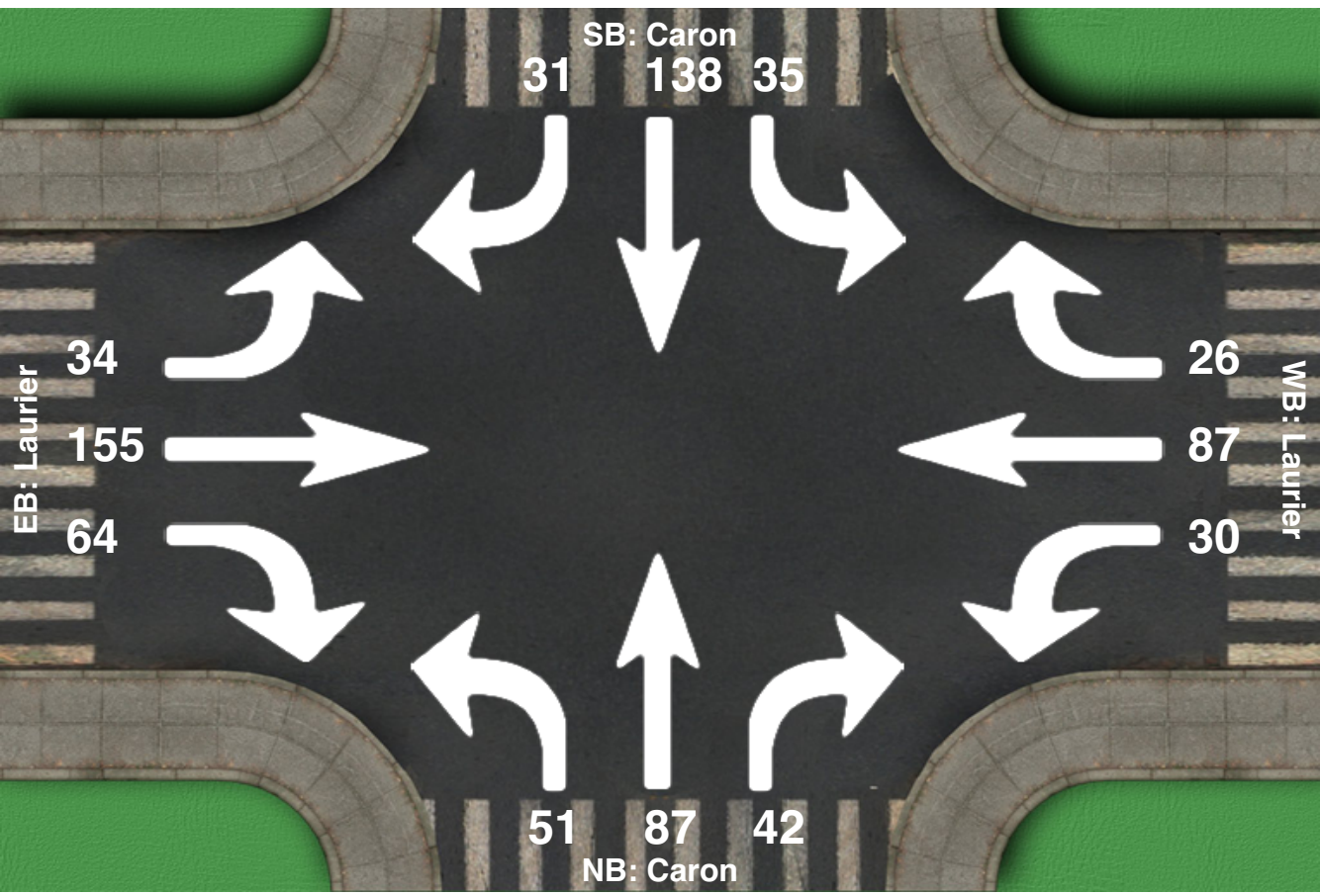
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	35	138	31	30	87	26	51	87	42	34	155	64	780
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	3	2	5	2	1	3	0	2	2	3	0	3	13

Intersection Peak Hour

Location: Caron at Laurier, Rockland, On
GPS Coordinates: Lat=45.554743, Lon=-75.276561
Date: 2018-04-09
Day of week: Monday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	35	138	31	30	87	26	51	87	42	34	155	64	780
Factor	0.55	0.84	0.70	0.94	0.91	0.81	0.91	0.81	0.75	0.94	0.92	0.70	0.97
Approach Factor	0.91			0.94			0.85			0.97			

1060 Emma+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	10	0	6	0	15	26	0	0	0	4	15	0	76
07:45	16	0	5	0	12	20	0	0	0	0	6	0	59
08:00	12	0	8	0	16	13	0	0	0	1	4	0	54
08:15	11	0	3	0	15	25	0	0	0	3	3	0	60

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	10	0	6	0	15	26	0	0	0	4	15	0	76
07:45	16	0	5	0	12	20	0	0	0	0	6	0	59
08:00	12	0	8	0	16	13	0	0	0	1	4	0	54
08:15	11	0	3	0	15	25	0	0	0	3	3	0	60

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	49	0	22	0	58	84	0	0	0	8	28	0	249
Factor	0.77	0.00	0.69	0.00	0.91	0.81	0.00	0.00	0.00	0.50	0.47	0.00	0.82
Approach Factor	0.85			0.87			0.00			0.47			

Peak Hour Vehicle Summary

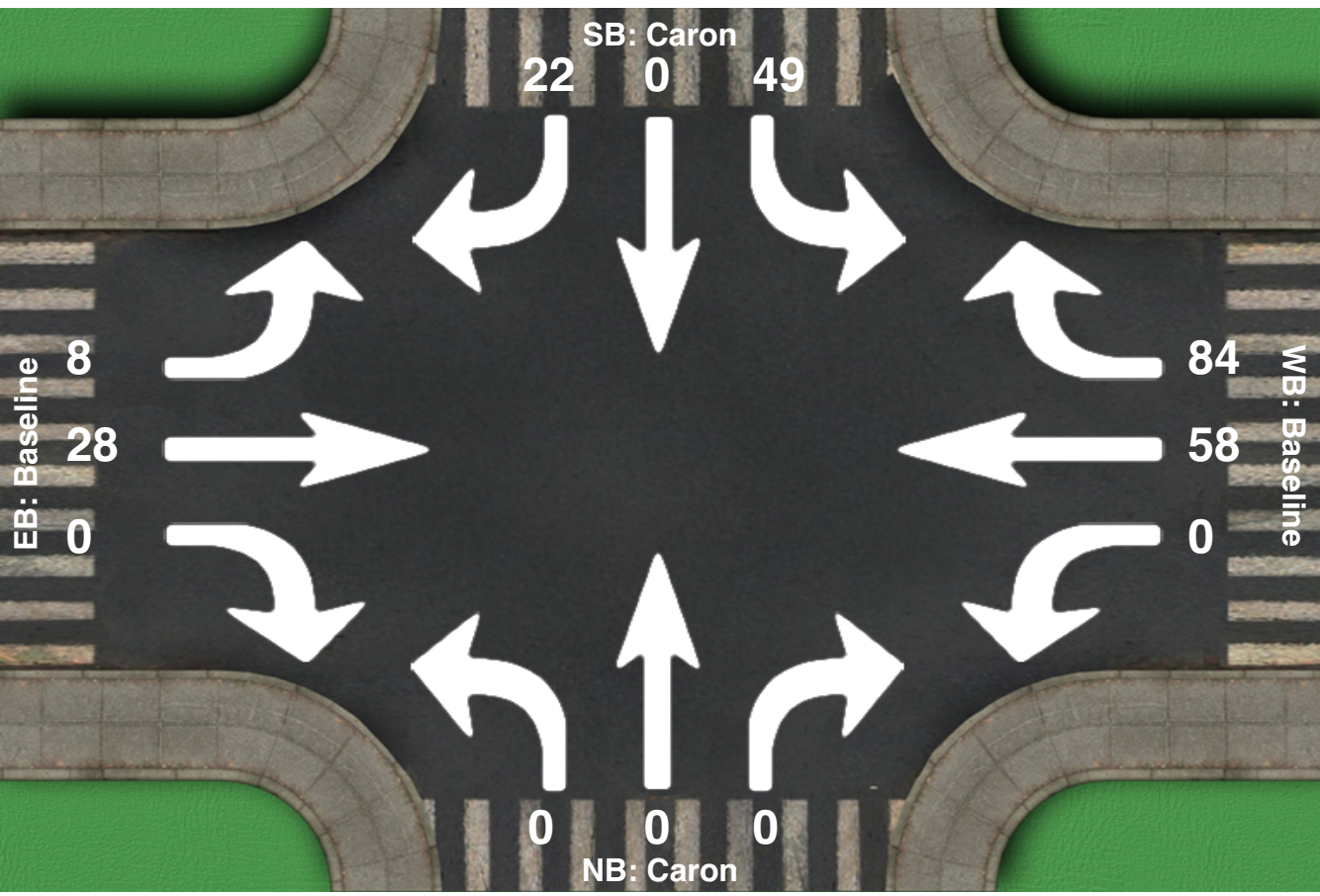
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	49	0	22	0	58	84	0	0	0	8	28	0	249
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	49	0	22	0	58	84	0	0	0	8	28	0	249
Factor	0.77	0.00	0.69	0.00	0.91	0.81	0.00	0.00	0.00	0.50	0.47	0.00	0.82
Approach Factor	0.85			0.87			0.00			0.47			

CMA+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	27	0	2	0	9	25	0	0	0	6	28	0	97
16:15	25	0	4	0	12	23	0	0	0	7	20	0	91
16:30	22	0	3	0	13	17	0	0	0	12	31	0	98
16:45	25	0	8	0	7	11	0	0	0	13	23	0	87

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	27	0	2	0	9	25	0	0	0	6	28	0	97
16:15	25	0	4	0	12	23	0	0	0	7	20	0	91
16:30	22	0	3	0	13	17	0	0	0	12	31	0	98
16:45	25	0	8	0	7	11	0	0	0	13	23	0	87

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	99	0	17	0	41	76	0	0	0	38	102	0	373
Factor	0.92	0.00	0.53	0.00	0.79	0.76	0.00	0.00	0.00	0.73	0.82	0.00	0.95
Approach Factor	0.88			0.84			0.00			0.81			

Peak Hour Vehicle Summary

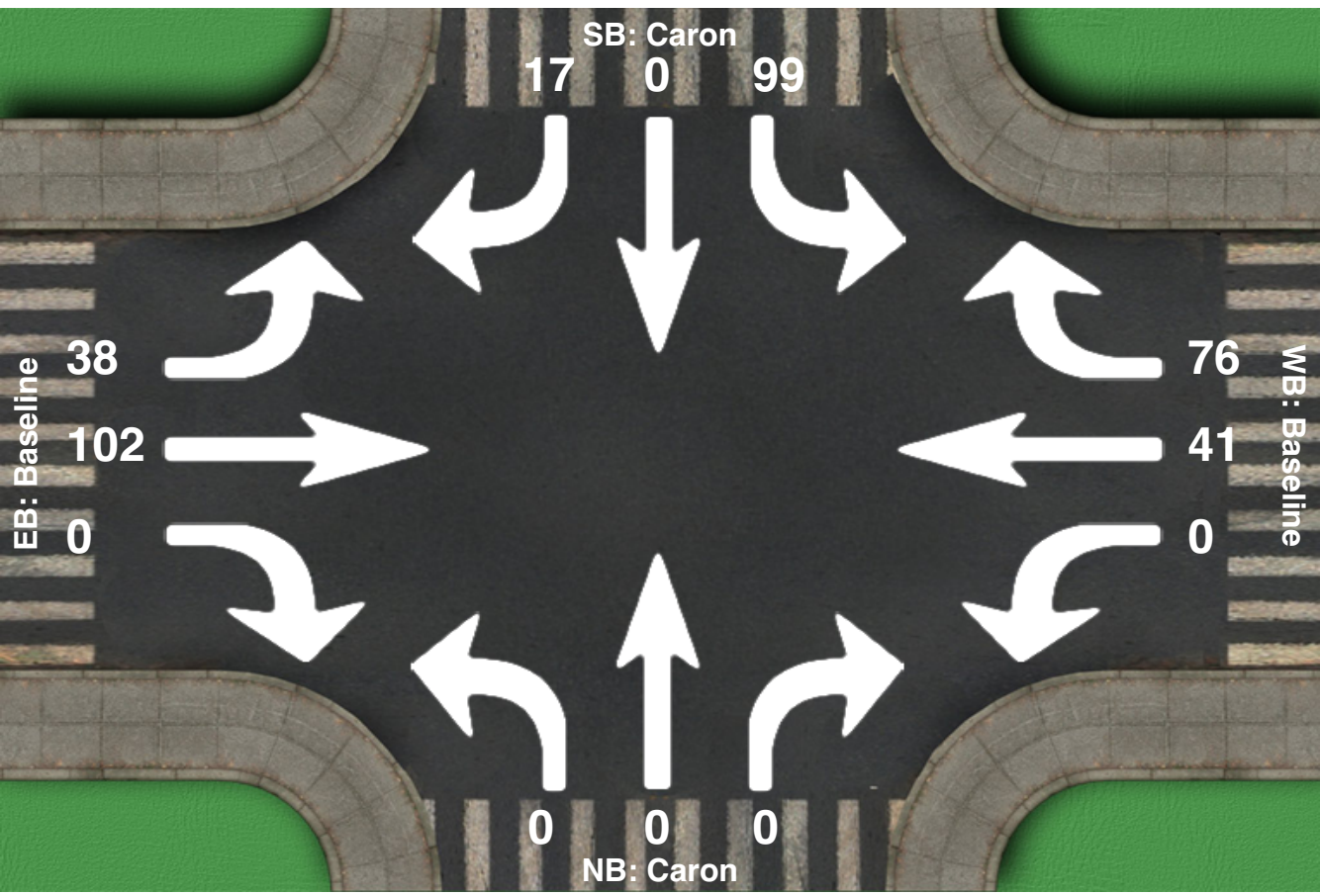
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	99	0	17	0	41	76	0	0	0	38	102	0	373
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Caron at Baseline , Rockland, On
GPS Coordinates: Lat=45.525226, Lon=-75.259189
Date: 2018-04-10
Day of week: Tuesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	99	0	17	0	41	76	0	0	0	38	102	0	373
Factor	0.92	0.00	0.53	0.00	0.79	0.76	0.00	0.00	0.00	0.73	0.82	0.00	0.95
Approach Factor	0.88			0.84			0.00			0.81			

CMA+
240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544293, Lon=-75.271567
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	12	9	0	0	0	23	21	0	9	0	9	83
07:45	0	9	18	0	0	0	24	22	0	11	0	14	98
08:00	0	12	9	0	0	0	7	13	0	12	0	8	61
08:15	0	10	7	0	0	0	6	18	0	6	0	5	52
08:30	0	0	0	0	0	0	1	0	0	0	0	0	1

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	12	9	0	0	0	22	21	0	9	0	9	82
07:45	0	9	18	0	0	0	24	22	0	11	0	14	98
08:00	0	12	9	0	0	0	7	13	0	12	0	8	61
08:15	0	10	7	0	0	0	6	18	0	6	0	5	52
08:30	0	0	0	0	0	0	1	0	0	0	0	0	1

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	0	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	1	0	1	0	0	0	1
07:45	0	2	2	0	1	1	0	0	0	0	0	0	3
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	1	0	0	0	0	1	1	0	0	0	2
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	43	43	0	0	0	60	74	0	38	0	36	294
Factor	0.00	0.90	0.60	0.00	0.00	0.00	0.62	0.84	0.00	0.79	0.00	0.64	0.75
Approach Factor	0.80			0.00			0.73			0.74			

Peak Hour Vehicle Summary

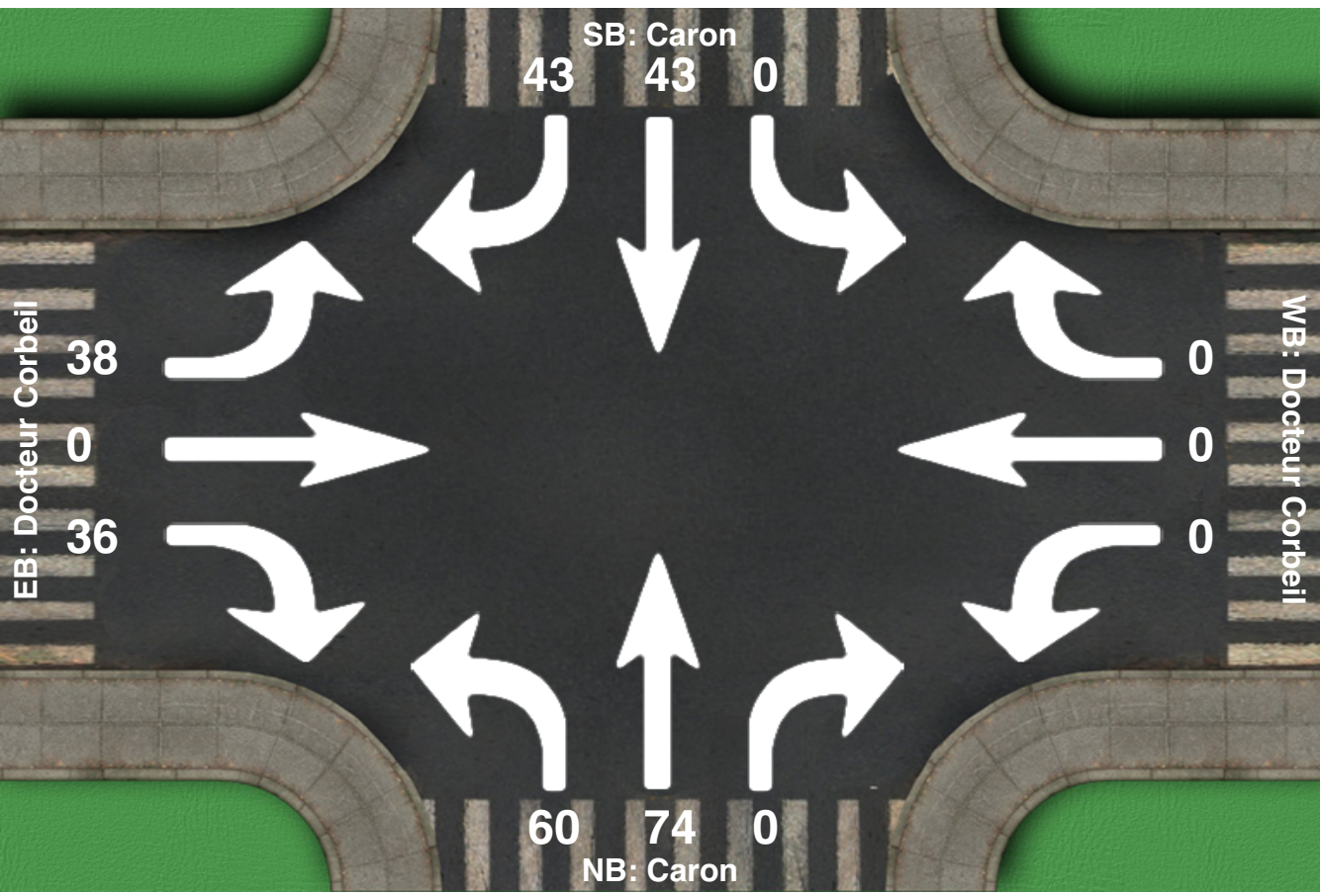
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	43	43	0	0	0	59	74	0	38	0	36	293
Bicycle	0	0	0	0	0	0	1	0	0	0	0	0	1

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	3	3	0	1	1	1	1	2	0	0	0	6

Intersection Peak Hour

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544293, Lon=-75.271567
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

07:30 - 08:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	43	43	0	0	0	60	74	0	38	0	36	294
Factor	0.00	0.90	0.60	0.00	0.00	0.00	0.62	0.84	0.00	0.79	0.00	0.64	0.75
Approach Factor	0.80			0.00			0.73			0.74			

1069
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240 Catherine st.
Ottawa, ,

Turn Count Summary

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544176, Lon=-75.271704
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	17	10	0	0	1	12	13	0	9	0	21	83
16:15	0	17	16	0	0	0	11	17	0	16	0	11	88
16:30	0	18	14	0	0	0	9	11	0	16	0	13	81
16:45	0	16	10	0	0	0	17	22	0	20	0	17	102

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	17	9	0	0	1	12	13	0	9	0	21	82
16:15	0	17	16	0	0	0	11	17	0	16	0	11	88
16:30	0	18	14	0	0	0	9	11	0	15	0	13	80
16:45	0	16	10	0	0	0	17	22	0	20	0	17	102

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	1	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	1	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	0	0	0	3	0	3	0	0	0	0	0	0	3
16:15	0	0	0	0	0	0	1	0	1	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	68	50	0	0	1	49	63	0	61	0	62	354
Factor	0.00	0.94	0.78	0.00	0.00	0.25	0.72	0.72	0.00	0.76	0.00	0.74	0.87
Approach Factor	0.89			0.25			0.72			0.83			

Peak Hour Vehicle Summary

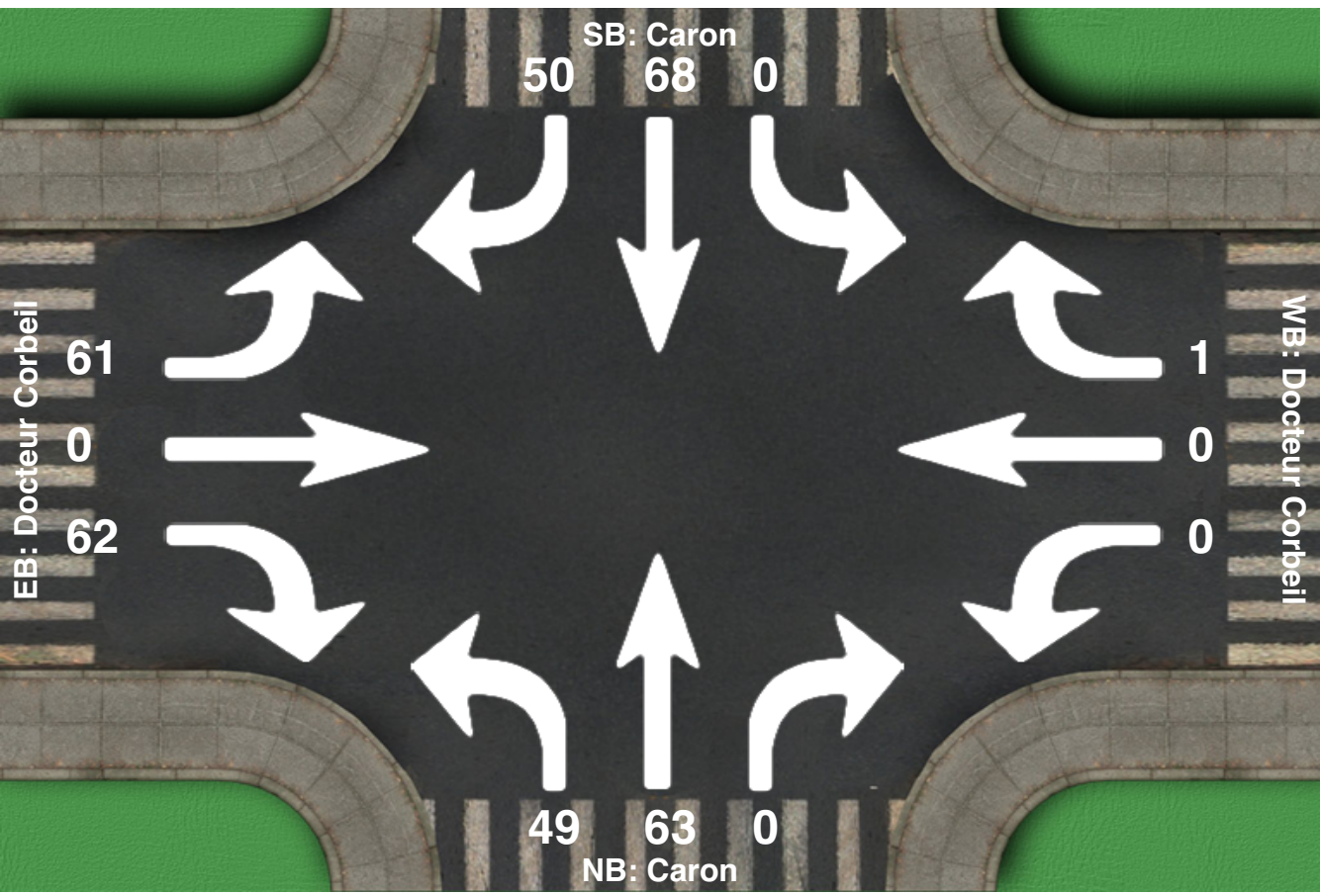
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	68	49	0	0	1	49	63	0	60	0	62	352
Bicycle	0	0	1	0	0	0	0	0	0	1	0	0	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	3	0	3	1	0	1	0	0	0	4

Intersection Peak Hour

Location: Caron at Docteur Corbeil, Rockland, On
GPS Coordinates: Lat=45.544176, Lon=-75.271704
Date: 2018-04-11
Day of week: Wednesday
Weather:
Analyst: Ben Tardioli



Intersection Peak Hour

16:00 - 17:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	68	50	0	0	1	49	63	0	61	0	62	354
Factor	0.00	0.94	0.78	0.00	0.00	0.25	0.72	0.72	0.00	0.76	0.00	0.74	0.87
Approach Factor	0.89			0.25			0.72			0.83			

B

Appendix B

Existing Conditions Traffic Operations

CIMA+

HCM Signalized Intersection Capacity Analysis
1: Rue Caron/Rue Industrielle & HWY 17

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	284	44	21	581	3	177	8	31	1	6	8
Future Volume (vph)	8	284	44	21	581	3	177	8	31	1	6	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1765	1500	1676	1765	1500	1676	1555		1676	1616	
Flt Permitted	0.30	1.00	1.00	0.54	1.00	1.00	0.53	1.00		1.00	1.00	
Satd. Flow (perm)	536	1765	1500	944	1765	1500	941	1555		1765	1616	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	316	49	23	646	3	197	9	34	1	7	9
RTOR Reduction (vph)	0	0	22	0	0	1	0	30	0	0	9	0
Lane Group Flow (vph)	9	316	27	23	646	2	197	13	0	1	7	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	50.5	49.5	49.5	53.1	50.8	50.8	18.0	11.2		2.5	1.6	
Effective Green, g (s)	50.5	49.5	49.5	53.1	50.8	50.8	18.0	11.2		2.5	1.6	
Actuated g/C Ratio	0.56	0.55	0.55	0.59	0.57	0.57	0.20	0.12		0.03	0.02	
Clearance Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	313	971	825	576	997	847	274	193		48	28	
v/s Ratio Prot	0.00	0.18		c0.00	c0.37		c0.08	0.01		0.00	0.00	
v/s Ratio Perm	0.02		0.02	0.02		0.00	c0.06			0.00		
v/c Ratio	0.03	0.33	0.03	0.04	0.65	0.00	0.72	0.07		0.02	0.26	
Uniform Delay, d1	9.7	11.1	9.2	7.7	13.4	8.5	32.7	34.7		42.5	43.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.9	0.1	0.0	3.3	0.0	8.7	0.2		0.2	4.8	
Delay (s)	9.8	12.0	9.3	7.7	16.7	8.5	41.4	34.9		42.7	48.4	
Level of Service	A	B	A	A	B	A	D	C		D	D	
Approach Delay (s)		11.6			16.3			40.2			48.0	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	26.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Caron St/Rue Caron & Laurier St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	54	25	41	148	39	39	115	35	12	45	15
Future Volume (vph)	17	54	25	41	148	39	39	115	35	12	45	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1680		1676	1710		1676	1703		1676	1698	
Flt Permitted	0.63	1.00		0.66	1.00		0.62	1.00		0.65	1.00	
Satd. Flow (perm)	1109	1680		1161	1710		1086	1703		1150	1698	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	60	28	46	164	43	43	128	39	13	50	17
RTOR Reduction (vph)	0	15	0	0	8	0	0	14	0	0	14	0
Lane Group Flow (vph)	19	73	0	46	199	0	43	153	0	13	53	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.7	32.8		37.9	34.9		19.2	16.0		14.8	13.8	
Effective Green, g (s)	33.7	32.8		37.9	34.9		19.2	16.0		14.8	13.8	
Actuated g/C Ratio	0.43	0.42		0.49	0.45		0.25	0.21		0.19	0.18	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	485	706		583	765		291	349		224	300	
v/s Ratio Prot	0.00	0.04		c0.00	c0.12		c0.01	c0.09		0.00	0.03	
v/s Ratio Perm	0.02			0.04			0.03			0.01		
v/c Ratio	0.04	0.10		0.08	0.26		0.15	0.44		0.06	0.18	
Uniform Delay, d1	12.7	13.7		10.6	13.5		22.8	27.1		25.8	27.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.1	0.8		0.2	0.9		0.1	0.3	
Delay (s)	12.8	14.0		10.7	14.3		23.0	28.0		25.9	27.6	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s)		13.8			13.6			27.0			27.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	189	108	3
Future Volume (Veh/h)	0	5	6	189	108	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	210	120	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked						
vC, conflicting volume	346	122	123			
vC1, stage 1 conf vol	122					
vC2, stage 2 conf vol	224					
vCu, unblocked vol	346	122	123			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	759	930	1464			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	210	123
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	930	1464	1700	1700
Volume to Capacity	0.01	0.00	0.12	0.07
Queue Length 95th (m)	0.1	0.1	0.0	0.0
Control Delay (s)	8.9	7.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	8.9	0.2		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	125	111	2
Future Volume (vph)	9	3	1	125	111	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	139	123	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	139	125
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.02
Departure Headway (s)	4.5	5.1	4.6	4.2
Degree Utilization, x	0.02	0.00	0.18	0.15
Capacity (veh/h)	735	686	762	848
Control Delay (s)	7.6	7.0	7.5	7.9
Approach Delay (s)	7.6	7.5		7.9
Approach LOS	A	A		A

Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	16.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Existing Conditions
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	116	1	5	109
Future Volume (Veh/h)	5	10	116	1	5	109
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	129	1	6	121
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	262	130			130	
vC1, stage 1 conf vol	130					
vC2, stage 2 conf vol	133					
vCu, unblocked vol	262	130			130	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	817	920			1455	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	130	6	121
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	881	1700	1455	1700
Volume to Capacity	0.02	0.08	0.00	0.07
Queue Length 95th (m)	0.4	0.0	0.1	0.0
Control Delay (s)	9.2	0.0	7.5	0.0
Lane LOS	A		A	
Approach Delay (s)	9.2	0.0	0.4	
Approach LOS	A			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	102	6	5	109	0
Future Volume (vph)	9	0	8	9	1	6	4	102	6	5	109	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	113	7	6	121	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	120	6	121
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	-0.01	0.53	0.03
Departure Headway (s)	4.4	4.4	5.2	4.7	5.2	4.7
Degree Utilization, x	0.02	0.02	0.01	0.16	0.01	0.16
Capacity (veh/h)	778	759	675	755	673	749
Control Delay (s)	7.5	7.5	7.0	7.3	7.1	7.4
Approach Delay (s)	7.5	7.5	7.3		7.4	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	36	60	74	43	43
Future Volume (Veh/h)	38	36	60	74	43	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	40	67	82	48	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	290	74	98			
vC1, stage 1 conf vol	74					
vC2, stage 2 conf vol	216					
vCu, unblocked vol	290	74	98			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	96	96			
cM capacity (veh/h)	752	986	1493			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	82	67	82	96
Volume Left	42	67	0	0
Volume Right	40	0	0	48
cSH	851	1493	1700	1700
Volume to Capacity	0.10	0.04	0.05	0.06
Queue Length 95th (m)	2.2	1.0	0.0	0.0
Control Delay (s)	9.7	7.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7	3.4		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Existing Conditions
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	10	92	2	5	79
Future Volume (vph)	5	10	92	2	5	79
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	102	2	6	88

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	17	104	6	88
Volume Left (vph)	6	0	6	0
Volume Right (vph)	11	2	0	0
Hadj (s)	-0.28	0.02	0.53	0.03
Departure Headway (s)	4.1	4.2	5.1	4.6
Degree Utilization, x	0.02	0.12	0.01	0.11
Capacity (veh/h)	842	850	684	762
Control Delay (s)	7.1	7.7	7.0	7.0
Approach Delay (s)	7.1	7.7	7.0	
Approach LOS	A	A	A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Existing Conditions
Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	28	58	84	49	22
Future Volume (Veh/h)	8	28	58	84	49	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	31	64	93	54	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	157				160	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	157				160	110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	97
cM capacity (veh/h)	1423				826	943

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	40	157	78
Volume Left	9	0	54
Volume Right	0	93	24
cSH	1423	1700	859
Volume to Capacity	0.01	0.09	0.09
Queue Length 95th (m)	0.1	0.0	2.1
Control Delay (s)	1.7	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	1.7	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Rue Caron/Rue Industrielle & HWY 17

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (m)	8.5	43.7	12.6	8.3	65.3	4.6	53.8	14.3	4.1	11.0
Average Queue (m)	1.9	16.5	2.7	2.4	27.7	0.2	25.0	4.9	0.1	2.5
95th Queue (m)	7.3	33.6	9.2	8.3	51.4	1.9	43.7	11.7	1.7	8.1
Link Distance (m)		833.3			805.3			415.2		113.3
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Storage Blk Time (%)					0		0			
Queuing Penalty (veh)					0		0			

Intersection: 2: Caron St/Rue Caron & Laurier St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	8.3	16.8	15.0	34.4	15.8	44.0	8.2	27.3
Average Queue (m)	1.7	4.4	3.4	9.8	4.9	17.9	1.4	9.6
95th Queue (m)	6.3	12.1	10.4	23.2	12.7	34.0	5.8	19.1
Link Distance (m)		928.0		698.5		142.0		415.2
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	35.0		60.0		55.0		50.0	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 3: Caron St & Hélène St

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	8.2	5.1
Average Queue (m)	1.2	0.2
95th Queue (m)	5.8	2.1
Link Distance (m)	266.6	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Caron St & Francois St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	10.7	5.2	20.2	18.9
Average Queue (m)	3.1	0.2	11.1	11.2
95th Queue (m)	10.4	2.2	17.2	17.1
Link Distance (m)	343.3		122.7	232.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Intersection: 5: Caron St & Des Cedres Ave

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (m)	8.7	3.4
Average Queue (m)	3.0	0.1
95th Queue (m)	9.7	1.8
Link Distance (m)	109.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Caron St & Cote St/Potvin Ave

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (m)	9.1	8.9	8.7	22.5	5.5	17.6
Average Queue (m)	3.7	3.2	0.9	11.2	0.7	9.2
95th Queue (m)	10.9	10.1	5.3	18.2	3.7	14.6
Link Distance (m)	73.6	115.9		507.4		263.8
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)			30.0		40.0	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 7: Caron St & Docteur Corbeil Blvd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	15.7	10.1
Average Queue (m)	8.1	1.7
95th Queue (m)	14.4	7.6
Link Distance (m)	486.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 8: David St & Caron St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	9.1	21.9	9.2	19.4
Average Queue (m)	3.2	10.2	1.1	9.5
95th Queue (m)	10.1	17.0	6.1	16.1
Link Distance (m)	509.7	82.9		518.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			40.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Baseline Rd & Caron St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	7.5	14.2
Average Queue (m)	0.4	7.3
95th Queue (m)	3.2	12.2
Link Distance (m)	763.0	1938.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

HCM Signalized Intersection Capacity Analysis
1: Rue Caron/Rue Industrielle & HWY 17

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Future Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1765	1500	1676	1765	1500	1676	1678		1676	1717	
Flt Permitted	0.69	1.00	1.00	0.65	1.00	1.00	0.44	1.00		0.67	1.00	
Satd. Flow (perm)	1223	1765	1500	1144	1765	1500	774	1678		1174	1717	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	172	71	33	97	29	57	97	47	39	153	34
RTOR Reduction (vph)	0	0	36	0	0	15	0	15	0	0	7	0
Lane Group Flow (vph)	38	172	35	33	97	14	57	129	0	39	180	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	55.8	51.9	51.9	55.6	51.8	51.8	26.1	19.5		21.7	17.3	
Effective Green, g (s)	55.8	51.9	51.9	55.6	51.8	51.8	26.1	19.5		21.7	17.3	
Actuated g/C Ratio	0.53	0.49	0.49	0.53	0.49	0.49	0.25	0.18		0.21	0.16	
Clearance Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3		5.9	6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	662	867	737	621	865	735	247	309		262	281	
v/s Ratio Prot	c0.00	c0.10		0.00	0.05		c0.01	0.08		0.01	c0.11	
v/s Ratio Perm	0.03		0.02	0.03		0.01	0.04			0.02		
v/c Ratio	0.06	0.20	0.05	0.05	0.11	0.02	0.23	0.42		0.15	0.64	
Uniform Delay, d1	12.0	15.1	14.0	12.1	14.5	13.8	31.2	38.0		34.1	41.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.5	0.1	0.0	0.3	0.0	0.5	0.9		0.3	4.9	
Delay (s)	12.1	15.6	14.1	12.1	14.8	13.9	31.6	39.0		34.4	46.2	
Level of Service	B	B	B	B	B	B	C	D		C	D	
Approach Delay (s)		14.8			14.1			36.9			44.2	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	26.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Caron St/Rue Caron & Laurier St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Future Volume (vph)	34	155	64	30	87	26	51	87	42	35	138	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1675		1672	1694		1674	1665		1673	1709	
Flt Permitted	0.66	1.00		0.61	1.00		0.58	1.00		0.67	1.00	
Satd. Flow (perm)	1153	1675		1070	1694		1030	1665		1172	1709	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	172	71	33	97	29	57	97	47	39	153	34
RTOR Reduction (vph)	0	14	0	0	10	0	0	22	0	0	10	0
Lane Group Flow (vph)	38	229	0	33	116	0	57	122	0	39	177	0
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.3	32.4		33.3	31.4		16.5	13.4		16.5	13.4	
Effective Green, g (s)	35.3	32.4		33.3	31.4		16.5	13.4		16.5	13.4	
Actuated g/C Ratio	0.46	0.43		0.44	0.41		0.22	0.18		0.22	0.18	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	555	714		483	699		249	293		274	301	
v/s Ratio Prot	c0.00	c0.14		0.00	0.07		c0.01	0.07		0.01	c0.10	
v/s Ratio Perm	0.03			0.03			0.04			0.03		
v/c Ratio	0.07	0.32		0.07	0.17		0.23	0.42		0.14	0.59	
Uniform Delay, d1	11.2	14.5		12.2	14.1		24.1	27.8		23.8	28.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2		0.1	0.5		0.5	1.0		0.2	2.9	
Delay (s)	11.2	15.7		12.3	14.6		24.6	28.8		24.1	31.7	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s)		15.1			14.1			27.6			30.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	180	229	3
Future Volume (Veh/h)	0	8	7	180	229	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	200	254	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	472	256	257			
vC1, stage 1 conf vol	256					
vC2, stage 2 conf vol	216					
vCu, unblocked vol	421	195	196			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	707	807	1312			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	200	257
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	807	1312	1700	1700
Volume to Capacity	0.01	0.01	0.12	0.15
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	9.5	7.8	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.5	0.3		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	180	233	4
Future Volume (vph)	7	3	6	180	233	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	200	259	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	200	263
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.02
Departure Headway (s)	5.0	5.2	4.7	4.3
Degree Utilization, x	0.02	0.01	0.26	0.31
Capacity (veh/h)	656	674	748	825
Control Delay (s)	8.0	7.1	8.2	9.2
Approach Delay (s)	8.0	8.2		9.2
Approach LOS	A	A		A

Intersection Summary			
Delay	8.7		
Level of Service	A		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	113	7	26	210
Future Volume (Veh/h)	1	10	113	7	26	210
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	126	8	29	233
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	421	130			134	
vC1, stage 1 conf vol	130					
vC2, stage 2 conf vol	291					
vCu, unblocked vol	421	130			134	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	701	920			1451	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	134	29	233
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	896	1700	1451	1700
Volume to Capacity	0.01	0.08	0.02	0.14
Queue Length 95th (m)	0.3	0.0	0.4	0.0
Control Delay (s)	9.1	0.0	7.5	0.0
Lane LOS	A		A	
Approach Delay (s)	9.1	0.0	0.8	
Approach LOS	A			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	99	13	16	99	17
Future Volume (vph)	17	1	10	9	1	4	12	99	13	16	99	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	110	14	18	110	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	124	18	129
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	-0.05	0.53	-0.07
Departure Headway (s)	4.5	4.6	5.3	4.7	5.2	4.6
Degree Utilization, x	0.04	0.02	0.02	0.16	0.03	0.17
Capacity (veh/h)	741	727	669	753	667	758
Control Delay (s)	7.7	7.7	7.2	7.4	7.2	7.4
Approach Delay (s)	7.7	7.7	7.3		7.3	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	62	49	63	68	50
Future Volume (Veh/h)	61	62	49	63	68	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	69	54	70	76	56
Pedestrians	4					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	286	108	136			
vC1, stage 1 conf vol	108					
vC2, stage 2 conf vol	178					
vCu, unblocked vol	286	108	136			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	93	96			
cM capacity (veh/h)	775	943	1443			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	137	54	70	132
Volume Left	68	54	0	0
Volume Right	69	0	0	56
cSH	851	1443	1700	1700
Volume to Capacity	0.16	0.04	0.04	0.08
Queue Length 95th (m)	4.0	0.8	0.0	0.0
Control Delay (s)	10.0	7.6	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.0	3.3		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	10	114	5	10	116
Future Volume (vph)	5	10	114	5	10	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	127	6	11	129

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	17	133	11	129
Volume Left (vph)	6	0	11	0
Volume Right (vph)	11	6	0	0
Hadj (s)	-0.28	0.01	0.53	0.03
Departure Headway (s)	4.2	4.2	5.2	4.7
Degree Utilization, x	0.02	0.15	0.02	0.17
Capacity (veh/h)	798	843	681	759
Control Delay (s)	7.3	8.0	7.0	7.4
Approach Delay (s)	7.3	8.0	7.4	
Approach LOS	A	A	A	

Intersection Summary			
Delay	7.6		
Level of Service	A		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	102	41	76	99	17
Future Volume (Veh/h)	38	102	41	76	99	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	113	46	84	110	19
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	130				285	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				285	88
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	98
cM capacity (veh/h)	1455				685	970

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	155	130	129
Volume Left	42	0	110
Volume Right	0	84	19
cSH	1455	1700	716
Volume to Capacity	0.03	0.08	0.18
Queue Length 95th (m)	0.6	0.0	4.6
Control Delay (s)	2.2	0.0	11.1
Lane LOS	A		B
Approach Delay (s)	2.2	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Rue Caron/Rue Industrielle & HWY 17

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (m)	16.5	31.9	17.1	16.6	27.7	11.2	36.4	46.0	37.0	59.7
Average Queue (m)	3.8	13.3	5.0	3.8	6.5	2.5	9.7	17.9	7.7	26.5
95th Queue (m)	12.3	26.3	13.7	11.8	18.7	8.7	23.2	34.9	21.2	48.5
Link Distance (m)		833.3			805.3			415.2		113.3
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Storage Blk Time (%)								0	0	4
Queuing Penalty (veh)								0	0	1

Intersection: 2: Caron St/Rue Caron & Laurier St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	19.5	38.5	13.3	21.0	18.3	37.4	20.2	50.0
Average Queue (m)	3.9	14.3	2.9	6.4	6.7	17.6	5.3	22.9
95th Queue (m)	12.2	30.4	9.2	16.4	14.9	30.9	13.7	41.8
Link Distance (m)		928.0		698.5		142.0		415.2
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	35.0		60.0		55.0		50.0	
Storage Blk Time (%)		1						0
Queuing Penalty (veh)		0						0

Intersection: 3: Caron St & Hélène St

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	8.3	7.1
Average Queue (m)	2.4	0.5
95th Queue (m)	8.3	3.7
Link Distance (m)	266.6	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Caron St & Francois St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	9.3	9.1	21.5	27.8
Average Queue (m)	2.7	1.3	12.4	16.0
95th Queue (m)	9.5	6.4	19.2	24.4
Link Distance (m)	343.3		122.7	232.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		0	1	
Queuing Penalty (veh)		0	0	

Intersection: 5: Caron St & Des Cedres Ave

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (m)	8.7	9.1
Average Queue (m)	2.4	1.1
95th Queue (m)	8.8	5.8
Link Distance (m)	109.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 6: Caron St & Cote St/Potvin Ave

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (m)	16.0	8.9	8.8	18.1	5.6	16.8
Average Queue (m)	5.8	3.1	2.5	10.4	2.2	8.8
95th Queue (m)	13.6	10.0	8.9	16.1	6.6	13.5
Link Distance (m)	73.6	115.9		507.4		263.8
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)			30.0		40.0	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Caron St & Docteur Corbeil Blvd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	17.9	13.1
Average Queue (m)	10.0	1.7
95th Queue (m)	15.1	8.2
Link Distance (m)	486.3	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		15.0
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 8: David St & Caron St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	9.1	18.7	9.3	16.7
Average Queue (m)	3.3	10.7	2.7	10.1
95th Queue (m)	10.2	16.6	9.5	14.5
Link Distance (m)	509.7	82.9		518.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			40.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Baseline Rd & Caron St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	12.2	18.3
Average Queue (m)	1.1	9.7
95th Queue (m)	6.1	15.6
Link Distance (m)	763.0	1938.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

C

Appendix C

Projected Phase 1 Traffic Operations

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.03	6	A	2	0.06	12	B	8
	T	-	0.36	12	B	67	0.26	20	B	45
	R	85	0.34	3	A	13	0.43	4	A	16
WB	L	60	0.04	6	A	4	0.06	12	B	7
	T	-	0.71	17	B	200	0.14	19	B	26
	R	56	0.00	0	A	0	0.04	0	A	0
NB	L	60	1.95	463	F	155	1.17	136	F	110
	T/R	-	0.17	17	B	10	0.34	33	C	39
SB	L	40	0.01	29	C	1	0.12	26	C	12
	T/R	-	0.07	26	C	7	0.67	50	D	53
Overall			**1.95**	**119**	**F**	**-**	**1.17**	**47**	**D**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	15	B	5	0.08	16	B	9
	T/R	-	0.18	15	B	19	0.46	25	C	53
WB	L	60	0.09	16	B	10	0.09	16	B	8
	T/R	-	0.31	21	C	42	0.22	22	C	26
NB	L	55	0.23	17	B	13	0.37	20	B	15
	T/R	-	0.72	30	C	123	0.74	35	C	115
SB	L	50	0.05	16	B	4	0.15	16	B	9
	T/R	-	0.75	37	D	81	0.90	50	D	134
Overall			**0.75**	**28**	**C**	**-**	**0.90**	**35**	**C**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	10	B	1	0.02	11	B	1
NB	L	15	0.01	8	A	1	0.01	9	A	1
	T	-	0.32	0	A	0	0.31	0	A	0
SB	T/R	-	0.27	0	A	0	0.35	0	A	0
Overall			**0.27**	**1**	**A**	**-**	**0.35**	**1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	9	A	-	0.02	10	A	-
NB	L	15	0.00	7	A	-	0.01	7	A	-
	T	-	0.64	15	B	-	0.74	19	A	-
SB	T/R	-	0.58	14	B	-	0.78	22	C	-
Overall			**0.64**	**14**	**B**	**-**	**0.78**	**21**	**C**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.03	12	B	1	0.02	11	B	1
NB	T/R	-	0.27	0	A	0	0.27	0	A	0
SB	L	15	0.01	8	A	1	0.03	8	A	1
	T	-	0.26	0	A	0	0.34	0	A	0
Overall			**0.27**	**1**	**A**	**-**	**0.34**	**1**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.03	9	A	-	0.05	10	A	-
WB	L/T/R	-	0.03	9	A	-	0.03	10	A	-
NB	L	15	0.01	7	A	-	0.02	8	A	-
	T/R	-	0.62	15	B	-	0.65	16	C	-
SB	L	15	0.01	7	A	-	0.03	8	A	-
	T/R	-	0.62	15	B	-	0.78	22	C	-
Overall			**0.62**	**14**	**B**	**-**	**0.78**	**19**	**C**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.19	13	B	5	0.31	15	B	9
NB	L	15	0.08	9	A	2	0.07	9	A	2
	T	-	0.24	0	A	0	0.24	0	A	0
SB	T/R	-	0.25	0	A	0	0.30	0	A	0
Overall			**0.25**	**2**	**A**	**-**	**0.30**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.33	11	B	-	0.34	11	B	-
NB	T/R	-	0.42	12	B	-	0.47	13	B	-
SB	L	40	0.32	11	B	-	0.34	11	B	-
	T	-	0.38	11	B	-	0.45	12	B	-
Overall			**0.42**	**11**	**B**	**-**	**0.47**	**12**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.02	4	A	1	0.05	3	A	1
WB	T/R	-	0.12	0	A	0	0.11	0	A	0
SB	L/R	-	0.20	11	B	5	0.31	13	B	9
Overall			**0.20**	**5**	**A**	**-**	**0.31**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.27	9	A	-	0.29	10	A	-
	R	-	0.27	9	A	-	0.29	10	A	-
NB	T/R	-	0.26	9	A	-	0.30	10	A	-
SB	L/T	25	0.24	9	A	-	0.30	10	A	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.27**	**9**	**A**	**-**	**0.30**	**10**	**A**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.12	0	A	0	0.12	0	A	0
WB	L/T	-	0.03	6	A	1	0.04	6	A	1
NB	L/R	-	0.30	12	B	9	0.31	12	B	9
Overall			**0.30**	**6**	**A**	**-**	**0.31**	**6**	**A**	**6**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.18	8	A	-	0.18	8	A	-
WB	L/T/R	-	-	-	-	-	-	-	-	-
NB	L/T/R	-	-	-	-	-	-	-	-	-
SB	L/T/R	-	0.14	7	A	-	0.15	7	A	-
Overall			**0.18**	**8**	**A**	**-**	**0.18**	**8**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

Phase 1
AM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	346	319	21	708	3	452	8	1	6
Future Volume (vph)	8	346	319	21	708	3	452	8	1	6
Lane Group Flow (vph)	9	384	354	23	787	3	502	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	51.9	51.9	11.9	51.9	51.9	10.9	33.3	10.9	33.3
Total Split (s)	18.9	51.9	51.9	18.9	51.9	51.9	15.9	33.3	15.9	33.3
Total Split (%)	15.8%	43.3%	43.3%	15.8%	43.3%	43.3%	13.3%	27.8%	13.3%	27.8%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	48.0	45.9	45.9	49.5	48.5	48.5	12.8	10.9	7.3	10.2
Actuated g/C Ratio	0.63	0.60	0.60	0.65	0.63	0.63	0.17	0.14	0.10	0.13
v/c Ratio	0.03	0.36	0.34	0.04	0.71	0.00	1.95	0.17	0.01	0.07
Control Delay	6.4	11.7	2.6	6.0	17.0	0.0	462.6	17.2	29.0	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	11.7	2.6	6.0	17.0	0.0	462.6	17.2	29.0	25.9
LOS	A	B	A	A	B	A	F	B	C	C
Approach Delay		7.3			16.6			427.4		26.0
Approach LOS		A			B			F		C
Queue Length 50th (m)	0.3	16.5	0.0	0.8	47.7	0.0	~93.5	0.9	0.1	0.7
Queue Length 95th (m)	2.3	67.4	13.4	4.3	#200.2	0.0	#154.5	9.9	1.3	6.7
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	436	1057	1040	685	1115	1001	258	580	260	586
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.36	0.34	0.03	0.71	0.00	1.95	0.07	0.00	0.03

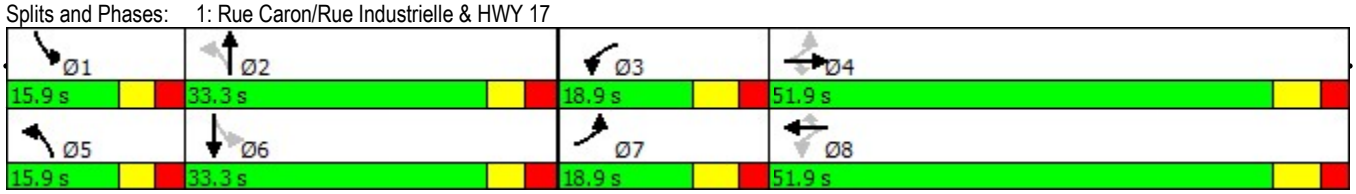
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 76.7
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.95
Intersection Signal Delay: 118.9 — Intersection LOS: F
Intersection Capacity Utilization 83.4% — ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

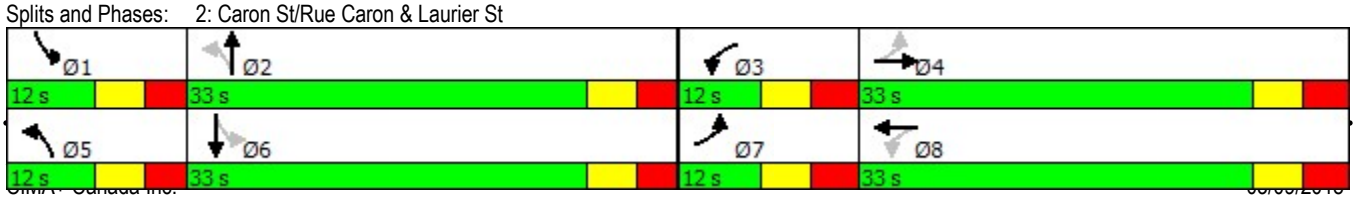
Phase 1
AM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	60	390	12	320
Future Volume (vph)	17	54	41	148	60	390	12	320
Lane Group Flow (vph)	19	111	46	207	67	472	13	373
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	30.4	27.5	31.5	29.6	30.1	29.1	26.4	22.1
Actuated g/C Ratio	0.39	0.35	0.40	0.38	0.39	0.37	0.34	0.28
v/c Ratio	0.04	0.18	0.09	0.31	0.23	0.72	0.05	0.75
Control Delay	15.2	15.2	15.5	21.1	17.2	30.4	15.5	37.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	15.2	15.5	21.1	17.2	30.4	15.5	37.4
LOS	B	B	B	C	B	C	B	D
Approach Delay		15.2		20.1		28.7		36.7
Approach LOS		B		C		C		D
Queue Length 50th (m)	1.6	6.9	3.8	17.5	6.1	56.1	1.2	52.2
Queue Length 95th (m)	5.3	18.6	9.9	41.9	13.1	#122.5	4.1	80.9
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	472	609	509	659	289	716	262	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.18	0.09	0.31	0.23	0.66	0.05	0.59

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 28.1 — Intersection LOS: C
Intersection Capacity Utilization 58.6% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 1
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	485	404	3
Future Volume (Veh/h)	0	5	6	485	404	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	539	449	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1004	450	452			
vC1, stage 1 conf vol	450					
vC2, stage 2 conf vol	553					
vCu, unblocked vol	894	219	221			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	481	672	1105			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	539	452
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	672	1105	1700	1700
Volume to Capacity	0.01	0.01	0.32	0.27
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.4	8.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.4	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 1
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	421	407	2
Future Volume (vph)	9	3	1	421	407	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	468	452	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	468	454
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.03
Departure Headway (s)	6.0	5.4	4.9	4.6
Degree Utilization, x	0.02	0.00	0.64	0.58
Capacity (veh/h)	512	654	729	774
Control Delay (s)	9.1	7.2	14.8	13.7
Approach Delay (s)	9.1	14.8		13.7
Approach LOS	A	B		B

Intersection Summary			
Delay	14.2		
Level of Service	B		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 1
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	412	1	5	405
Future Volume (Veh/h)	5	10	412	1	5	405
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	458	1	6	450
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	920	458			459	
vC1, stage 1 conf vol	458					
vC2, stage 2 conf vol	462					
vCu, unblocked vol	920	458			459	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	510	602			1102	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	459	6	450
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	566	1700	1102	1700
Volume to Capacity	0.03	0.27	0.01	0.26
Queue Length 95th (m)	0.6	0.0	0.1	0.0
Control Delay (s)	11.6	0.0	8.3	0.0
Lane LOS	B		A	
Approach Delay (s)	11.6	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 1
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	398	6	5	405	0
Future Volume (vph)	9	0	8	9	1	6	4	398	6	5	405	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	442	7	6	450	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	449	6	450
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	0.02	0.53	0.03
Departure Headway (s)	5.9	5.9	5.5	5.0	5.5	5.0
Degree Utilization, x	0.03	0.03	0.01	0.62	0.01	0.62
Capacity (veh/h)	513	516	636	714	636	713
Control Delay (s)	9.0	9.1	7.3	14.6	7.3	14.7
Approach Delay (s)	9.0	9.1	14.5		14.6	
Approach LOS	A	A	B		B	

Intersection Summary			
Delay	14.4		
Level of Service	B		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 1
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	57	81	370	339	43
Future Volume (Veh/h)	38	57	81	370	339	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	63	90	411	377	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	994	403	427			
vC1, stage 1 conf vol	403					
vC2, stage 2 conf vol	591					
vCu, unblocked vol	994	403	427			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	90	92			
cM capacity (veh/h)	449	646	1130			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	105	90	411	425
Volume Left	42	90	0	0
Volume Right	63	0	0	48
cSH	550	1130	1700	1700
Volume to Capacity	0.19	0.08	0.24	0.25
Queue Length 95th (m)	4.9	1.8	0.0	0.0
Control Delay (s)	13.1	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.1	1.5		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 1
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	26	179	240	23	174	222
Future Volume (vph)	26	179	240	23	174	222
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	29	199	267	26	193	247

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	228	293	193	247
Volume Left (vph)	29	0	193	0
Volume Right (vph)	199	26	0	0
Hadj (s)	-0.46	-0.02	0.53	0.03
Departure Headway (s)	5.1	5.2	6.0	5.5
Degree Utilization, x	0.33	0.42	0.32	0.38
Capacity (veh/h)	643	669	579	634
Control Delay (s)	10.6	11.8	10.6	10.6
Approach Delay (s)	10.6	11.8	10.6	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.0		
Level of Service	B		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 1
AM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	28	58	127	95	47
Future Volume (Veh/h)	30	28	58	127	95	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	31	64	141	106	52
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	205				232	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	205				232	134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				86	94
cM capacity (veh/h)	1366				738	914

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	64	205	158
Volume Left	33	0	106
Volume Right	0	141	52
cSH	1366	1700	788
Volume to Capacity	0.02	0.12	0.20
Queue Length 95th (m)	0.5	0.0	5.2
Control Delay (s)	4.1	0.0	10.7
Lane LOS	A		B
Approach Delay (s)	4.1	0.0	10.7
Approach LOS			B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 1
AM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	7	169	42	15	169	43
Future Volume (Veh/h)	7	169	42	15	169	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	188	47	17	188	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			196		213	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		213	102
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		75	95
cM capacity (veh/h)			1377		749	953

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	196	64	236
Volume Left	0	47	188
Volume Right	188	0	48
cSH	1700	1377	783
Volume to Capacity	0.12	0.03	0.30
Queue Length 95th (m)	0.0	0.7	8.9
Control Delay (s)	0.0	5.7	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	5.7	11.6
Approach LOS			B

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 1

12: Street B & Street A

AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	127	0	5	0	0	0	0	0	0	0	0	126
Future Volume (vph)	127	0	5	0	0	0	0	0	0	0	0	126
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	141	0	6	0	0	0	0	0	0	0	0	140

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	147	0	0	140
Volume Left (vph)	141	0	0	0
Volume Right (vph)	6	0	0	140
Hadj (s)	0.20	0.00	0.00	-0.57
Departure Headway (s)	4.4	4.3	4.4	3.7
Degree Utilization, x	0.18	0.00	0.00	0.14
Capacity (veh/h)	797	803	795	941
Control Delay (s)	8.3	7.3	7.4	7.3
Approach Delay (s)	8.3	0.0	0.0	7.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.8		
Level of Service	A		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 1
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	63	127	115	63	127	100
Future Volume (vph)	63	127	115	63	127	100
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	70	141	128	70	141	111

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	211	198	94	158
Volume Left (vph)	70	0	94	47
Volume Right (vph)	141	70	0	0
Hadj (s)	-0.30	-0.18	0.53	0.18
Departure Headway (s)	4.7	4.7	5.8	5.4
Degree Utilization, x	0.27	0.26	0.15	0.24
Capacity (veh/h)	715	731	597	638
Control Delay (s)	9.4	9.3	8.6	8.9
Approach Delay (s)	9.4	9.3	8.8	
Approach LOS	A	A	A	

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

Phase 1
PM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	189	346	30	106	26	328	87	35	138
Future Volume (vph)	34	189	346	30	106	26	328	87	35	138
Lane Group Flow (vph)	38	210	384	33	118	29	364	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	51.9	51.9	11.9	51.9	51.9	10.9	33.3	10.9	33.3
Total Split (s)	18.9	51.9	51.9	18.9	51.9	51.9	15.9	33.3	15.9	33.3
Total Split (%)	15.8%	43.3%	43.3%	15.8%	43.3%	43.3%	13.3%	27.8%	13.3%	27.8%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	49.7	45.7	45.7	49.5	45.6	45.6	30.0	24.0	23.2	15.6
Actuated g/C Ratio	0.50	0.46	0.46	0.50	0.46	0.46	0.30	0.24	0.24	0.16
v/c Ratio	0.06	0.26	0.43	0.06	0.14	0.04	1.17	0.34	0.12	0.67
Control Delay	11.9	19.6	3.8	11.8	18.8	0.1	136.2	32.9	25.6	50.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	19.6	3.8	11.8	18.8	0.1	136.2	32.9	25.6	50.2
LOS	B	B	A	B	B	A	F	C	C	D
Approach Delay		9.5			14.5			106.9		46.0
Approach LOS		A			B			F		D
Queue Length 50th (m)	3.0	24.2	0.0	2.6	12.9	0.0	~59.1	20.7	5.1	31.5
Queue Length 95th (m)	8.1	44.6	16.3	7.3	26.4	0.0	#109.5	38.9	11.9	52.9
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	696	819	901	649	817	773	311	484	363	483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.26	0.43	0.05	0.14	0.04	1.17	0.30	0.11	0.39

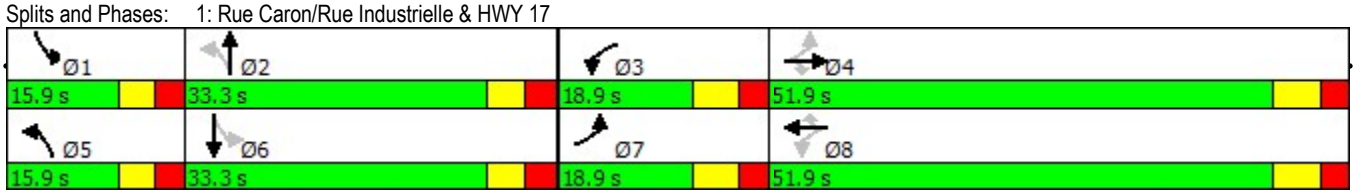
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 98.5
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 47.4 — Intersection LOS: D
Intersection Capacity Utilization 65.2% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

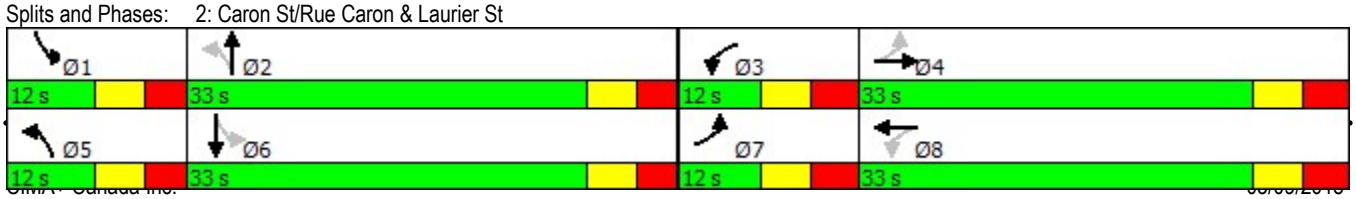
Phase 1
PM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	72	364	35	420
Future Volume (vph)	34	155	30	87	72	364	35	420
Lane Group Flow (vph)	38	268	33	126	80	451	39	501
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	30.2	27.2	30.2	27.2	31.6	28.4	30.3	25.8
Actuated g/C Ratio	0.37	0.33	0.37	0.33	0.39	0.35	0.37	0.32
v/c Ratio	0.08	0.46	0.09	0.22	0.37	0.74	0.15	0.90
Control Delay	16.1	24.7	16.1	21.5	19.9	35.0	16.1	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	24.7	16.1	21.5	19.9	35.0	16.1	50.4
LOS	B	C	B	C	B	C	B	D
Approach Delay		23.6		20.4		32.7		47.9
Approach LOS		C		C		C		D
Queue Length 50th (m)	3.5	31.0	3.0	13.0	7.4	66.5	3.5	77.3
Queue Length 95th (m)	8.6	52.6	7.8	25.7	15.1	#114.6	8.8	#133.9
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	475	578	385	579	220	645	268	593
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.46	0.09	0.22	0.36	0.70	0.15	0.84

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 81.5
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 35.0 — Intersection LOS: C
Intersection Capacity Utilization 68.8% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 1
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	478	533	3
Future Volume (Veh/h)	0	8	7	478	533	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	531	592	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.73	0.73	0.73			
vC, conflicting volume	1140	594	595			
vC1, stage 1 conf vol	594					
vC2, stage 2 conf vol	547					
vCu, unblocked vol	1009	261	264			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	436	569	952			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	531	595
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	569	952	1700	1700
Volume to Capacity	0.02	0.01	0.31	0.35
Queue Length 95th (m)	0.3	0.2	0.0	0.0
Control Delay (s)	11.4	8.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.4	0.1		0.0
Approach LOS	B			

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		39.8%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 1
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	478	537	4
Future Volume (vph)	7	3	6	478	537	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	531	597	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	531	601
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.03
Departure Headway (s)	6.4	5.5	5.0	4.7
Degree Utilization, x	0.02	0.01	0.74	0.78
Capacity (veh/h)	508	642	707	766
Control Delay (s)	9.6	7.4	19.4	21.9
Approach Delay (s)	9.6	19.2		21.9
Approach LOS	A	C		C

Intersection Summary			
Delay	20.6		
Level of Service	C		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 1
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	411	7	26	514
Future Volume (Veh/h)	1	10	411	7	26	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	457	8	29	571
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1090	461			465	
vC1, stage 1 conf vol	461					
vC2, stage 2 conf vol	629					
vCu, unblocked vol	1090	461			465	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	442	600			1096	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	465	29	571
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	583	1700	1096	1700
Volume to Capacity	0.02	0.27	0.03	0.34
Queue Length 95th (m)	0.4	0.0	0.6	0.0
Control Delay (s)	11.3	0.0	8.4	0.0
Lane LOS	B		A	
Approach Delay (s)	11.3	0.0	0.4	
Approach LOS	B			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 1

6: Caron St & Cote St/Potvin Ave

PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	397	13	16	482	17
Future Volume (vph)	17	1	10	9	1	4	12	397	13	16	482	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	441	14	18	536	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	455	18	555
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	0.01	0.53	0.01
Departure Headway (s)	6.2	6.3	5.6	5.1	5.6	5.0
Degree Utilization, x	0.05	0.03	0.02	0.65	0.03	0.78
Capacity (veh/h)	517	500	617	693	627	700
Control Delay (s)	9.6	9.5	7.6	15.8	7.5	22.1
Approach Delay (s)	9.6	9.5	15.6		21.6	
Approach LOS	A	A	C		C	

Intersection Summary				
Delay	18.5			
Level of Service	C			
Intersection Capacity Utilization	37.9%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 1
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	84	70	361	392	60
Future Volume (Veh/h)	61	84	70	361	392	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	93	78	401	436	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1028	472	505			
vC1, stage 1 conf vol	472					
vC2, stage 2 conf vol	557					
vCu, unblocked vol	1028	472	505			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	84	93			
cM capacity (veh/h)	449	591	1058			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	161	78	401	503
Volume Left	68	78	0	0
Volume Right	93	0	0	67
cSH	522	1058	1700	1700
Volume to Capacity	0.31	0.07	0.24	0.30
Queue Length 95th (m)	9.1	1.7	0.0	0.0
Control Delay (s)	15.0	8.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	15.0	1.4		0.0
Approach LOS	B			

Intersection Summary				
Average Delay		2.7		
Intersection Capacity Utilization		48.8%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 1
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	27	180	263	26	184	263
Future Volume (vph)	27	180	263	26	184	263
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	30	200	292	29	204	292

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	230	321	204	292
Volume Left (vph)	30	0	204	0
Volume Right (vph)	200	29	0	0
Hadj (s)	-0.46	-0.02	0.53	0.03
Departure Headway (s)	5.3	5.3	6.1	5.6
Degree Utilization, x	0.34	0.47	0.34	0.45
Capacity (veh/h)	622	660	574	628
Control Delay (s)	11.1	12.9	11.0	11.9
Approach Delay (s)	11.1	12.9	11.5	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.8		
Level of Service	B		
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 1
PM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	102	41	121	142	38
Future Volume (Veh/h)	63	102	41	121	142	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	70	113	46	134	158	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	180				366	113
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180				366	113
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				74	96
cM capacity (veh/h)	1396				602	940

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	183	180	200
Volume Left	70	0	158
Volume Right	0	134	42
cSH	1396	1700	651
Volume to Capacity	0.05	0.11	0.31
Queue Length 95th (m)	1.1	0.0	9.1
Control Delay (s)	3.2	0.0	13.0
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	13.0
Approach LOS			B

Intersection Summary			
Average Delay		5.6	
Intersection Capacity Utilization		40.2%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 1
PM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	174	43	15	170	42
Future Volume (Veh/h)	15	174	43	15	170	42
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	193	48	17	189	47
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			210		226	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			210		226	114
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		74	95
cM capacity (veh/h)			1361		735	939

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	210	65	236
Volume Left	0	48	189
Volume Right	193	0	47
cSH	1700	1361	768
Volume to Capacity	0.12	0.04	0.31
Queue Length 95th (m)	0.0	0.8	9.1
Control Delay (s)	0.0	5.8	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	5.8	11.8
Approach LOS			B

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 1

12: Street A & Street B

PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	129	0	0	0	0	0	0	0	0	0	0	129
Future Volume (vph)	129	0	0	0	0	0	0	0	0	0	0	129
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	143	0	0	0	0	0	0	0	0	0	0	143

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	143	0	0	143
Volume Left (vph)	143	0	0	0
Volume Right (vph)	0	0	0	143
Hadj (s)	0.23	0.00	0.00	-0.57
Departure Headway (s)	4.4	4.3	4.4	3.7
Degree Utilization, x	0.18	0.00	0.00	0.15
Capacity (veh/h)	790	802	797	943
Control Delay (s)	8.4	7.3	7.4	7.3
Approach Delay (s)	8.4	0.0	0.0	7.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.8		
Level of Service	A		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 1
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	64	128	140	65	130	138
Future Volume (vph)	64	128	140	65	130	138
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	71	142	156	72	144	153

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	213	228	96	201
Volume Left (vph)	71	0	96	48
Volume Right (vph)	142	72	0	0
Hadj (s)	-0.30	-0.16	0.53	0.15
Departure Headway (s)	4.9	4.8	5.8	5.4
Degree Utilization, x	0.29	0.30	0.16	0.30
Capacity (veh/h)	687	717	592	636
Control Delay (s)	9.8	9.9	8.7	9.6
Approach Delay (s)	9.8	9.9	9.3	
Approach LOS	A	A	A	

Intersection Summary			
Delay	9.6		
Level of Service	A		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

D

Appendix D

Projected Phase 1 Traffic Operations with Improvements

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.04	10	A	3	0.08	17	B	10
	T	-	0.40	16	B	72	0.32	26	C	51
	R	85	0.36	3	A	14	0.48	5	A	20
WB	L	60	0.04	9	A	5	0.07	17	B	9
	T	-	0.78	24	C	213	0.18	24	C	30
	R	56	0.00	0	A	0	0.04	1	A	0
NB	L	80	0.84	50	D	80	0.65	42	D	46
	T/R	-	0.12	14	B	9	0.24	21	C	29
SB	L	40	0.01	26	C	1	0.13	19	B	9
	T/R	-	0.08	29	C	7	0.63	44	D	51
Overall			**0.84**	**25**	**C**	**-**	**0.65**	**25**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	15	B	5	0.08	16	B	9
	T/R	-	0.18	15	B	19	0.46	25	C	53
WB	L	60	0.09	16	B	10	0.09	16	B	8
	T/R	-	0.31	21	C	42	0.22	22	C	26
NB	L	55	0.23	17	B	13	0.37	20	B	15
	T/R	-	0.72	30	C	123	0.74	35	C	115
SB	L	50	0.05	16	B	4	0.15	16	B	9
	T/R	-	0.75	37	D	81	0.90	50	D	134
Overall			**0.75**	**28**	**C**	**-**	**0.90**	**35**	**C**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	10	B	1	0.02	11	B	1
NB	L	15	0.01	8	A	1	0.01	9	A	1
	T	-	0.32	0	A	0	0.31	0	A	0
SB	T/R	-	0.27	0	A	0	0.35	0	A	0
Overall			**0.27**	**1**	**A**	**-**	**0.35**	**1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	9	A	-	0.02	10	A	-
NB	L	15	0.00	7	A	-	0.01	7	A	-
	T	-	0.64	15	B	-	0.74	19	A	-
SB	T/R	-	0.58	14	B	-	0.78	22	C	-
Overall			**0.64**	**14**	**B**	**-**	**0.78**	**21**	**C**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.03	12	B	1	0.02	11	B	1
NB	T/R	-	0.27	0	A	0	0.27	0	A	0
SB	L	15	0.01	8	A	1	0.03	8	A	1
	T	-	0.26	0	A	0	0.34	0	A	0
Overall			**0.27**	**1**	**A**	**-**	**0.34**	**1**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.03	9	A	-	0.05	10	A	-
WB	L/T/R	-	0.03	9	A	-	0.03	10	A	-
NB	L	15	0.01	7	A	-	0.02	8	A	-
	T/R	-	0.62	15	B	-	0.65	16	C	-
SB	L	15	0.01	7	A	-	0.03	8	A	-
	T/R	-	0.62	15	B	-	0.78	22	C	-
Overall			**0.62**	**14**	**B**	**-**	**0.78**	**19**	**C**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.19	13	B	5	0.31	15	B	9
NB	L	15	0.08	9	A	2	0.07	9	A	2
	T	-	0.24	0	A	0	0.24	0	A	0
SB	T/R	-	0.25	0	A	0	0.30	0	A	0
Overall			**0.25**	**2**	**A**	**-**	**0.30**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.33	11	B	-	0.34	11	B	-
NB	T/R	-	0.42	12	B	-	0.47	13	B	-
SB	L	40	0.32	11	B	-	0.34	11	B	-
	T	-	0.38	11	B	-	0.45	12	B	-
Overall			**0.42**	**11**	**B**	**-**	**0.47**	**12**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.02	4	A	1	0.05	3	A	1
WB	T/R	-	0.12	0	A	0	0.11	0	A	0
SB	L/R	-	0.20	11	B	5	0.31	13	B	9
Overall			**0.20**	**5**	**A**	**-**	**0.31**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.27	9	A	-	0.29	10	A	-
	R	-	0.27	9	A	-	0.29	10	A	-
NB	T/R	-	0.26	9	A	-	0.30	10	A	-
SB	L/T	25	0.24	9	A	-	0.30	10	A	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.27**	**9**	**A**	**-**	**0.30**	**10**	**A**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.12	0	A	0	0.12	0	A	0
WB	L/T	-	0.03	6	A	1	0.04	6	A	1
NB	L/R	-	0.30	12	B	9	0.31	12	B	9
Overall			**0.30**	**6**	**A**	**-**	**0.31**	**6**	**A**	**6**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.18	8	A	-	0.18	8	A	-
WB	L/T/R	-	-	-	-	-	-	-	-	-
NB	L/T/R		-	-	-	-	-	-	-	-
SB	L/T/R	-	0.14	7	A	-	0.15	7	A	-
Overall			**0.18**	**8**	**A**	**-**	**0.18**	**8**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

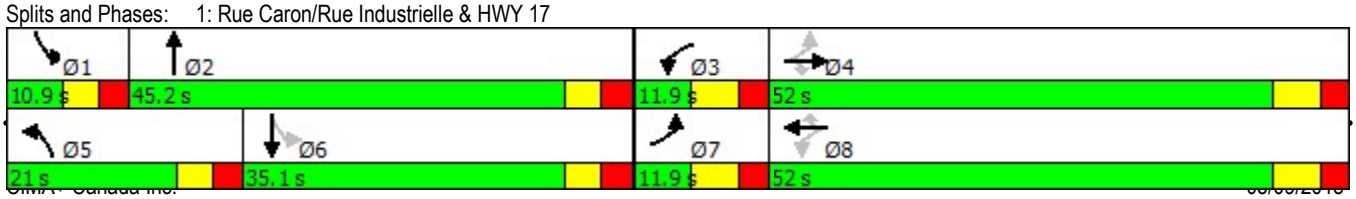
Phase 1 AM+Improvements
04/25/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	346	319	21	708	3	452	8	1	6
Future Volume (vph)	8	346	319	21	708	3	452	8	1	6
Lane Group Flow (vph)	9	384	354	23	787	3	502	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	11.9	52.0	52.0	11.9	52.0	52.0	21.0	45.2	10.9	35.1
Total Split (%)	9.9%	43.3%	43.3%	9.9%	43.3%	43.3%	17.5%	37.7%	9.1%	29.3%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	47.9	46.3	46.3	49.1	48.3	48.3	15.5	18.7	8.6	10.3
Actuated g/C Ratio	0.57	0.55	0.55	0.58	0.57	0.57	0.18	0.22	0.10	0.12
v/c Ratio	0.04	0.40	0.36	0.04	0.78	0.00	0.84	0.12	0.01	0.08
Control Delay	9.6	15.6	3.1	9.2	23.8	0.0	50.1	14.1	26.0	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	15.6	3.1	9.2	23.8	0.0	50.1	14.1	26.0	28.9
LOS	A	B	A	A	C	A	D	B	C	C
Approach Delay		9.6			23.3			47.2		28.8
Approach LOS		A			C			D		C
Queue Length 50th (m)	0.4	21.0	0.0	1.0	60.5	0.0	30.8	0.9	0.1	0.8
Queue Length 95th (m)	2.6	71.5	14.0	4.9	#212.8	0.0	#79.4	9.4	1.3	7.0
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	80.0		40.0	
Base Capacity (vph)	235	968	983	524	1010	944	597	754	174	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.36	0.04	0.78	0.00	0.84	0.06	0.01	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 84.3
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 24.7 — Intersection LOS: C
Intersection Capacity Utilization 70.6% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

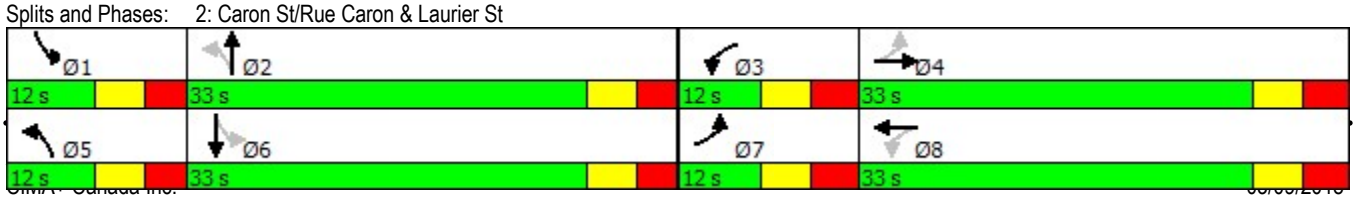
Phase 1 AM+Improvements
04/25/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	60	390	12	320
Future Volume (vph)	17	54	41	148	60	390	12	320
Lane Group Flow (vph)	19	111	46	207	67	472	13	373
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	30.4	27.5	31.5	29.6	30.1	29.1	26.4	22.1
Actuated g/C Ratio	0.39	0.35	0.40	0.38	0.39	0.37	0.34	0.28
v/c Ratio	0.04	0.18	0.09	0.31	0.23	0.72	0.05	0.75
Control Delay	15.2	15.2	15.5	21.1	17.2	30.4	15.5	37.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	15.2	15.5	21.1	17.2	30.4	15.5	37.4
LOS	B	B	B	C	B	C	B	D
Approach Delay		15.2		20.1		28.7		36.7
Approach LOS		B		C		C		D
Queue Length 50th (m)	1.6	6.9	3.8	17.5	6.1	56.1	1.2	52.2
Queue Length 95th (m)	5.3	18.6	9.9	41.9	13.1	#122.5	4.1	80.9
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	472	609	509	659	289	716	262	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.18	0.09	0.31	0.23	0.66	0.05	0.59

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 28.1 — Intersection LOS: C
Intersection Capacity Utilization 58.6% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	485	404	3
Future Volume (Veh/h)	0	5	6	485	404	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	539	449	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (m)					169	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1004	450	452			
vC1, stage 1 conf vol	450					
vC2, stage 2 conf vol	553					
vCu, unblocked vol	894	219	221			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	481	672	1105			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	539	452
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	672	1105	1700	1700
Volume to Capacity	0.01	0.01	0.32	0.27
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.4	8.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.4	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	421	407	2
Future Volume (vph)	9	3	1	421	407	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	468	452	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	468	454
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.03
Departure Headway (s)	6.0	5.4	4.9	4.6
Degree Utilization, x	0.02	0.00	0.64	0.58
Capacity (veh/h)	512	654	729	774
Control Delay (s)	9.1	7.2	14.8	13.7
Approach Delay (s)	9.1	14.8		13.7
Approach LOS	A	B		B

Intersection Summary			
Delay	14.2		
Level of Service	B		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 1 AM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	412	1	5	405
Future Volume (Veh/h)	5	10	412	1	5	405
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	458	1	6	450
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	920	458			459	
vC1, stage 1 conf vol	458					
vC2, stage 2 conf vol	462					
vCu, unblocked vol	920	458			459	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	510	602			1102	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	459	6	450
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	566	1700	1102	1700
Volume to Capacity	0.03	0.27	0.01	0.26
Queue Length 95th (m)	0.6	0.0	0.1	0.0
Control Delay (s)	11.6	0.0	8.3	0.0
Lane LOS	B		A	
Approach Delay (s)	11.6	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	398	6	5	405	0
Future Volume (vph)	9	0	8	9	1	6	4	398	6	5	405	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	442	7	6	450	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	449	6	450
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	0.02	0.53	0.03
Departure Headway (s)	5.9	5.9	5.5	5.0	5.5	5.0
Degree Utilization, x	0.03	0.03	0.01	0.62	0.01	0.62
Capacity (veh/h)	513	516	636	714	636	713
Control Delay (s)	9.0	9.1	7.3	14.6	7.3	14.7
Approach Delay (s)	9.0	9.1	14.5		14.6	
Approach LOS	A	A	B		B	

Intersection Summary				
Delay	14.4			
Level of Service	B			
Intersection Capacity Utilization	32.5%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	57	81	370	339	43
Future Volume (Veh/h)	38	57	81	370	339	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	63	90	411	377	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	994	403	427			
vC1, stage 1 conf vol	403					
vC2, stage 2 conf vol	591					
vCu, unblocked vol	994	403	427			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	90	92			
cM capacity (veh/h)	449	646	1130			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	105	90	411	425
Volume Left	42	90	0	0
Volume Right	63	0	0	48
cSH	550	1130	1700	1700
Volume to Capacity	0.19	0.08	0.24	0.25
Queue Length 95th (m)	4.9	1.8	0.0	0.0
Control Delay (s)	13.1	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.1	1.5		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 1 AM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	26	179	240	23	174	222
Future Volume (vph)	26	179	240	23	174	222
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	29	199	267	26	193	247

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	228	293	193	247
Volume Left (vph)	29	0	193	0
Volume Right (vph)	199	26	0	0
Hadj (s)	-0.46	-0.02	0.53	0.03
Departure Headway (s)	5.1	5.2	6.0	5.5
Degree Utilization, x	0.33	0.42	0.32	0.38
Capacity (veh/h)	643	669	579	634
Control Delay (s)	10.6	11.8	10.6	10.6
Approach Delay (s)	10.6	11.8	10.6	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.0		
Level of Service	B		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	28	58	127	95	47
Future Volume (Veh/h)	30	28	58	127	95	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	31	64	141	106	52
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	205				232	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	205				232	134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				86	94
cM capacity (veh/h)	1366				738	914

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	64	205	158
Volume Left	33	0	106
Volume Right	0	141	52
cSH	1366	1700	788
Volume to Capacity	0.02	0.12	0.20
Queue Length 95th (m)	0.5	0.0	5.2
Control Delay (s)	4.1	0.0	10.7
Lane LOS	A		B
Approach Delay (s)	4.1	0.0	10.7
Approach LOS			B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 1 AM+Improvements
04/27/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	7	169	42	15	169	43
Future Volume (Veh/h)	7	169	42	15	169	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	188	47	17	188	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			196		213	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		213	102
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		75	95
cM capacity (veh/h)			1377		749	953

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	196	64	236
Volume Left	0	47	188
Volume Right	188	0	48
cSH	1700	1377	783
Volume to Capacity	0.12	0.03	0.30
Queue Length 95th (m)	0.0	0.7	8.9
Control Delay (s)	0.0	5.7	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	5.7	11.6
Approach LOS			B

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Street B & Street A

Phase 1 AM+Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	127	0	5	0	0	0	0	0	0	0	0	126
Future Volume (vph)	127	0	5	0	0	0	0	0	0	0	0	126
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	141	0	6	0	0	0	0	0	0	0	0	140

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	147	0	0	140
Volume Left (vph)	141	0	0	0
Volume Right (vph)	6	0	0	140
Hadj (s)	0.20	0.00	0.00	-0.57
Departure Headway (s)	4.4	4.3	4.4	3.7
Degree Utilization, x	0.18	0.00	0.00	0.14
Capacity (veh/h)	797	803	795	941
Control Delay (s)	8.3	7.3	7.4	7.3
Approach Delay (s)	8.3	0.0	0.0	7.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.8		
Level of Service	A		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 1 AM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	63	127	115	63	127	100
Future Volume (vph)	63	127	115	63	127	100
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	70	141	128	70	141	111

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	211	198	94	158
Volume Left (vph)	70	0	94	47
Volume Right (vph)	141	70	0	0
Hadj (s)	-0.30	-0.18	0.53	0.18
Departure Headway (s)	4.7	4.7	5.8	5.4
Degree Utilization, x	0.27	0.26	0.15	0.24
Capacity (veh/h)	715	731	597	638
Control Delay (s)	9.4	9.3	8.6	8.9
Approach Delay (s)	9.4	9.3	8.8	
Approach LOS	A	A	A	

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

Phase 1 PM+Improvements
04/25/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	189	346	30	106	26	328	87	35	138
Future Volume (vph)	34	189	346	30	106	26	328	87	35	138
Lane Group Flow (vph)	38	210	384	33	118	29	364	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	39.0	39.0	12.0	39.0	39.0	29.0	58.0	11.0	40.0
Total Split (%)	10.0%	32.5%	32.5%	10.0%	32.5%	32.5%	24.2%	48.3%	9.2%	33.3%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	35.6	32.9	32.9	35.6	32.9	32.9	15.3	30.6	20.8	15.1
Actuated g/C Ratio	0.40	0.37	0.37	0.40	0.37	0.37	0.17	0.34	0.23	0.17
v/c Ratio	0.08	0.32	0.48	0.07	0.18	0.04	0.65	0.24	0.13	0.63
Control Delay	17.2	25.7	5.2	17.2	24.3	0.1	41.8	20.5	19.2	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	25.7	5.2	17.2	24.3	0.1	41.8	20.5	19.2	44.3
LOS	B	C	A	B	C	A	D	C	B	D
Approach Delay		12.7			19.1			35.7		40.0
Approach LOS		B			B			D		D
Queue Length 50th (m)	3.3	26.0	0.0	2.9	13.8	0.0	29.7	15.4	4.0	28.2
Queue Length 95th (m)	10.2	51.0	19.7	9.2	30.2	0.0	46.1	28.8	9.3	50.5
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	80.0		40.0	
Base Capacity (vph)	506	649	794	459	649	678	861	1005	302	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.32	0.48	0.07	0.18	0.04	0.42	0.14	0.13	0.28

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 89.4
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 25.0 — Intersection LOS: C
Intersection Capacity Utilization 55.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17

Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

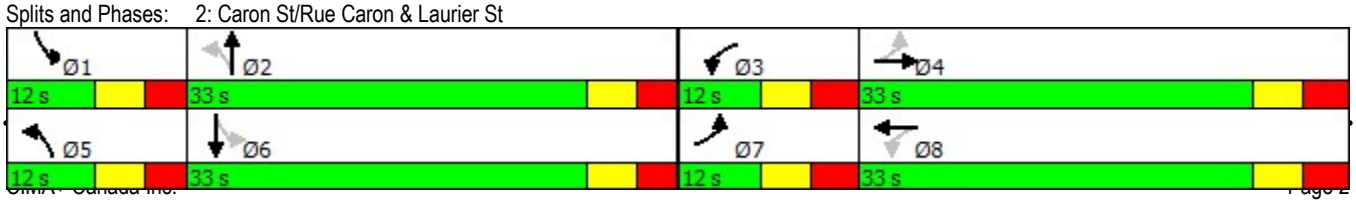
Phase 1 PM+Improvements
04/25/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	72	364	35	420
Future Volume (vph)	34	155	30	87	72	364	35	420
Lane Group Flow (vph)	38	268	33	126	80	451	39	501
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	30.2	27.2	30.2	27.2	31.6	28.4	30.3	25.8
Actuated g/C Ratio	0.37	0.33	0.37	0.33	0.39	0.35	0.37	0.32
v/c Ratio	0.08	0.46	0.09	0.22	0.37	0.74	0.15	0.90
Control Delay	16.1	24.7	16.1	21.5	19.9	35.0	16.1	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	24.7	16.1	21.5	19.9	35.0	16.1	50.4
LOS	B	C	B	C	B	C	B	D
Approach Delay		23.6		20.4		32.7		47.9
Approach LOS		C		C		C		D
Queue Length 50th (m)	3.5	31.0	3.0	13.0	7.4	66.5	3.5	77.3
Queue Length 95th (m)	8.6	52.6	7.8	25.7	15.1	#114.6	8.8	#133.9
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	475	578	385	579	220	645	268	593
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.46	0.09	0.22	0.36	0.70	0.15	0.84

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 81.5
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 35.0 — Intersection LOS: C
Intersection Capacity Utilization 68.8% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	478	533	3
Future Volume (Veh/h)	0	8	7	478	533	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	531	592	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.73	0.73	0.73			
vC, conflicting volume	1140	594	595			
vC1, stage 1 conf vol	594					
vC2, stage 2 conf vol	547					
vCu, unblocked vol	1009	261	264			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	436	569	952			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	531	595
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	569	952	1700	1700
Volume to Capacity	0.02	0.01	0.31	0.35
Queue Length 95th (m)	0.3	0.2	0.0	0.0
Control Delay (s)	11.4	8.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.4	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	478	537	4
Future Volume (vph)	7	3	6	478	537	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	531	597	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	531	601
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.03
Departure Headway (s)	6.4	5.5	5.0	4.7
Degree Utilization, x	0.02	0.01	0.74	0.78
Capacity (veh/h)	508	642	707	766
Control Delay (s)	9.6	7.4	19.4	21.9
Approach Delay (s)	9.6	19.2		21.9
Approach LOS	A	C		C

Intersection Summary			
Delay	20.6		
Level of Service	C		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 1 PM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	411	7	26	514
Future Volume (Veh/h)	1	10	411	7	26	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	457	8	29	571
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1090	461			465	
vC1, stage 1 conf vol	461					
vC2, stage 2 conf vol	629					
vCu, unblocked vol	1090	461			465	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	442	600			1096	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	465	29	571
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	583	1700	1096	1700
Volume to Capacity	0.02	0.27	0.03	0.34
Queue Length 95th (m)	0.4	0.0	0.6	0.0
Control Delay (s)	11.3	0.0	8.4	0.0
Lane LOS	B		A	
Approach Delay (s)	11.3	0.0	0.4	
Approach LOS	B			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	397	13	16	482	17
Future Volume (vph)	17	1	10	9	1	4	12	397	13	16	482	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	441	14	18	536	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	455	18	555
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	0.01	0.53	0.01
Departure Headway (s)	6.2	6.3	5.6	5.1	5.6	5.0
Degree Utilization, x	0.05	0.03	0.02	0.65	0.03	0.78
Capacity (veh/h)	517	500	617	693	627	700
Control Delay (s)	9.6	9.5	7.6	15.8	7.5	22.1
Approach Delay (s)	9.6	9.5	15.6		21.6	
Approach LOS	A	A	C		C	

Intersection Summary				
Delay	18.5			
Level of Service	C			
Intersection Capacity Utilization	37.9%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	84	70	361	392	60
Future Volume (Veh/h)	61	84	70	361	392	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	93	78	401	436	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1028	472	505			
vC1, stage 1 conf vol	472					
vC2, stage 2 conf vol	557					
vCu, unblocked vol	1028	472	505			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	84	93			
cM capacity (veh/h)	449	591	1058			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	161	78	401	503
Volume Left	68	78	0	0
Volume Right	93	0	0	67
cSH	522	1058	1700	1700
Volume to Capacity	0.31	0.07	0.24	0.30
Queue Length 95th (m)	9.1	1.7	0.0	0.0
Control Delay (s)	15.0	8.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	15.0	1.4		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 1 PM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	27	180	263	26	184	263
Future Volume (vph)	27	180	263	26	184	263
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	30	200	292	29	204	292

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	230	321	204	292
Volume Left (vph)	30	0	204	0
Volume Right (vph)	200	29	0	0
Hadj (s)	-0.46	-0.02	0.53	0.03
Departure Headway (s)	5.3	5.3	6.1	5.6
Degree Utilization, x	0.34	0.47	0.34	0.45
Capacity (veh/h)	622	660	574	628
Control Delay (s)	11.1	12.9	11.0	11.9
Approach Delay (s)	11.1	12.9	11.5	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.8		
Level of Service	B		
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	102	41	121	142	38
Future Volume (Veh/h)	63	102	41	121	142	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	70	113	46	134	158	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	180				366	113
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180				366	113
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				74	96
cM capacity (veh/h)	1396				602	940

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	183	180	200
Volume Left	70	0	158
Volume Right	0	134	42
cSH	1396	1700	651
Volume to Capacity	0.05	0.11	0.31
Queue Length 95th (m)	1.1	0.0	9.1
Control Delay (s)	3.2	0.0	13.0
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	13.0
Approach LOS			B

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	174	43	15	170	42
Future Volume (Veh/h)	15	174	43	15	170	42
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	193	48	17	189	47
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			210		226	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			210		226	114
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		74	95
cM capacity (veh/h)			1361		735	939

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	210	65	236
Volume Left	0	48	189
Volume Right	193	0	47
cSH	1700	1361	768
Volume to Capacity	0.12	0.04	0.31
Queue Length 95th (m)	0.0	0.8	9.1
Control Delay (s)	0.0	5.8	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	5.8	11.8
Approach LOS			B

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Street A & Street B

Phase 1 PM+Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	129	0	0	0	0	0	0	0	0	0	0	129
Future Volume (vph)	129	0	0	0	0	0	0	0	0	0	0	129
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	143	0	0	0	0	0	0	0	0	0	0	143

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	143	0	0	143
Volume Left (vph)	143	0	0	0
Volume Right (vph)	0	0	0	143
Hadj (s)	0.23	0.00	0.00	-0.57
Departure Headway (s)	4.4	4.3	4.4	3.7
Degree Utilization, x	0.18	0.00	0.00	0.15
Capacity (veh/h)	790	802	797	943
Control Delay (s)	8.4	7.3	7.4	7.3
Approach Delay (s)	8.4	0.0	0.0	7.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.8		
Level of Service	A		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 1 PM+Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	64	128	140	65	130	138
Future Volume (vph)	64	128	140	65	130	138
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	71	142	156	72	144	153

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	213	228	96	201
Volume Left (vph)	71	0	96	48
Volume Right (vph)	142	72	0	0
Hadj (s)	-0.30	-0.16	0.53	0.15
Departure Headway (s)	4.9	4.8	5.8	5.4
Degree Utilization, x	0.29	0.30	0.16	0.30
Capacity (veh/h)	687	717	592	636
Control Delay (s)	9.8	9.9	8.7	9.6
Approach Delay (s)	9.8	9.9	9.3	
Approach LOS	A	A	A	

Intersection Summary			
Delay	9.6		
Level of Service	A		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

E

Appendix E

Projected Phase 2 Traffic Operations

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.05	9	A	3	0.08	18	B	11
	T	-	0.47	16	B	90	0.39	27	C	65
	R	85	0.37	3	A	14	0.55	6	A	22
WB	L	60	0.05	9	A	5	0.08	18	B	10
	T	-	0.92	34	C	278	0.22	25	C	37
	R	56	0.00	0	A	0	0.04	1	A	0
NB	L	80	1.05	90	F	100	0.69	44	D	53
	T/R	-	0.12	15	B	10	0.24	21	C	29
SB	L	40	0.01	27	C	1	0.13	20	C	10
	T/R	-	0.08	29	C	7	0.17	47	D	53
Overall			**1.05**	**38**	**D**	**-**	**0.69**	**26**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	15	B	5	0.08	16	B	9
	T/R	-	0.19	15	B	19	0.48	25	C	54
WB	L	60	0.09	16	B	10	0.09	16	B	8
	T/R	-	0.33	22	C	42	0.22	21	C	26
NB	L	55	0.24	17	B	14	0.42	22	C	16
	T/R	-	0.79	33	C	152	0.79	38	D	132
SB	L	50	0.06	16	B	4	0.16	16	B	9
	T/R	-	0.73	36	D	94	1.01	71	E	165
Overall			**0.79**	**29**	**C**	**-**	**1.01**	**44**	**D**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	11	B	1	0.02	12	B	0.4
NB	L	15	0.01	8	A	1	0.01	9	A	0.2
	T	-	0.37	0	A	0	0.34	0	A	0
SB	T/R	-	0.28	0	A	0	0.40	0	A	0
Overall			**0.37**	**0.1**	**A**	**-**	**0.40**	**0.1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	9	A	-	0.02	10	A	-
NB	L	15	0.00	7	A	-	0.01	7	A	-
	T	-	0.75	20	C	-	0.82	25	D	-
SB	T/R	-	0.62	15	C	-	0.90	35	A	-
Overall			**0.75**	**18**	**C**	**-**	**0.90**	**30**	**D**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.03	12	B	1	0.02	12	B	1
NB	T/R	-	0.32	0	A	0	0.30	0	A	0
SB	L	15	0.01	8.5	A	1	0.03	9	A	1
	T	-	0.28	0	A	0	0.39	0	A	0
Overall			**0.32**	**0.2**	**A**	**-**	**0.39**	**0.3**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.03	9	A	-	0.06	10	A	-
WB	L/T/R	-	0.03	9	A	-	0.03	10	A	-
NB	L	15	0.01	7	A	-	0.02	8	A	-
	T/R	-	0.74	20	C	-	0.73	20	C	-
SB	L	15	0.01	7	A	-	0.03	8	A	-
	T/R	-	0.67	17	C	-	0.91	37	E	-
Overall			**0.74**	**18**	**C**	**-**	**0.91**	**28**	**D**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.21	14	B	6	0.35	17	C	11
NB	L	15	0.09	9	A	2	0.08	9	A	2
	T	-	0.29	0	A	0	0.26	0	A	0
SB	T/R	-	0.27	0	A	0	0.35	0	A	0
Overall			**0.29**	**2**	**A**	**-**	**0.35**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.36	11	B	-	0.35	11	B	-
NB	T/R	-	0.46	13	B	-	0.49	14	B	-
SB	L	40	0.36	11	B	-	0.43	13	B	-
	T	-	0.41	11	B	-	0.52	13	B	-
Overall			**0.46**	**12**	**B**	**-**	**0.52**	**13**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.03	4	A	1	0.06	3	A	1
WB	T/R	-	0.12	0	A	0	0.11	0	A	0
SB	L/R	-	0.23	11	B	6	0.33	13	B	10
Overall			**0.23**	**5**	**A**	**-**	**0.33**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.28	10	A	-	0.27	10	B	-
	R	-	0.28	10	A	-	0.27	10	B	-
NB	T/R	-	0.35	10	B	-	0.41	11	B	-
SB	L/T	25	0.30	10	A	-	0.39	11	B	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.35**	**10**	**A**	**-**	**0.41**	**11**	**B**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.12	0	A	0	0.15	0	A	0
WB	L/T	-	0.02	2	A	1	0.02	3	A	1
NB	L/R	-	0.28	12	B	8	0.27	12	B	8
Overall			**0.28**	**5**	**A**	**-**	**0.27**	**5**	**A**	**-**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.30	10	A	-	0.32	10	B	-
WB	L/T/R	-	0.22	9	A	-	0.23	9	A	-
NB	L/T/R		0.12	9	A	-	0.11	9	A	-
SB	L/T/R	-	0.25	9	A	-	0.27	10	A	-
Overall			**0.30**	**9**	**A**	**-**	**0.32**	**10**	**A**	**-**
Street A at David Street (Unsignalized)										
EB	T/R	-	0.05	0	A	0	0.06	0	A	0
WB	L/T	-	0.02	3	A	1	0.02	3	A	1
NB	L/R	-	0.10	10	A	2	0.10	10	A	2
Overall			**0.10**	**4**	**A**	**-**	**0.10**	**4**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

Phase 2
AM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	422	341	21	863	3	521	8	1	6
Future Volume (vph)	8	422	341	21	863	3	521	8	1	6
Lane Group Flow (vph)	9	469	379	23	959	3	579	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	51.9	51.9	11.9	51.9	51.9	10.9	33.3	10.9	33.3
Total Split (s)	18.9	51.9	51.9	18.9	51.9	51.9	15.9	33.3	15.9	33.3
Total Split (%)	15.8%	43.3%	43.3%	15.8%	43.3%	43.3%	13.3%	27.8%	13.3%	27.8%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	48.0	45.9	45.9	49.5	48.5	48.5	12.8	10.9	7.3	10.2
Actuated g/C Ratio	0.63	0.60	0.60	0.65	0.63	0.63	0.17	0.14	0.10	0.13
v/c Ratio	0.04	0.44	0.36	0.04	0.86	0.00	2.24	0.17	0.01	0.07
Control Delay	6.6	12.7	2.6	6.0	23.9	0.0	593.1	17.2	29.0	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	12.7	2.6	6.0	23.9	0.0	593.1	17.2	29.0	25.9
LOS	A	B	A	A	C	A	F	B	C	C
Approach Delay		8.2			23.4			553.3		26.0
Approach LOS		A			C			F		C
Queue Length 50th (m)	0.3	21.4	0.0	0.8	70.4	0.0	~112.7	0.9	0.1	0.7
Queue Length 95th (m)	2.3	86.3	13.7	4.3	#266.3	0.0	#184.9	9.9	1.3	6.7
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	341	1057	1050	624	1115	1001	258	580	260	586
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.36	0.04	0.86	0.00	2.24	0.07	0.00	0.03

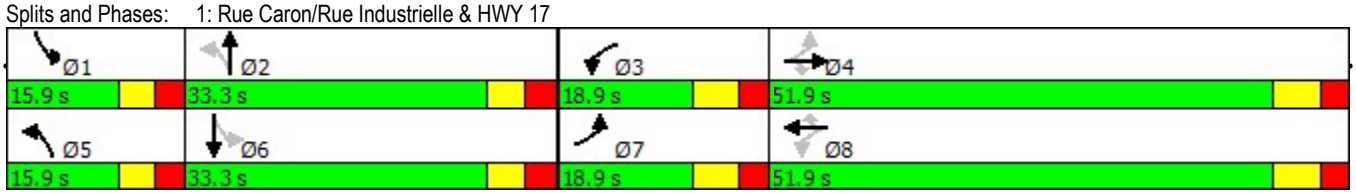
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 76.7
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 2.24
Intersection Signal Delay: 151.0 — Intersection LOS: F
Intersection Capacity Utilization 96.1% — ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

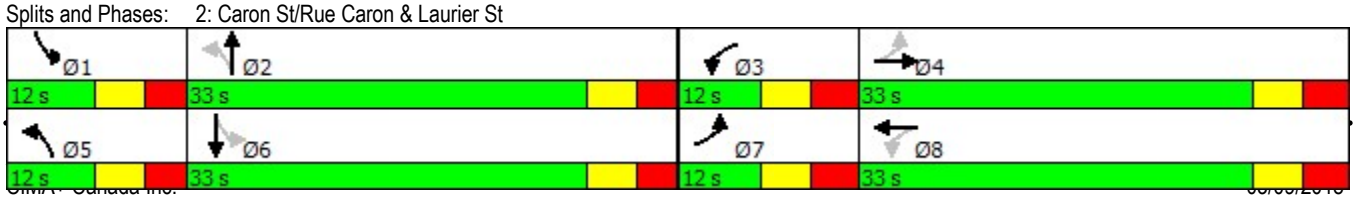
Phase 2
AM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	65	459	12	342
Future Volume (vph)	17	54	41	148	65	459	12	342
Lane Group Flow (vph)	19	113	46	207	72	549	13	397
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	30.0	27.0	31.2	29.2	33.3	32.2	29.5	25.1
Actuated g/C Ratio	0.37	0.33	0.39	0.36	0.41	0.40	0.37	0.31
v/c Ratio	0.04	0.19	0.09	0.33	0.24	0.79	0.06	0.73
Control Delay	15.4	14.9	15.7	21.6	17.2	33.3	15.5	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	14.9	15.7	21.6	17.2	33.3	15.5	35.8
LOS	B	B	B	C	B	C	B	D
Approach Delay		15.0		20.5		31.4		35.2
Approach LOS		B		C		C		D
Queue Length 50th (m)	1.6	7.1	4.0	18.3	6.6	69.7	1.2	56.6
Queue Length 95th (m)	5.3	18.8	9.9	41.9	13.8	#152.2	4.1	#93.8
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	446	582	485	628	296	698	232	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.19	0.09	0.33	0.24	0.79	0.06	0.66

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.7
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 29.0 — Intersection LOS: C
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 2
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	559	428	3
Future Volume (Veh/h)	0	5	6	559	428	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	621	476	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.81	0.81	0.81			
vC, conflicting volume	1112	478	479			
vC1, stage 1 conf vol	478					
vC2, stage 2 conf vol	635					
vCu, unblocked vol	1021	236	238			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	442	650	1075			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	621	479
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	650	1075	1700	1700
Volume to Capacity	0.01	0.01	0.37	0.28
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.6	8.4	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.6	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 2
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	495	431	2
Future Volume (vph)	9	3	1	495	431	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	550	479	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	550	481
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.03
Departure Headway (s)	6.3	5.4	4.9	4.7
Degree Utilization, x	0.02	0.00	0.75	0.62
Capacity (veh/h)	511	652	719	759
Control Delay (s)	9.4	7.2	20.0	15.1
Approach Delay (s)	9.4	20.0		15.1
Approach LOS	A	C		C

Intersection Summary			
Delay	17.6		
Level of Service	C		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 2
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	486	1	5	429
Future Volume (Veh/h)	5	10	486	1	5	429
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	540	1	6	477
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1030	540			541	
vC1, stage 1 conf vol	540					
vC2, stage 2 conf vol	489					
vCu, unblocked vol	1030	540			541	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	473	541			1028	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	541	6	477
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	515	1700	1028	1700
Volume to Capacity	0.03	0.32	0.01	0.28
Queue Length 95th (m)	0.7	0.0	0.1	0.0
Control Delay (s)	12.2	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	12.2	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 2
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	472	6	5	429	0
Future Volume (vph)	9	0	8	9	1	6	4	472	6	5	429	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	524	7	6	477	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	531	6	477
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	0.02	0.53	0.03
Departure Headway (s)	6.1	6.2	5.5	5.0	5.6	5.1
Degree Utilization, x	0.03	0.03	0.01	0.74	0.01	0.67
Capacity (veh/h)	516	509	632	702	627	703
Control Delay (s)	9.3	9.3	7.4	19.7	7.4	16.5
Approach Delay (s)	9.3	9.3	19.6		16.4	
Approach LOS	A	A	C		C	

Intersection Summary				
Delay	17.8			
Level of Service	C			
Intersection Capacity Utilization	36.6%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 2
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	59	86	444	363	43
Future Volume (Veh/h)	38	59	86	444	363	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	66	96	493	403	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1114	429	453			
vC1, stage 1 conf vol	429					
vC2, stage 2 conf vol	685					
vCu, unblocked vol	1114	429	453			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	89	91			
cM capacity (veh/h)	406	625	1106			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	108	96	493	451
Volume Left	42	96	0	0
Volume Right	66	0	0	48
cSH	517	1106	1700	1700
Volume to Capacity	0.21	0.09	0.29	0.27
Queue Length 95th (m)	5.5	2.0	0.0	0.0
Control Delay (s)	13.8	8.6	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.8	1.4		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 2
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	221	277	2	188	234
Future Volume (vph)	5	221	277	2	188	234
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	246	308	2	209	260

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	252	310	209	260
Volume Left (vph)	6	0	209	0
Volume Right (vph)	246	2	0	0
Hadj (s)	-0.55	0.03	0.53	0.03
Departure Headway (s)	5.2	5.3	6.1	5.6
Degree Utilization, x	0.36	0.46	0.36	0.41
Capacity (veh/h)	640	648	569	621
Control Delay (s)	11.2	12.8	11.3	11.2
Approach Delay (s)	11.2	12.8	11.2	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.7		
Level of Service	B		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 2
AM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	28	58	131	106	52
Future Volume (Veh/h)	32	28	58	131	106	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	31	64	146	118	58
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	210				240	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210				240	137
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	94
cM capacity (veh/h)	1361				728	911

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	67	210	176
Volume Left	36	0	118
Volume Right	0	146	58
cSH	1361	1700	780
Volume to Capacity	0.03	0.12	0.23
Queue Length 95th (m)	0.6	0.0	6.0
Control Delay (s)	4.2	0.0	11.0
Lane LOS	A		B
Approach Delay (s)	4.2	0.0	11.0
Approach LOS			B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 2
AM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	53	137	23	68	159	27
Future Volume (Veh/h)	53	137	23	68	159	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	59	152	26	76	177	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			211		263	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			211		263	135
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		75	97
cM capacity (veh/h)			1360		712	914

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	211	102	207
Volume Left	0	26	177
Volume Right	152	0	30
cSH	1700	1360	736
Volume to Capacity	0.12	0.02	0.28
Queue Length 95th (m)	0.0	0.4	8.1
Control Delay (s)	0.0	2.1	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	11.8
Approach LOS			B

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Phase 2
AM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	34	46	23	38	53	26
Future Volume (Veh/h)	34	46	23	38	53	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	51	26	42	59	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			89		158	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			89		158	64
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			1506		819	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	89	68	88
Volume Left	0	26	59
Volume Right	51	0	29
cSH	1700	1506	871
Volume to Capacity	0.05	0.02	0.10
Queue Length 95th (m)	0.0	0.4	2.4
Control Delay (s)	0.0	2.9	9.6
Lane LOS		A	A
Approach Delay (s)	0.0	2.9	9.6
Approach LOS			A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 2

12: Street B & Street A

AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	99	71	28	23	76	53	26	26	26	46	23	99
Future Volume (vph)	99	71	28	23	76	53	26	26	26	46	23	99
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	110	79	31	26	84	59	29	29	29	51	26	110

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	220	169	87	187
Volume Left (vph)	110	26	29	51
Volume Right (vph)	31	59	29	110
Hadj (s)	0.05	-0.14	-0.10	-0.26
Departure Headway (s)	4.9	4.7	5.0	4.7
Degree Utilization, x	0.30	0.22	0.12	0.25
Capacity (veh/h)	694	706	647	700
Control Delay (s)	9.9	9.1	8.7	9.2
Approach Delay (s)	9.9	9.1	8.7	9.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay		9.3		
Level of Service		A		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 2
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	79	106	173	68	91	148
Future Volume (vph)	79	106	173	68	91	148
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	118	192	76	101	164

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	206	268	67	198
Volume Left (vph)	88	0	67	34
Volume Right (vph)	118	76	0	0
Hadj (s)	-0.22	-0.14	0.53	0.12
Departure Headway (s)	5.0	4.8	5.9	5.4
Degree Utilization, x	0.28	0.35	0.11	0.30
Capacity (veh/h)	671	723	587	635
Control Delay (s)	9.9	10.4	8.4	9.5
Approach Delay (s)	9.9	10.4	9.2	
Approach LOS	A	B	A	

Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

Phase 2
PM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	230	420	30	129	26	369	87	35	138
Future Volume (vph)	34	230	420	30	129	26	369	87	35	138
Lane Group Flow (vph)	38	256	467	33	143	29	410	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	51.9	51.9	11.9	51.9	51.9	10.9	33.3	10.9	33.3
Total Split (s)	18.9	51.9	51.9	18.9	51.9	51.9	15.9	33.3	15.9	33.3
Total Split (%)	15.8%	43.3%	43.3%	15.8%	43.3%	43.3%	13.3%	27.8%	13.3%	27.8%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	49.7	45.7	45.7	49.5	45.6	45.6	30.0	24.0	23.2	15.6
Actuated g/C Ratio	0.50	0.46	0.46	0.50	0.46	0.46	0.30	0.24	0.24	0.16
v/c Ratio	0.06	0.31	0.49	0.06	0.18	0.04	1.32	0.34	0.12	0.67
Control Delay	11.9	20.3	4.0	11.9	19.0	0.1	192.5	32.9	25.6	50.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	20.3	4.0	11.9	19.0	0.1	192.5	32.9	25.6	50.2
LOS	B	C	A	B	B	A	F	C	C	D
Approach Delay		9.9			15.1			151.0		46.0
Approach LOS		A			B			F		D
Queue Length 50th (m)	3.0	30.5	0.0	2.6	15.9	0.0	~76.7	20.7	5.1	31.5
Queue Length 95th (m)	8.1	54.4	17.4	7.3	31.3	0.0	#130.7	38.9	11.9	52.9
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	684	819	946	612	817	773	311	484	363	483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.31	0.49	0.05	0.18	0.04	1.32	0.30	0.11	0.39

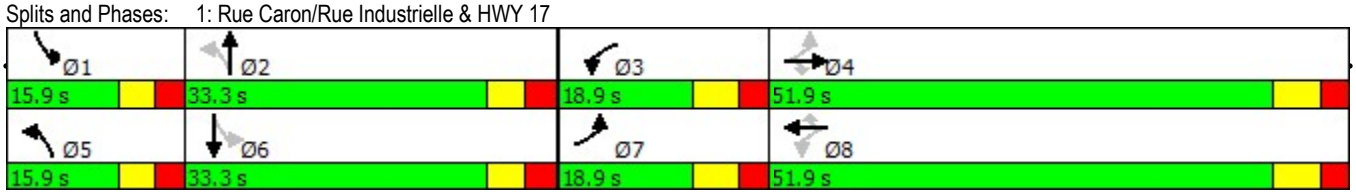
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 98.5
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 59.9 — Intersection LOS: E
Intersection Capacity Utilization 69.8% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

Phase 2
PM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	75	405	35	494
Future Volume (vph)	34	155	30	87	75	405	35	494
Lane Group Flow (vph)	38	273	33	126	83	497	39	583
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	12.0	33.0	12.0	33.0	12.0	33.0	12.0	33.0
Total Split (%)	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%	13.3%	36.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	29.9	26.9	29.9	26.9	33.1	29.9	31.8	27.3
Actuated g/C Ratio	0.36	0.32	0.36	0.32	0.40	0.36	0.38	0.33
v/c Ratio	0.08	0.48	0.09	0.22	0.42	0.79	0.16	1.01
Control Delay	16.1	25.2	16.1	21.4	21.9	37.8	16.3	71.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	25.2	16.1	21.4	21.9	37.8	16.3	71.2
LOS	B	C	B	C	C	D	B	E
Approach Delay		24.0		20.3		35.5		67.7
Approach LOS		C		C		D		E
Queue Length 50th (m)	3.5	31.6	3.0	13.0	7.7	76.3	3.5	~107.1
Queue Length 95th (m)	8.6	53.7	7.8	25.7	15.5	#132.1	8.8	#164.6
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	463	564	368	564	198	631	248	579
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.48	0.09	0.22	0.42	0.79	0.16	1.01

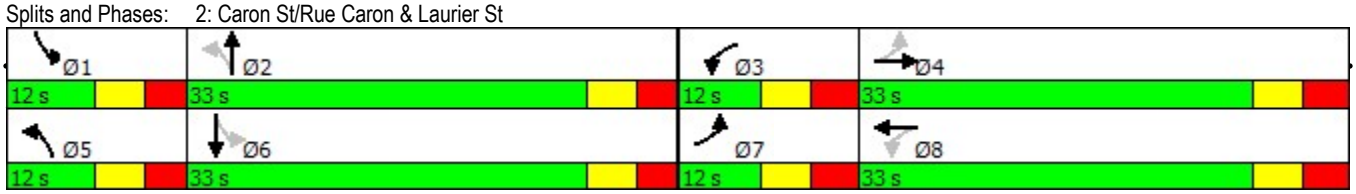
Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 82.8
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 43.9 — Intersection LOS: D
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 2
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	522	612	3
Future Volume (Veh/h)	0	8	7	522	612	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	580	680	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.69	0.69	0.69			
vC, conflicting volume	1278	682	683			
vC1, stage 1 conf vol	682					
vC2, stage 2 conf vol	596					
vCu, unblocked vol	1178	317	319			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	390	501	859			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	580	683
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	501	859	1700	1700
Volume to Capacity	0.02	0.01	0.34	0.40
Queue Length 95th (m)	0.4	0.2	0.0	0.0
Control Delay (s)	12.3	9.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.3	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 2
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	522	616	4
Future Volume (vph)	7	3	6	522	616	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	580	684	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	580	688
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.03
Departure Headway (s)	6.7	5.6	5.1	4.7
Degree Utilization, x	0.02	0.01	0.82	0.90
Capacity (veh/h)	508	635	701	752
Control Delay (s)	9.9	7.4	25.2	34.8
Approach Delay (s)	9.9	25.0		34.8
Approach LOS	A	C		D

Intersection Summary			
Delay	30.1		
Level of Service	D		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 2
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	455	7	26	593
Future Volume (Veh/h)	1	10	455	7	26	593
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	506	8	29	659
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1227	510			514	
vC1, stage 1 conf vol	510					
vC2, stage 2 conf vol	717					
vCu, unblocked vol	1227	510			514	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	401	563			1052	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	514	29	659
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	545	1700	1052	1700
Volume to Capacity	0.02	0.30	0.03	0.39
Queue Length 95th (m)	0.5	0.0	0.6	0.0
Control Delay (s)	11.8	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	11.8	0.0	0.4	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 2
PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	441	13	16	561	17
Future Volume (vph)	17	1	10	9	1	4	12	441	13	16	561	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	490	14	18	623	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	504	18	642
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	0.01	0.53	0.01
Departure Headway (s)	6.5	6.6	5.7	5.2	5.6	5.1
Degree Utilization, x	0.06	0.03	0.02	0.73	0.03	0.91
Capacity (veh/h)	509	493	615	676	620	699
Control Delay (s)	9.9	9.8	7.7	19.8	7.6	36.6
Approach Delay (s)	9.9	9.8	19.5		35.9	
Approach LOS	A	A	C		E	

Intersection Summary				
Delay	28.0			
Level of Service	D			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 2
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	89	73	405	471	60
Future Volume (Veh/h)	61	89	73	405	471	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	99	81	450	523	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1170	558	592			
vC1, stage 1 conf vol	558					
vC2, stage 2 conf vol	612					
vCu, unblocked vol	1170	558	592			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	81	92			
cM capacity (veh/h)	407	528	982			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	167	81	450	590
Volume Left	68	81	0	0
Volume Right	99	0	0	67
cSH	471	982	1700	1700
Volume to Capacity	0.35	0.08	0.26	0.35
Queue Length 95th (m)	11.1	1.9	0.0	0.0
Control Delay (s)	16.8	9.0	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	16.8	1.4		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 2
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	205	285	5	229	302
Future Volume (vph)	5	205	285	5	229	302
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	228	317	6	254	336

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	234	323	254	336
Volume Left (vph)	6	0	254	0
Volume Right (vph)	228	6	0	0
Hadj (s)	-0.55	0.02	0.53	0.03
Departure Headway (s)	5.4	5.4	6.1	5.6
Degree Utilization, x	0.35	0.49	0.43	0.52
Capacity (veh/h)	614	642	574	627
Control Delay (s)	11.3	13.5	12.5	13.4
Approach Delay (s)	11.3	13.5	13.0	
Approach LOS	B	B	B	

Intersection Summary			
Delay	12.8		
Level of Service	B		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 2
PM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	102	41	133	148	41
Future Volume (Veh/h)	68	102	41	133	148	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	76	113	46	148	164	46
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	194				385	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	194				385	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				72	95
cM capacity (veh/h)	1379				584	931

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	189	194	210
Volume Left	76	0	164
Volume Right	0	148	46
cSH	1379	1700	636
Volume to Capacity	0.06	0.11	0.33
Queue Length 95th (m)	1.2	0.0	10.1
Control Delay (s)	3.4	0.0	13.4
Lane LOS	A		B
Approach Delay (s)	3.4	0.0	13.4
Approach LOS			B

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 2
PM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	70	164	27	64	147	24
Future Volume (Veh/h)	70	164	27	64	147	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	78	182	30	71	163	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			260		300	169
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			260		300	169
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		76	97
cM capacity (veh/h)			1304		676	875

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	260	101	190
Volume Left	0	30	163
Volume Right	182	0	27
cSH	1700	1304	698
Volume to Capacity	0.15	0.02	0.27
Queue Length 95th (m)	0.0	0.5	7.7
Control Delay (s)	0.0	2.5	12.1
Lane LOS		A	B
Approach Delay (s)	0.0	2.5	12.1
Approach LOS			B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Phase 2
PM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	39	55	27	42	49	24
Future Volume (Veh/h)	39	55	27	42	49	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	43	61	30	47	54	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			104		180	74
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		180	74
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			1488		793	988

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	77	81
Volume Left	0	30	54
Volume Right	61	0	27
cSH	1700	1488	849
Volume to Capacity	0.06	0.02	0.10
Queue Length 95th (m)	0.0	0.4	2.2
Control Delay (s)	0.0	3.0	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 2

12: Street B & Street A

PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	104	79	27	27	76	49	24	24	24	55	27	104
Future Volume (vph)	104	79	27	27	76	49	24	24	24	55	27	104
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	116	88	30	30	84	54	27	27	27	61	30	116

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	234	168	81	207
Volume Left (vph)	116	30	27	61
Volume Right (vph)	30	54	27	116
Hadj (s)	0.06	-0.12	-0.10	-0.24
Departure Headway (s)	4.9	4.8	5.1	4.8
Degree Utilization, x	0.32	0.23	0.11	0.27
Capacity (veh/h)	687	690	634	692
Control Delay (s)	10.2	9.2	8.8	9.6
Approach Delay (s)	10.2	9.2	8.8	9.6
Approach LOS	B	A	A	A

Intersection Summary				
Delay		9.6		
Level of Service		A		
Intersection Capacity Utilization		45.6%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 2
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	73	98	192	82	109	198
Future Volume (vph)	73	98	192	82	109	198
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	81	109	213	91	121	220

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	190	304	81	260
Volume Left (vph)	81	0	81	40
Volume Right (vph)	109	91	0	0
Hadj (s)	-0.22	-0.15	0.53	0.11
Departure Headway (s)	5.2	4.8	5.9	5.4
Degree Utilization, x	0.27	0.41	0.13	0.39
Capacity (veh/h)	632	717	589	638
Control Delay (s)	10.1	11.1	8.6	10.7
Approach Delay (s)	10.1	11.1	10.2	
Approach LOS	B	B	B	

Intersection Summary			
Delay	10.5		
Level of Service	B		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

F

Appendix F

Projected Phase 2 Traffic Operations with Improvements

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.05	10	B	3	0.08	18	B	11
	T	-	0.49	18	B	18	0.39	27	C	65
	R	85	0.38	3	A	3	0.55	6	A	22
WB	L	60	0.05	10	A	10	0.08	18	B	10
	T	-	0.96	42	D	42	0.22	25	C	37
	R	56	0.00	0	A	0	0.04	1	A	0
NB	L	80	0.92	58	E	58	0.69	44	D	53
	T/R	-	0.11	14	B	14	0.24	21	C	29
SB	L	40	0.01	26	C	26	0.13	20	C	10
	T/R	-	0.08	29	C	29	0.64	47	D	53
Overall			**0.96**	**34**	**C**	**-**	**0.69**	**26**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.04	16	B	6	0.09	17	B	9
	T/R	-	0.20	16	B	19	0.51	27	C	55
WB	L	60	0.10	16	B	10	0.10	17	B	8
	T/R	-	0.33	22	C	43	0.24	23	C	26
NB	L	55	0.25	17	B	13	0.44	21	C	15
	T/R	-	0.79	32	C	143	0.73	32	C	123
SB	L	50	0.06	15	B	4	0.15	15	B	8
	T/R	-	0.73	34	C	83	0.92	51	D	156
Overall			**0.79**	**28**	**C**	**-**	**0.92**	**36**	**D**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	11	B	1	0.02	12	B	0.4
NB	L	15	0.01	8	A	1	0.01	9	A	0.2
	T	-	0.37	0	A	0	0.34	0	A	0
SB	T/R	-	0.28	0	A	0	0.40	0	A	0
Overall			**0.37**	**0.1**	**A**	**-**	**0.40**	**0.1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	9	A	-	0.02	10	A	-
NB	L	15	0.00	7	A	-	0.01	7	A	-
	T	-	0.75	20	C	-	0.82	25	D	-
SB	T/R	-	0.62	15	C	-	0.90	35	A	-
Overall			**0.75**	**18**	**C**	**-**	**0.90**	**30**	**D**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.03	12	B	1	0.02	12	B	1
NB	T/R	-	0.32	0	A	0	0.30	0	A	0
SB	L	15	0.01	8.5	A	1	0.03	9	A	1
	T	-	0.28	0	A	0	0.39	0	A	0
Overall			**0.32**	**0.2**	**A**	**-**	**0.39**	**0.3**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.03	9	A	-	0.06	10	A	-
WB	L/T/R	-	0.03	9	A	-	0.03	10	A	-
NB	L	15	0.01	7	A	-	0.02	8	A	-
	T/R	-	0.74	20	C	-	0.73	20	C	-
SB	L	15	0.01	7	A	-	0.03	8	A	-
	T/R	-	0.67	17	C	-	0.91	37	E	-
Overall			**0.74**	**18**	**C**	**-**	**0.91**	**28**	**D**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.21	14	B	6	0.35	17	C	11
NB	L	15	0.09	9	A	2	0.08	9	A	2
	T	-	0.29	0	A	0	0.26	0	A	0
SB	T/R	-	0.27	0	A	0	0.35	0	A	0
Overall			**0.29**	**2**	**A**	**-**	**0.35**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.36	11	B	-	0.35	11	B	-
NB	T/R	-	0.46	13	B	-	0.49	14	B	-
SB	L	40	0.36	11	B	-	0.43	13	B	-
	T	-	0.41	11	B	-	0.52	13	B	-
Overall			**0.46**	**12**	**B**	**-**	**0.52**	**13**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.03	4	A	1	0.06	3	A	1
WB	T/R	-	0.12	0	A	0	0.11	0	A	0
SB	L/R	-	0.23	11	B	6	0.33	13	B	10
Overall			**0.23**	**5**	**A**	**-**	**0.33**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.28	10	A	-	0.27	10	B	-
	R	-	0.28	10	A	-	0.27	10	B	-
NB	T/R	-	0.35	10	B	-	0.41	11	B	-
SB	L/T	25	0.30	10	A	-	0.39	11	B	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.35**	**10**	**A**	**-**	**0.41**	**11**	**B**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.12	0	A	0	0.15	0	A	0
WB	L/T	-	0.02	2	A	1	0.02	3	A	1
NB	L/R	-	0.28	12	B	8	0.27	12	B	8
Overall			**0.28**	**5**	**A**	**-**	**0.27**	**5**	**A**	**-**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.30	10	A	-	0.32	10	B	-
WB	L/T/R	-	0.22	9	A	-	0.23	9	A	-
NB	L/T/R		0.12	9	A	-	0.11	9	A	-
SB	L/T/R	-	0.25	9	A	-	0.27	10	A	-
Overall			**0.30**	**9**	**A**	**-**	**0.32**	**10**	**A**	**-**
Street A at David Street (Unsignalized)										
EB	T/R	-	0.05	0	A	0	0.06	0	A	0
WB	L/T	-	0.02	3	A	1	0.02	3	A	1
NB	L/R	-	0.10	10	A	2	0.10	10	A	2
Overall			**0.10**	**4**	**A**	**-**	**0.10**	**4**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

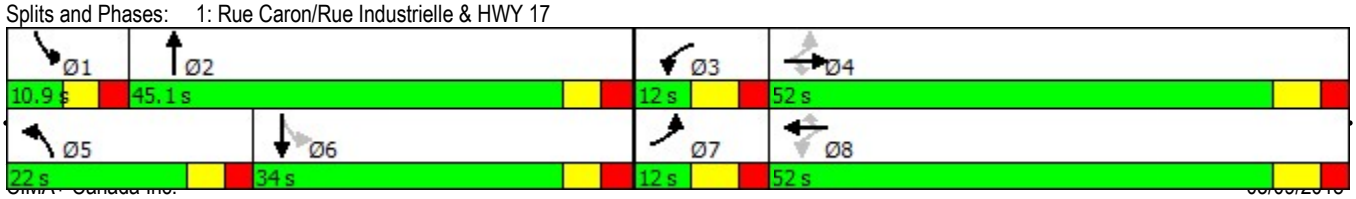
Phase 2
AM+Improvement.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	422	341	21	863	3	521	8	1	6
Future Volume (vph)	8	422	341	21	863	3	521	8	1	6
Lane Group Flow (vph)	9	469	379	23	959	3	579	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	52.0	52.0	12.0	52.0	52.0	22.0	45.1	10.9	34.0
Total Split (%)	10.0%	43.3%	43.3%	10.0%	43.3%	43.3%	18.3%	37.6%	9.1%	28.3%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	47.9	46.2	46.2	49.1	48.2	48.2	16.5	19.7	8.6	10.3
Actuated g/C Ratio	0.56	0.54	0.54	0.58	0.57	0.57	0.19	0.23	0.10	0.12
v/c Ratio	0.05	0.49	0.38	0.05	0.96	0.00	0.92	0.11	0.01	0.08
Control Delay	10.2	17.6	3.2	9.6	41.9	0.0	58.2	13.9	26.0	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	17.6	3.2	9.6	41.9	0.0	58.2	13.9	26.0	29.0
LOS	B	B	A	A	D	A	E	B	C	C
Approach Delay		11.1			41.0			55.1		28.8
Approach LOS		B			D			E		C
Queue Length 50th (m)	0.4	28.5	0.0	1.1	93.7	0.0	36.6	0.9	0.1	0.8
Queue Length 95th (m)	2.7	93.4	14.5	5.0	#285.3	0.0	#94.0	9.4	1.3	7.1
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	80.0		40.0	
Base Capacity (vph)	176	956	986	450	998	935	629	743	172	544
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.49	0.38	0.05	0.96	0.00	0.92	0.06	0.01	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 85.3
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 34.1 — Intersection LOS: C
Intersection Capacity Utilization 81.3% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

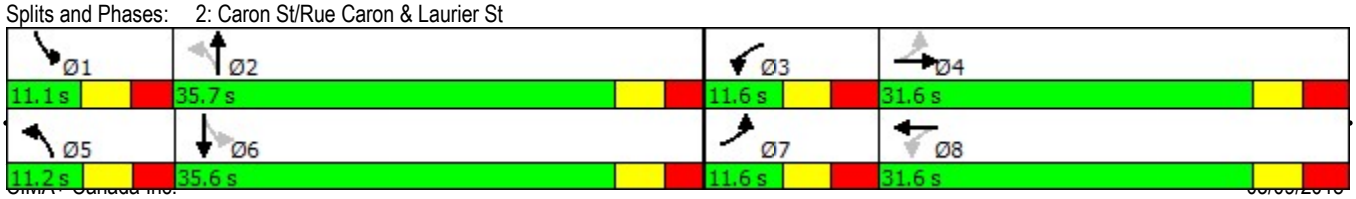
Phase 2
AM+Improvement.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	65	459	12	342
Future Volume (vph)	17	54	41	148	65	459	12	342
Lane Group Flow (vph)	19	113	46	207	72	549	13	397
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.6	31.6	11.6	31.6	11.2	35.7	11.1	35.6
Total Split (%)	12.9%	35.1%	12.9%	35.1%	12.4%	39.7%	12.3%	39.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	28.5	25.8	29.7	27.9	31.6	30.8	27.9	24.1
Actuated g/C Ratio	0.37	0.33	0.38	0.36	0.41	0.40	0.36	0.31
v/c Ratio	0.04	0.20	0.10	0.33	0.25	0.79	0.06	0.73
Control Delay	15.9	15.5	16.1	21.9	16.5	32.3	14.8	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	15.5	16.1	21.9	16.5	32.3	14.8	34.1
LOS	B	B	B	C	B	C	B	C
Approach Delay		15.6		20.8		30.5		33.5
Approach LOS		B		C		C		C
Queue Length 50th (m)	1.6	6.9	3.8	17.5	6.4	66.8	1.1	54.0
Queue Length 95th (m)	5.5	19.3	10.3	42.9	13.3	#142.8	4.0	83.1
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	442	578	481	625	290	746	216	687
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.20	0.10	0.33	0.25	0.74	0.06	0.58

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 77.6
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 28.2 — Intersection LOS: C
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 2
AM+Improvement.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	559	428	3
Future Volume (Veh/h)	0	5	6	559	428	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	621	476	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.81	0.81	0.81			
vC, conflicting volume	1112	478	479			
vC1, stage 1 conf vol	478					
vC2, stage 2 conf vol	635					
vCu, unblocked vol	1021	237	239			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	442	649	1075			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	621	479
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	649	1075	1700	1700
Volume to Capacity	0.01	0.01	0.37	0.28
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.6	8.4	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.6	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 2
AM+Improvement.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	495	431	2
Future Volume (vph)	9	3	1	495	431	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	550	479	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	550	481
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.03
Departure Headway (s)	6.3	5.4	4.9	4.7
Degree Utilization, x	0.02	0.00	0.75	0.62
Capacity (veh/h)	511	652	719	759
Control Delay (s)	9.4	7.2	20.0	15.1
Approach Delay (s)	9.4	20.0		15.1
Approach LOS	A	C		C

Intersection Summary			
Delay	17.6		
Level of Service	C		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 2
AM+Improvement.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	486	1	5	429
Future Volume (Veh/h)	5	10	486	1	5	429
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	540	1	6	477
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1030	540			541	
vC1, stage 1 conf vol	540					
vC2, stage 2 conf vol	489					
vCu, unblocked vol	1030	540			541	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	473	541			1028	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	541	6	477
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	515	1700	1028	1700
Volume to Capacity	0.03	0.32	0.01	0.28
Queue Length 95th (m)	0.7	0.0	0.1	0.0
Control Delay (s)	12.2	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	12.2	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 2
AM+Improvement.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	472	6	5	429	0
Future Volume (vph)	9	0	8	9	1	6	4	472	6	5	429	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	524	7	6	477	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	531	6	477
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	0.02	0.53	0.03
Departure Headway (s)	6.1	6.2	5.5	5.0	5.6	5.1
Degree Utilization, x	0.03	0.03	0.01	0.74	0.01	0.67
Capacity (veh/h)	516	509	632	702	627	703
Control Delay (s)	9.3	9.3	7.4	19.7	7.4	16.5
Approach Delay (s)	9.3	9.3	19.6		16.4	
Approach LOS	A	A	C		C	

Intersection Summary				
Delay	17.8			
Level of Service	C			
Intersection Capacity Utilization	36.6%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 2
AM+Improvement.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	59	86	444	363	43
Future Volume (Veh/h)	38	59	86	444	363	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	66	96	493	403	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1114	429	453			
vC1, stage 1 conf vol	429					
vC2, stage 2 conf vol	685					
vCu, unblocked vol	1114	429	453			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	89	91			
cM capacity (veh/h)	406	625	1106			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	108	96	493	451
Volume Left	42	96	0	0
Volume Right	66	0	0	48
cSH	517	1106	1700	1700
Volume to Capacity	0.21	0.09	0.29	0.27
Queue Length 95th (m)	5.5	2.0	0.0	0.0
Control Delay (s)	13.8	8.6	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.8	1.4		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 2
AM+Improvement.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	221	277	2	188	234
Future Volume (vph)	5	221	277	2	188	234
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	246	308	2	209	260

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	252	310	209	260
Volume Left (vph)	6	0	209	0
Volume Right (vph)	246	2	0	0
Hadj (s)	-0.55	0.03	0.53	0.03
Departure Headway (s)	5.2	5.3	6.1	5.6
Degree Utilization, x	0.36	0.46	0.36	0.41
Capacity (veh/h)	640	648	569	621
Control Delay (s)	11.2	12.8	11.3	11.2
Approach Delay (s)	11.2	12.8	11.2	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.7		
Level of Service	B		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 2
AM+Improvement.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	28	58	131	106	52
Future Volume (Veh/h)	32	28	58	131	106	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	31	64	146	118	58
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	210				240	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210				240	137
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	94
cM capacity (veh/h)	1361				728	911

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	67	210	176
Volume Left	36	0	118
Volume Right	0	146	58
cSH	1361	1700	780
Volume to Capacity	0.03	0.12	0.23
Queue Length 95th (m)	0.6	0.0	6.0
Control Delay (s)	4.2	0.0	11.0
Lane LOS	A		B
Approach Delay (s)	4.2	0.0	11.0
Approach LOS			B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Phase 2
AM+Improvement.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	53	137	23	68	159	27
Future Volume (Veh/h)	53	137	23	68	159	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	59	152	26	76	177	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			211		263	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			211		263	135
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		75	97
cM capacity (veh/h)			1360		712	914

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	211	102	207
Volume Left	0	26	177
Volume Right	152	0	30
cSH	1700	1360	736
Volume to Capacity	0.12	0.02	0.28
Queue Length 95th (m)	0.0	0.4	8.1
Control Delay (s)	0.0	2.1	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	11.8
Approach LOS			B

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Phase 2
AM+Improvement.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	34	46	23	38	53	26
Future Volume (Veh/h)	34	46	23	38	53	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	51	26	42	59	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			89		158	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			89		158	64
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			1506		819	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	89	68	88
Volume Left	0	26	59
Volume Right	51	0	29
cSH	1700	1506	871
Volume to Capacity	0.05	0.02	0.10
Queue Length 95th (m)	0.0	0.4	2.4
Control Delay (s)	0.0	2.9	9.6
Lane LOS		A	A
Approach Delay (s)	0.0	2.9	9.6
Approach LOS			A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Phase 2

12: Street B & Street A

AM+Improvement.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	99	71	28	23	76	53	26	26	26	46	23	99
Future Volume (vph)	99	71	28	23	76	53	26	26	26	46	23	99
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	110	79	31	26	84	59	29	29	29	51	26	110

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	220	169	87	187
Volume Left (vph)	110	26	29	51
Volume Right (vph)	31	59	29	110
Hadj (s)	0.05	-0.14	-0.10	-0.26
Departure Headway (s)	4.9	4.7	5.0	4.7
Degree Utilization, x	0.30	0.22	0.12	0.25
Capacity (veh/h)	694	706	647	700
Control Delay (s)	9.9	9.1	8.7	9.2
Approach Delay (s)	9.9	9.1	8.7	9.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay		9.3		
Level of Service		A		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 2
AM+Improvement.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	79	106	173	68	91	148
Future Volume (vph)	79	106	173	68	91	148
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	118	192	76	101	164

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	206	268	67	198
Volume Left (vph)	88	0	67	34
Volume Right (vph)	118	76	0	0
Hadj (s)	-0.22	-0.14	0.53	0.12
Departure Headway (s)	5.0	4.8	5.9	5.4
Degree Utilization, x	0.28	0.35	0.11	0.30
Capacity (veh/h)	671	723	587	635
Control Delay (s)	9.9	10.4	8.4	9.5
Approach Delay (s)	9.9	10.4	9.2	
Approach LOS	A	B	A	

Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

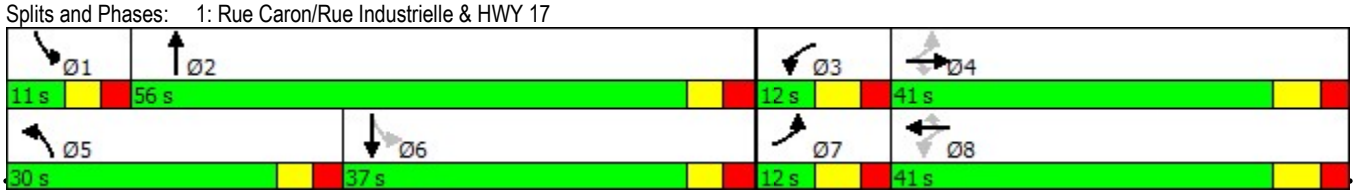
Phase 2 PM+ Improvements
04/26/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	230	420	30	129	26	369	87	35	138
Future Volume (vph)	34	230	420	30	129	26	369	87	35	138
Lane Group Flow (vph)	38	256	467	33	143	29	410	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	41.0	41.0	12.0	41.0	41.0	30.0	56.0	11.0	37.0
Total Split (%)	10.0%	34.2%	34.2%	10.0%	34.2%	34.2%	25.0%	46.7%	9.2%	30.8%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	37.7	35.0	35.0	37.7	35.0	35.0	17.1	32.7	21.1	15.5
Actuated g/C Ratio	0.40	0.37	0.37	0.40	0.37	0.37	0.18	0.35	0.23	0.17
v/c Ratio	0.08	0.39	0.55	0.08	0.22	0.04	0.69	0.24	0.13	0.64
Control Delay	18.0	27.3	5.5	18.0	25.2	0.1	43.5	20.8	20.1	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	27.3	5.5	18.0	25.2	0.1	43.5	20.8	20.1	47.0
LOS	B	C	A	B	C	A	D	C	C	D
Approach Delay		13.4			20.5			37.6		42.3
Approach LOS		B			C			D		D
Queue Length 50th (m)	3.5	33.9	0.0	3.0	17.6	0.0	35.1	16.0	4.1	29.7
Queue Length 95th (m)	10.6	64.5	22.3	9.6	36.9	0.0	53.2	29.4	9.5	52.9
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	80.0		40.0	
Base Capacity (vph)	501	659	852	422	659	685	858	925	293	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.39	0.55	0.08	0.22	0.04	0.48	0.16	0.13	0.32

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 93.6
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 25.7 — Intersection LOS: C
Intersection Capacity Utilization 59.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

Phase 2 PM+ Improvements
04/26/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	75	405	35	494
Future Volume (vph)	34	155	30	87	75	405	35	494
Lane Group Flow (vph)	38	273	33	126	83	497	39	583
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.6	31.6	11.6	31.6	11.2	35.7	11.1	35.6
Total Split (%)	12.9%	35.1%	12.9%	35.1%	12.4%	39.7%	12.3%	39.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	28.3	25.4	28.3	25.4	35.1	32.3	33.7	29.9
Actuated g/C Ratio	0.34	0.31	0.34	0.31	0.42	0.39	0.41	0.36
v/c Ratio	0.09	0.51	0.10	0.24	0.44	0.73	0.15	0.92
Control Delay	17.2	26.8	17.3	22.5	21.4	32.3	15.1	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	26.8	17.3	22.5	21.4	32.3	15.1	50.8
LOS	B	C	B	C	C	C	B	D
Approach Delay		25.6		21.4		30.8		48.6
Approach LOS		C		C		C		D
Queue Length 50th (m)	3.6	32.4	3.1	13.4	7.4	72.6	3.4	~93.9
Queue Length 95th (m)	9.0	55.0	8.2	26.3	14.9	#123.0	8.4	#155.8
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	435	533	339	533	190	681	261	631
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.51	0.10	0.24	0.44	0.73	0.15	0.92

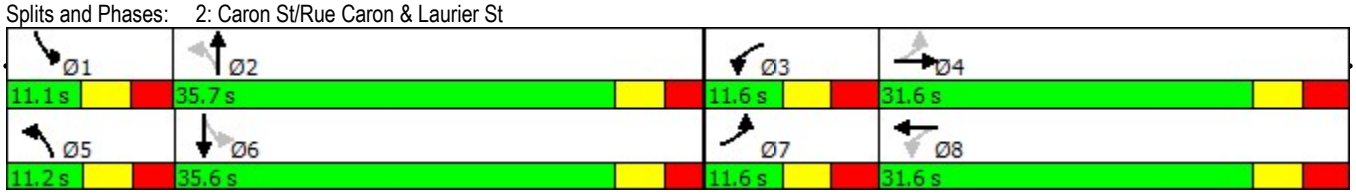
Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 83.1
Natural Cycle: 85
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 35.6 — Intersection LOS: D
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	522	612	3
Future Volume (Veh/h)	0	8	7	522	612	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	580	680	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.68	0.68	0.68			
vC, conflicting volume	1278	682	683			
vC1, stage 1 conf vol	682					
vC2, stage 2 conf vol	596					
vCu, unblocked vol	1175	303	306			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	390	504	859			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	580	683
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	504	859	1700	1700
Volume to Capacity	0.02	0.01	0.34	0.40
Queue Length 95th (m)	0.4	0.2	0.0	0.0
Control Delay (s)	12.3	9.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.3	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	522	616	4
Future Volume (vph)	7	3	6	522	616	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	580	684	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	580	688
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.03
Departure Headway (s)	6.7	5.6	5.1	4.7
Degree Utilization, x	0.02	0.01	0.82	0.90
Capacity (veh/h)	508	635	701	752
Control Delay (s)	9.9	7.4	25.2	34.8
Approach Delay (s)	9.9	25.0		34.8
Approach LOS	A	C		D

Intersection Summary			
Delay	30.1		
Level of Service	D		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Phase 2 PM+ Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	455	7	26	593
Future Volume (Veh/h)	1	10	455	7	26	593
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	506	8	29	659
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1227	510			514	
vC1, stage 1 conf vol	510					
vC2, stage 2 conf vol	717					
vCu, unblocked vol	1227	510			514	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	401	563			1052	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	514	29	659
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	545	1700	1052	1700
Volume to Capacity	0.02	0.30	0.03	0.39
Queue Length 95th (m)	0.5	0.0	0.6	0.0
Control Delay (s)	11.8	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	11.8	0.0	0.4	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	441	13	16	561	17
Future Volume (vph)	17	1	10	9	1	4	12	441	13	16	561	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	490	14	18	623	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	504	18	642
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	0.01	0.53	0.01
Departure Headway (s)	6.5	6.6	5.7	5.2	5.6	5.1
Degree Utilization, x	0.06	0.03	0.02	0.73	0.03	0.91
Capacity (veh/h)	509	493	615	676	620	699
Control Delay (s)	9.9	9.8	7.7	19.8	7.6	36.6
Approach Delay (s)	9.9	9.8	19.5		35.9	
Approach LOS	A	A	C		E	

Intersection Summary				
Delay	28.0			
Level of Service	D			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	89	73	405	471	60
Future Volume (Veh/h)	61	89	73	405	471	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	99	81	450	523	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1170	558	592			
vC1, stage 1 conf vol	558					
vC2, stage 2 conf vol	612					
vCu, unblocked vol	1170	558	592			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	81	92			
cM capacity (veh/h)	407	528	982			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	167	81	450	590
Volume Left	68	81	0	0
Volume Right	99	0	0	67
cSH	471	982	1700	1700
Volume to Capacity	0.35	0.08	0.26	0.35
Queue Length 95th (m)	11.1	1.9	0.0	0.0
Control Delay (s)	16.8	9.0	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	16.8	1.4		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Phase 2 PM+ Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	205	285	5	229	302
Future Volume (vph)	5	205	285	5	229	302
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	228	317	6	254	336

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	234	323	254	336
Volume Left (vph)	6	0	254	0
Volume Right (vph)	228	6	0	0
Hadj (s)	-0.55	0.02	0.53	0.03
Departure Headway (s)	5.4	5.4	6.1	5.6
Degree Utilization, x	0.35	0.49	0.43	0.52
Capacity (veh/h)	614	642	574	627
Control Delay (s)	11.3	13.5	12.5	13.4
Approach Delay (s)	11.3	13.5	13.0	
Approach LOS	B	B	B	

Intersection Summary			
Delay	12.8		
Level of Service	B		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	102	41	133	148	41
Future Volume (Veh/h)	68	102	41	133	148	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	76	113	46	148	164	46
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	194				385	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	194				385	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				72	95
cM capacity (veh/h)	1379				584	931

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	189	194	210
Volume Left	76	0	164
Volume Right	0	148	46
cSH	1379	1700	636
Volume to Capacity	0.06	0.11	0.33
Queue Length 95th (m)	1.2	0.0	10.1
Control Delay (s)	3.4	0.0	13.4
Lane LOS	A		B
Approach Delay (s)	3.4	0.0	13.4
Approach LOS			B

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	70	164	27	64	147	24
Future Volume (Veh/h)	70	164	27	64	147	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	78	182	30	71	163	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			260		300	169
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			260		300	169
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		76	97
cM capacity (veh/h)			1304		676	875

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	260	101	190
Volume Left	0	30	163
Volume Right	182	0	27
cSH	1700	1304	698
Volume to Capacity	0.15	0.02	0.27
Queue Length 95th (m)	0.0	0.5	7.7
Control Delay (s)	0.0	2.5	12.1
Lane LOS		A	B
Approach Delay (s)	0.0	2.5	12.1
Approach LOS			B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	39	55	27	42	49	24
Future Volume (Veh/h)	39	55	27	42	49	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	43	61	30	47	54	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			104		180	74
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		180	74
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			1488		793	988

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	77	81
Volume Left	0	30	54
Volume Right	61	0	27
cSH	1700	1488	849
Volume to Capacity	0.06	0.02	0.10
Queue Length 95th (m)	0.0	0.4	2.2
Control Delay (s)	0.0	3.0	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Street B & Street A

Phase 2 PM+ Improvements
04/27/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	104	79	27	27	76	49	24	24	24	55	27	104
Future Volume (vph)	104	79	27	27	76	49	24	24	24	55	27	104
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	116	88	30	30	84	54	27	27	27	61	30	116

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	234	168	81	207
Volume Left (vph)	116	30	27	61
Volume Right (vph)	30	54	27	116
Hadj (s)	0.06	-0.12	-0.10	-0.24
Departure Headway (s)	4.9	4.8	5.1	4.8
Degree Utilization, x	0.32	0.23	0.11	0.27
Capacity (veh/h)	687	690	634	692
Control Delay (s)	10.2	9.2	8.8	9.6
Approach Delay (s)	10.2	9.2	8.8	9.6
Approach LOS	B	A	A	A

Intersection Summary				
Delay		9.6		
Level of Service		A		
Intersection Capacity Utilization		45.6%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Phase 2 PM+ Improvements
04/27/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	73	98	192	82	109	198
Future Volume (vph)	73	98	192	82	109	198
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	81	109	213	91	121	220

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	190	304	81	260
Volume Left (vph)	81	0	81	40
Volume Right (vph)	109	91	0	0
Hadj (s)	-0.22	-0.15	0.53	0.11
Departure Headway (s)	5.2	4.8	5.9	5.4
Degree Utilization, x	0.27	0.41	0.13	0.39
Capacity (veh/h)	632	717	589	638
Control Delay (s)	10.1	11.1	8.6	10.7
Approach Delay (s)	10.1	11.1	10.2	
Approach LOS	B	B	B	

Intersection Summary			
Delay	10.5		
Level of Service	B		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

G

Appendix G

Projected Full Build-out Traffic Operations

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.05	10	B	3	0.08	18	B	11
	T	-	0.54	19	B	107	0.42	28	C	72
	R	85	0.41	3	A	15	0.60	6	A	24
WB	L	60	0.06	10	A	5	0.08	18	B	10
	T	-	1.06	68	E	325	0.23	26	C	41
	R	56	0.00	0	A	0	0.04	1	A	0
NB	L	80	1.04	85	F	110	0.74	46	D	61
	T/R	-	0.11	14	B	10	0.24	22	C	31
SB	L	40	0.01	26	C	1	0.14	21	C	10
	T/R	-	0.08	29	C	7	0.66	50	D	55
Overall			**1.06**	**51**	**E**	**-**	**0.74**	**27**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.05	16	B	6	0.09	17	B	9
	T/R	-	0.21	16	B	19	0.53	27	C	56
WB	L	60	0.10	17	B	10	0.10	17	B	8
	T/R	-	0.34	23	C	43	0.24	23	C	26
NB	L	55	0.27	17	B	14	0.48	24	C	16
	T/R	-	0.86	37	D	172	0.79	36	D	140
SB	L	50	0.07	15	B	4	0.17	16	B	8
	T/R	-	0.72	34	C	90	1.05	79	E	125
Overall			**0.86**	**30**	**C**	**-**	**1.05**	**48**	**D**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	11	B	0.2	0.02	13	B	0.4
NB	L	15	0.01	9	A	0.1	0.01	10	A	0.2
	T	-	0.42	0	A	0	0.37	0	A	0
SB	T/R	-	0.30	0	A	0	0.45	0	A	0
Overall			**0.42**	**0.1**	**A**	**-**	**0.45**	**0.1**	**A**	**-**
Caron Street at Françoise Street (Unsignalized)										
EB	L/R	-	0.02	10	A	-	0.02	10	A	-
NB	L	15	0	7	A	-	0.01	7	A	-
	T	-	0.87	31	D	-	0.89	33	D	-
SB	T/R	-	0.67	17	C	-	1.03	62	F	-
Overall			**0.87**	**24**	**C**	**-**	**1.03**	**48**	**E**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.04	13	B	1	0.02	12	B	1
NB	T/R	-	0.37	0	A	0	0.33	0	A	0
SB	L	15	0.01	9	A	0.1	0.03	9	A	1
	T	-	0.30	0	A	0	0.44	0	A	0
Overall			**0.30**	**0.2**	**A**	**-**	**0.44**	**0.3**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Unsignalized)										
EB	L/T/R	-	0.03	10	A	-	0.06	10	B	-
WB	L/T/R	-	0.03	10	A	-	0.03	10	B	-
NB	L	15	0.01	7	A	-	0.02	8	A	-
	T/R	-	0.86	30	D	-	0.80	25	C	-
SB	L	15	0.01	8	A	-	0.03	8	A	-
	T/R	-	0.72	19	C	-	1.04	66	F	-
Overall			**0.86**	**24**	**C**	**-**	**1.04**	**46**	**E**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.23	15	B	6	0.41	19	C	14
NB	L	15	0.09	9	A	2	0.09	9	A	2
	T	-	0.34	0	A	0	0.29	0	A	0
SB	T/R	-	0.28	0	A	0	0.40	0	A	0
Overall			**0.34**	**2**	**A**	**-**	**0.41**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.44	16	B	-	0.41	13	B	-
NB	T/R	-	0.21	0	A	-	0.54	15	C	-
SB	L	40	0.19	5	A	-	0.53	15	B	-
	T	-	0.19	5	A	-	0.61	16	C	-
Overall			**0.44**	**6**	**A**	**-**	**0.61**	**15**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.03	4	A	1	0.06	4	A	1
WB	T/R	-	0.13	0	A	0	0.12	0	A	0
SB	L/R	-	0.25	11	B	7	0.36	14	B	11
Overall			**0.25**	**5**	**A**	**-**	**0.36**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.28	13	B	-	0.24	10	B	-
	R	-	0.28	13	B	-	0.24	10	B	-
NB	T/R	-	0.21	0	A	-	0.53	13	B	-
SB	L/T	25	0.13	8	A	-	0.50	13	B	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.28**	**3**	**A**	**-**	**0.53**	**12**	**B**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.13	0	A	0	0.18	0	A	0
WB	L/T	-	0.02	1	A	1	0.03	2	A	1
NB	L/R	-	0.23	13	B	6	0.22	13	B	6
Overall			**0.23**	**4**	**A**	**-**	**0.22**	**3**	**A**	**-**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.20	9	A	-	0.23	9	A	-
WB	L/T/R	-	0.21	9	A	-	0.22	9	A	-
NB	L/T/R		0.19	9	A	-	0.17	9	A	-
SB	L/T/R	-	0.16	9	A	-	0.19	9	A	-
Overall			**0.21**	**9**	**A**	**-**	**0.23**	**9**	**A**	**-**
Street A at David Street (Unsignalized)										
EB	T/R	-	0.11	0	A	0	0.13	0	A	0
WB	L/T	-	0.02	3	A	1	0.03	3	A	1
NB	L/R	-	0.27	11	B	8	0.25	12	B	7
Overall			**0.27**	**6**	**A**	**-**	**0.25**	**5**	**A**	**-**
Caron Street North at Street C (Unsignalized)										
EB	L/T/R	-	0.06	12	B	1	0.06	13	B	1
WB	L/T/R	-	0.05	10	A	1	0.04	10	B	1
NB	L/T/R	-	0	0	A	0	0.00	0	A	0
SB	L	25	0.02	8	A	1	0.03	8	A	1
	T/R	-	0.16	0	A	0	0.19	0	A	0
Overall			**0.16**	**1.6**	**A**	**-**	**0.19**	**1**	**A**	**-**
Caron Street South at Street C (Unsignalized)										
EB	L/T/R	-	0.06	11	B	1	0.05	12	B	1
WB	L/T/R	-	0.04	9	A	1	0.04	10	A	1
NB	L/T/R	-	0	0	A	0	0.00	0	A	0
SB	L	25	0.02	8	A	1	0.03	8	A	1
	T/R	-	0.13	0	A	0	0.15	0	A	0
Overall			**0.13**	**2**	**A**	**-**	**0.15**	**2**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

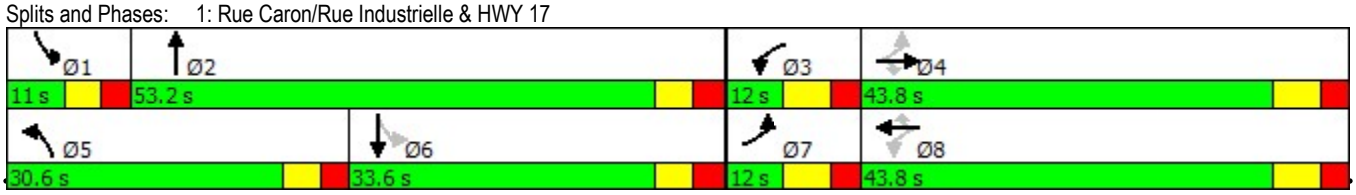
Build Out
PM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	254	490	30	143	26	409	87	35	138
Future Volume (vph)	34	254	490	30	143	26	409	87	35	138
Lane Group Flow (vph)	38	282	544	33	159	29	454	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	43.8	43.8	12.0	43.8	43.8	30.6	53.2	11.0	33.6
Total Split (%)	10.0%	36.5%	36.5%	10.0%	36.5%	36.5%	25.5%	44.3%	9.2%	28.0%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	40.5	37.8	37.8	40.5	37.8	37.8	18.6	34.6	21.5	15.9
Actuated g/C Ratio	0.41	0.38	0.38	0.41	0.38	0.38	0.19	0.35	0.22	0.16
v/c Ratio	0.08	0.42	0.60	0.08	0.23	0.04	0.74	0.24	0.14	0.66
Control Delay	18.3	28.1	5.6	18.4	25.6	0.1	46.4	21.6	21.1	49.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	28.1	5.6	18.4	25.6	0.1	46.4	21.6	21.1	49.9
LOS	B	C	A	B	C	A	D	C	C	D
Approach Delay		13.5			21.2			40.5		44.9
Approach LOS		B			C			D		D
Queue Length 50th (m)	3.7	39.7	0.0	3.2	20.7	0.0	41.2	16.9	4.3	31.6
Queue Length 95th (m)	10.7	71.9	24.3	9.6	41.0	0.0	61.0	30.7	9.8	54.7
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	504	678	911	407	678	699	836	831	283	494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.42	0.60	0.08	0.23	0.04	0.54	0.17	0.14	0.38

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 98.3
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.6 — Intersection LOS: C
Intersection Capacity Utilization 62.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

Build Out
PM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	79	445	35	564
Future Volume (vph)	34	155	30	87	79	445	35	564
Lane Group Flow (vph)	38	280	33	126	88	541	39	661
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.6	31.6	11.6	31.6	11.2	35.7	11.1	35.6
Total Split (%)	12.9%	35.1%	12.9%	35.1%	12.4%	39.7%	12.3%	39.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	28.3	25.4	28.3	25.4	35.1	32.3	33.7	29.9
Actuated g/C Ratio	0.34	0.31	0.34	0.31	0.42	0.39	0.41	0.36
v/c Ratio	0.09	0.53	0.10	0.24	0.48	0.79	0.17	1.05
Control Delay	17.2	27.0	17.3	22.5	23.5	36.1	15.5	79.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	27.0	17.3	22.5	23.5	36.1	15.5	79.1
LOS	B	C	B	C	C	D	B	E
Approach Delay		25.8		21.4		34.3		75.6
Approach LOS		C		C		C		E
Queue Length 50th (m)	3.6	33.3	3.1	13.4	7.8	82.0	3.4	~125.1
Queue Length 95th (m)	9.0	56.2	8.2	26.3	15.6	#139.7	8.4	#184.7
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	435	532	334	533	183	681	230	631
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.53	0.10	0.24	0.48	0.79	0.17	1.05

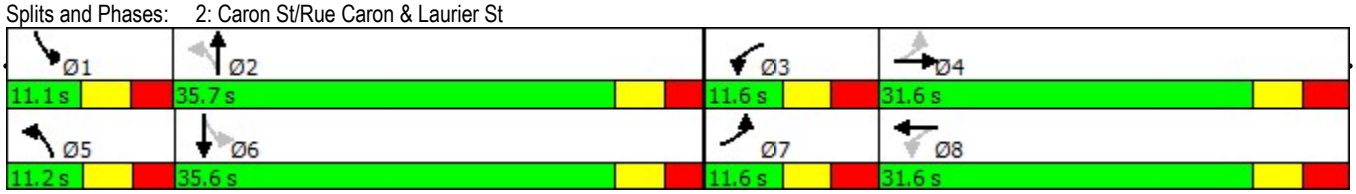
Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 83.1
Natural Cycle: 95
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 47.7 — Intersection LOS: D
Intersection Capacity Utilization 78.0% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Build Out
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	635	452	3
Future Volume (Veh/h)	0	5	6	635	452	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	706	502	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.80	0.80	0.80			
vC, conflicting volume	1224	504	505			
vC1, stage 1 conf vol	504					
vC2, stage 2 conf vol	720					
vCu, unblocked vol	1153	250	252			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	404	629	1047			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	706	505
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	629	1047	1700	1700
Volume to Capacity	0.01	0.01	0.42	0.30
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.8	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.8	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Build Out
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	9	3	1	571	455	2
Future Volume (vph)	9	3	1	571	455	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	3	1	634	506	2

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	13	1	634	508
Volume Left (vph)	10	1	0	0
Volume Right (vph)	3	0	0	2
Hadj (s)	0.05	0.53	0.03	0.03
Departure Headway (s)	6.5	5.4	4.9	4.8
Degree Utilization, x	0.02	0.00	0.87	0.67
Capacity (veh/h)	506	649	721	745
Control Delay (s)	9.7	7.3	30.5	17.0
Approach Delay (s)	9.7	30.4		17.0
Approach LOS	A	D		C

Intersection Summary			
Delay	24.3		
Level of Service	C		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Build Out
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	562	1	5	453
Future Volume (Veh/h)	5	10	562	1	5	453
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	624	1	6	503
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1140	624			625	
vC1, stage 1 conf vol	624					
vC2, stage 2 conf vol	515					
vCu, unblocked vol	1140	624			625	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	437	485			956	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	625	6	503
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	467	1700	956	1700
Volume to Capacity	0.04	0.37	0.01	0.30
Queue Length 95th (m)	0.8	0.0	0.1	0.0
Control Delay (s)	13.0	0.0	8.8	0.0
Lane LOS	B		A	
Approach Delay (s)	13.0	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Build Out
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	0	8	9	1	6	4	548	6	5	453	0
Future Volume (vph)	9	0	8	9	1	6	4	548	6	5	453	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	0	9	10	1	7	4	609	7	6	503	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	19	18	4	616	6	503
Volume Left (vph)	10	10	4	0	6	0
Volume Right (vph)	9	7	0	7	0	0
Hadj (s)	-0.14	-0.09	0.53	0.03	0.53	0.03
Departure Headway (s)	6.3	6.4	5.6	5.0	5.6	5.1
Degree Utilization, x	0.03	0.03	0.01	0.86	0.01	0.72
Capacity (veh/h)	514	505	628	703	623	685
Control Delay (s)	9.6	9.6	7.4	30.0	7.5	18.8
Approach Delay (s)	9.6	9.6	29.9		18.7	
Approach LOS	A	A	D		C	

Intersection Summary				
Delay	24.4			
Level of Service	C			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Build Out
AM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	61	92	520	387	43
Future Volume (Veh/h)	38	61	92	520	387	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	68	102	578	430	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1238	456	480			
vC1, stage 1 conf vol	456					
vC2, stage 2 conf vol	782					
vCu, unblocked vol	1238	456	480			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	89	91			
cM capacity (veh/h)	366	603	1081			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	110	102	578	478
Volume Left	42	102	0	0
Volume Right	68	0	0	48
cSH	483	1081	1700	1700
Volume to Capacity	0.23	0.09	0.34	0.28
Queue Length 95th (m)	6.1	2.2	0.0	0.0
Control Delay (s)	14.6	8.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	14.6	1.3		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Build Out
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	265	315	2	202	246
Future Volume (vph)	5	265	315	2	202	246
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	294	350	2	224	273

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	300	352	224	273
Volume Left (vph)	6	0	224	0
Volume Right (vph)	294	2	0	0
Hadj (s)	-0.55	0.03	0.53	0.03
Departure Headway (s)	5.4	5.6	6.4	5.9
Degree Utilization, x	0.45	0.55	0.40	0.45
Capacity (veh/h)	621	614	545	592
Control Delay (s)	12.8	15.1	12.4	12.4
Approach Delay (s)	12.8	15.1	12.4	
Approach LOS	B	C	B	

Intersection Summary			
Delay	13.3		
Level of Service	B		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Build Out
AM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	28	58	134	117	58
Future Volume (Veh/h)	34	28	58	134	117	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	31	64	149	130	64
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	213				246	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				246	138
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				82	93
cM capacity (veh/h)	1357				722	910

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	69	213	194
Volume Left	38	0	130
Volume Right	0	149	64
cSH	1357	1700	775
Volume to Capacity	0.03	0.13	0.25
Queue Length 95th (m)	0.6	0.0	6.9
Control Delay (s)	4.4	0.0	11.2
Lane LOS	A		B
Approach Delay (s)	4.4	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Build Out
AM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	130	74	25	174	96	32
Future Volume (Veh/h)	130	74	25	174	96	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	144	82	28	193	107	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			226		434	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			226		434	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		81	96
cM capacity (veh/h)			1342		567	857

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	226	221	143
Volume Left	0	28	107
Volume Right	82	0	36
cSH	1700	1342	620
Volume to Capacity	0.13	0.02	0.23
Queue Length 95th (m)	0.0	0.4	6.2
Control Delay (s)	0.0	1.1	12.5
Lane LOS		A	B
Approach Delay (s)	0.0	1.1	12.5
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Build Out
AM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	39	123	25	40	159	32
Future Volume (Veh/h)	39	123	25	40	159	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	43	137	28	44	177	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			180		212	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			180		212	112
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		77	96
cM capacity (veh/h)			1396		761	942

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	180	72	213
Volume Left	0	28	177
Volume Right	137	0	36
cSH	1700	1396	787
Volume to Capacity	0.11	0.02	0.27
Queue Length 95th (m)	0.0	0.4	7.7
Control Delay (s)	0.0	3.1	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	3.1	11.3
Approach LOS			B

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Streert B/Street B & Street A

Build Out
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	81	30	25	89	32	32	64	32	25	49	32
Future Volume (vph)	25	81	30	25	89	32	32	64	32	25	49	32
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	28	90	33	28	99	36	36	71	36	28	54	36

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	151	163	143	118
Volume Left (vph)	28	28	36	28
Volume Right (vph)	33	36	36	36
Hadj (s)	-0.06	-0.06	-0.07	-0.10
Departure Headway (s)	4.7	4.7	4.8	4.7
Degree Utilization, x	0.20	0.21	0.19	0.16
Capacity (veh/h)	713	719	706	698
Control Delay (s)	8.8	8.9	8.9	8.6
Approach Delay (s)	8.8	8.9	8.9	8.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
13: Caron St

Build Out
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	0	0	0	32	0	232	0	25	224	25
Future Volume (Veh/h)	32	0	0	0	0	32	0	232	0	25	224	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	0	0	0	0	36	0	258	0	28	249	28
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	613	577	263	563	591	258	277			258		
vC1, stage 1 conf vol	319	319		258	258							
vC2, stage 2 conf vol	294	258		305	333							
vCu, unblocked vol	613	577	263	563	591	258	277			258		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	95	100			98		
cM capacity (veh/h)	556	560	776	605	561	781	1286			1307		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	36	36	258	28	277
Volume Left	36	0	0	28	0
Volume Right	0	36	0	0	28
cSH	556	781	1286	1307	1700
Volume to Capacity	0.06	0.05	0.00	0.02	0.16
Queue Length 95th (m)	1.4	1.0	0.0	0.5	0.0
Control Delay (s)	11.9	9.8	0.0	7.8	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.9	9.8	0.0	0.7	
Approach LOS	B	A			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
14: Caron St

Build Out
AM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	0	0	0	32	0	168	0	25	175	25
Future Volume (Veh/h)	32	0	0	0	0	32	0	168	0	25	175	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	0	0	0	0	36	0	187	0	28	194	28
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	487	451	208	437	465	187	222			187		
vC1, stage 1 conf vol	264	264		187	187							
vC2, stage 2 conf vol	223	187		250	278							
vCu, unblocked vol	487	451	208	437	465	187	222			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	96	100			98		
cM capacity (veh/h)	621	612	832	670	611	855	1347			1387		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	36	36	187	28	222
Volume Left	36	0	0	28	0
Volume Right	0	36	0	0	28
cSH	621	855	1347	1387	1700
Volume to Capacity	0.06	0.04	0.00	0.02	0.13
Queue Length 95th (m)	1.3	0.9	0.0	0.4	0.0
Control Delay (s)	11.2	9.4	0.0	7.6	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.2	9.4	0.0	0.9	
Approach LOS	B	A			

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	37.1%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Build Out
AM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	96	64	253	74	49	202
Future Volume (vph)	96	64	253	74	49	202
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	107	71	281	82	54	224

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	178	363	36	242
Volume Left (vph)	107	0	36	18
Volume Right (vph)	71	82	0	0
Hadj (s)	-0.09	-0.10	0.53	0.07
Departure Headway (s)	5.3	4.8	5.9	5.4
Degree Utilization, x	0.26	0.48	0.06	0.37
Capacity (veh/h)	612	728	583	637
Control Delay (s)	10.3	12.2	8.1	10.3
Approach Delay (s)	10.3	12.2	10.0	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.0		
Level of Service	B		
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

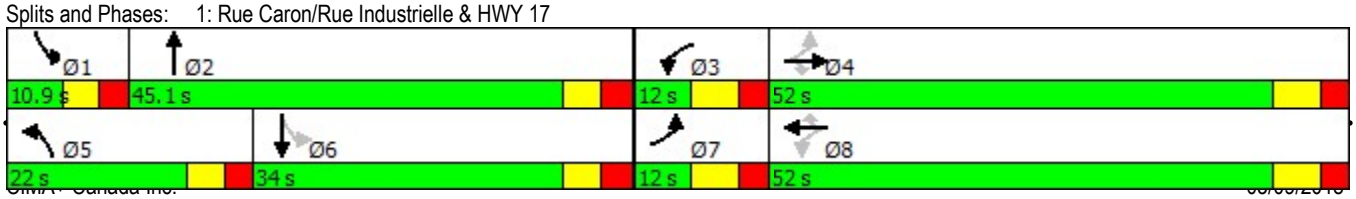
Build Out
AM.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	466	364	21	953	3	591	8	1	6
Future Volume (vph)	8	466	364	21	953	3	591	8	1	6
Lane Group Flow (vph)	9	518	404	23	1059	3	657	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	52.0	52.0	12.0	52.0	52.0	22.0	45.1	10.9	34.0
Total Split (%)	10.0%	43.3%	43.3%	10.0%	43.3%	43.3%	18.3%	37.6%	9.1%	28.3%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	47.9	46.2	46.2	49.1	48.2	48.2	16.5	19.7	8.6	10.3
Actuated g/C Ratio	0.56	0.54	0.54	0.58	0.57	0.57	0.19	0.23	0.10	0.12
v/c Ratio	0.05	0.54	0.41	0.06	1.06	0.00	1.04	0.11	0.01	0.08
Control Delay	10.2	18.6	3.2	9.7	68.0	0.0	84.7	13.9	26.0	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	18.6	3.2	9.7	68.0	0.0	84.7	13.9	26.0	29.0
LOS	B	B	A	A	E	A	F	B	C	C
Approach Delay		11.8			66.6			80.3		28.8
Approach LOS		B			E			F		C
Queue Length 50th (m)	0.4	32.7	0.0	1.1	118.1	0.0	42.8	0.9	0.1	0.8
Queue Length 95th (m)	2.7	106.5	14.9	5.0	#325.1	0.0	#110.4	9.4	1.3	7.1
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	176	956	997	411	998	935	629	743	172	544
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.54	0.41	0.06	1.06	0.00	1.04	0.06	0.01	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 85.3
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 51.2 — Intersection LOS: D
Intersection Capacity Utilization 88.4% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

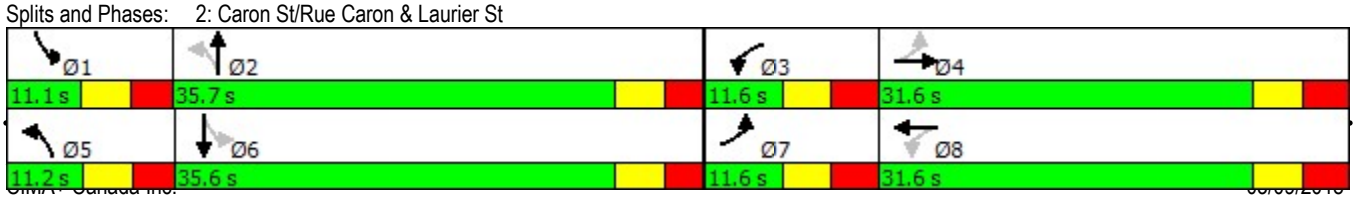
Build Out
AM.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	71	529	12	365
Future Volume (vph)	17	54	41	148	71	529	12	365
Lane Group Flow (vph)	19	114	46	207	79	627	13	423
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.6	31.6	11.6	31.6	11.2	35.7	11.1	35.6
Total Split (%)	12.9%	35.1%	12.9%	35.1%	12.4%	39.7%	12.3%	39.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	28.3	25.6	29.5	27.7	34.4	33.5	30.7	26.8
Actuated g/C Ratio	0.35	0.32	0.37	0.35	0.43	0.42	0.38	0.33
v/c Ratio	0.05	0.21	0.10	0.34	0.27	0.86	0.07	0.72
Control Delay	16.3	15.6	16.6	22.6	16.6	36.6	14.8	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	15.6	16.6	22.6	16.6	36.6	14.8	33.5
LOS	B	B	B	C	B	D	B	C
Approach Delay		15.7		21.5		34.4		33.0
Approach LOS		B		C		C		C
Queue Length 50th (m)	1.6	7.1	4.0	18.3	7.0	81.7	1.1	58.8
Queue Length 95th (m)	5.5	19.4	10.3	42.9	14.3	#171.9	4.0	89.8
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	422	556	461	601	291	733	184	659
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.21	0.10	0.34	0.27	0.86	0.07	0.64

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.2
Natural Cycle: 95
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 30.2 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Build Out
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	566	688	3
Future Volume (Veh/h)	0	8	7	566	688	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	629	764	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					169	
pX, platoon unblocked	0.66	0.66	0.66			
vC, conflicting volume	1410	766	767			
vC1, stage 1 conf vol	766					
vC2, stage 2 conf vol	645					
vCu, unblocked vol	1364	388	390			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	348	436	772			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	629	767
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	436	772	1700	1700
Volume to Capacity	0.02	0.01	0.37	0.45
Queue Length 95th (m)	0.4	0.2	0.0	0.0
Control Delay (s)	13.4	9.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.4	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
4: Caron St & Francois St

Build Out
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	3	6	566	692	4
Future Volume (vph)	7	3	6	566	692	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	3	7	629	769	4

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total (vph)	11	7	629	773
Volume Left (vph)	8	7	0	0
Volume Right (vph)	3	0	0	4
Hadj (s)	0.02	0.53	0.03	0.03
Departure Headway (s)	6.8	5.6	5.1	4.8
Degree Utilization, x	0.02	0.01	0.89	1.03
Capacity (veh/h)	508	636	705	747
Control Delay (s)	10.0	7.4	33.0	61.6
Approach Delay (s)	10.0	32.8		61.6
Approach LOS	A	D		F

Intersection Summary			
Delay	48.3		
Level of Service	E		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Build Out
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	499	7	26	669
Future Volume (Veh/h)	1	10	499	7	26	669
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	554	8	29	743
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1359	558			562	
vC1, stage 1 conf vol	558					
vC2, stage 2 conf vol	801					
vCu, unblocked vol	1359	558			562	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	365	529			1009	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	562	29	743
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	510	1700	1009	1700
Volume to Capacity	0.02	0.33	0.03	0.44
Queue Length 95th (m)	0.5	0.0	0.6	0.0
Control Delay (s)	12.2	0.0	8.7	0.0
Lane LOS	B		A	
Approach Delay (s)	12.2	0.0	0.3	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
6: Caron St & Cote St/Potvin Ave

Build Out
PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	10	9	1	4	12	485	13	16	637	17
Future Volume (vph)	17	1	10	9	1	4	12	485	13	16	637	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1	11	10	1	4	13	539	14	18	708	19

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	31	15	13	553	18	727
Volume Left (vph)	19	10	13	0	18	0
Volume Right (vph)	11	4	0	14	0	19
Hadj (s)	-0.06	0.01	0.53	0.02	0.53	0.02
Departure Headway (s)	6.7	6.8	5.8	5.2	5.7	5.2
Degree Utilization, x	0.06	0.03	0.02	0.80	0.03	1.04
Capacity (veh/h)	509	491	615	678	615	696
Control Delay (s)	10.1	10.0	7.7	24.9	7.6	66.1
Approach Delay (s)	10.1	10.0	24.5		64.6	
Approach LOS	B	B	C		F	

Intersection Summary			
Delay	46.1		
Level of Service	E		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Build Out
PM.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	95	77	449	547	60
Future Volume (Veh/h)	61	95	77	449	547	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	106	86	499	608	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1314	644	677			
vC1, stage 1 conf vol	644					
vC2, stage 2 conf vol	671					
vCu, unblocked vol	1314	644	677			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	78	91			
cM capacity (veh/h)	369	472	913			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	174	86	499	675
Volume Left	68	86	0	0
Volume Right	106	0	0	67
cSH	426	913	1700	1700
Volume to Capacity	0.41	0.09	0.29	0.40
Queue Length 95th (m)	13.7	2.2	0.0	0.0
Control Delay (s)	19.2	9.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	19.2	1.4		0.0
Approach LOS	C			

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		58.5%	ICU Level of Service	B
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Build Out
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	231	307	5	272	341
Future Volume (vph)	5	231	307	5	272	341
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	257	341	6	302	379

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	263	347	302	379
Volume Left (vph)	6	0	302	0
Volume Right (vph)	257	6	0	0
Hadj (s)	-0.55	0.02	0.53	0.03
Departure Headway (s)	5.6	5.6	6.3	5.8
Degree Utilization, x	0.41	0.54	0.53	0.61
Capacity (veh/h)	596	609	559	610
Control Delay (s)	12.5	15.2	15.0	16.2
Approach Delay (s)	12.5	15.2	15.7	
Approach LOS	B	C	C	

Intersection Summary			
Delay	14.9		
Level of Service	B		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Build Out
PM.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	102	41	144	154	45
Future Volume (Veh/h)	74	102	41	144	154	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	82	113	46	160	171	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	206				403	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206				403	126
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				70	95
cM capacity (veh/h)	1365				567	924

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	195	206	221
Volume Left	82	0	171
Volume Right	0	160	50
cSH	1365	1700	621
Volume to Capacity	0.06	0.12	0.36
Queue Length 95th (m)	1.3	0.0	11.2
Control Delay (s)	3.6	0.0	14.0
Lane LOS	A		B
Approach Delay (s)	3.6	0.0	14.0
Approach LOS			B

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Build Out
PM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	179	99	33	153	83	27
Future Volume (Veh/h)	179	99	33	153	83	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	199	110	37	170	92	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			309		498	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		498	254
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		82	96
cM capacity (veh/h)			1252		516	785

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	309	207	122
Volume Left	0	37	92
Volume Right	110	0	30
cSH	1700	1252	563
Volume to Capacity	0.18	0.03	0.22
Queue Length 95th (m)	0.0	0.6	5.7
Control Delay (s)	0.0	1.6	13.1
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	13.1
Approach LOS			B

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Build Out
PM.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	42	164	33	48	138	28
Future Volume (Veh/h)	42	164	33	48	138	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	47	182	37	53	153	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			229		265	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			229		265	138
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		78	97
cM capacity (veh/h)			1339		704	910

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	229	90	184
Volume Left	0	37	153
Volume Right	182	0	31
cSH	1700	1339	732
Volume to Capacity	0.13	0.03	0.25
Queue Length 95th (m)	0.0	0.6	7.0
Control Delay (s)	0.0	3.3	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	11.6
Approach LOS			B

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Streert B/Street B & Street A

Build Out
PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	33	94	33	33	88	28	28	55	28	33	66	28
Future Volume (vph)	33	94	33	33	88	28	28	55	28	33	66	28
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	37	104	37	37	98	31	31	61	31	37	73	31

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	178	166	123	141
Volume Left (vph)	37	37	31	37
Volume Right (vph)	37	31	31	31
Hadj (s)	-0.05	-0.03	-0.07	-0.05
Departure Headway (s)	4.7	4.8	4.9	4.9
Degree Utilization, x	0.23	0.22	0.17	0.19
Capacity (veh/h)	708	705	680	681
Control Delay (s)	9.2	9.1	8.8	9.0
Approach Delay (s)	9.2	9.1	8.8	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		9.0		
Level of Service		A		
Intersection Capacity Utilization		28.7%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
13: Caron St

Build Out
PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	0	0	0	28	0	272	0	33	265	33
Future Volume (Veh/h)	28	0	0	0	0	28	0	272	0	33	265	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	0	0	0	0	31	0	302	0	37	294	37
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	720	688	312	670	707	302	331			302		
vC1, stage 1 conf vol	386	386		302	302							
vC2, stage 2 conf vol	333	302		368	405							
vCu, unblocked vol	720	688	312	670	707	302	331			302		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	96	100			97		
cM capacity (veh/h)	506	512	728	550	513	738	1228			1259		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	31	31	302	37	331
Volume Left	31	0	0	37	0
Volume Right	0	31	0	0	37
cSH	506	738	1228	1259	1700
Volume to Capacity	0.06	0.04	0.00	0.03	0.19
Queue Length 95th (m)	1.4	0.9	0.0	0.6	0.0
Control Delay (s)	12.6	10.1	0.0	7.9	0.0
Lane LOS	B	B		A	
Approach Delay (s)	12.6	10.1	0.0	0.8	
Approach LOS	B	B			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	43.9%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
14: Caron St

Build Out
PM.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	0	0	0	28	0	218	0	33	199	33
Future Volume (Veh/h)	28	0	0	0	0	28	0	218	0	33	199	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	0	0	0	0	31	0	242	0	37	221	37
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	586	556	240	537	574	242	258			242		
vC1, stage 1 conf vol	314	314		242	242							
vC2, stage 2 conf vol	273	242		295	332							
vCu, unblocked vol	586	556	240	537	574	242	258			242		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	96	100			97		
cM capacity (veh/h)	567	563	799	615	564	797	1307			1324		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	31	31	242	37	258
Volume Left	31	0	0	37	0
Volume Right	0	31	0	0	37
cSH	567	797	1307	1324	1700
Volume to Capacity	0.05	0.04	0.00	0.03	0.15
Queue Length 95th (m)	1.2	0.8	0.0	0.6	0.0
Control Delay (s)	11.7	9.7	0.0	7.8	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.7	9.7	0.0	1.0	
Approach LOS	B	A			

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Build Out
PM.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	83	55	257	98	66	280
Future Volume (vph)	83	55	257	98	66	280
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	92	61	286	109	73	311

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	153	395	49	335
Volume Left (vph)	92	0	49	24
Volume Right (vph)	61	109	0	0
Hadj (s)	-0.08	-0.13	0.53	0.07
Departure Headway (s)	5.6	4.8	5.9	5.4
Degree Utilization, x	0.24	0.53	0.08	0.50
Capacity (veh/h)	573	725	591	647
Control Delay (s)	10.4	13.1	8.2	12.6
Approach Delay (s)	10.4	13.1	12.0	
Approach LOS	B	B	B	

Intersection Summary			
Delay	12.2		
Level of Service	B		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

H

Appendix H

Projected Full Build-out Traffic Operations with Improvements

CIMA+

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at HWY 17 (Signalized)										
EB	L	90	0.04	14	B	3	0.08	18	B	11
	T	-	0.65	27	C	132	0.42	28	C	72
	R	85	0.45	4	A	17	0.60	6	A	24
WB	L	60	0.07	14	B	6	0.08	18	B	10
	T	-	0.67	22	C	122	0.12	24	C	20
	R	56	0.00	0	A	0	0.04	0	A	0
NB	L	80	0.71	35	C	85	0.74	46	D	61
	T/R	-	0.08	11	B	8	0.24	22	C	31
SB	L	40	0.01	23	C	1	0.14	21	C	10
	T/R	-	0.08	29	C	7	0.66	50	D	55
Overall			**0.71**	**23**	**C**	**-**	**0.74**	**26**	**C**	**-**
Caron Street at Laurier Street (Signalized)										
EB	L	35	0.05	24	C	8	0.09	27	C	13
	T/R	-	0.21	24	C	30	0.56	38	D	80
WB	L	60	0.10	23	C	15	0.11	27	C	12
	T/R	-	0.35	29	C	61	0.25	33	C	37
NB	L	55	0.24	14	B	13	0.43	19	B	15
	T/R	-	0.80	30	C	145	0.68	27	C	122
SB	L	50	0.06	13	B	4	0.13	13	B	8
	T/R	-	0.67	30	C	86	0.88	42	D	167
Overall			**0.80**	**28**	**C**	**-**	**0.88**	**34**	**C**	**-**
Caron Street at Hélène Street (Unsignalized)										
EB	L/R	-	0.01	11	B	0.2	0.02	13	B	1
NB	L	15	0.01	9	A	0.1	0.01	10	A	0
	T	-	0.42	0	A	0	0.37	0	A	0
SB	T/R	-	0.30	0	A	0	0.45	0	A	0
Overall			**0.42**	**0.1**	**A**	**-**	**0.45**	**0.1**	**A**	**-**
Caron Street at Françoise Street (Signalized)										
EB	L/R	-	0.05	17	B	5	0.09	35	D	6
NB	L	15	0.00	2	A	0.4	0.01	1	A	1
	T	-	0.38	2	A	43	0.37	1	A	29
SB	T/R	-	0.31	2	A	31	0.45	2	A	42
Overall			**0.38**	**2**	**A**	**-**	**0.45**	**2**	**A**	**-**

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Caron Street at Des Cèdres Avenue (Unsignalized)										
WB	L/R	-	0.04	13	B	1	0.02	12	B	1
NB	T/R	-	0.37	0	A	0	0.33	0	A	0
SB	L	15	0.01	9	A	0.1	0.03	9	A	1
	T	-	0.30	0	A	0	0.44	0	A	0
Overall			**0.37**	**0.2**	**A**	**-**	**0.44**	**0.3**	**A**	**-**
Caron Street at Cote Street/Potvin Avenue (Signalized)										
EB	L/T/R	-	0.08	6	A	3	0.21	31	C	10
WB	L/T/R	-	0.08	25	C	7	0.11	33	C	7
NB	L	15	0.01	2	A	1	0.02	2	A	1
	T/R	-	0.37	2	A	47	0.34	2	A	29
SB	L	15	0.01	2	A	1	0.02	2	A	2
	T/R	-	0.30	2	A	35	0.45	3	A	45
Overall			**0.37**	**2**	**A**	**-**	**0.45**	**3**	**A**	**-**
Caron Street at Docteur Corbeil Boulevard (Unsignalized)										
EB	L/R	-	0.23	15	B	6	0.41	19	C	14
NB	L	15	0.09	9	A	2	0.09	9	A	2
	T	-	0.34	0	A	0	0.29	0	A	0
SB	T/R	-	0.28	0	A	0	0.40	0	A	0
Overall			**0.34**	**2**	**A**	**-**	**0.41**	**3**	**A**	**-**
Caron Street at David Street (Unsignalized)										
WB	L/R	-	0.45	13	B	-	0.41	13	B	-
NB	T/R	-	0.55	15	C	-	0.54	15	C	-
SB	L	40	0.40	12	B	-	0.53	15	B	-
	T	-	0.45	12	B	-	0.61	16	C	-
Overall			**0.55**	**13**	**B**	**-**	**0.61**	**15**	**B**	**-**
Caron Street at Baseline Road (Unsignalized)										
EB	L/T	-	0.03	4	A	1	0.06	4	A	1
WB	T/R	-	0.13	0	A	0	0.12	0	A	0
SB	L/R	-	0.25	11	B	7	0.36	14	B	11
Overall			**0.25**	**5**	**A**	**-**	**0.36**	**6**	**A**	**-**
Caron Street at Street A (Unsignalized)										
WB	L	-	0.26	10	B	-	0.24	10	B	-
	R	-	0.26	10	B	-	0.24	10	B	-
NB	T/R	-	0.48	12	B	-	0.53	13	B	-
SB	L/T	25	0.34	10	A	-	0.46	12	B	-

Direction	Mov.	Storage Length (m)	AM Peak Hour				PM Peak Hour			
			v/c	Delay (s)	LOS	Queue (m)	v/c	Delay (s)	LOS	Queue (m)
Overall			**0.48**	**11**	**B**	**-**	**0.53**	**12**	**B**	**-**
Street B at David Street (Unsignalized)										
EB	T/R	-	0.13	0	A	0	0.18	0	A	0
WB	L/T	-	0.02	1	A	1	0.03	2	A	1
NB	L/R	-	0.23	13	B	6	0.22	13	B	6
Overall			**0.23**	**4**	**A**	**-**	**0.22**	**3**	**A**	**-**
Street B at Street A (Unsignalized)										
EB	L/T/R	-	0.20	9	A	-	0.23	9	A	-
WB	L/T/R	-	0.21	9	A	-	0.22	9	A	-
NB	L/T/R		0.19	9	A	-	0.17	9	A	-
SB	L/T/R	-	0.16	9	A	-	0.19	9	A	-
Overall			**0.21**	**9**	**A**	**-**	**0.23**	**9**	**A**	**-**
Street A at David Street (Unsignalized)										
EB	T/R	-	0.11	0	A	0	0.13	0	A	0
WB	L/T	-	0.02	3	A	1	0.03	3	A	1
NB	L/R	-	0.27	11	B	8	0.25	12	B	7
Overall			**0.27**	**6**	**A**	**-**	**0.25**	**5**	**A**	**-**
Caron Street North at Street C (Unsignalized)										
EB	L/T/R	-	0.06	12	B	1	0.06	13	B	1
WB	L/T/R	-	0.05	10	A	1	0.04	10	B	1
NB	L/T/R	-	0.00	0	A	0	0.00	0	A	0
SB	L	25	0.02	8	A	1	0.03	8	A	1
	T/R	-	0.16	0	A	0	0.19	0	A	0
Overall			**0.16**	**2**	**A**	**-**	**0.19**	**1**	**A**	**-**
Caron Street South at Street C (Unsignalized)										
EB	L/T/R	-	0.06	11	B	1	0.05	12	B	1
WB	L/T/R	-	0.04	9	A	1	0.04	10	A	1
NB	L/T/R	-	0.00	0	A	0	0.00	0	A	0
SB	L	25	0.02	8	A	0	0.03	8	A	1
	T/R	-	0.13	0	A	0	0.15	0	A	0
Overall			**0.13**	**2**	**A**	**-**	**0.15**	**2**	**A**	**-**

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

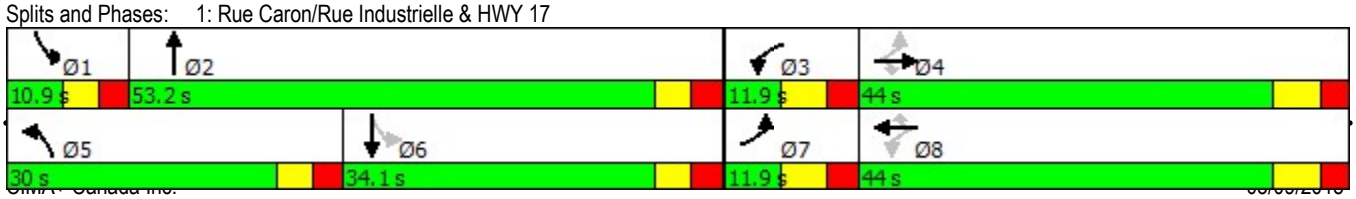
Build Out
AM+Improvements.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	466	364	21	953	3	591	8	1	6
Future Volume (vph)	8	466	364	21	953	3	591	8	1	6
Lane Group Flow (vph)	9	518	404	23	1059	3	657	43	1	16
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	11.9	44.0	44.0	11.9	44.0	44.0	30.0	53.2	10.9	34.1
Total Split (%)	9.9%	36.7%	36.7%	9.9%	36.7%	36.7%	25.0%	44.3%	9.1%	28.4%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	39.8	38.1	38.1	40.9	40.1	40.1	24.2	27.4	8.6	10.3
Actuated g/C Ratio	0.47	0.45	0.45	0.48	0.47	0.47	0.29	0.32	0.10	0.12
v/c Ratio	0.04	0.65	0.45	0.07	0.67	0.00	0.71	0.08	0.01	0.08
Control Delay	13.9	26.7	4.2	13.7	22.1	0.0	34.7	10.9	23.0	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	26.7	4.2	13.7	22.1	0.0	34.7	10.9	23.0	29.0
LOS	B	C	A	B	C	A	C	B	C	C
Approach Delay		16.8			21.9			33.2		28.6
Approach LOS		B			C			C		C
Queue Length 50th (m)	0.5	44.1	0.0	1.4	49.0	0.0	36.2	0.8	0.1	0.8
Queue Length 95th (m)	3.2	#132.1	17.2	6.0	#122.3	0.0	#85.2	8.4	1.1	7.1
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	212	792	896	307	1584	814	949	897	173	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.65	0.45	0.07	0.67	0.00	0.69	0.05	0.01	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 84.8
Natural Cycle: 120
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 23.1 — Intersection LOS: C
Intersection Capacity Utilization 63.3% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

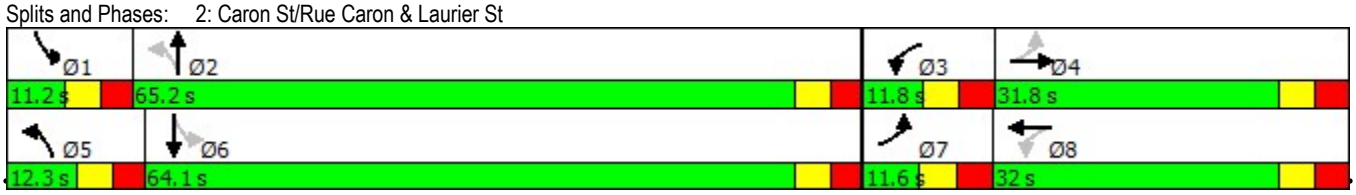
Build Out
AM+Improvements.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	54	41	148	71	529	12	365
Future Volume (vph)	17	54	41	148	71	529	12	365
Lane Group Flow (vph)	19	114	46	207	79	627	13	423
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.6	31.8	11.8	32.0	12.3	65.2	11.2	64.1
Total Split (%)	9.7%	26.5%	9.8%	26.7%	10.3%	54.3%	9.3%	53.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	29.7	27.1	31.2	29.5	39.8	38.9	35.1	31.2
Actuated g/C Ratio	0.34	0.31	0.36	0.34	0.46	0.45	0.40	0.36
v/c Ratio	0.05	0.21	0.10	0.35	0.24	0.80	0.06	0.67
Control Delay	23.7	23.9	23.4	29.3	14.3	29.7	12.7	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	23.9	23.4	29.3	14.3	29.7	12.7	29.8
LOS	C	C	C	C	B	C	B	C
Approach Delay		23.9		28.3		28.0		29.3
Approach LOS		C		C		C		C
Queue Length 50th (m)	1.7	9.3	4.1	19.4	7.0	82.5	1.1	60.4
Queue Length 95th (m)	8.0	29.8	15.2	61.1	13.3	145.4	3.6	86.2
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	402	531	447	584	325	1254	210	1240
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.21	0.10	0.35	0.24	0.50	0.06	0.34

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 87.2
Natural Cycle: 95
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 28.0 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



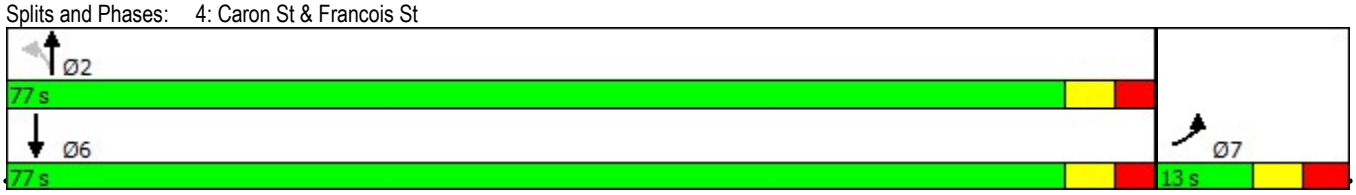
Lanes, Volumes, Timings
4: Caron St & Francois St

Build Out
AM+Improvements.syn

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	9	1	571	455
Future Volume (vph)	9	1	571	455
Lane Group Flow (vph)	13	1	634	508
Turn Type	Prot	Perm	NA	NA
Protected Phases	7		2	6
Permitted Phases		2		
Detector Phase	7	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	11.5	27.1	27.1	27.1
Total Split (s)	13.0	77.0	77.0	77.0
Total Split (%)	14.4%	85.6%	85.6%	85.6%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.1	6.1	6.1
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	6.2	35.3	35.3	35.3
Actuated g/C Ratio	0.16	0.94	0.94	0.94
v/c Ratio	0.05	0.00	0.38	0.31
Control Delay	17.2	2.0	2.4	2.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.2	2.0	2.4	2.0
LOS	B	A	A	A
Approach Delay	17.2		2.4	2.0
Approach LOS	B		A	A
Queue Length 50th (m)	0.4	0.0	0.0	0.0
Queue Length 95th (m)	4.8	0.4	42.7	30.8
Internal Link Dist (m)	329.4		111.2	224.8
Turn Bay Length (m)		15.0		
Base Capacity (vph)	305	842	1765	1763
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.00	0.36	0.29

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 37.7	
Natural Cycle: 40	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 2.4	Intersection LOS: A
Intersection Capacity Utilization 46.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Caron St & Francois St



Lanes, Volumes, Timings
6: Caron St & Cote St/Potvin Ave

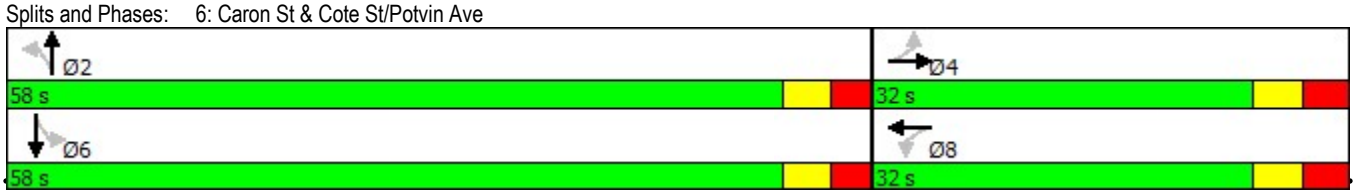
Build Out
AM+Improvements.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	9	0	9	1	4	548	5	453
Future Volume (vph)	9	0	9	1	4	548	5	453
Lane Group Flow (vph)	0	19	0	18	4	616	6	503
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	31.5	31.5	31.5	31.5	27.1	27.1	27.1	27.1
Total Split (s)	32.0	32.0	32.0	32.0	58.0	58.0	58.0	58.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	64.4%	64.4%	64.4%	64.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		10.0		10.0	71.0	71.0	71.0	71.0
Actuated g/C Ratio		0.13		0.13	0.95	0.95	0.95	0.95
v/c Ratio		0.08		0.08	0.01	0.37	0.01	0.30
Control Delay		5.8		24.9	1.8	2.2	1.8	1.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		5.8		24.9	1.8	2.2	1.8	1.9
LOS		A		C	A	A	A	A
Approach Delay		5.8		24.9		2.2		1.9
Approach LOS		A		C		A		A
Queue Length 50th (m)		0.0		1.2	0.0	0.0	0.0	0.0
Queue Length 95th (m)		2.8		6.9	0.8	46.9	1.0	35.0
Internal Link Dist (m)		61.3		102.4		500.1		270.2
Turn Bay Length (m)					30.0		40.0	
Base Capacity (vph)		587		573	799	1666	705	1669
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.03		0.03	0.01	0.37	0.01	0.30

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 2.4 — Intersection LOS: A
Intersection Capacity Utilization 49.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Caron St & Cote St/Potvin Ave



HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Build Out
AM+Improvements.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	6	635	452	3
Future Volume (Veh/h)	0	5	6	635	452	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	6	7	706	502	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)				249	169	
pX, platoon unblocked	0.87	0.80	0.80			
vC, conflicting volume	1224	504	505			
vC1, stage 1 conf vol	504					
vC2, stage 2 conf vol	720					
vCu, unblocked vol	824	261	263			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	434	625	1047			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	6	7	706	505
Volume Left	0	7	0	0
Volume Right	6	0	0	3
cSH	625	1047	1700	1700
Volume to Capacity	0.01	0.01	0.42	0.30
Queue Length 95th (m)	0.2	0.1	0.0	0.0
Control Delay (s)	10.8	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.8	0.1		0.0
Approach LOS	B			

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		45.3%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Build Out
AM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	10	562	1	5	453
Future Volume (Veh/h)	5	10	562	1	5	453
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	11	624	1	6	503
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			294			135
pX, platoon unblocked	0.92	0.94			0.94	
vC, conflicting volume	1140	624			625	
vC1, stage 1 conf vol	624					
vC2, stage 2 conf vol	515					
vCu, unblocked vol	961	568			568	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	451	491			943	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	625	6	503
Volume Left	6	0	6	0
Volume Right	11	1	0	0
cSH	476	1700	943	1700
Volume to Capacity	0.04	0.37	0.01	0.30
Queue Length 95th (m)	0.8	0.0	0.1	0.0
Control Delay (s)	12.8	0.0	8.8	0.0
Lane LOS	B		A	
Approach Delay (s)	12.8	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Build Out
AM+Improvements.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	61	92	520	387	43
Future Volume (Veh/h)	38	61	92	520	387	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	42	68	102	578	430	48
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1238	456	480			
vC1, stage 1 conf vol	456					
vC2, stage 2 conf vol	782					
vCu, unblocked vol	1238	456	480			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	89	91			
cM capacity (veh/h)	366	603	1081			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	110	102	578	478
Volume Left	42	102	0	0
Volume Right	68	0	0	48
cSH	483	1081	1700	1700
Volume to Capacity	0.23	0.09	0.34	0.28
Queue Length 95th (m)	6.1	2.2	0.0	0.0
Control Delay (s)	14.6	8.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	14.6	1.3		0.0
Approach LOS	B			

Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		45.8%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Build Out
AM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	265	315	2	202	246
Future Volume (vph)	5	265	315	2	202	246
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	294	350	2	224	273

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	300	352	224	273
Volume Left (vph)	6	0	224	0
Volume Right (vph)	294	2	0	0
Hadj (s)	-0.55	0.03	0.53	0.03
Departure Headway (s)	5.4	5.6	6.4	5.9
Degree Utilization, x	0.45	0.55	0.40	0.45
Capacity (veh/h)	621	614	545	592
Control Delay (s)	12.8	15.1	12.4	12.4
Approach Delay (s)	12.8	15.1	12.4	
Approach LOS	B	C	B	

Intersection Summary			
Delay	13.3		
Level of Service	B		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Build Out
AM+Improvements.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	28	58	134	117	58
Future Volume (Veh/h)	34	28	58	134	117	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	31	64	149	130	64
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	213				246	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				246	138
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				82	93
cM capacity (veh/h)	1357				722	910

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	69	213	194
Volume Left	38	0	130
Volume Right	0	149	64
cSH	1357	1700	775
Volume to Capacity	0.03	0.13	0.25
Queue Length 95th (m)	0.6	0.0	6.9
Control Delay (s)	4.4	0.0	11.2
Lane LOS	A		B
Approach Delay (s)	4.4	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Build Out
AM+Improvements.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	130	74	25	174	96	32
Future Volume (Veh/h)	130	74	25	174	96	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	144	82	28	193	107	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			226		434	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			226		434	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		81	96
cM capacity (veh/h)			1342		567	857

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	226	221	143
Volume Left	0	28	107
Volume Right	82	0	36
cSH	1700	1342	620
Volume to Capacity	0.13	0.02	0.23
Queue Length 95th (m)	0.0	0.4	6.2
Control Delay (s)	0.0	1.1	12.5
Lane LOS		A	B
Approach Delay (s)	0.0	1.1	12.5
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Build Out
AM+Improvements.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	39	123	25	40	159	32
Future Volume (Veh/h)	39	123	25	40	159	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	43	137	28	44	177	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			180		212	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			180		212	112
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		77	96
cM capacity (veh/h)			1396		761	942

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	180	72	213
Volume Left	0	28	177
Volume Right	137	0	36
cSH	1700	1396	787
Volume to Capacity	0.11	0.02	0.27
Queue Length 95th (m)	0.0	0.4	7.7
Control Delay (s)	0.0	3.1	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	3.1	11.3
Approach LOS			B

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Streert B/Street B & Street A

Build Out
AM+Improvements.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	81	30	25	89	32	32	64	32	25	49	32
Future Volume (vph)	25	81	30	25	89	32	32	64	32	25	49	32
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	28	90	33	28	99	36	36	71	36	28	54	36

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	151	163	143	118
Volume Left (vph)	28	28	36	28
Volume Right (vph)	33	36	36	36
Hadj (s)	-0.06	-0.06	-0.07	-0.10
Departure Headway (s)	4.7	4.7	4.8	4.7
Degree Utilization, x	0.20	0.21	0.19	0.16
Capacity (veh/h)	713	719	706	698
Control Delay (s)	8.8	8.9	8.9	8.6
Approach Delay (s)	8.8	8.9	8.9	8.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
13: Caron St

Build Out
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	0	0	0	32	0	232	0	25	224	25
Future Volume (Veh/h)	32	0	0	0	0	32	0	232	0	25	224	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	0	0	0	0	36	0	258	0	28	249	28
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	613	577	263	563	591	258	277			258		
vC1, stage 1 conf vol	319	319		258	258							
vC2, stage 2 conf vol	294	258		305	333							
vCu, unblocked vol	613	577	263	563	591	258	277			258		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	95	100			98		
cM capacity (veh/h)	556	560	776	605	561	781	1286			1307		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	36	36	258	28	277
Volume Left	36	0	0	28	0
Volume Right	0	36	0	0	28
cSH	556	781	1286	1307	1700
Volume to Capacity	0.06	0.05	0.00	0.02	0.16
Queue Length 95th (m)	1.4	1.0	0.0	0.5	0.0
Control Delay (s)	11.9	9.8	0.0	7.8	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.9	9.8	0.0	0.7	
Approach LOS	B	A			

Intersection Summary				
Average Delay		1.6		
Intersection Capacity Utilization		37.1%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
14: Caron St

Build Out
AM+Improvements.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	0	0	0	32	0	168	0	25	175	25
Future Volume (Veh/h)	32	0	0	0	0	32	0	168	0	25	175	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	36	0	0	0	0	36	0	187	0	28	194	28
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	487	451	208	437	465	187	222			187		
vC1, stage 1 conf vol	264	264		187	187							
vC2, stage 2 conf vol	223	187		250	278							
vCu, unblocked vol	487	451	208	437	465	187	222			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	96	100			98		
cM capacity (veh/h)	621	612	832	670	611	855	1347			1387		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	36	36	187	28	222
Volume Left	36	0	0	28	0
Volume Right	0	36	0	0	28
cSH	621	855	1347	1387	1700
Volume to Capacity	0.06	0.04	0.00	0.02	0.13
Queue Length 95th (m)	1.3	0.9	0.0	0.4	0.0
Control Delay (s)	11.2	9.4	0.0	7.6	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.2	9.4	0.0	0.9	
Approach LOS	B	A			

Intersection Summary				
Average Delay		1.9		
Intersection Capacity Utilization		37.1%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Build Out
AM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	96	64	253	74	49	202
Future Volume (vph)	96	64	253	74	49	202
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	107	71	281	82	54	224

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	178	363	54	224
Volume Left (vph)	107	0	54	0
Volume Right (vph)	71	82	0	0
Hadj (s)	-0.09	-0.10	0.53	0.03
Departure Headway (s)	5.3	4.8	5.9	5.4
Degree Utilization, x	0.26	0.48	0.09	0.34
Capacity (veh/h)	615	730	584	641
Control Delay (s)	10.2	12.1	8.3	9.9
Approach Delay (s)	10.2	12.1	9.6	
Approach LOS	B	B	A	

Intersection Summary			
Delay	10.8		
Level of Service	B		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lanes, Volumes, Timings
1: Rue Caron/Rue Industrielle & HWY 17

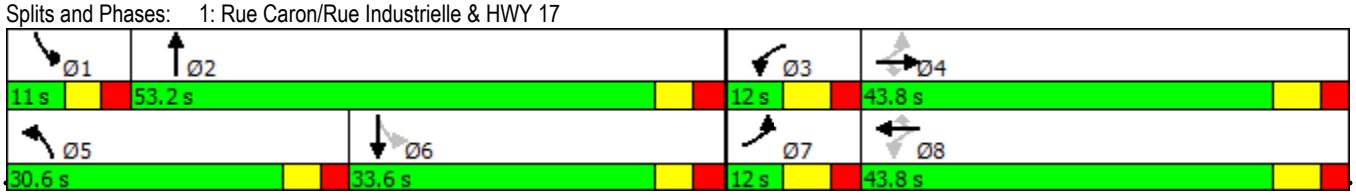
Build Out
PM+Improvements.syn

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	254	490	30	143	26	409	87	35	138
Future Volume (vph)	34	254	490	30	143	26	409	87	35	138
Lane Group Flow (vph)	38	282	544	33	159	29	454	144	39	187
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases	4		4	8		8			6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.9	32.9	32.9	11.9	32.9	32.9	10.9	33.3	10.9	33.3
Total Split (s)	12.0	43.8	43.8	12.0	43.8	43.8	30.6	53.2	11.0	33.6
Total Split (%)	10.0%	36.5%	36.5%	10.0%	36.5%	36.5%	25.5%	44.3%	9.2%	28.0%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.6	3.0	2.6	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	5.9	6.3	5.9	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	40.5	37.8	37.8	40.5	37.8	37.8	18.6	34.6	21.5	15.9
Actuated g/C Ratio	0.41	0.38	0.38	0.41	0.38	0.38	0.19	0.35	0.22	0.16
v/c Ratio	0.08	0.42	0.60	0.08	0.12	0.04	0.74	0.24	0.14	0.66
Control Delay	18.3	28.1	5.6	18.4	23.6	0.1	46.4	21.6	21.1	49.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	28.1	5.6	18.4	23.6	0.1	46.4	21.6	21.1	49.9
LOS	B	C	A	B	C	A	D	C	C	D
Approach Delay		13.5			19.7			40.5		44.9
Approach LOS		B			B			D		D
Queue Length 50th (m)	3.7	39.7	0.0	3.2	10.3	0.0	41.2	16.9	4.3	31.6
Queue Length 95th (m)	10.7	71.9	24.3	9.6	20.0	0.0	61.0	30.7	9.8	54.7
Internal Link Dist (m)		820.6			792.2			422.2		103.9
Turn Bay Length (m)	90.0		85.0	60.0		56.0	60.0		40.0	
Base Capacity (vph)	501	678	911	407	1288	699	836	831	283	494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.42	0.60	0.08	0.12	0.04	0.54	0.17	0.14	0.38

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 98.3
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.4 — Intersection LOS: C
Intersection Capacity Utilization 62.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Rue Caron/Rue Industrielle & HWY 17



Lanes, Volumes, Timings
2: Caron St/Rue Caron & Laurier St

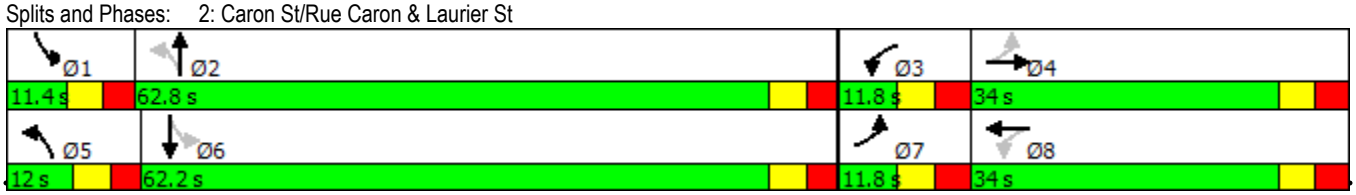
Build Out
PM+Improvements.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	155	30	87	79	445	35	564
Future Volume (vph)	34	155	30	87	79	445	35	564
Lane Group Flow (vph)	38	280	33	126	88	541	39	661
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.5	31.5	11.5	31.5	11.1	27.1	11.1	27.1
Total Split (s)	11.8	34.0	11.8	34.0	12.0	62.8	11.4	62.2
Total Split (%)	9.8%	28.3%	9.8%	28.3%	10.0%	52.3%	9.5%	51.8%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	31.7	29.0	31.7	29.0	49.0	46.0	46.8	42.8
Actuated g/C Ratio	0.32	0.29	0.32	0.29	0.49	0.46	0.47	0.43
v/c Ratio	0.09	0.56	0.11	0.25	0.43	0.68	0.13	0.88
Control Delay	27.0	38.1	27.4	32.7	18.8	27.2	12.9	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	38.1	27.4	32.7	18.8	27.2	12.9	41.6
LOS	C	D	C	C	B	C	B	D
Approach Delay		36.8		31.6		26.0		40.0
Approach LOS		D		C		C		D
Queue Length 50th (m)	4.9	45.5	4.3	18.2	8.3	86.6	3.6	119.0
Queue Length 95th (m)	13.0	79.6	11.7	36.5	15.4	122.1	8.1	166.7
Internal Link Dist (m)		919.9		690.6		145.4		422.2
Turn Bay Length (m)	35.0		60.0		55.0		50.0	
Base Capacity (vph)	404	497	293	500	204	1040	293	1033
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.56	0.11	0.25	0.43	0.52	0.13	0.64

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 100.2
Natural Cycle: 95
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 33.8 — Intersection LOS: C
Intersection Capacity Utilization 78.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Caron St/Rue Caron & Laurier St



Lanes, Volumes, Timings
4: Caron St & Francois St

Build Out
PM+Improvements.syn

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	7	6	566	692
Future Volume (vph)	7	6	566	692
Lane Group Flow (vph)	11	7	629	773
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	22.6	67.4	67.4	67.4
Total Split (%)	25.1%	74.9%	74.9%	74.9%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	6.1	81.9	81.9	81.9
Actuated g/C Ratio	0.07	0.97	0.97	0.97
v/c Ratio	0.09	0.01	0.37	0.45
Control Delay	35.1	0.8	1.3	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.1	0.8	1.3	1.7
LOS	D	A	A	A
Approach Delay	35.1		1.3	1.7
Approach LOS	D		A	A
Queue Length 50th (m)	1.1	0.0	0.0	0.0
Queue Length 95th (m)	6.1	0.7	29.3	41.8
Internal Link Dist (m)	329.4		111.2	224.8
Turn Bay Length (m)		15.0		
Base Capacity (vph)	353	608	1704	1702
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.37	0.45

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 84.8	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 1.8	Intersection LOS: A
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Caron St & Francois St

Lanes, Volumes, Timings
6: Caron St & Cote St/Potvin Ave

Build Out
PM+Improvements.syn

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	1	9	1	12	485	16	637
Future Volume (vph)	17	1	9	1	12	485	16	637
Lane Group Flow (vph)	0	31	0	15	13	553	18	727
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	67.0	67.0	67.0	67.0
Total Split (%)	25.6%	25.6%	25.6%	25.6%	74.4%	74.4%	74.4%	74.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		6.9		6.8	79.2	79.2	79.2	79.2
Actuated g/C Ratio		0.08		0.08	0.92	0.92	0.92	0.92
v/c Ratio		0.21		0.11	0.02	0.34	0.02	0.45
Control Delay		31.2		33.4	1.6	2.0	1.6	2.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		31.2		33.4	1.6	2.0	1.6	2.6
LOS		C		C	A	A	A	A
Approach Delay		31.3		33.4		2.0		2.6
Approach LOS		C		C		A		A
Queue Length 50th (m)		2.7		1.5	0.0	0.0	0.0	0.0
Queue Length 95th (m)		10.3		6.8	1.2	29.1	1.5	44.9
Internal Link Dist (m)		61.3		102.4		500.1		270.2
Turn Bay Length (m)					30.0		40.0	
Base Capacity (vph)		372		370	603	1623	736	1623
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.08		0.04	0.02	0.34	0.02	0.45

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 85.8
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 3.3 — Intersection LOS: A
Intersection Capacity Utilization 48.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Caron St & Cote St/Potvin Ave

HCM Unsignalized Intersection Capacity Analysis
3: Caron St & Hélène St

Build Out
PM+Improvements.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	7	566	688	3
Future Volume (Veh/h)	0	8	7	566	688	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	9	8	629	764	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)				249	169	
pX, platoon unblocked	0.66	0.64	0.64			
vC, conflicting volume	1410	766	767			
vC1, stage 1 conf vol	766					
vC2, stage 2 conf vol	645					
vCu, unblocked vol	1271	360	362			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	353	441	771			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	8	629	767
Volume Left	0	8	0	0
Volume Right	9	0	0	3
cSH	441	771	1700	1700
Volume to Capacity	0.02	0.01	0.37	0.45
Queue Length 95th (m)	0.4	0.2	0.0	0.0
Control Delay (s)	13.3	9.7	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.3	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Caron St & Des Cedres Ave

Build Out
PM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	499	7	26	669
Future Volume (Veh/h)	1	10	499	7	26	669
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	11	554	8	29	743
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			294			135
pX, platoon unblocked	0.90					
vC, conflicting volume	1359	558			562	
vC1, stage 1 conf vol	558					
vC2, stage 2 conf vol	801					
vCu, unblocked vol	1343	558			562	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			97	
cM capacity (veh/h)	356	529			1009	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	12	562	29	743
Volume Left	1	0	29	0
Volume Right	11	8	0	0
cSH	509	1700	1009	1700
Volume to Capacity	0.02	0.33	0.03	0.44
Queue Length 95th (m)	0.5	0.0	0.6	0.0
Control Delay (s)	12.2	0.0	8.7	0.0
Lane LOS	B		A	
Approach Delay (s)	12.2	0.0	0.3	
Approach LOS	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Caron St & Docteur Corbeil Blvd

Build Out
PM+Improvements.syn

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	95	77	449	547	60
Future Volume (Veh/h)	61	95	77	449	547	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	106	86	499	608	67
Pedestrians	2					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1314	644	677			
vC1, stage 1 conf vol	644					
vC2, stage 2 conf vol	671					
vCu, unblocked vol	1314	644	677			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	78	91			
cM capacity (veh/h)	369	472	913			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	174	86	499	675
Volume Left	68	86	0	0
Volume Right	106	0	0	67
cSH	426	913	1700	1700
Volume to Capacity	0.41	0.09	0.29	0.40
Queue Length 95th (m)	13.7	2.2	0.0	0.0
Control Delay (s)	19.2	9.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	19.2	1.4		0.0
Approach LOS	C			

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		58.5%	ICU Level of Service	B
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
8: David St & Caron St

Build Out
PM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	231	307	5	272	341
Future Volume (vph)	5	231	307	5	272	341
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	257	341	6	302	379

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	263	347	302	379
Volume Left (vph)	6	0	302	0
Volume Right (vph)	257	6	0	0
Hadj (s)	-0.55	0.02	0.53	0.03
Departure Headway (s)	5.6	5.6	6.3	5.8
Degree Utilization, x	0.41	0.54	0.53	0.61
Capacity (veh/h)	596	609	559	610
Control Delay (s)	12.5	15.2	15.0	16.2
Approach Delay (s)	12.5	15.2	15.7	
Approach LOS	B	C	C	

Intersection Summary			
Delay	14.9		
Level of Service	B		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Baseline Rd & Caron St

Build Out
PM+Improvements.syn

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	102	41	144	154	45
Future Volume (Veh/h)	74	102	41	144	154	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	82	113	46	160	171	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	206				403	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206				403	126
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				70	95
cM capacity (veh/h)	1365				567	924

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	195	206	221
Volume Left	82	0	171
Volume Right	0	160	50
cSH	1365	1700	621
Volume to Capacity	0.06	0.12	0.36
Queue Length 95th (m)	1.3	0.0	11.2
Control Delay (s)	3.6	0.0	14.0
Lane LOS	A		B
Approach Delay (s)	3.6	0.0	14.0
Approach LOS			B

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
10: Street B & David St

Build Out
PM+Improvements.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	179	99	33	153	83	27
Future Volume (Veh/h)	179	99	33	153	83	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	199	110	37	170	92	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			309		498	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		498	254
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		82	96
cM capacity (veh/h)			1252		516	785

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	309	207	122
Volume Left	0	37	92
Volume Right	110	0	30
cSH	1700	1252	563
Volume to Capacity	0.18	0.03	0.22
Queue Length 95th (m)	0.0	0.6	5.7
Control Delay (s)	0.0	1.6	13.1
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	13.1
Approach LOS			B

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
11: Street A & David St

Build Out
PM+Improvements.syn

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	42	164	33	48	138	28
Future Volume (Veh/h)	42	164	33	48	138	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	47	182	37	53	153	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			229		265	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			229		265	138
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		78	97
cM capacity (veh/h)			1339		704	910

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	229	90	184
Volume Left	0	37	153
Volume Right	182	0	31
cSH	1700	1339	732
Volume to Capacity	0.13	0.03	0.25
Queue Length 95th (m)	0.0	0.6	7.0
Control Delay (s)	0.0	3.3	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	11.6
Approach LOS			B

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Streert B/Street B & Street A

Build Out
PM+Improvements.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	33	94	33	33	88	28	28	55	28	33	66	28
Future Volume (vph)	33	94	33	33	88	28	28	55	28	33	66	28
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	37	104	37	37	98	31	31	61	31	37	73	31

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	178	166	123	141
Volume Left (vph)	37	37	31	37
Volume Right (vph)	37	31	31	31
Hadj (s)	-0.05	-0.03	-0.07	-0.05
Departure Headway (s)	4.7	4.8	4.9	4.9
Degree Utilization, x	0.23	0.22	0.17	0.19
Capacity (veh/h)	708	705	680	681
Control Delay (s)	9.2	9.1	8.8	9.0
Approach Delay (s)	9.2	9.1	8.8	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		9.0		
Level of Service		A		
Intersection Capacity Utilization		28.7%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
13: Caron St

Build Out
PM+Improvements.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	0	0	0	28	0	272	0	33	265	33
Future Volume (Veh/h)	28	0	0	0	0	28	0	272	0	33	265	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	0	0	0	0	31	0	302	0	37	294	37
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	720	688	312	670	707	302	331			302		
vC1, stage 1 conf vol	386	386		302	302							
vC2, stage 2 conf vol	333	302		368	405							
vCu, unblocked vol	720	688	312	670	707	302	331			302		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	100	100	100	96	100			97		
cM capacity (veh/h)	506	512	728	550	513	738	1228			1259		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	31	31	302	37	331
Volume Left	31	0	0	37	0
Volume Right	0	31	0	0	37
cSH	506	738	1228	1259	1700
Volume to Capacity	0.06	0.04	0.00	0.03	0.19
Queue Length 95th (m)	1.4	0.9	0.0	0.6	0.0
Control Delay (s)	12.6	10.1	0.0	7.9	0.0
Lane LOS	B	B		A	
Approach Delay (s)	12.6	10.1	0.0	0.8	
Approach LOS	B	B			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	43.9%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
14: Caron St

Build Out
PM+Improvements.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	0	0	0	28	0	218	0	33	199	33
Future Volume (Veh/h)	28	0	0	0	0	28	0	218	0	33	199	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	0	0	0	0	31	0	242	0	37	221	37
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	586	556	240	537	574	242	258			242		
vC1, stage 1 conf vol	314	314		242	242							
vC2, stage 2 conf vol	273	242		295	332							
vCu, unblocked vol	586	556	240	537	574	242	258			242		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	96	100			97		
cM capacity (veh/h)	567	563	799	615	564	797	1307			1324		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	31	31	242	37	258
Volume Left	31	0	0	37	0
Volume Right	0	31	0	0	37
cSH	567	797	1307	1324	1700
Volume to Capacity	0.05	0.04	0.00	0.03	0.15
Queue Length 95th (m)	1.2	0.8	0.0	0.6	0.0
Control Delay (s)	11.7	9.7	0.0	7.8	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.7	9.7	0.0	1.0	
Approach LOS	B	A			

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
15: Caron St & Street A

Build Out
PM+Improvements.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	83	55	257	98	66	280
Future Volume (vph)	83	55	257	98	66	280
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	92	61	286	109	73	311

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	153	395	73	311
Volume Left (vph)	92	0	73	0
Volume Right (vph)	61	109	0	0
Hadj (s)	-0.08	-0.13	0.53	0.03
Departure Headway (s)	5.6	4.8	5.9	5.4
Degree Utilization, x	0.24	0.53	0.12	0.46
Capacity (veh/h)	577	727	591	651
Control Delay (s)	10.4	13.0	8.5	11.7
Approach Delay (s)	10.4	13.0	11.1	
Approach LOS	B	B	B	

Intersection Summary			
Delay	11.8		
Level of Service	B		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

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RETAIL MARKET DEMAND STUDY: CLARENCE-ROCKLAND ONTARIO

FINAL REPORT

Prepared for:

City of Clarence-Rockland

Prepared by:

Shore-Tanner & Associates

October 17, 2018

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Appendix A: List of Existing Businesses In Rockland **37**

I. EXECUTIVE SUMMARY

On behalf of the City of Clarence-Rockland, and as a member of a multi-disciplinary team of consultants under the direction of Fotenn Planning & Design, this study has been carried out by Shore-Tanner & Associates. Its purpose is to determine the scope of market demand for retail, service, and small office businesses in a new part of Rockland. The main findings of the study are summarized below, followed by more detailed substantiation in the main body of the report.

A. Subject Site

The Subject Site is approximately 133.5 hectares (320 acres) in size, located southeast of Rockland's existing Urban Area Boundary. It is proposed to be added to the City of Rockland through an Expansion Lands Secondary Plan.

For the purposes of this study, we estimated a total of approximately 3,200 housing units, and associated population of 8,000 on the Subject Site when fully developed.

B. Major Socio-Demographic Findings

1. Rockland is a major commercial hub in the United Counties of Prescott and Russell (UCPR) and its businesses attract customers from within this area and beyond.
2. The total population of Clarence-Rockland increased by an average of 372 or 1.8%, and in UCPR by 915 or 1.1% per year from 2006 to 2016 (Table 3.1).
3. The 2018 population of Clarence-Rockland is estimated at 26,746 and that of UCPR at 91,500. Their estimated average annual growth to the year 2028 is 598 or 2.4% and 1,620 or 1.8% respectively (Table 3.3).
4. Considering that an overall average annual population growth of 1% represents a growing and balanced economy, the past and future growth of both of these areas have exceeded this generally accepted growth standard.
5. Due to the development of many housing units over $300,000 and attracting affluent families, including from Ottawa, incomes in both areas have significantly increased recently. As shown in Table 3.4, the 2016 **median** household incomes were:

   - Clarence-Rockland $88,823
   - UCPR $78,748
   - City of Ottawa $85,981

This is particularly important since the City of Ottawa's household incomes are often among the top three to five cities in Canada.

C. Retail Spending

1. On average, each resident of Clarence-Rockland is estimated to spend $18,110, and those of UCPR as a whole, $17,380 in 2018 at all retail and service businesses within and outside these areas (Table 5.1).
2. The total spending of UCPR residents is estimated at $1.590 **billion** in 2018, and expected to increase by $28.1 million or 1.8% annually by the year 2028, to $1.871 **billion** (Table 5.2).
3. The estimated spending portion of the residents of Clarence-Rockland from UCPR's total is $484.4 million in 2018, and $592.6 million in 2028 (i.e., average annual growth in spending of $10.82 million or 2.2% (Table 5.3).
4. At present, some of the spending of UCPR residents takes place at businesses in Ottawa and elsewhere. This leakage-out is due to the following factors:
   a) Some of the UCPR residents work in Ottawa and spend some of their retail dollars there.
   b) There are no senior department stores (i.e., Simons, The Bay, Nordstrom) or other new and popular/trendy stores (e.g., J. Crew, Michael Kors) within UCPR. These stores exist in Ottawa, and attract customers from UCPR and other cities and towns within 1-2 hours drive.
5. There are, as well, customers from outside UCPR who shop at businesses there, especially at those in Rockland (i.e., leakage-in).

As more, especially new, businesses are attracted to Rockland, the leakages of UCPR's shopping dollars to Ottawa will decrease, and the leakages into UCPR will increase.

D. Demand Estimation

1. The spending of the residents of Clarence-Rockland is estimated to support a minimum total of 967,000 sq. ft. of floor space in 2018, increasing by an average of 21,700 sq. ft. annually, to 1.184 million sq. ft. by 2028 (Table 6.1).

2. The supportable increase by time frame is (Table 6.1):

   - 2018-2020 45,000 sq. ft.
   - 2020-2023 64,000 sq. ft.
   - 2023-2028 108,000 sq. ft.
   - 2018-2028 217,000 sq. ft.

3. At present, some of the total supportable space is outside Clarence-Rockland since its residents do not spend 100% of their shopping dollars at Rockland businesses.

E. Inventory of Existing Businesses

As of May 2018, there were 146 retail and service businesses in Rockland, and they occupied an estimated total of 538,000 sq. ft. of floor space.

Including the limited number of such businesses in the Clarence part, the overall average floor space per capita in Clarence-Rockland is estimated to be 22 sq. ft.

Based on the industry standard of 30 to 40 sq. ft. of floor space per capita, **the City of Clarence-Rockland is under-stored for retail and service businesses.**

Of the 146 existing stores, a total of 14 with a combined size of 29,200 sq. ft. or **5.4% were vacant, and this rate is within the industry range of 4% to 8%.**

F. Recommendations For the Expansion Lands

An overall average of up to 40 sq. ft. of retail and service floor space is generally supportable on a per capita basis.[1] Due to leakages in and out, however, it is not always possible to accurately calculate the actual floor space supported by each resident by location of shopping.

At full development, the Subject Expansion Land is estimated to have approximately 8,000 residents. What would be most needed in this community of 8,000 residents are

---

[1] At a total population of 26,746 in Clarence-Rockland, the total supportable floor space of 967,000 in 2018 represents 36 sq. ft. per capita at businesses within, but also outside this city.

locally-oriented food, convenience, and service businesses in the first few years. Other businesses will also be in demand, but the risk of over-storing should be avoided. Based on these considerations, we recommend the businesses and sizes identified in Table 1.1 for the Subject Expansion Lands. Briefly, they include:

1. **Total of approximately 100,000 sq. ft. of floor space.**
2. **Food, convenience, personal services: approximately 60,000 sq. ft. of above.**
3. **Specialty retail, fashion, gifts, others: approximately 40,000 sq. ft. of above.**
4. **No businesses offering durable or semi-durable products which already exist in Rockland.**
5. **Review of the supply-demand dynamics in the entire expanded Rocklands once every five years in order to revise 1-4 above based on market forces.**

Table 1.1
Recommended Businesses
To Select For the Expansion Lands

Business Type	No.	Approximate Size (sq. ft.)
Supermarket	1	40,000-50,000
Convenience Stores	3	5,000-6,000
Specialty Food Stores	3	4,000-6,000
Pharmacies	2	8,000-12,000
Computer Supply & Services	1	1,000-2,000
Hardware Store	1	3,000-8,000
Fashion Stores	2	3,000-8,000
Specialty Retail	3	3,000-7,000
Table Service Restaurants	3	5,000-7,000
Coffee Shops	2	3,000-4,000
Fast Food Eateries	3	5,000-8,000
Banks & Other Financial	3	6,000-10,000
Beauty Salons, Barber, Spa	3	4,000-6,000
Miscellaneous	5	5,000-8,000
Office	5	5,000-8,000
Total: Up to 40 Businesses		**100,000-150,000**

II. Subject Site and Environs

A. Subject Site

The Subject Site is approximately 133.5 hectares (320 acres) in size, located southeast of Rockland's existing Urban Area Boundary. It is proposed to be added to the City of Rockland through an Expansion Lands Secondary Plan.

For the purposes of this study, we estimated total approximately 3,200 housing units, and associated population of 8,000 on the Subject Site when fully developed.

The expansion land is currently vacant and is owned by six private-sector individuals and companies. Its boundary at present is:

> ***David Street to the north, Clarence-Creek to the east, close to Baseline Road to the south, and Carson Street to the west.***

North of David Street is the residential neighbourhood of Rockland East and Rockland Golf Club. Along all other sides of the Subject Site are vacant lands, farms, and open spaces.

B. Development Potential

At present, the Subject Site is being considered for low-density residential development, and locally-oriented commercial businesses. Based on discussions with the study's Project Manager at Fotenn Planning and Design, the likely development densities on the Subject Site would be in the order of 10 to 12 units per acres, or an overall average of 11 units per acre. The estimated total number of units on the Subject 320 acres is thus approximately 3,200 units at full development. At the 2016 average household size of

2.63 persons (Table 3.2), the total number of residents associated with 3,200 housing units would be 8,416.

Some of the future residents on the expansion lands would be first-time buyers/renters, or otherwise consist of two persons. As well, the average household size has been on a declining trend and this trend is expected to continue. Therefore, to avoid over-estimation of population, we assume that the overall household size on the Subject Site would be 2.5 persons, or a total of 8,000. **For the purposes of this study, therefore, we have used a total population of 8,000 (rounded) on the Subject Expansion Lands when fully developed.**

III. SOCIO-DEMOGRAPHIC ANALYSIS

A. Trade Area

Based on the retail industry standards and practices, capture, market or trade area is one from which customers can be attracted for the purchase of the goods and services offered by the area's businesses. Primary Trade Area (PTA) typically provides at least 50% of the total sales of the businesses within. The rest of the area(s) which provide the balance of the total sales is called Secondary Trade Area (STA). There can also be Tertiary Trade Areas (TTA) for businesses which attract/capture at least 10% of their total sales from outside the PTA and STA combined.

Based on field research, our knowledge of the area, and past studies, we have defined the following as the effective Trade Area for the recommended businesses on the Subject Site:

> ***The City of Clarence-Rockland as the Primary, and the rest of the United Counties of Prescott & Russell (UCPR) as the Secondary Trade Area.***

Trade areas are not rigid, and change over time based on growth, transportation, competitive facilities, lifestyle, and other such changes and trends. A somewhat larger or smaller Trade Area would also be valid for the purposes of this study. However, we believe what we have defined is quite reasonable for the objectives of this study.

B. Total Population: 2006-2016

1. The City of Clarence-Rockland and the rest the UCPR have continued to grow. For the 10-year period 2006-2016, their average annual growth was (Table 3.1):

   - Clarence-Rockland 372 or 1.8%
   - UCPR 915 or 1.1%

2. As of mid-2016, Statistics Canada's Census data show total populations of:

   - Clarence-Rockland 24,512
   - UCPR 89,333

C. Households

1. The City of Clarence-Rockland has continued to experience higher growth rates and be more family-dominated than the rest of the UCPR.
2. In 2016, the median age of the residents of Clarence-Rockland was 42.2 years (44.3 in UCPR), its overall average household size was 2.63 (2.52 in UCPR), and 5.8 in 10 of its households (6.2 in UCPR) consisted of only one ro two persons (Table 3.2).

D. Growth Forecasts

Since 2014-2015, residential and thus population growth have significantly accelerated in Clarence-Rockland, and to a lesser ex tent, in the rest of UCPR. Based on the actual growth since 2014, under construction, planned, and proposed housing developments, the City of Clarence-Rockland, and Hemson Consulting Ltd. Have provided population forecasts for both areas. Based on these forecasts, we have prepared **Table 3.3, which demonstrates the following average annual population increases for the period 2018-2028:**

1. Clarence-Rockland	**598 or 2.4%**
2. UCPR	**1,620 or 1.8%**

Compared to the actual annual growth from 2006 to 2016, the figures in Table 3.3 appear to be too optimistic. However, for infrastructure planning purposes, it is prudent to use somewhat generous forecasts. As well, the actual 2016 population of UCPR was 89,333 (Table 3.3), whereas Hemson report's estimate was 88,700 (i.e., 633 or 0.7% lower than actual). Above all, as the City of Ottawa continues to expand eastward, and its housing costs continue to be much lower than in Rockland, growth in Rockland/UCPR will only further intensify. From this perspective, the forecasts in Table 3.3 seem quite reasonable, and may even be somewhat too low for the period 2023-2028.

Table 3.1 Historical Population Data		
Year	**Clarence-Rockland**	**Prescott and Russell United Counties (UCPR)**
2006	20,790	80,184
2011	23,185	85,381
2016	24,512	89,333
Average Annual Change: 2006-2016:		
Numeric	372	915
%	1.8	1.1

Notes:

[1] In 2016, the median age of the residents was 42.2 in Clarence-Rockland, and 44.3 in UCPR.

[2] Generally, economists and planners consider an average annual population growth of 1.0% to represent an economically growing area.

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

Table 3.2 Households By Size: 2016				
Household Size	**Clarence-Rockland**		**Prescott and Russell United Counties (UCPR)**	
	No.	**%**	**No.**	**%**
Single Person	1,810	19.4	8,125	23.0
Two Persons	3,635	40.0	13,880	39.2
Three Persons	1,590	17.0	5,665	16.0
Four or More Persons	2,295	24.6	7,720	21.8
Total	**9,330**	**100.0**	**35,390**	**100.0**
Average Size	2.63	–	2.52	–
Single and Two Persons Combined	5,445	58.4	22,005	62.2

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

Table 3.3 Population Forecasts		
Year	**Clarence-Rockland**	**Prescott and Russell United Counties (UCPR)**
2016	24,512	89,333
2018	26,746	91,500
2020	27,955	96,500
2021	28,524	99,000
2023	29,746	101,500
2028	32,723	107,700
Average Annual Change: 2018-2028:		
Numeric	598	1,620
%	2.4	1.8

Sources:

1. City of Clarence-Rockland for Clarence-Rockland
2. Shore-Tanner & Associates for UCPR based on the mid-estimates of population growth in ***Growth Forecast and Land Needs Analysis***, by Hemson Consulting Ltd., December 2015. Population growth from about 2023 and thereafter is expected to be higher than 598 per years.

Table 3.4 Household Income Distribution: 2016				
Income Class ($)	**Clarence-Rockland**		**Prescott and Russell United Counties (UCPR)**	
	No.	**%**	**No.**	**%**
Under 40,000	1,460	15.6	7,825	22.1
40,000-59,999	1,315	14.1	5,250	14.8
60,000-79,999	1,355	14.5	4,925	13.9
80,000-99,999	1,200	12.9	4,445	12.6
100,000-124,999	1,375	14.7	4,550	12.9
125,000-149,999	1,025	11.0	3,210	9.1
150,000 & over	1,600	17.1	5,185	14.6
Total	**9,330**	**100.0**	**35,390**	**100.0**
Median Household	88,823	–	78,748	–
Median Per Capita	33,773	–	31,249	–

Note: The 2016 median income for the City of Ottawa was $85,981 and for the Province of Ontario it was $74,287.

Source: Shore-Tanner & Associates based on Statistics Canada's census data.

IV. RETAIL MARKET TRENDS

This section presents a number of major trends and changes in shopping habits, patterns, and new retail facilities. While our recommended businesses for the Subject Site are mostly for the day to day local and convenience shopping, the knowledge of the retail industry trends provides additional understanding for this ever-changing and highly competitive industry.

A. Retail Stores

A number of new types of shopping facilities, most of which have their origins in the U.S., were introduced into the Canadian market in the late 1990s. The major new shopping facilities in this regard are:

1. **Box Stores:** Costco, Walmart, and The Home Depot fall into this category. These are often referred to as big-box stores, since they are typically larger than 100,000 sq. ft. There are also medium-sized box stores, such as Winner's (clothing), Staples (office products), and Globo shoes, which are typically between 20,000 to 50,000 sq. ft.;
2. **Large Format Stores** such as Canadian Tire and the Great Canadian Super Stores. These are mostly new versions of the same stores, but significantly larger (often between 70,000 to 150,000 sq. ft.), offering a much wider assortment of products and services;
3. **Dollar Stores** which are typically between 1,000 to 5,000 sq. ft., specializing in mostly low-cost imports priced at up to $5.00 per item (e.g., Dollarama, A Buck or Two, The Dollar Store);
4. **Power Centres** are typically between 200,000 to 1,000,000 sq. ft., consist of a variety of box and traditional stores in open malls, with each store having its own pad and parking in front to the extent possible;
5. **Specialty Stores** such as Starbucks (coffee shop), Mountain Equipment Coop (outdoors store), Lululemon (Yoga wear), Sassy Beads (jewellery, craft), and Brio (shoes, clothing, accessories);

6. De-Malling

Another recent trend in the retail industry is the conversion of old and small enclosed shopping malls into open, uncovered shopping centres (referred to as de-malling). Malls which are over 20 years old and up to about 300,000 sq. ft. in size are usually targets for being de-malled. A de-malled shopping centre is less costly to operate since there are no indoor areas to be heated, cooled, cleaned or supervised. As well, the corridors and other public spaces are converted to leasable floor space.

7. Store Enlargements

Another significant trend in the retail industry is the enlargement of existing stores at the same or a new location. Large stores are in a much better position than small and medium-sized stores to offer one-stop-shopping opportunities. Many supermarkets, hardware, furniture, electronics, department, and home improvement stores have in recent years expanded their size in the same or a new location within the National Capital Region and elsewhere. In some cases, new stores from the same chain are built much larger.

8. Walmart Supercentres

In the early 2000s, the Walmart chain stores finally won the right to offer food products at their stores. Called Supercentres, these new Walmart stores have the equivalent of a 50,000 sq. ft. supermarket within them, including produce, fresh meat, deli, dairy, as well as general merchandise (i.e., canned and boxed food products). The food section is usually on one side of these huge stores, and clothing, furniture, and other non-food products on the other side.

At these stores, the cost of food and other products are generally lower, but more importantly, perceived to be lower due to effective advertising, than at competitive stores.

9. Recent Entries Into the Ottawa Market

Since many residents of the Trade Area shop at businesses in Ottawa, it is helpful to identify significant recent changes in the Ottawa market.

In September 2013, several (American) Target stores were opened in Ottawa in previously Zellers stores, and more were planned. Soon after, however, they were all closed down and to this date, some of them are still vacant. An H&M store was opened in Bayshore Shopping Centre in October 2013 and more since then elsewhere in Ottawa.

In February 2012, a Marshall's department store was opened in the Train Yards Shopping Centre, there are four of them now in Ottawa, and more are planned to open. In November 2011, the new and expanded IKEA store at approximately 410,000 sq. ft. was opened in Pinecrest Centre. In early 2011, a Forever 21 store was opened at the Rideau Centre. Since then, it has expanded and attracted a large number of luxury stores such as Michael Kors, Tiffany &Co., and Kate Spade.

A Whole Foods Supermarket and a large number of other retail and restaurants have opened at Lansdowne Park as part of its major redevelopment plan since 2014. Nordstrom, Topman, Simons and a few other American and European stores have also come to Ottawa in the last five years.

In addition to these new facilities, new methods of conducting business have been created. Purchasing through the Internet is one example. Twinning is another example which makes it possible for two businesses to complement each other, while saving on insurance, utilities, taxes, staff, and other costs. Examples in this regard include Chapter's book stores and Starbucks, Walmart and McDonald's restaurants, The Home Depot and Harvey's restaurants. **Online shopping has been growing very rapidly in the last five years, and is expected to grow further from its estimated total market share of approximately 4% of total spending in Ottawa.**

B. Reasons For Success of the New Store Types

There are many reasons for the introduction and successful operation of these new stores, as well as the new merchandising formats. Chief among these are:

1. Population growth, affluence, and especially ethnic and economic diversity, create demand for new products, services, and methods of buying and selling.
2. Many retail markets in Canada including in Ottawa are considered to be still offering a limited variety of shopping facilities with primarily average quality products at or above average prices. Choices at discount/value, as well as at upscale/high-quality ends of the shopping spectrum in particular, are still limited.
3. Power centres and stand-alone box stores have lower operating costs (e.g., little or no common-area charges compared to enclosed malls), provide ample parking situated very close to their entrances, offer one-stop-shopping opportunities, their prices are and/or are perceived to be lower than conventional stores, and they are very successful at selling large quantities of products.

4. For a wide variety of economic, demographic, and lifestyle reasons, many people seem to prefer shopping at these large, new-format and specialty stores.

C. Present Shopping Patterns and Habits

Based on knowledge, experience, observations, and **hundreds** of consumer research surveys, we believe that shopping patterns and habits are solidifying, as follows:

1. Power centres, big-box and other discount-oriented shopping facilities are here to stay. Their main advantages are real and/or perceived value, choice, and large quantities of products. Shoppers tend to go to these stores about once a month, and for the specific and pre-determined purpose of actual shopping (for household and/or office products), rather than for browsing, window shopping, socializing or just passing time. Typically, they prepare a list of what they want to buy ahead of time, follow it through, buy and bring home large quantities of products.

   This type of shopping is rather arduous, especially for older people, those who do not have or wish to spend lots of time for shopping, and those who are affluent enough for whom discount/value is not that important. The amount of time, planning, and the energy required are the main reasons why shopping at these facilities is generally infrequent (although there are customers from all socio-economic classes who only or mostly shop at these stores).

2. **Shopping at regional, community shopping centres, and especially in downtown and on other pedestrian-friendly streets, is often for fashion, specialty products and services, meeting, dining, socializing, entertainment and cultural activities.** There is frequently comparison-shopping, browsing, and cross-shopping at these facilities, especially during holidays and for special occasions (birthdays, anniversaries, etc.). Trips to these facilities do not necessarily always result in purchases due to the entertainment/socializing/dining factors, and also for purposes of comparison shopping. **Thus, the fun and multi-purpose functions of these trips, combined with the far more diverse, attractive, and comfortable atmospheres of these facilities, attract shoppers there more frequently than power centres and big-box stores do.**

3. Shopping at **highway commercial** facilities is also destination oriented and closer in function to shopping at power centres and big-box stores, than to shopping at regional and community shopping centres, or on main streets. Furniture,

electronics, appliances, automotive, box stores, restaurants, and other services often dominate highway commercial strips. Shoppers typically go to these establishments for specific products and/or services, based on pre-determined shopping plan. While there may be comparison shopping, there is usually no window-shopping, socializing, browsing, or cross-shopping. Other than for restaurants, banks, gasoline, and other services, shopping at highway commercial stores is infrequent (furniture, electronics, appliances, and major auto repairs are normally needed less than once a year by most households).

4. The retail industry is dynamic and rapidly evolving. Shoppers demand choice, variety, convenience, value, and fun. In a healthy market, there is a balance between the traditional main street retail stores, suburban shopping centres, and the new and emerging retail facilities as described above.

5. **In the competitive environment of today, maintaining market share, and especially increasing it, is a major challenge for all shopping facilities and districts, requiring new thinking and approaches to merchandising and customer relationship. Targeted use of social media, online services, better understanding of the retail market trends, more awareness of competition from shopping centres and districts, and better recognition of the needs, preferences, and desires of the Trade Area residents are among the key elements of new thinking and approaches, which have to be considered for the planned retail market on the Subject Site in Rockland.**

V. EXPENDITURE ANALYSIS

Spending at retail and service businesses depends on numerous socio-demographic, lifestyle, and locational factors. Based on hundreds of retail market studies by our firm and other research organizations, income is the most influential factor. Often, the higher their income, the more people shop, spend, and thus support the continuation and/or expansion of businesses.

The estimation of demand for supportable floor space is highly analytical and therefore numerically oriented. The detailed results of the analytical part of the demand estimation are presented in the next chapter, after the estimation of expenditure potentials below.

A. Per Capita Expenditures

Statistics Canada is the primary source for expenditure data at retail and service stores across Canada. For this study's Trade Area, the data are estimated based on income comparisons, since they are not available for Clarence-Rockland.

The overall median per capita income in 2016 of Trade Area residents was $33,773 and this was higher than Ontario's which was $28,572 in 2016. Incomes in both areas are higher now.

In Table 5.1, we have provided estimates of per capita expenditures by the residents of the Trade Area for a number of trade groups which are standard in the retail industry. As noted, **we estimate the overall average per capita spending of the TA residents to be $17,386 in 2018**. Of course, due to mortgages, family size and other factors, some individuals and families spend less, and others more than these averages, depending on their disposable income.

B. Total Retail and Service Expenditures

The estimated total expenditures of the residents of UCPR and Clarence-Rockland are provided in Tables 5.2 and 5.3.

Table 5.1
Estimated Per Capita Retail and Service Spending: 2018

Trade Group	UCPR Spending ($)	Clarence-Rockland Spending ($)
A. Retail Product Stores		
Supermarkets	2,290	2,400
Convenience Stores	220	235
Specialty Food	195	205
Beer, Wine & Liquor	670	700
Drugs & Patent Medicine*	1,105	1,160
Clothing	820	860
Shoes, Jewellery & Accessories	235	250
Home Furnishings	125	130
Electronics & Appliances	495	520
Furniture	285	300
Building Materials, Hardware & Garden Supplies	850	890
Sporting Goods, Hobbies, Music & Books	300	315
Used, Recreation & Other Vehicles	470	490
New Car Sales	2,800	2,900
Auto Parts & Accessories	190	200
Gasoline & Service Stations	1,410	1,400
General Merchandise	960	980
Department Stores	720	750
Other Retail Stores	350	370
Subtotal: Retail Products	**14,490**	**15,055**
B. Retail Service Businesses		
Restaurants, Bars & Other Eateries*	1,220	1,300
Personal Care Businesses*	215	225
Sports, Recreation & Entertainment*	1,455	1,530
Subtotal: Service Businesses	**2,890**	**3,055**
Grand Total: All Stores & Businesses	**17,380**	**18,110**

* Estimated
1. Online spending is **not** included.

Source: Shore-Tanner & Associates based on CANSIM Tables 080-0030 and other relevant Statistics Canada data.

Table 5.2
Estimates of Total Spending By UCPR Residents

Trade Group	2018 ($M)	2020 ($M)	2021 ($M)	2023 ($M)	2028 ($M)	Average Annual Change: 18-28	
Population	**91,500**	**96,500**	**99,000**	**101,500**	**107,700**	**Numeric**	**%**
A. Retail Product Stores							
Supermarkets	209.5	221.0	226.7	232.4	246.6	3.7	1.8
Convenience Stores	20.1	21.2	21.8	22.3	23.7	0.36	1.8
Specialty Food	17.8	18.8	19.3	19.8	21.0	0.32	1.8
Beer, Wine & Liquor	61.3	64.6	66.3	68.0	72.1	1.1	1.8
Drugs & Patent Medicine*	101.1	106.6	109.4	112.1	119.0	1.8	1.8
Clothing	75.0	79.1	81.2	83.2	88.3	1.3	1.8
Shoes, Jewellery & Accessories	21.5	22.7	23.3	23.8	25.3	0.4	1.8
Home Furnishings	11.4	12.1	12.4	12.7	13.5	0.2	1.8
Electronics & Appliances	45.3	47.8	49.0	50.2	53.3	0.8	1.8
Furniture	26.1	27.5	28.2	28.9	30.7	0.5	1.8
Building Materials, Hardware & Garden Supplies	77.8	82.0	84.1	86.3	91.5	0.8	1.8
Sporting Goods, Hobbies, Music & Books	27.4	29.0	29.7	30.4	32.3	1.4	1.8
Used, Recreation & Other Vehicles	43.0	45.3	46.5	47.7	50.6	0.5	1.8
New Car Sales	256.2	270.2	277.2	284.2	301.6	0.8	1.8
Auto Parts & Accessories	17.4	18.3	18.8	19.3	20.5	4.5	1.8
Gasoline & Service Stations	129.0	136.1	139.6	143.1	151.8	2.3	1.8
General Merchandise	87.8	92.6	95.0	97.4	103.4	1.6	1.8
Department Stores	65.9	69.5	71.3	73.1	77.5	1.2	1.8
Other Retail Stores	32.0	33.8	34.6	35.5	37.7	0.57	1.8
Subtotal: Retail Products	**1,325.8**	**1,398.3**	**1,434.5**	**1,470.7**	**1,560.6**	**23.5**	**1.8**

* Estimated
1. Online spending is **not** included.

Table 5.2, continued Estimates of Total Spending By UCPR Residents							
Trade Group	**2018 ($M)**	**2020 ($M)**	**2021 ($M)**	**2023 ($M)**	**2028 ($M)**	**Average Annual Change: 18-28**	
						Numeric	**%**
B. Retail Service Businesses							
Restaurants, Bars & Other Eateries*	111.6	117.7	120.8	123.8	131.4	2.0	1.8
Personal Care Businesses*	19.7	20.7	21.3	21.8	23.1	0.3	1.8
Sports, Recreation & Entertainment*	133.1	140.4	144.0	147.7	156.7	2.4	1.8
Subtotal: Service Businesses	**264.4**	**278.9**	**286.1**	**293.3**	**311.2**	**4.7**	**1.8**
Grand Total: All Stores & Businesses	**1,590.3**	**1,677.2**	**1,720.6**	**1,764.1**	**1,871.8**	**28.1**	**1.8**

* Estimated
1. Online spending is **not** included.

Note: The average annual percentage increases in spending are identical to the estimated population growth of 1.8% in Table 3.3. The dollar figures above are all in the constant value of the Canadian dollar in 2018. In other words, neither inflation, nor actual growth are included in order to avoid possible over-estimation.

Source: Shore-Tanner & Associates.

Table 5.3
Estimates of Total Spending By Clarence-Rockland Residents

Trade Group	2018 ($M)	2020 ($M)	2021 ($M)	2023 ($M)	2028 ($M)	Average Annual Change: 18-28	
Population	**26,746**	**27,955**	**27,524**	**29,746**	**32,723**	**Numeric**	**%**
A. Retail Product Stores							
Supermarkets	64.2	67.1	68.4	71.4	78.5	1.4	2.2
Convenience Stores	6.3	6.6	6.7	7.0	7.7	0.14	2.2
Specialty Food	5.5	5.7	5.8	5.9	6.7	0.12	2.2
Beer, Wine & Liquor	18.7	19.6	20.0	20.8	22.9	0.42	2.2
Drugs & Patent Medicine*	31.0	32.4	33.1	34.5	38.0	0.70	2.2
Clothing	23.0	24.0	24.5	25.6	28.1	0.51	2.2
Shoes, Jewellery & Accessories	6.7	7.0	7.1	7.4	8.2	0.15	2.2
Home Furnishings	3.5	3.6	3.7	3.9	4.2	0.07	2.2
Electronics & Appliances	13.9	14.5	14.8	15.5	17.0	0.31	2.2
Furniture	8.0	8.4	8.6	8.9	9.8	0.18	2.2
Building Materials, Hardware & Garden Supplies	23.3	24.9	25.4	26.5	29.1	0.53	2.2
Sporting Goods, Hobbies, Music & Books	8.4	8.8	9.0	9.4	10.3	0.19	2.2
Used, Recreation & Other Vehicles	13.1	13.7	14.0	14.6	16.0	0.29	2.2
New Car Sales	77.6	81.1	82.7	86.3	94.9	1.73	2.2
Auto Parts & Accessories	5.3	5.6	5.7	5.9	6.5	0.13	2.2
Gasoline & Service Stations	37.4	39.1	40.0	41.6	45.8	0.84	2.2
General Merchandise	26.2	27.4	27.9	29.1	32.1	0.59	2.2
Department Stores	20.0	21.0	21.4	22.3	24.5	0.45	2.2
Other Retail Stores	9.9	10.3	10.6	11.0	12.1	0.22	2.2
Subtotal: Retail Products	**402.3**	**420.9**	**429.4**	**447.8**	**492.6**	**9.03**	**2.2**

* Estimated
1. Online spending is **not** included.

Table 5.3, continued Estimates of Total Spending By Clarence-Rockland Residents							
Trade Group	**2018 ($M)**	**2020 ($M)**	**2021 ($M)**	**2023 ($M)**	**2028 ($M)**	**Average Annual Change: 18-28**	
						Numeric	**%**
B. Retail Service Businesses							
Restaurants, Bars & Other Eateries*	34.8	36.3	37.1	38.7	42.5	0.77	2.2
Personal Care Businesses*	6.0	6.3	6.4	6.7	7.4	0.14	2.2
Sports, Recreation & Entertainment*	40.9	42.8	43.6	45.5	50.1	0.92	2.2
Subtotal: Service Businesses	**81.7**	**85.4**	**87.1**	**90.9**	**100.0**	**1.83**	**2.2**
Grand Total: All Stores & Businesses	**484.4**	**506.3**	**516.6**	**538.7**	**592.6**	**10.82**	**2.2**

* Estimated
1. Online spending is **not** included.

Note: The average annual percentage increases in spending are identical to the estimated population growth of 1.8% in Table 3.3. The dollar figures above are all in the **constant** value of the Canadian dollar in 2018. In other words, neither inflation, nor actual growth are included in order to avoid possible over-estimation of demand for additional floor space.

Source: Shore-Tanner & Associates.

VI. DEMAND ESTIMATION

A. Productivity Rates

In Tables 5.1-5.3, we have provided estimates of the available spending by Trade Area residents and employees. The next steps involve the estimation of how much floor space these expenditures can support. For these steps, productivity rates or sales per sq. ft. are needed.

Based on over 100 retail studies in the last 15 years, including in-person confidential meetings and surveys of at least 2,000 business managers and/or owners, we have obtained actual and closely estimated sales data. Many of these studies have included presentations at the Ontario Municipal Board hearings where actual sales data were presented by opposing parties and analyzed. Based on these studies, ongoing research, and review of retail trends, we have provided realistic ranges of annual sales per sq. ft. for the types of retail and service businesses most likely to be viable on the Subject Site. As shown in Table 6.1, the average annual sales per sq. ft. at food stores, for example, is estimated to be between $500 and $700.

B. Total Supportable Floor Space

Table 6.1 presents the total supportable floor space for each business for the years 2018-2028. As demonstrated, **Clarence-Rockland's spending is estimated to be supporting a total of 967,000 to 1.277 million sq. ft. of retail and service business floor space in 2018, at businesses within, but also outside this area.** The total supportable space will, of course, increase each year, based on population growth and affluence.

In Table 6.2, we have identified the increase in supportable demand for each business. As demonstrated, **the supportable increase in the total floor space is as follows by time periods by the residents of Clarence-Rockland:**

1.	**2018-2020**	**45,000-81,000**	**sq. ft.**
2.	**2020-2023**	**64,000- 87,000**	**sq. ft.**
3.	**2023-2028**	**108,000-144,000**	**sq. ft.**
4.	**2018-2028**	**217,000-312,000**	**sq. ft.**

In other words, the available spending potential of Clarence-Rockland is estimated to generate demand for 217,000 to 312,000 sq. ft. of additional retail and floor space by the year 2028.

The demand generated from the residents of UCPR is, of course, much larger. As in the past, many residents of UCPR outside the City of Clarence-Rockland are expected to do much of their shopping at businesses in Rockland. It is therefore necessary to address their spending, in addition to the spending of the Clarence-Rockland residents.

As demonstrated in Table 5.1, the overall average spending of each resident of UCPR is estimated to be $17,380 in 2018. At this rate, the total spending of UCPR is estimated at $1.59 **billion** in 2018, increasing by an average of $28.1 million annually, to a total of 1.817 **billion** in 2028 (Table 5.2).

In view of the relative abundance of retail and service businesses in Rockland, and also in the City of Ottawa, much of the total spending of UCPR residents happens in these two cities. Regardless of where their spending takes place, it is necessary to first determine how much floor space can their spending support. Table 6.1 provides this answer by individual retail and service groups. As demonstrated in Table 6.1, the total spending of residents of Clarence-Rockland is estimated to support a total of at least 967,000 sq. ft. or 36 sq. ft. per capita within and outside this city (the spending of UCPR residents of course supports much more than 967,000 sq. ft.).

Table 6.1
Estimates of Total Supportable Floor Space in Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
A. Retail Product Stores						
Supermarkets						
• At $700/sq. ft.	91,700	95,900	97,700	102,200	112,100	2,140
• At $500/sq. ft.	128,400	134,200	136,800	142,800	157,000	2,860
Convenience Stores						
• At $300/sq. ft.	21,000	22,000	22,300	23,300	25,700	470
• At $250/sq. ft.	25,200	26,400	26,800	28,000	30,800	560
Specialty Food						
• At $450/sq. ft.	12,200	12,700	12,900	13,100	14,900	270
• At $350/sq. ft.	15,700	16,300	16,600	16,900	19,100	340
Beer, Wine & Liquor						
• At $700/sq. ft.	26,700	28,000	28,600	29,700	32,700	600
• At $500/sq. ft.	37,400	39,200	40,000	41,600	45,800	840
Drugs & Patent Medicine*						
• At $1,000/sq. ft.	31,000	32,400	33,100	34,500	38,000	700
• At $700/sq. ft.	44,300	46,300	47,300	49,300	54,300	1,000
Clothing						
• At $350/sq. ft.	65,000	68,600	70,000	73,100	80,300	1,530
• At $250/sq. ft.	92,000	96,000	98,000	102,400	112,400	2,040
Shoes, Jewellery & Accessories						
• At $400/sq. ft.	16,700	17,500	17,700	18,500	20,500	380
• At $300/sq. ft.	22,300	23,300	23,700	24,700	27,300	500

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
Home Furnishings						
• At $350/sq. ft.	10,000	10,300	10,600	11,100	12,000	200
• At $250/sq. ft.	14,000	14,400	14,800	15,600	16,800	280
Electronics & Appliances						
• At $700/sq. ft.	19,900	20,700	21,100	22,100	24,300	440
• At $500/sq. ft.	27,800	29,000	29,600	31,000	34,000	620
Furniture						
• At $300/sq. ft.	26,700	28,000	28,700	29,700	32,700	600
• At $250/sq. ft.	32,000	33,600	34,400	35,600	39,200	720
Building Materials, Hardware & Garden Supplies						
• At $250/sq. ft.	95,200	99,600	101,600	106,000	116,400	2,120
• At $175/sq. ft.	136,000	142,300	145,100	151,400	166,300	3,030
Sporting Goods, Hobbies, Music & Books						
• At $300/sq. ft.	28,000	29,300	30,000	31,300	34,300	630
• At $225/sq. ft.	37,300	39,100	40,000	41,800	45,800	850
Used, Recreation & Other Vehicles						
• At $1,000/sq. ft.	13,100	13,700	14,000	14,600	16,000	290
• At $700/sq. ft.	18,700	19,600	20,000	20,900	22,900	420
New Car Sales						
• At $2,000/sq. ft.	38,800	40,000	41,300	43,200	47,500	870
• At $1,400/sq. ft.	55,400	57,900	59,100	61,600	67,800	1,240

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
Auto Parts & Accessories						
• At $1,500/sq. ft.	3,500	3,600	3,800	3,900	4,300	80
• At $1,000/sq. ft.	5,300	5,600	5,700	5,900	6,500	120
Gasoline & Service Stations						
• At $1,200/sq. ft.	31,200	32,600	33,300	34,700	38,200	700
• At $800/sq. ft.	46,700	48,900	50,000	52,000	57,200	1,050
General Merchandise						
• At $350/sq. ft.	74,900	78,300	79,700	83,100	91,700	1,680
• At $250/sq. ft.	104,800	109,600	111,600	116,400	128,000	2,320
Department Stores						
• At $250/sq. ft.	80,000	84,000	85,600	89,200	98,000	1,800
• At $200/sq. ft.	100,000	105,000	107,000	111,500	122,500	2,250
Other Retail Stores						
• At $300/sq. ft.	33,000	34,300	35,300	36,700	40,300	730
• At $250/sq. ft.	39,600	41,200	42,400	44,000	48,400	880
Subtotal: Retail Products	719,000	752,000	767,000	800,000	880,000	16,100
(rounded)	961,000	1,027,000	1,049,000	1,093,000	1,202,000	24,100

Table 6.1, continued
Estimates of Total Supportable Floor Space In Clarence-Rockland: Square Feet

Trade Group	2018	2020	2021	2023	2028	Average Annual Change: 18-28
B. Retail Service Businesses						
Restaurants, Bars & Other Eateries						
• At $600/sq. ft.	58,000	60,500	61,800	64,500	70,800	1,280
• At $450/sq. ft.	77,300	80,700	82,400	86,000	94,400	1,710
Personal Care Businesses						
• At $225/sq. ft.	26,700	28,000	28,400	29,800	32,900	620
• At $175/sq. ft.	34,300	36,000	36,600	38,300	42,300	800
Sports, Recreation & Entertainment[1]						
• At $250/sq. ft.	163,600	171,200	174,400	182,000	200,400	3,680
• At $200/sq. ft.	204,500	214,000	218,000	227,500	250,500	4,600
Subtotal: Retail Services	248,000	260,000	265,000	276,000	304,000	5,600
(rounded)	316,000	331,000	337,000	352,000	387,000	7,100
Grand Total:	967,000	1,012,000	1,032,000	1,076,000	1,184,000	21,700
All Stores & Businesses	1,277,000	1,358,000	1,386,000	1,445,000	1,589,000	31,200

[1] Includes cinemas, theatres, arenas and sports fields.

Source: Shore-Tanner & Associates.

Table 6.2
Estimated Demand For Additional Floor Space By the Spending of Clarence-Rockland Residents

Time Period	Floor Space (sq. ft.)
2018-2020	45,000-81,000
2020-2021	20,000-28,000
2021-2023	44,000-59,000
2023-2028	108,000-144,000
2018-2028	**217,000-312,000**

Source: Table 6.1.

VII. Summary of Existing Businesses

A. Scope of Research

Several days in May 2018 we carried out extensive field research in Rockland. Every retail and service business was visited, its name and type identified, and its size visually estimated.

The field research was started at the Smart Centre, then continued on Laurier Street in the eastern direction to Highway 17. From there, all businesses in the western direction to Laurier Street were visited. There are a few scattered businesses on the intersecting roadways which were also visited and their names, types, and estimated sizes recorded. The details of this research are presented in Appendix A.

B. Major Findings

As of May 2018, there was a total of 146 retail and service businesses in Rockland occupying an estimated 538,000 sq. ft. of floor space.

With the 2018 population of 26,746 in Clarence-Rockland, the overall average floor space per resident is 20.1 sq. ft. However, some of this space is supported by the spending of the other residents of the UCPR. Therefore, the effective floor space per resident is lower than 20.1 sq. ft. There are as well, a number of retail and service businesses in the Clarence part of the City of Clarence-Rockland and they may increase the per capita floor space to 21 or 22 sq. ft.

Based on the industry standard of 30 to 40 sq. ft. of floor space per capita, it is evident that the City of Clarence-Rockland is currently under-stored for retail and service businesses.

If the residents of Clarence-Rockland spend 100% of their shopping dollars at businesses within the City, at least 802,000 sq.ft. or 262,000 sq. ft. more floor space could be supported in 2018, and more in future years. Due to the proximity of Ottawa and its variety of businesses, there will always be some shopping there by the residents of Clarence-Rockland. However, as its population grows, more retail and service businesses

can be supported and will be attracted to Clarence-Rockland (as it has been the case in the 10-15 years).

At present, a total of 14 stores with a combined floor space of 29,200 sq. ft. or 5.4% of the total space of 538,000 sq. ft., are vacant in Rockland (industry standard vacancy rate is within 4% and 8%). .

VIII. Office Market and Demand

A. Overview of Office Market

In Clarence-Rockland, as in similar cities in size close to a major urban area, there is little office space, and not much data available. The existing space is almost entirely for local needs such as medical, insurance, and financial. To better address the supportable office space on the Subject Site, we have first analyzed Ottawa's rich office market.

Due to the presence of the Federal Government, the City of Ottawa's office market is unique. The various Federal Departments, Crown Corporations, and other government agencies own and occupy approximately 30 million sq. ft. of office space.

The privately-owned office space in the City of Ottawa is approximately 40 million sq. ft., most of which is also rented to and occupied by different Federal Government organizations. There are, as well, some 300 associations, major legal, accounting, auditing and consulting firms, most of whose work is government related.

At a total population of almost one million, the City of Ottawa is the fourth largest in Canada, but its total office floor space of approximately 70 million sq. ft. is the third largest after Toronto and Montreal.

The Ottawa office market has historically been strong and stable. In the last five years, a number of new, large office towers have been developed, pushing its overall total vacancy rate close to 11%.

B. Types of Office Space

Generally speaking, office spaces fall into the following categories:

- Government/Public Sector
- Corporate
- Professional
- Business

There is some overlap in the bottom three types.

A **Corporate** office is usually large, high quality, located in a Class A building in a prime location, and occupied by banks, insurance companies, other major and often national and/or international corporations. Prestige, visibility, luxury, access, status, and image are important for corporate occupants of this type of office space.

A **Professional** office can be of various sizes and locations, and mostly in a Class B or C building. Legal, accounting, medical, high technology, artificial intelligence, associations, and consultancies are typical occupants of this type of space. In terms of prestige, status, visibility, and access, this type of office is often between the corporate and the business types.

A **Business** office is typically small, occupied by locally-oriented companies, located in affordable areas, including business parks, and in Class B, C or lower buildings. Engineering, architectural, accounting, development, construction, transportation, retail, and other such businesses, mostly with up to about 10 employees, are typical occupants of this type of office space.

C. Most Viable Office Space on the Subject Site

Government, and to some extent, Corporate offices, are not dependent on the economy or population of a city. Most professional and business office enterprises, however, serve the residents and local economy of a given area. **We believe that for the Subject Site, the most market viable types of office businesses would be those that serve the larger area residents.** While government, corporate, or any specialty type office developments are also possible, they cannot be counted on.[2]

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[2] The need for them is not locally or even city-wide generated. However, elected officials, business leaders, and/or connections may be able to influence the locational decisions of government and corporate officials.

D. Demand Analysis

Of the approximately 40 million sq. ft. of privately-owned office space in the City of Ottawa, we estimate that up to 8 million sq. ft. or 20.0% are used by professional and business tenants who primarily serve the residents and the local economy.[3] These tenants, furthermore, are in Class B, C or lower buildings. The rest are occupied by various levels of governments, corporate, and prestigious professional/high technology tenants.

At 8 million sq. ft. of office space and a total City of Ottawa population of almost one million, the overall average office space associated per resident is about 8 sq. ft. Of course, parts of Ottawa have much higher, and others much lower averages.

In Clarence-Rockland, the total inventory of office space is now almost 0.3 million sq. ft., or approximately 12 sq. ft. per resident, based on a total population of over 26,000 (Table 3.1). Due to the mostly rural and agricultural characteristics of UCPR, its need for office space per capita is much less, and office businesses in Rockland tend to be used by its residents and employees. We have, therefore, used an estimate of 6 sq. ft. for UCPR. **The Trade Area is, therefore, concluded to generate average annual demand for total additional office space of 7,170 sq. ft. in Clarence-Rockland, and 9,700 sq. ft. in UCPR, including the 7,170 sq. ft. for Clarence-Rockland** (Table 7.1).

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[3] In other words, the combination of population and economic factors generate demand for 8 million sq. ft. of locally-oriented office floor space.

Table 7.1
Estimates of Total Supportable Office Space

Year	Population		Office Space (sq. ft.)	
	Clarence-Rockland	UCPR	Clarence-Rockland (12 per resident)	UCPR (4 per resident)
2016	24,512	89,333	294,000	536,000
2018	26,746	91,500	321,000	549,000
2020	27,955	96,500	335,500	579,000
2021	28,524	99,000	342,300	594,000
2023	29,746	101,500	357,000	609,000
2028	32,723	107,700	392,700	646,200
Average Annual Increase: 2018-2028:				
Numeric	598	1,620	7,170	9,700
%	2.4	1.8	2.2	1.8

Note: UCPR's figures include the figures for Clarence-Rockland.

Source: Shore-Tanner & Associates

APPENDIX A

List of Retail and Service Businesses In Rockland		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Smart Centre[1]		
Rona	Hardware	40,000
Walmart	Department Store	110,000
• Quizno Subs		
• Hair Salon		
• Pharmacy		
• Garden Supplies		
• Grocery		
• Fashion		
Source	Electronics	2,000
Bulk Barn	Specialty Food	3,000
Boston Pizza	Table Service Restaurant	4,000
Dollarama	General Merchandise	6,000
LBCO	Liquor Store	3,000
Laurier Street		
Ford Dealership	Automotive	6,000
Snap Fitness	Fitness	3,000
Tim Horton's	Coffee Shop	1,800
Royal Plaza (on Laurier St.)		
Vapeking	Smoke Shop	2,000
Aqua Life	Sporting Goods	2,000
Rosalynn's	Table Service Restaurant	2,000
New Wave (pool accessories)	Sporting Goods	2,500
RBC	Financial	3,000
Vacant (2)	Vacant	4,000

[1] Started from this shopping centre, walked and/or drove eastward on Laurier Street to Highway 17, then westward on Laurier Street

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
First Choice	Barber	1,000
Rockland Sports	Sporting Goods	3,000
M&M Foods Market	Specialty Foods	1,500
Shawarma Rockland	Table Service Restaurant	1,500
Youngster Salon	Beauty Salon	1,500
Hitices	Clothing	1,500
La Bella Salon	Beauty Salon	1,500
Accent	Furniture	8,000
Touch of Distinction	Flooring Supplies	2,000
Rising Sun	Martial Arts	2,000
Vitrerie Glass & Mirror	Furnishings	2,000
Derma Skin Care	Beauty Salon	1,500
Vacant	Vacant	1,500
Domino's Pizza	Pizza Shop	1,500
Mortgage Intelligence	Financial	1,500
Chiro Fashion	Specialty Retail	1,500
Rockland Pharmacy	Pharmacy	3,000
Pronature Sporting	Sporting Goods	2,000
Tiny Hopper	Daycare	2,500
Salon Tete O Pieds	Beauty Salon	1,500
Shoppers Drug Mart	Pharmacy	4,000
Ultramar	Gas Station & Car Wash	2,000
Your Independent Grocer	Supermarket	50,000
Spartas	Mediterranean Restaurant	1,500
Scotiabank	Financial	3,000
Beer Store	Beer Store	3,000
Napa Auto	Automotive	2,500
McDonald's	Fast Food	2,200
Sullyteck	Phone Repair	600
Bytown Lumber	Building Supplies	10,000
The Thimble	Tailor	800
Envy	Spa	2,000
Vacant	Vacant	3,000
Jumbo Pizza	Pizza Shop	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
Dunn's Deli	Table Service Restaurant	2,500
Rama	Martial Arts	1,200
Royal Photo	Photo Shop	1,500
Rockland Music	Specialty Retail	1,500
Anne Travel	Travel Agency	1,500
Martel Mortgage	Financial	1,000
Sublime Salon	Beauty Salon	1,000
Christine Raymond Salon	Beauty Salon	1,000
Auto Morin	Automotive	3,000
Sienna Faming	Specialty Retail	2,000
Sacred Art	Tattoo Shop	1,000
The Brunet Funeral	Funeral Services	3,000
L'Atelier Salon	Beauty Salon	2,000
Vacant (several stores)	Vacant	5,000
Rockland Pizza	Pizza Shop	1,200
H & R Block	Financial	1,200
Rockland Variety	Convenience Store	1,500
Vacant	Vacant	1,500
Jean Coutu	Pharmacy	4,500
Post Office	Specialty Retail	2,000
Vacant	Vacant	1,500
Rockland Marine	Boating Supplies	3,000
Giant Tiger	General Merchandise	11,000
Fashion Sports	Clothing	2,000
New Ruby	Chinese Restaurant	3,000
Second Hand Centre	Clothing	1,500
Modelo Salon	Beauty Salon	1,500
Dalrymple Salon	Beauty Salon	1,500
Subway	Fast Food	1,500
Marie-Jo	Table Service Restaurant	2,000
RDS Laundromat	Laundromat	1,200
Chamberland Garage	Automotive	5,000
Rockland Optometry	Specialty Retail	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Laurier Street, continued		
Rockland Barber	Beauty Salon	600
Bourbonnais Electric	Electronic Shop	1,500
Vacant	Vacant	1,200
Friendly Restaurant	Table Service Restaurant	2,000
Big Boss Burgers	Table Service Restaurant	1,600
Vacant	Vacant	1,500
Sonx Plus	Electronics	1,500
National Bank	Financial	3,000
QV Spa	Beauty Salon	1,500
DCV Heating/Cooling	Heating/Cooling Supplies	2,000
Lavolette	Flower Shop	1,500
Café Joyeux	Table Service Restaurant	1,500
Desjardins	Financial	4,000
Maison de Xin	Table Service Restaurant	4,000
Spa Mauve	Beauty Salon	1,500
Extravadance	Specialty Fashion	2,000
Chez L'Bonlanger	Bakery	2,000
Studio Aqua (bronzage)	Beauty Salon	1,500
Main Street Pizza	Pizza Shop	1,500
Vacant	Vacant	1,500
Le Mieux	Convenience Store	1,500
GAB Sports Bar	Table Service Restaurant	2,000
Beautiful Clinic	Beauty Salon	1,500
QV Spa, Nails	Beauty Salon	1,000
Café La Roche	Table Service Restaurant	2,000
Espada	Tattoo Shop	500
Ryan's Auto	Automotive	2,000
SS Chip Wagon	Eatery	200
Vacant	Vacant	2,000
Vacant	Vacant	2,000
Belanger Dodge Dealer	Automotive	2,000
Vacant	Vacant	3,000
Harmony Hyundai	Automotive	2,000
Mr. Gas	Gas Station	100
Tim Horton's	Coffee Shop	1,000
Canadian Tire Station	Gas Station	100
TD	Financial	2,000
Shell Station	Gas Station	100
Circle K	Convenience Store	2,000

List of Retail and Service Businesses In Rockland, continued		
Business Name	**Type**	**Approximate Size (sq. ft.)**
Plaza Rockland		
Top Mode Depot	Fashion	11,000
A & W	Fast Food	1,800
Pet Valu	Specialty Retail	2,500
Brown Cleaner	Dry Cleaning	1,200
Super Cut	Barber Shop	1,200
Pop Shoes	Shoe Store	2,500
Gabriel Pizza	Pizza Shop	1,200
Broadway Bar & Grill	Table Service Restaurant	2,500
Subway	Fast Food	1,500
Vacant	Vacant	1,500
Dollar Tree	General Merchandise	5,000
TSC	General Merchandise	25,000
Mark's	Clothing	10,000
St. Hubert	Table Service Restaurant	3,000
Oil Changer	Automotive	4,000
Speedy Glass	Automotive	4,000
Benson Auto Parts	Automotive	3,000
Grand Total	**146**	**538,000**

Source: Shore-Tanner & Associates based on field research and visual estimates in late May 2018.

CORPORATION OF THE CITY OF CLARENCE-ROCKLAND
BY-LAW 2019-102

BEING A BY-LAW OF THE CITY OF CLARENCE-ROCKLAND TO CONFIRM PROCEEDINGS OF THE COUNCIL OF THE CITY OF CLARENCE-ROCKLAND AT ITS REGULAR MEETING HELD ON OCTOBER 28, 2019.

WHEREAS Sub-section 5(1) of the Municipal Act, 2001, as amended, provides that the powers of a municipal corporation are to be exercised by its Council;

AND WHEREAS Sub-section 5(3) of the said Municipal Act provides that the powers of every council are to be exercised by By-law;

AND WHEREAS it is deemed expedient that the proceedings of the Council of the City of Clarence-Rockland at this meeting be confirmed and adopted by By-law;

THEREFORE the Council of the City of Clarence-Rockland enacts as follows:

1. **THE** action of the Council of the City of Clarence-Rockland in respect of each recommendation contained in any reports of committees and of local boards and commissions and each motion and resolution passed and other action taken by the Council of the City of Clarence-Rockland at this meeting is hereby adopted and confirmed as if all such proceedings were expressly embodied in this by-law.

2. **THE** Mayor and the appropriate officials of the City of Clarence-Rockland are hereby authorized and directed to do all things necessary to give effect to the action of the Council of the City of Clarence-Rockland referred to in the proceeding section.

3. **THE** Mayor and the Clerk, are authorized and directed to execute all documents necessary in that behalf and to affix thereto the corporate seal of the City of Clarence-Rockland.

READ, PASSED AND ADOPTED IN OPEN COUNCIL THIS 28TH DAY OF OCTOBER, 2019.

Guy Desjardins, Mayor	Monique Ouellet, Clerk