

BELLEVILLE PLANNING ADVISORY COMMITTEE

A G E N D A

JANUARY 6, 2020

5:30 P.M.

COUNCIL CHAMBER

Starting
Page No.

CITY COUNCIL PLANNING COMMITTEE MEETING

1. **ATTENDANCE**

Councillor Paul Carr
Councillor Pat Culhane
Councillor Sean Kelly

Councillor Bill Sandison
Councillor Ryan Williams

2. **DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF**

3. **PUBLIC MEETING - THE PLANNING ACT**

3.1 **NOTICE OF COMPLETE APPLICATION AND INTRODUCTORY PUBLIC MEETING FOR APPLICATION FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 3014, AS AMENDED – 125 MITCHELL ROAD, PART LOT 25, CONCESSION 1, PARTS 1-6, PLAN 21R-255119, CITY OF BELLEVILLE, COUNTY OF HASTINGS
FILE NUMBER: B-77-1097
APPLICANT: JOHN SCHEERHORN
OWNER: 732676 ONTARIO INC.**

Notice of Meeting and Map

1

- 3.2 NOTICE OF COMPLETE APPLICATION AND INTRODUCTORY PUBLIC MEETING FOR APPLICATION FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 3014, AS AMENDED – 125 MITCHELL ROAD, PART LOT 25, CONCESSION BF, PART 8, PLAN 21R-255119, CITY OF BELLEVILLE, COUNTY OF HASTINGS
FILE NUMBER: B-77-1098
APPLICANT: JOHN SCHEERHORN
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Notice of Meeting and Map

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4. ADJOURNMENT

BELLEVILLE PLANNING ADVISORY COMMITTEE

AGENDA

JANUARY 6, 2020

5:30 P.M.

COUNCIL CHAMBER

Starting
Page No.

PLANNING ADVISORY COMMITTEE MEETING

1. ATTENDANCE

Councillor Paul Carr
Councillor Pat Culhane
Councillor Sean Kelly
Councillor Bill Sandison
Councillor Ryan Williams

John Baltutis
Kathryn Brown
Paul Jennings
David Joyce

2. DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

3. CONFIRMATION OF MINUTES

3.1 Minutes of the City Council Planning Committee Meeting and Planning Advisory Committee Meeting held on December 2, 2019

4. DEPUTATIONS

5. CORRESPONDENCE

6. REFERRALS FROM PUBLIC MEETING

**6.1 NOTICE OF COMPLETE APPLICATION AND INTRODUCTORY PUBLIC MEETING FOR APPLICATION FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 3014, AS AMENDED – 125 MITCHELL ROAD, PART LOT 25, CONCESSION 1, PARTS 1-6, PLAN 21R-255119, CITY OF BELLEVILLE, COUNTY OF HASTINGS
FILE NUMBER: B-77-1097
APPLICANT: JOHN SCHEERHORN
OWNER: 732676 ONTARIO INC.**

Policy Planner’s Report No. PP-2020-04

5

RESOLUTION

“THAT Report No. PP-2020-04 dated January 6, 2020 regarding Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-law Number 3014, As Amended – 125 Mitchell Road, Part Lot 25, Concession 1, Parts 1-6, Plan 21R-255119, City of Belleville, County of Hastings be received as information; and

THAT Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department.”

**6.2 NOTICE OF COMPLETE APPLICATION AND INTRODUCTORY PUBLIC MEETING FOR APPLICATION FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 3014, AS AMENDED – 125 MITCHELL ROAD, PART LOT 25, CONCESSION BF, PART 8, PLAN 21R-255119, CITY OF BELLEVILLE, COUNTY OF HASTINGS
FILE NUMBER: B-77-1098
APPLICANT: JOHN SCHEERHORN
OWNER: 732676 ONTARIO INC.**

Policy Planner’s Report No. PP-2020-05

13

RESOLUTION

“THAT Report No. PP-2020-05 dated January 6, 2020 regarding Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-law Number 3014, As Amended – 125 Mitchell Road, Part Lot 25, Concession BF, Part 8, Plan 21R-255119, City of Belleville, County of Hastings be received as information; and

THAT Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department.”

7. REPORTS

- 7.1 **RECOMMENDATION REPORT FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 10245, AS AMENDED – 199 DUNDAS STREET EAST, CITY OF BELLEVILLE, COUNTY OF HASTINGS
FILE NUMBER: B-77-1094
APPLICANT: JOSEPH CHACKO
OWNER: MHSA PROPERTIES LTD.**
-

Principal Planner’s Report No. PP-2020-01

21

RESOLUTION

“THAT the Planning Advisory Committee recommends the following to City Council:

THAT Application B-77-1094 to amend Zoning By-law Number 10245, as amended regarding 199 Dundas Street East, City of Belleville, County of Hastings, be APPROVED as follows:

THAT Zoning By-law Number 10245, as amended, be amended by rezoning the subject land from Highway Commercial (C3) Zone to Highway Commercial (C3) Zone with special provisions to add medical clinic as a permitted use.”

- 7.2 **RECOMMENDATION REPORT FOR PROPOSED AMENDMENT TO ZONING BY-LAW NUMBER 10245, AS AMENDED – 8 & 12 KING STREET, CITY OF BELLEVILLE, COUNTY OF HASTINGS**
FILE NUMBER: B-77-1095
OWNER/APPLICANT: UCB CANADA
AGENT: INVESTMENT MANAGEMENT SYNDICATE LTD.

Principal Planner's Report No. PP-2020-02

37

RESOLUTION

“THAT the Planning Advisory Committee recommends the following to City Council:

THAT Application B-77-1095 to amend Zoning By-law Number 10245, as amended regarding 8 and 12 King Street, City of Belleville, County of Hastings, be APPROVED as follows:

THAT Zoning By-law Number 10245, as amended, be amended by rezoning the subject land from Highway Commercial (C3) Zone to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property location at 2 Dundas Street West.”

- 7.3 **RECOMMENDATION REPORT FOR PROPOSED AMENDMENT TO THE OFFICIAL PLAN AND ZONING BY-LAW NUMBER 3014, AS AMENDED; LOTS 8 & 9 OF REGISTERED PLAN NO. 124, CITY OF BELLEVILLE, COUNTY OF HASTINGS**
FILE NUMBER: B-77-1096
OWNER: ANDY GEERTSMA, GCL DEVELOPMENTS LTD.
APPLICANT: GCL DEVELOPMENTS LTD.
AGENT: LORELEI JONES, MACAULAY SHIOMI HOWSON LTD.

Principal Planner's Report No. PP-2020-03

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RESOLUTION

“THAT the Planning Advisory Committee recommends the following to City Council:

THAT Application B-77-1096 to amend the City of Belleville Official Plan and Zoning By-law Number 3014, as amended

for Lots 8 and 9 of Registered Plan 124, City of Belleville, County of Hastings, be APPROVED as follows:

THAT Schedule 'B' Land Use Plan of the Official Plan be amended by replacing the Open Space designation with a Residential Land Use designation and replacing part of the Residential Land Use designation with an Open Space designation; and,

THAT Zoning By-law Number 3014, as amended, be amended by rezoning the subject land from Development (D-r) Zone and Hazard (H) Zone to Low Density Residential Type 1 (R1-27) Zone, Medium Density Residential (R3-1, R3-2, R3-3) Zone, High Density Residential (R4-6) Zone, Community Facility (CF) Zone and Hazard (H) Zone to permit 367 residential units of various types and densities, a park, open space, and walkways."

8. INFORMATION MATTERS

8.1 OFFICIAL PLAN AND ZONING BY-LAW AMENDMENT MONITORING REPORT

Report to January 6, 2020

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9. GENERAL BUSINESS AND INQUIRIES

10. ADJOURNMENT



City of Belleville

Engineering & Development Services Department

Policy Planning Section

Telephone: 613-968-6481

Fax: 613-967-3262

File No.: B-77-1097

NOTICE OF PUBLIC MEETING ZONING BY-LAW AMENDMENT APPLICATION Part Lot 25, Concession 1, Parts 1-6, Plan 21R-255119

**CITY COUNCIL PLANNING COMMITTEE
CITY HALL - COUNCIL CHAMBER
169 FRONT STREET
Monday, January 6, 2020 AT 5:30 P.M.**

A Public Meeting, as noted above, will be held at City Hall in the Council Chambers (169 Front Street) on January 6, 2020 at 5:30 P.M. to consider an amendment to Zoning By-Law Number 3014, as amended, for a property located north of Old Highway 2 and west of Mitchell Road, which is known as **Part Lot 25, Concession 1, Parts 1-6, Plan 21R-255119** and municipally as **125 Mitchell Road**.

The property has approximately 565 metres of frontage on Mitchell Road. The Applicant requests a rezoning of the subject lands from Prime Agriculture (PA) Zone to Rural Residential (RR) Zone and Rural (RU) Zone as a condition of Consent Applications B33/19 and B36/19. A Location Plan is shown on APPENDIX 1 which is attached.

In the Official Plan, the subject land is designated as "Rural".

If you wish to be notified of the decision of the City of Belleville or Belleville Planning Advisory Committee in respect of this application, you must submit a **written** request to Matt MacDonald, Secretary, Planning Advisory Committee in person or by mail at: Belleville City Hall, 169 Front Street, Belleville, K8N 2Y8, or by email at: mtmacdonald@city.belleville.on.ca.

If a person or public body would otherwise have an ability to appeal the decision of the City of Belleville to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at a public meeting or make written submissions to the City of Belleville before the by-law is passed, the person or public body is **not** entitled to appeal the decision and that person or public body may **not** be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to do so. Please be further advised that written submissions received prior to the public meeting may be made available to the Applicant.

For more information contact the Planning Section, Engineering & Development Services Department, 2nd floor, Belleville City Hall, 169 Front Street, Belleville, K8N 2Y8 (Telephone: 613-967-3288).

As per the requirements of the Planning Act, this application is confirmed to be complete.

Matt MacDonald, Secretary
Planning Advisory Committee



DATED at the City of Belleville this 12th day of December, 2019.


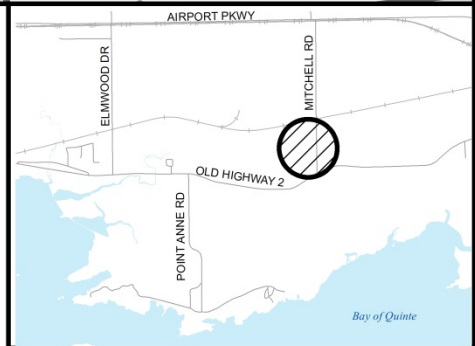
APPENDIX 1



PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: 125 MITCHELL RD

-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RU (RURAL)
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RR (RURAL RESIDENTIAL)



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT
SERVICES DEPARTMENT



City of Belleville

Engineering & Development Services Department

Policy Planning Section

Telephone: 613-968-6481

Fax: 613-967-3262

File No.: B-77-1098

**NOTICE OF PUBLIC MEETING
ZONING BY-LAW AMENDMENT APPLICATION
Part Lot 25, Concession BF, Part 8, Plan 21R-255119**

**CITY COUNCIL PLANNING COMMITTEE
CITY HALL - COUNCIL CHAMBER
169 FRONT STREET
Monday, January 6, 2020 AT 5:30 P.M.**

A Public Meeting, as noted above, will be held at City Hall in the Council Chambers (169 Front Street) on January 6, 2020 at 5:30 P.M. to consider an amendment to Zoning By-Law Number 3014, as amended, for a property located north of Old Highway 2 and west of Mitchell Road, which is known as **Part Lot 25, Concession BF, Part 8, Plan 21R-255119** and municipally as **125 Mitchell Road**.

The property has approximately 240 metres of frontage on Old Highway 2 and 220 metres of frontage on Mitchell Road. The Applicant requests a rezoning of the subject lands from Rural (RU) Zone and Prime Agriculture (PA) Zone to Rural Residential (RR) Zone and Rural (RU) Zone with special provisions for reduced lot area as a condition of Consent Applications B34/19 and B35/19. A Location Plan is shown on APPENDIX 1 which is attached.

In the Official Plan, the subject land is designated as "Rural".

If you wish to be notified of the decision of the City of Belleville or Belleville Planning Advisory Committee in respect of this application, you must submit a **written** request to Matt MacDonald, Secretary, Planning Advisory Committee in person or by mail at: Belleville City Hall, 169 Front Street, Belleville, K8N 2Y8, or by email at: mtmacdonald@city.belleville.on.ca.

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For more information contact the Planning Section, Engineering & Development Services Department, 2nd floor, Belleville City Hall, 169 Front Street, Belleville, K8N 2Y8 (Telephone: 613-967-3288).

As per the requirements of the Planning Act, this application is confirmed to be complete.

Matt MacDonald, Secretary
Planning Advisory Committee




DATED at the City of Belleville this 12th day of December, 2019.

APPENDIX 1

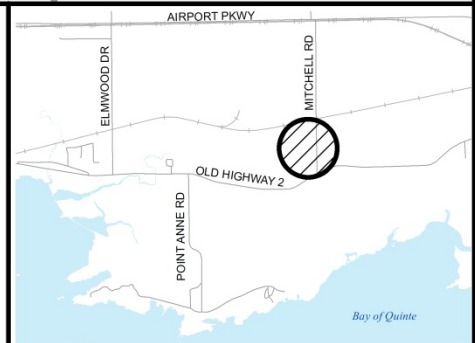


PROPOSED ZONING BY-LAW AMENDMENT

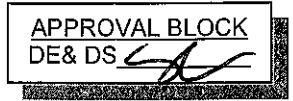
LOCATION: 125 MITCHELL RD

-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RU (RURAL) WITH SPECIAL PROVISIONS
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RR (RURAL RESIDENTIAL)
-  - PROPOSED ZONING CHANGE FROM RU (RURAL) TO RU WITH SPECIAL PROVISIONS

B-77-1098



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT
SERVICES DEPARTMENT



CITY OF BELLEVILLE

Andrew Chan, Policy Planner
Engineering and Development Services Department
Report No. PP-2020-04
January 6, 2020

To: Belleville Planning Advisory Committee

Subject: Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 3014, As Amended
125 Mitchell Rd, Part Lot 25, Concession 1, Parts 1-6, Plan 21R-255119
City of Belleville
APPLICANT: John Scheerhorn
OWNER: 732676 Ontario Inc.

File: B-77-1097

Recommendation:

"That Report No. PP-2020-04 dated January 6, 2020 regarding Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 3014, As Amended – 125 Mitchell Rd, Part Lot 25, Concession 1, Parts 1-6, Plan 21R-255119, City of Belleville, County of Hastings be received as information, and;

That Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department."

Background:

The application for the proposed amendment to Zoning By-Law Number 3014 was received by the City of Belleville on November 18, 2019.

The initial public meeting is held in accordance with the requirements of the Planning Act. The purpose of this meeting is for Committee Members to formally hear and receive public comments. The intent of this statutory public planning meeting is to receive public feedback and incorporate it into a recommendation report from Staff.

The Applicant is requesting to rezone the subject lands as a condition of

consent for applications B33/19 and B36/19. The retained parcel containing the existing dwelling would be rezoned Rural (RU) Zone and the two (2) severed parcels would be rezoned Rural Residential (RR) Zone.

The subject lands are identified on the attached Location Map (Attachment #1). Site details for the subject land:

Site Review	Description
Site Location	The subject lands are municipally known as 125 Mitchell Rd which is located north of Old Highway 2 and west of Mitchell Road
Site Size	Retained: 8.95 ha Severed: 1.0 ha each
Present Use	Agriculture with one dwelling
Proposed Use	Retained: agriculture with one dwelling Severed: two residential lots
Belleville Official Plan Designation	Rural Land Use
Present Zone Category	Prime Agriculture (PA) Zone
Proposed Zone Category	Rural (RU) Zone and Rural Residential (RR) Zone
Land uses to the north	Agriculture
Land uses to the east	Agriculture
Land uses to the south	Agriculture
Land uses to the west	Agriculture

No additional information, reports, or studies were provided with the rezoning application. This document has been available for public review at the Planning Department.

Proposal

The Application proposes to rezone the subject land from Prime Agriculture (PA) Zone to Rural (RU) Zone for the retained portion and Rural Residential (RR) Zone for the two severed portions as a condition of consent for applications B33/19 and B36/19.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement. Planning Staff will consider the following policies in the PPS:

- 1.1.1 Healthy, livable 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;
 - promoting cost-effective development patterns and standards to

minimize land consumption and servicing costs;

1.1.5.2 On rural lands located in municipalities, permitted uses are:

- a) the management or use of resources;
- b) resource-based recreational uses (including recreational dwellings);
- c) limited residential development;
- d) home occupations and home industries;
- e) cemeteries; and
- f) other rural land uses.

1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.

1.1.5.9 New land uses, including the creation of lots, and new or expanding livestock facilities, shall comply with the minimum distance separation formulae.

Official Plan

The land is designated "Rural" in the City's Official Plan (Attachment #2 – Official Plan Designation Map). Planning Staff use the policies within the Official Plan to make recommendations.

The Official Plan states that lands within the Rural Land Use designation shall be used predominantly for agricultural activity.

The Official Plan also states that while the majority of residential development will be directed to the urban serviced area and Hamlets, lands designated Rural land use may be used for limited low density residential development.

Furthermore, the Official Plan states only residential development that has minimal impact on natural environmental features and the rural character should be permitted. To that end, residential uses in areas designated Rural land use should reflect the character of existing development in the area, and should be encouraged on lots a minimum of 0.4 hectares in size with at least 50 metres of frontage on a public street.

Zoning By-law

Currently, the subject lands are zoned Prime Agriculture (PA) Zone. The applicant is proposing to rezone the retained parcel as Rural (RU) Zone and the two severed portions Rural Residential (RR) Zone.

The retained portion would be rezoned to Rural (RU) Zone, as the Official Plan designation is Rural.

Public Comments

On December 16, 2019, a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for January 6, 2020.

Similarly, a sign was placed on the subject land notifying the general public that a public meeting was scheduled for January 6, 2020.

At the time of writing this report, no correspondence from the public has been received by the City regarding this application.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, and the Health Unit.

At the time of writing this report, no comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire Department and Transportation & Operations Department have provided correspondence and they have no concerns.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:**Public**

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes including Residential Development.

Strategic objectives of the Residential Development theme include:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential growth for 10 years; and
- Provide for a variety of housing forms to reflect our changing demographics and need for affordability.

Conclusion:

Comments received at this public meeting, as well as subsequent written comments will be considered by the Engineering and Development Services Department in analysis of the application received to amend the City of Belleville Zoning By-law 3014. A recommendation report will be brought forward upon receipt of all agency and public comments.

Respectfully submitted,



Andrew Chan, BES
Policy Planner, Policy Planning
Engineering and Development Services Department

Attachments



- Attachment #1 – Location Map
- Attachment #2 – Official Plan Designation

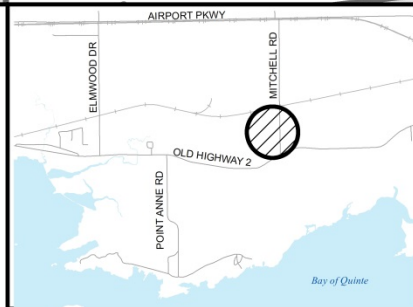
Attachment #1 – Location Map



PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: 125 MITCHELL RD

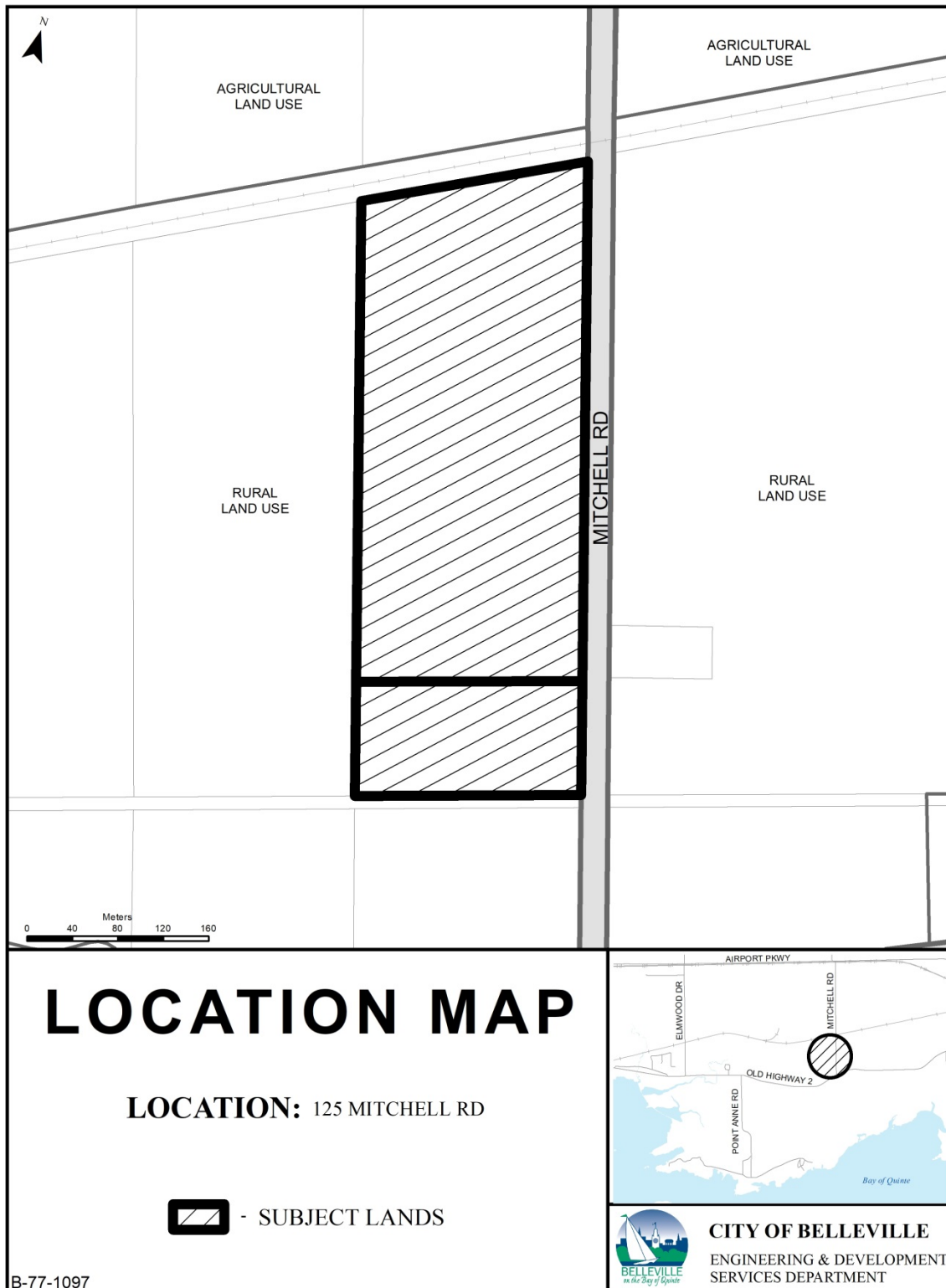
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RU (RURAL)
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RR (RURAL RESIDENTIAL)

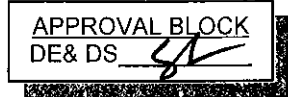


CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT
SERVICES DEPARTMENT

B-77-1097

Attachment #2 – Official Plan Designation





CITY OF BELLEVILLE

Andrew Chan, Policy Planner
Engineering and Development Services Department
Report No. PP-2020-05
January 6, 2020

To: Belleville Planning Advisory Committee

Subject: Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 3014, As Amended
125 Mitchell Rd, Part Lot 25, Concession BF, Part 8, Plan 21R-255119
City of Belleville
APPLICANT: John Scheerhorn
OWNER: 732676 Ontario Inc.

File: B-77-1098

Recommendation:

“That Report No. PP-2020-05 dated January 6, 2020 regarding Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 3014, As Amended – 125 Mitchell Rd, Part Lot 25, Concession BF, Part 8, Plan 21R-255119, City of Belleville, County of Hastings be received as information, and;

That Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department.”

Background:

The application for the proposed amendment to Zoning By-Law Number 3014 was received by the City of Belleville on November 18, 2019.

The initial public meeting is held in accordance with the requirements of the Planning Act. The purpose of this meeting is for Committee Members to formally hear and receive public comments. The intent of this statutory public planning meeting is to receive public feedback and incorporate it into a recommendation report from Staff.

The Applicant is requesting to rezone the subject lands in connection with

consent applications B34/19 and B35/19. The retained parcel would be rezoned Rural (RU) Zone with special provisions for reduced lot area, and the two (2) severed parcels would be rezoned Rural Residential (RR) Zone.

Staff note that at the December 19, 2019 Committee of Adjustment meeting that these two consent applications were deferred until more information regarding provincial minimum distance separation requirements from agricultural uses is obtained.

The subject lands are identified on the attached Location Map (Attachment #1). Site details for the subject land:

Site Review	Description
Site Location	The subject lands are municipally known as 125 Mitchell Rd which is located north of Old Highway 2 and west of Mitchell Road
Site Size	Retained: 5.868 ha Severed: 0.5 ha each
Present Use	Agriculture
Proposed Use	Retained: agriculture with special provisions for reduced lot area Severed: two residential lots
Belleville Official Plan Designation	Rural Land Use and Environmental Protection
Present Zone Category	Prime Agriculture (PA) Zone and Rural Zone (RU)
Proposed Zone Category	Rural (RU) Zone and Rural Residential (RR) Zone
Land uses to the north	Agriculture
Land uses to the east	Agriculture, Residential
Land uses to the south	Agriculture
Land uses to the west	Agriculture, Residential

No additional information, reports, or studies were provided with the rezoning application. This document has been available for public review at the Planning Department.

Proposal

The Application proposes to rezone the subject land from Prime Agriculture (PA) Zone and Rural (RU) Zone to Rural Residential (RR) Zone and Rural (RU) Zone with special provisions for reduced lot area in connection with consent applications B34/19 and B35/19.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement. Planning Staff will consider the following policies in the PPS:

1.1.1 Healthy, livable 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;
- promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;

1.1.5.2 On rural lands located in municipalities, permitted uses are:

- a) the management or use of resources;
- b) resource-based recreational uses (including recreational dwellings);
- c) limited residential development;
- d) home occupations and home industries;
- e) cemeteries; and
- f) other rural land uses.

1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.

1.1.5.9 New land uses, including the creation of lots, and new or expanding livestock facilities, shall comply with the minimum distance separation formulae.

Official Plan

The land is designated "Rural" and "Environmental Protection" in the City's Official Plan (Attachment #2 – Official Plan Designation Map). Planning Staff use the policies within the Official Plan to make recommendations.

The Official Plan states that lands within the Rural Land Use designation shall be used predominantly for agricultural activity.

The Official Plan also states that while the majority of residential development will be directed to the urban serviced area and Hamlets, lands designated Rural land use may be used for limited low density residential development.

Furthermore, the Official Plan states only residential development that has minimal impact on natural environmental features and the rural character should be permitted. To that end, residential uses in areas designated Rural land use should reflect the character of existing development in the area, and should be encouraged on lots a minimum of 0.4 hectares in size with at least 50 metres of frontage on a public street.

The Official Plan defines the Environmental Protection Land Use designation as lands requiring special care and regulation due to their inherent natural or

physical characteristics. Development is generally discouraged on and in close proximity to natural hazards or heritage features under this designation.

Zoning By-law

Currently, the subject lands are zoned Prime Agriculture (PA) Zone and Rural (RU) Zone. The applicant is proposing to rezone the two (2) severed parcels as Rural Residential (RR) Zone and the retained parcel as Rural (RU) Zone with special provisions for reduced lot area.

The retained portion would be rezoned to Rural (RU) Zone, as the Official Plan designation is Rural. The existing parcel is smaller than the minimum lot size for Rural (RU) Zone. The application proposes a further reduction in lot area for the retained parcel, which would require a site specific provision.

Rural (RU) Zoning Provisions	Required	Existing	Proposed
Minimum Lot Size	6.0 ha	5.868 ha	4.868 ha
Minimum Frontage	70 metres	213.3 metres	113.3 metres
Minimum Yards	Front: 15 metres Exterior: 15 metres Interior: 10 metres Rear: 7.5 metres	No buildings	Unchanged
Maximum Height (Non-Farm Buildings)	15 metres	No buildings	Unchanged
Maximum Lot Coverage	None	No buildings	Unchanged
Minimum Landscaped OpenSpace	10 %	Existing complies	Unchanged

As a portion of the subject land is designated as Environmental Protection in the Official Plan, Staff will be in discussion with Quinte Conservation regarding rezoning this land to the Hazard (H) Zone. This area is within what would be the retained parcel and not affect the rezoning of the severed parcels to Rural Residential (RR) Zone.

Public Comments

On December 16, 2019, a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for January 6, 2020.

Similarly, a sign was placed on the subject land notifying the general public that a public meeting was scheduled for January 6, 2020.

At the time of writing this report, no correspondence from the public has been received by the City regarding this application.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, and the Health Unit.

At the time of writing this report, no comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire Department and Transportation & Operations Department have provided correspondence and they have no concerns.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes including Residential Development.

Strategic objectives of the Residential Development theme include:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential growth for 10 years; and
- Provide for a variety of housing forms to reflect our changing demographics and need for affordability.

Conclusion:

Comments received at this public meeting, as well as subsequent written comments will be considered by the Engineering and Development Services Department in analysis of the application received to amend the City of Belleville Zoning By-law 3014. A recommendation report will be brought forward upon receipt of all agency and public comments.

Respectfully submitted,



Andrew Chan, BES
Policy Planner, Policy Planning
Engineering and Development Services Department

Attachments




- Attachment #1 – Location Map
Attachment #2 – Official Plan Designation

Attachment #1 – Location Map

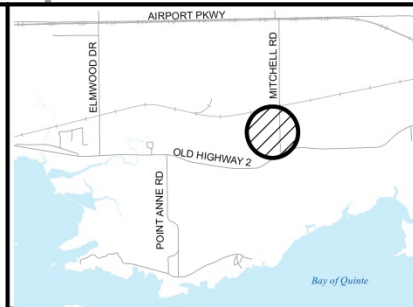


PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: 125 MITCHELL RD

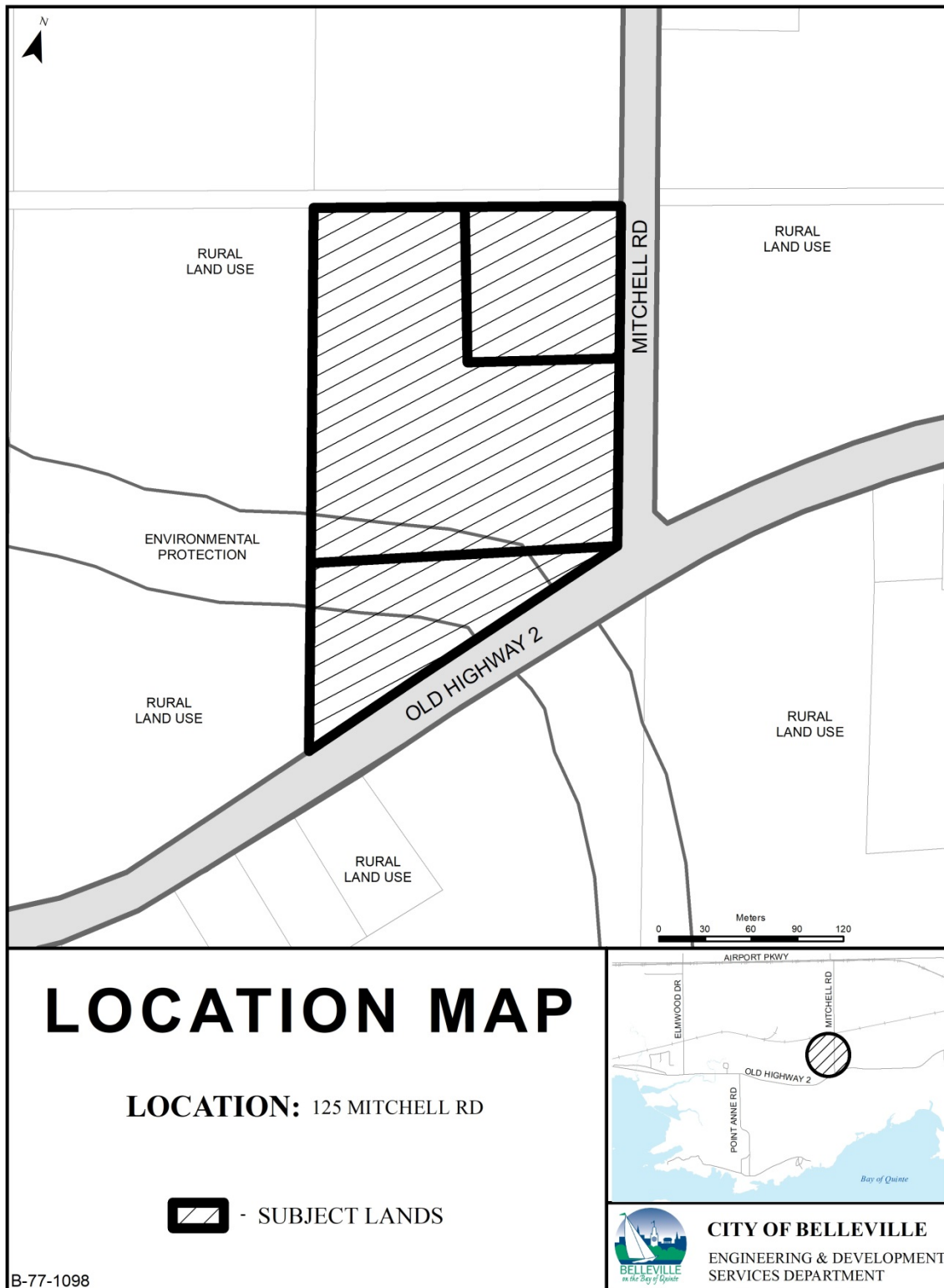
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RU (RURAL) WITH SPECIAL PROVISIONS
-  - PROPOSED ZONING CHANGE FROM PA (PRIME AGRICULTURE) TO RR (RURAL RESIDENTIAL)
-  - PROPOSED ZONING CHANGE FROM RU (RURAL) TO RU WITH SPECIAL PROVISIONS

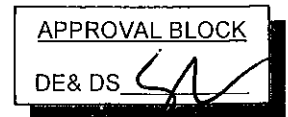
B-77-1098



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT SERVICES DEPARTMENT

Attachment #2 – Official Plan Designation





CITY OF BELLEVILLE

Thomas Deming, Principal Planner
Engineering and Development Services Department
Report No. PP-2020-01
January 6, 2020

To: Belleville Planning Advisory Committee

Subject: Recommendation Report
Proposed Zoning By-Law Amendment (By-Law 10245)
199 Dundas Street East
City of Belleville
APPLICANT/OWNER: Joseph Chacko
AGENT: MHSA Properties Ltd.

File: B-77-1094

Recommendation:

That the Planning Advisory Committee recommends the following to City Council:

“THAT Application B-77-1094 to amend Zoning By-Law 10245, as amended, regarding 199 Dundas Street East, City of Belleville, County of Hastings, be APPROVED as follows:

THAT Zoning By-Law 10245, as amended, be amended by rezoning the subject land from Highway Commercial (C3) Zone to Highway Commercial (C3) Zone with special provisions to add medical clinic as a permitted use.”

Strategic Plan Alignment:

This application aligns with the City of Belleville’s Strategic Plan including the Industrial and Commercial Development theme and the Community Health, Safety and Security theme.

Strategic objectives of the Industrial and Commercial Development theme:

- Ensure suitable serviced employment lands are available to meet the needs of all potential industrial and commercial investments;
- Market the City’s unique strengths to attract leading-edge industries that provide high paying job opportunities;
- Support initiatives that create an available skilled labour force,

including programs to retain youth in the community; and

Strategic objectives of the Community Health, Safety and Security theme:

- Support and advocate for the establishment of responsive public health services and accessible medical care; and

Background:

The application for the proposed amendment to Zoning By-Law Number 10245 was received by the City of Belleville on October 30, 2019.

An initial public meeting was held in accordance with the requirements of the Planning Act on December 2, 2019. The purpose of this meeting was for Committee Members to formally hear and receive public comments. At the meeting, the owner of the property spoke in favour of the application. No other members of the public spoke in favour or against the application at the meeting.

The Planning Advisory Committee reviewed Report No. PP-2019-83 (Attachment #1). Now that input from the public, commenting agencies, and municipal departments had been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department, Staff has prepared a recommendation report.

The subject land is identified on the attached Location Map (Attachment #2). Site details for the subject land include:

Site Review	Description
Site Location	The subject land is municipally known as 199 Dundas Street East which is located south of Dundas Street East, east of South Forster Avenue, and west of Burnham Street
Site Size	1910.00 m ²
Present Use	Office
Proposed Use	Medical Clinic
Belleville Official Plan Designation	Commercial Land Use
Present Zone Category	Highway Commercial (C3) Zone
Proposed Zone Category	Highway Commercial (C3) Zone with special provisions to include Medical Clinic as a permitted use
Land uses to the north	Single-detached dwellings
Land uses to the east	Business office
Land uses to the south	Parking lot
Land uses to the west	Restaurant, business office, and retail store

An aerial map was submitted with the application (Attachment #3). No other

additional information, reports, or studies were provided with the rezoning application. This document has been available for public review at the Planning Department.

Proposal

The Application proposes to rezone the subject land from Highway Commercial (C3) Zone to Highway Commercial (C3) Zone with special provisions to include a medical clinic as a permitted use.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement.

Planning Staff is of the opinion that the application is supported by and is consistent with the PPS for the following reasons:

- It promotes efficient development and land use patterns which sustain the financial well-being of the Province and the municipality over the long term;
- It promotes cost-effective development patterns and standards to minimize land consumption and servicing costs;
- The subject land is within a settlement area which is identified by the PPS as the focus of growth and development.
- The expansion of the existing use is supported by:
 - existing services; and
 - existing transit connections.

Official Plan

The subject land is designated "Commercial" in the City's Official Plan (Attachment #4 – Official Plan Designation Map).

Planning Staff is of the opinion that the proposed development is supported by and is consistent with the policies of the Official Plan for the following reasons:

- The development is within the Bayview Mall/Dundas Street East Corridor, which is located generally along Dundas Street East and is a significant commercial area generally geared to service the community;
- The Bayview Mall/Dundas Street East Corridor permits this type of use; and
- There is sufficient off-street parking available.

Zoning By-law

The subject land is zoned Highway Commercial (C3) Zone. The Application proposes to rezone the subject land to Highway Commercial (C3) Zone with special provisions to include a medical clinic as a permitted use.

Zoning By-Law 10245 lists business, professional, administrative and/or government offices as a permitted use which permits a single practitioner to operate a medical office. The Zoning By-Law states that a medical clinic is for the purpose of consultation, diagnosis, and treatment of patients by two or more legally qualified physicians, dentists, optometrists, chiropodists, chiropractors and/or drugless practitioners, together with their qualified assistant(s). In other words, the current zoning permits a single doctor to run a practice but requires rezoning to allow for two or more doctors.

Medical clinics are a permitted use within the Community Commercial (CC) Zone, the General Commercial (C2) Zone, the Non-Retail Commercial (C5) Zone, and within nine Highway Commercial (C3) exception zones.

Public Comments

On November 8, 2019 a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, a sign was placed on the subject lands notifying the general public that a public meeting was scheduled for December 2, 2019.

At the public meeting, Adam Zegouras, president of MHSA Properties spoke in favour of the application stating the property has been vacant for two years and that they have had difficulty finding tenants. He also noted the intended use would have a low client volume.

At the time of writing this report, no other correspondence from the public has been received by the City regarding this application.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC,

Quinte Conservation and the Health Unit.

At the time of writing this report, the Ministry of Transportation, Elexicon Energy, and Hydro One have provided they have no issues or concerns with the proposal. No other comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the Development Engineer, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire and Rescue, Parks and Open Spaces Department, and Approvals Section have provided correspondence and they have no concerns.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Analysis:

The existing zoning permits one doctor to operate a practice at this location. If the proposal is approved to add medical clinic as a permitted use, it will allow two or more doctors to operate a practice at this location.

The Official Plan supports medical clinics in this area and past history shows

that the Highway Commercial (C3) Zone has been amended nine times to permit this use within site specific Highway Commercial (C3) exception zones.

Conclusion:

Planning Staff is of the opinion that the proposed development is supported by and is consistent with both the Provincial Policy Statement and the policies of the Official Plan, particularly the policies of the Bayview Mall/Dundas Street East Corridor.

Additionally, this proposal meets a number of strategic objectives from the City's Strategic Plan.

Staff supports and recommends approval of this application as it represents good planning.

Respectfully submitted



Thomas Deming, CPT
Principal Planner, Policy Planning
Engineering and Development Services Department

Attachments

Attachment #1 –	Report No. PP-2019-83
Attachment #2 –	Location Map
Attachment #3 –	Site Plan
Attachment #4 –	Official Plan Designation



APPROVAL BLOCK DE& DS _____

CITY OF BELLEVILLE

Andrew Chan, Policy Planner
Engineering and Development Services Department
Report No. PP-2019-83
December 2, 2019

To: Belleville Planning Advisory Committee

Subject: Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 10245, As Amended
199 Dundas Street East
City of Belleville
APPLICANT: Joseph Chacko
OWNER: MHSA Properties Ltd.

File: B-77-1094

Recommendation:

"That Report No. PP-2019-83 dated December 2, 2019 regarding Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law Number 10245, As Amended – 199 Dundas Street East, City of Belleville, County of Hastings be received as information, and;

That Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department."

Background:

The application for the proposed amendment to Zoning By-Law Number 10245 was received by the City of Belleville on October 30, 2019.

The initial public meeting is held in accordance with the requirements of the Planning Act. The purpose of this meeting is for Committee Members to formally hear and receive public comments. The intent of this statutory public planning meeting is to receive public feedback and incorporate it into a recommendation report from Staff.

The Applicant has indicated the intent of the rezoning is to permit the use of medical clinic located at 199 Dundas Street East.

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December 2, 2019

The subject land is identified on the attached Location Map (Attachment #1).
Site Details for the subject land:

Site Review	Description
Site Location	The subject land are municipally known as 199 Dundas Street East which is located south of Dundas Street East, east of South Forster Avenue, and west of Burnham Street
Site Size	1910.00 m ²
Present Use	Office
Proposed Use	Medical Clinic
Belleville Official Plan Designation	Commercial Land Use
Present Zone Category	Highway Commercial (C3) Zone
Proposed Zone Category	Highway Commercial (C3) Zone with special provisions to include Medical Clinic as a permitted use
Land uses to the north	Single-detached dwellings
Land uses to the east	Business office
Land uses to the south	Parking lot
Land uses to the west	Restaurant, business office, and retail store

An aerial map was submitted with the application (Attachment #2). No other additional information, reports, or studies were provided with the rezoning application. This document has been available for public review at the Planning Department.

Proposal

The Application proposes to rezone the subject land from Highway Commercial (C3) Zone to Highway Commercial (C3) Zone with special provisions to include a medical clinic as a permitted use.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement. Planning Staff will consider the following policies in the PPS:

1.1.1 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) promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;

1.1.3.1 Settlement areas shall be the focus of growth and development, and

PP-2019-83

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December 2, 2019

their vitality and regeneration shall be promoted.

1.7.1 Long-term economic prosperity should be supported by:

- a) promoting opportunities for economic development and community investment-readiness;

Official Plan

The land is designated "Commercial" in the City's Official Plan (Attachment #3 – Official Plan Designation Map). Planning Staff use the policies within the Official Plan to make recommendations.

The Official Plan states that commercial land uses are dependent upon vehicular access. The property should have sufficient on-site parking that is integrated to ensure safe movement of vehicular and pedestrian traffic. Parking lots should be enhanced through appropriate landscaping and lighting, which should ensure public safety, oriented away from nearby residential properties and not interfere with visibility on public streets.

The subject land specifically falls within the Bayview Mall/Dundas Street East Corridor, which is identified as lands along Dundas Street East from the City Centre to Haig Road. Land uses in this corridor should generally be geared to service the community. Permitted uses include motels/hotels, conference facilities, restaurants, retail stores, personal service uses, automotive service uses, business, professional and administrative offices, recreational uses, places of entertainment, private clubs, theatres, community facilities, and all types of commercial services and parking lots. Additionally, commercial uses in the corridor should minimize adverse impacts on adjacent residential land uses.

The subject land also is within the Bayshore Planning Special Policy Area. To increase the recreational potential, the uses that are encouraged in this special policy area include open spaces, and compatible commercial, public facility and residential land uses. Development should be sensitive to issues of urban design, environmental conditions and the area's setting along the shores of the Bay of Quinte.

Zoning By-law

Currently, 199 Dundas Street East is zoned Highway Commercial (C3) Zone. The Application proposes to rezone the subject land to Highway Commercial (C3) Zone with special provisions to include a medical clinic as a permitted use.

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December 2, 2019

The following uses are currently permitted on the subject land:

Highway Commercial (C3) Zone Permitted Uses	
• assembly hall;	• motor vehicle body shop, only if wholly enclosed;
• bank and/or trust company;	• motor vehicle rental agency;
• billiard parlour;	• motor vehicle repair garage;
• bowling alley;	• motor vehicle sales room and lot;
• coin-operated laundry;	• recreational vehicle sales and/or service outlet;
• dog kennel;	• retail store;
• drive-in restaurant;	• service shop;
• dry-cleaning establishment;	• tavern;
• eating establishment;	• theatre;
• hotel;	• business, professional, administrative and/or government offices;
• motel;	• public use.

Currently, the Highway Commercial (C3) Zone does not list medical clinic as a permitted use.

Zoning By-Law 10245 defines medical clinic as a building or portion of a building used solely for the purpose of consultation, diagnosis and treatment of patients by two or more legally qualified physicians, dentists, optometrists, chiropodists, chiropractors and/or drugless practitioners, together with their qualified assistant. A building for a medical clinic may include administrative offices, waiting rooms, examination rooms, treatment rooms, laboratories and/or pharmacies used in connection and forming part of the practises, but shall not include accommodation for inpatient care, operating rooms for major surgery.

Public Comments

On November 8, 2019 a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, a sign was placed on the subject land notifying the general public that a public meeting was scheduled for December 2, 2019.

At the time of writing this report, no correspondence from the public has been received by the City regarding this application.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin &

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December 2, 2019

Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, Quinte Conservation and the Health Unit.

Canadian Pacific Limited has also been notified of this application due to the lands' proximity to their railway line.

The Ministry of Transportation and Hydro One have provided correspondence and they have no concerns.

At the time of writing this report, no other comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire Department has provided correspondence and they have no concerns.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

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December 2, 2019

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes including, Industrial and Commercial Development, and Community Health, Safety and Security.

Strategic objectives of the Industrial and Commercial Development theme include:

- Ensure suitable serviced employment lands are available to meet the needs of all potential industrial and commercial investments
- Market the City's unique strengths to attract leading-edge industries that provide high paying job opportunities
- Encourage remediation and redevelopment of underutilized lands
- Support initiatives that create an available skilled labour force, including programs to retain youth in the community

Strategic objectives of the Community Health, Safety and Security theme include:

- Support and advocate for the establishment of responsive public health services and accessible medical care
- Encourage development of a viable social safety net

Conclusion:

Comments received at this public meeting, as well as subsequent written comments will be considered by the Engineering and Development Services Department in analysis of the application received to amend the City of Belleville Zoning By-law 10245. A recommendation report will be brought forward upon receipt of all agency and public comments.

Respectfully submitted,

Andrew Chan, BES
Policy Planner, Policy Planning
Engineering and Development Services Department

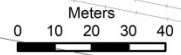
PP-2019-83

7

December 2, 2019


Attachments

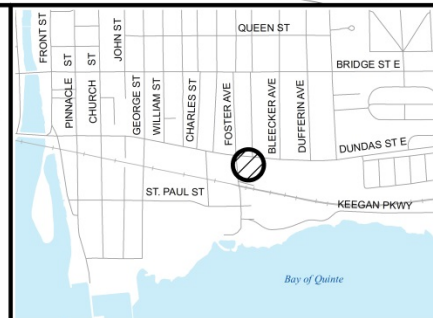
- Attachment #1 – Location Map
- Attachment #2 – Aerial Map
- Attachment #3 – Official Plan Designation



PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: 199 DUNDAS ST E

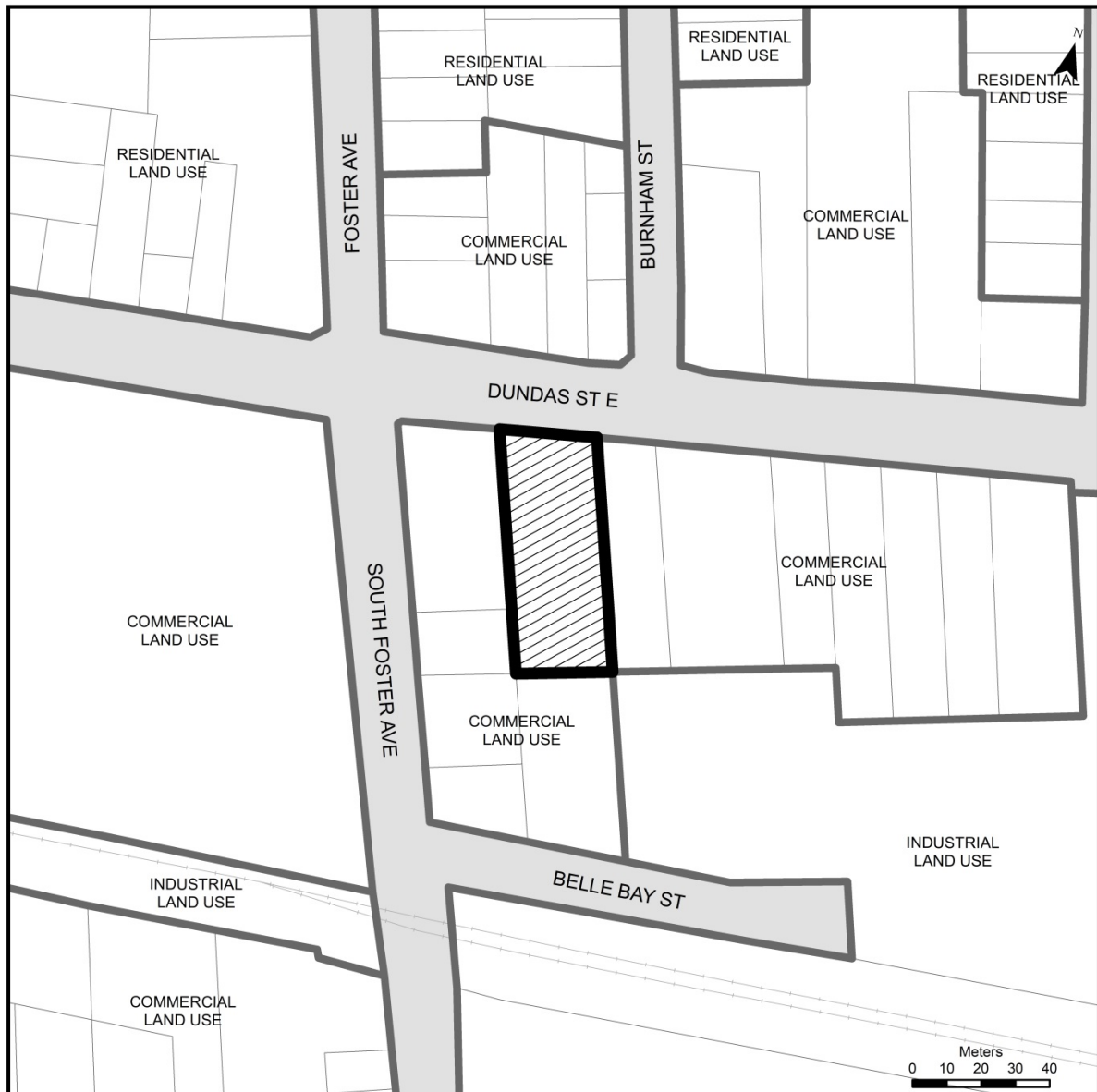
 - PROPOSED ZONING CHANGE FROM C3 (HIGHWAY COMMERCIAL) TO C3 WITH SPECIAL PROVISIONS



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT SERVICES DEPARTMENT

B-77-1094

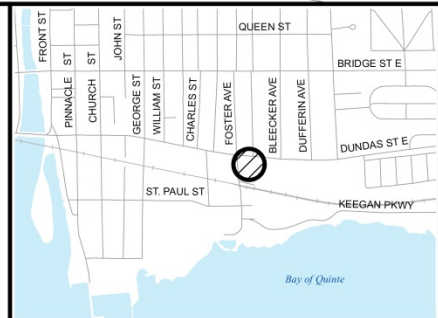




LOCATION MAP

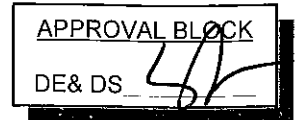
LOCATION: 199 DUNDAS ST E

 - SUBJECT LANDS



CITY OF BELLEVILLE
 ENGINEERING & DEVELOPMENT
 SERVICES DEPARTMENT

B-77-1094



CITY OF BELLEVILLE

Thomas Deming, Principal Planner
Engineering and Development Services Department
Report No. PP-2020-02
January 6, 2020

To: Belleville Planning Advisory Committee

Subject: Recommendation Report
Proposed Zoning By-Law Amendment (By-Law 10245)
8 & 12 King Street
City of Belleville
APPLICANT/OWNER: UCB Canada
AGENT: Investment Management Syndicate Ltd.

File: B-77-1095

Recommendation:

That the Planning Advisory Committee recommends the following to City Council:

“THAT Application B-77-1095 to amend Zoning By-Law 10245, as amended, regarding 8 & 12 King Street, City of Belleville, County of Hastings, be APPROVED as follows:

THAT Zoning By-Law 10245, as amended, be amended by rezoning the subject land from Highway Commercial (C3) Zone to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street West.”

Strategic Plan Alignment:

The City of Belleville’s Strategic Plan identifies nine strategic themes including Residential Development and City Centre Revitalization:

Strategic objectives of the Residential Development theme include:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential growth for 10 years
- Provide for a variety of housing forms to reflect our changing demographics and need for affordability

Strategic objectives of the City Centre Revitalization theme include:

- Encourage the creation of a vibrant downtown, accented with pedestrian-friendly services and unique residential and commercial opportunities.

Background:

The application for the proposed amendment to Zoning By-Law Number 10245 was received by the City of Belleville on October 30, 2019.

The application proposes to develop the site as a parking lot associated with the building at 2 Dundas Street West. The application is in relation to severance application B27/19 which gave consent to sever the subject land. The severance has been given provisional approval until the conditions of the severance are met, the appeal period is over, and the deed has been filed.

Council approved the rezoning application for 2 Dundas Street West at their April 8, 2019 meeting with the following resolution:

1. "THAT Application B-77-1073 to amend Zoning By-Law Number 10245, as amended, for land described as 2 Dundas Street West, City of Belleville County of Hastings be APPROVED as follows:

THAT Zoning By-Law Number 10245, as amended, be amended by rezoning the subject lands from C7-2 (Motor Vehicle Commercial Zone with special provisions) to C2 (General Commercial Zone with special provisions) to permit a 6-storey mixed use building with reduced parking requirements and off-site parking on adjacent sites; and

THAT the City enter into an agreement to exempt the proposed 6-storey mixed use building at 2 Dundas Street West from providing the required parking of the C2-18 Zone in exchange for the payment to the Municipality of a sum of money as identified through the City's cash-in-lieu policy representing 8 parking spaces to be used by the Municipality to develop public parking facilities; and

THAT the Applicant provides a legal agreement registered on the title of both 2 Dundas Street West and 180 Coleman Street to the satisfaction of the City assigning property at 180 Coleman Street for the purpose of providing parking for 2 Dundas Street West

2. THAT a by-law amending Zoning By-Law Number 10245 being a by-law to regulate the use of land and the height, bulk, location, size, floor area, spacing, character and use of buildings, be prepared for Council's consideration."

An initial public meeting for this application was held in accordance with the requirements of the Planning Act on December 2, 2019. The purpose of this meeting was for Committee Members to formally hear and receive public comments. At the meeting, Mohammad Shahid of Investment Management Syndicate Ltd. spoke in favour of the application. No other members of the public spoke in favour or against the application at the meeting.

The Planning Advisory Committee reviewed Report No. PP-2019-84 (Attachment #1). Now that input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department, Staff has prepared a recommendation report.

The subject land is identified on the attached Location Map (Attachment #2). Site details for the subject land include:

Site Review	Description
Site Location	The subject land is municipally known as 8 & 12 King Street and located east of James Street, north of Dundas Street West, and south of Colborne Street
Site Size	910.5 square metres
Present Use	Vacant
Proposed Use	Parking lot
Belleville Official Plan Designation	City Centre
Present Zone Category	C3 – Highway Commercial
Proposed Zone Category	C2 – General Commercial Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street
Land uses to the north	Parking lot for court house
Land uses to the east	Vacant (future residential building)
Land uses to the south	Vacant (future mixed use building)
Land uses to the west	Parking lot

In support of the application, the following was submitted:

- A survey plan.

This document is included with this report as Attachment #3 and has been available for public review at the Planning Department.

Proposal

The Applicant proposes to rezone the subject lands from Highway Commercial (C3) Zone to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement.

Planning Staff is of the opinion that the application is supported by and is consistent with the PPS for the following reasons:

- It promotes efficient development and land use patterns which sustain the financial well-being of the Province and the municipality over the long term;
- It promotes cost-effective development patterns and standards to minimize land consumption and servicing costs;
- The subject land is within a settlement area which is identified by the PPS as the focus of growth and development.

Official Plan

The subject land is designated "City Centre" in the City's Official Plan (Attachment #4 – Official Plan Designation Map).

Planning Staff is of the opinion that the proposed development is supported by and conforms with the policies of the Official Plan for the following reasons:

- Parking lots are permitted use under the City Centre designation;
- The provision of public and private parking facilities is encouraged to meet the needs of all uses in the City Centre; however, parking standards in some parts of the City Centre may be reduced;
- Major new development should be encouraged to provide on-site parking; this is particularly important for residential uses. However, it may not always be practical or appropriate to provide on-site parking due to location or access concerns; in such instances, the cash-in-lieu provisions as set out in Section 8.1.5 b) of this Plan may be employed at the discretion of the Municipality.

The last provision is especially important as it recognizes that on-site parking may not always be appropriate and offers an alternative of cash-in-lieu. This application proposes a different alternative of providing the parking on an adjacent site.

Zoning By-law

The subject land is currently zoned Highway Commercial (C3) Zone. The application proposes to amend the zoning to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property

located at 2 Dundas Street.

The property located at 2 Dundas Street is zoned General Commercial (C2-49) Zone. The C2-49 site specific zone states parking areas are not required to be provided on the same lot on which the main use is located. There is not currently a zone in By-Law 10245 that permits private parking associated with another property as the main use on a lot.

The General Commercial (C2) Zone lists "public parking area" as a permitted use. The application proposes a use similar to this without the public component.

Public Comments

On November 8, 2019 a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, a sign was placed on the subject lands notifying the general public that a public meeting was scheduled for December 2, 2019.

At the meeting, Mohammad Shahid of Investment Management Syndicate Ltd. spoke in favour of the application. No other members of the public spoke in favour or against the application at the meeting.

At the time of writing this report, no other correspondence from the public has been received by the City regarding this application.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, Quinte Conservation and the Health Unit.

At the time of writing this report, the Ministry of Transportation and Hydro One have provided they have no issues or concerns with the proposal.

Elexicon Energy has indicated they are working on a design for this site as part of their BGS.19.0111 (#2 Dundas St. W) Harbourview project.

No other comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the Development Engineer, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire and Rescue and Parks and Open Spaces Department have provided correspondence and they have no concerns.

The Approvals Section noted that this proposal is subject to site plan approval.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Analysis:

The Official Plan contemplates the City provide flexibility when redevelopment occurs in the City Centre in order to not deter development.

The rezoning application (File: B-77-1073) for 2 Dundas Street West was considered by the Planning Advisory Committee and approved by Council to permit off-site parking on an adjacent lot. This application is for the adjacent lot that now seeks to add "parking lot in association with 2 Dundas Street

West" as a permitted use. By approving this application, the development at 2 Dundas Street West would have sufficient of parking.

The application for 2 Dundas Street West included a Transportation Impact Statement which reviewed parking requirements of the overall development and concluded that with the adjacent provincial parking lot, the request for reduced parking could be accommodated.

Staff supports this application.

Conclusion:

Planning Staff is of the opinion that the proposed development is supported by and is consistent with both the Provincial Policy Statement and the policies of the Official Plan.

Additionally, this proposal meets a number of strategic objectives from the City's Strategic Plan.

Staff supports and recommends approval of this application as it represents good planning.

Respectfully submitted



Thomas Deming, CPT
Principal Planner, Policy Planning
Engineering and Development Services Department

Attachments

Attachment #1 –	Report No. PP-2019-84
Attachment #2 –	Location Map
Attachment #3 –	Survey Plan
Attachment #4 –	Official Plan Designation



APPROVAL BLOCK DE& DS _____

CITY OF BELLEVILLE

Thomas Deming, Principal Planner
Engineering and Development Services Department
Report No. PP-2019-84
December 2, 2019

To: Belleville Planning Advisory Committee

Subject: Notice of Complete Application and Introductory Public Meeting for Application for Proposed Amendment to Zoning By-Law 10245 RE: 8 & 12 King Street
City of Belleville
OWNER/APPLICANT: UCB Canada
AGENT: Investment Management Syndicate Ltd.

File: B-77-1095

Recommendation:

That Report No. PP-2019-84 dated December 2, 2019 regarding Proposed Amendment to Zoning By-Law Number 10245, as Amended – 8 & 12 King Street, City of Belleville, County of Hastings be received as information, and;

That Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department.

Background:

A rezoning application for 8 & 12 King Street was received on October 30, 2019. The application proposes to develop the site as a parking lot associated with the building at 2 Dundas Street. The application is in relation to severance application B27/19 which gave consent to sever the subject land. The severance has been given provisional approval until the conditions of the severance are met, the appeal period is over, and the deed has been filed.

The initial public meeting is held in accordance with the requirements of the Planning Act. The purpose of this meeting is for Committee Members to formally hear and receive public comments. The intent of this statutory public planning meeting is to receive public feedback and incorporate it into a recommendation report from staff.

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The subject land is identified on the attached Location Map (Attachment #1).

Site details for the subject land:

Site Review	Description
Site Location	The subject land is municipally known as 8 & 12 King Street and located east of James Street, north of Dundas Street West, and south of Colborne Street
Site Size	910.5 square metres
Present Use	Vacant
Proposed Use	Parking lot
Belleville Official Plan Designation	City Centre
Present Zone Category	C3 – Highway Commercial
Proposed Zone Category	C2 – General Commercial Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street
Land uses to the north	Parking lot for court house
Land uses to the east	Vacant (future residential building)
Land uses to the south	Vacant (future mixed use building)
Land uses to the west	Parking lot

In support of the application, the following was submitted:

- A survey plan.

This document is included with this report as Attachment #2 and has been available for public review at the Planning Department.

Proposal

The Applicant proposes to rezone the subject lands from Highway Commercial (C3) Zone to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement.

Planning Staff will consider the following policies in the PPS:

1.1.1 Healthy, livable and safe communities are sustained by:

- a) promoting efficient development and land use patterns which

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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 impacts of a changing climate.

1.1.3.2 Land use patterns within settlement areas shall be based on:

- a) densities and a mix of land uses which:
 - 1. efficiently use land and resources;
 - 2. 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;

Official Plan

The current Official Plan was adopted by City Council on June 18, 2001 and approved by the Ministry of Municipal Affairs and Housing on January 7, 2002. Since 2002, a significant number of new and updated policies and legislation has occurred at the provincial level. The City is currently

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undertaking a Municipal Comprehensive Review and update to the policies of the Official Plan to ensure they comply with current provincial policies and legislation. The City will have to comply with the province's new legislation, regulations, and policies when updating the Official Plan.

Planning Staff will use the policies within the Official Plan to make a recommendation. The land is designated "City Centre" in the City's Official Plan (Attachment #3 – Official Plan Designation Map).

Staff will consider the following Official Plan policies in relation to this application:

3.8.1 City Centre Permitted Uses

The uses permitted in the City Centre shall include a broad range of commercial, residential and community facility uses, as follows:

- a) Commercial and employment uses, including hotels, conference facilities, retail uses, business, professional and administrative offices, outdoor cafes and restaurants, places of entertainment, private clubs, theatres, art galleries, marinas, recreational uses, all types of commercial services and parking lots.
- b) Medium and high density residential uses including seniors' residences and retirement communities, either as main uses or within mixed use developments.

3.8.4 Parking Strategies

- a) Vehicular parking is important to the success of the City Centre. The provision of public and private parking facilities is encouraged to meet the needs of all uses in the City Centre. In recognition of the concentration of uses and the frequency of multi-purpose trips to the City's core, parking standards in some parts of the City Centre may be reduced.
- b) Major new development should be encouraged to provide on-site parking; this is particularly important for residential uses. However, it may not always be practical or appropriate to provide on-site parking due to location or access concerns; in such instances, the cash-in-lieu provisions as set out in Section 8.1.5 b) of this Plan may be employed at the discretion of the Municipality.

Zoning By-law

The subject land is currently zoned Highway Commercial (C3) Zone. The application proposes to amend the zoning to General Commercial (C2) Zone

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with special provisions to permit a parking lot associated with the property located at 2 Dundas Street.

The property located at 2 Dundas Street is zoned General Commercial (C2-49) Zone. The C2-49 site specific zone states parking areas are not required to be provided on the same lot on which the main use is located. There is not currently a zone in By-Law 10245 that permits private parking associated with another property as the main use on a lot.

The General Commercial (C2) Zone lists "public parking area" as a permitted use. The application proposes a use similar to this without the public component.

Public Comments

On November 8, 2019 a written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, a sign was placed on the subject lands notifying the general public that a public meeting was scheduled for December 2, 2019.

Both notices state that additional information is available in the City's planning files for review by any member of the public during business hours.

At the time of writing this report, no correspondence from the public has been received by the City.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Veridian Connections, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, Quinte Conservation and the Health Unit.

Hydro One and the Ministry of Transportation have provided that they have no objections to the application.

At the time of writing this report, no other comments or concerns have been received regarding this application.

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Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the Development Engineer, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire Department have provided they have no objections to the application.

The Approvals Section will identify the appropriate mechanism to ensure the parking on the subject land remains associated with the use at 2 Dundas Street.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes including Industrial and Commercial Development, Residential Development, City Centre Revitalization, Culture and Recreation, and Tourism and Waterfront Revitalization.

Strategic objectives of the Residential Development theme include:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential

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growth for 10 years

- Provide for a variety of housing forms to reflect our changing demographics and need for affordability

Strategic objectives of the City Centre Revitalization theme include:

- Encourage the creation of a vibrant downtown, accented with pedestrian-friendly services and unique residential and commercial opportunities.
- Promote the City's core as a centre for government, financial, legal and related services

Conclusion:

Comments received at this public meeting, as well as subsequent written comments will be considered by the Engineering and Development Services Department in analysis of the application received to amend the City of Belleville Zoning By-law 10245. A recommendation report will be brought forward upon receipt of all agency and public comments. In addition, staff will research and review additional resources to aid in providing a thorough recommendation.

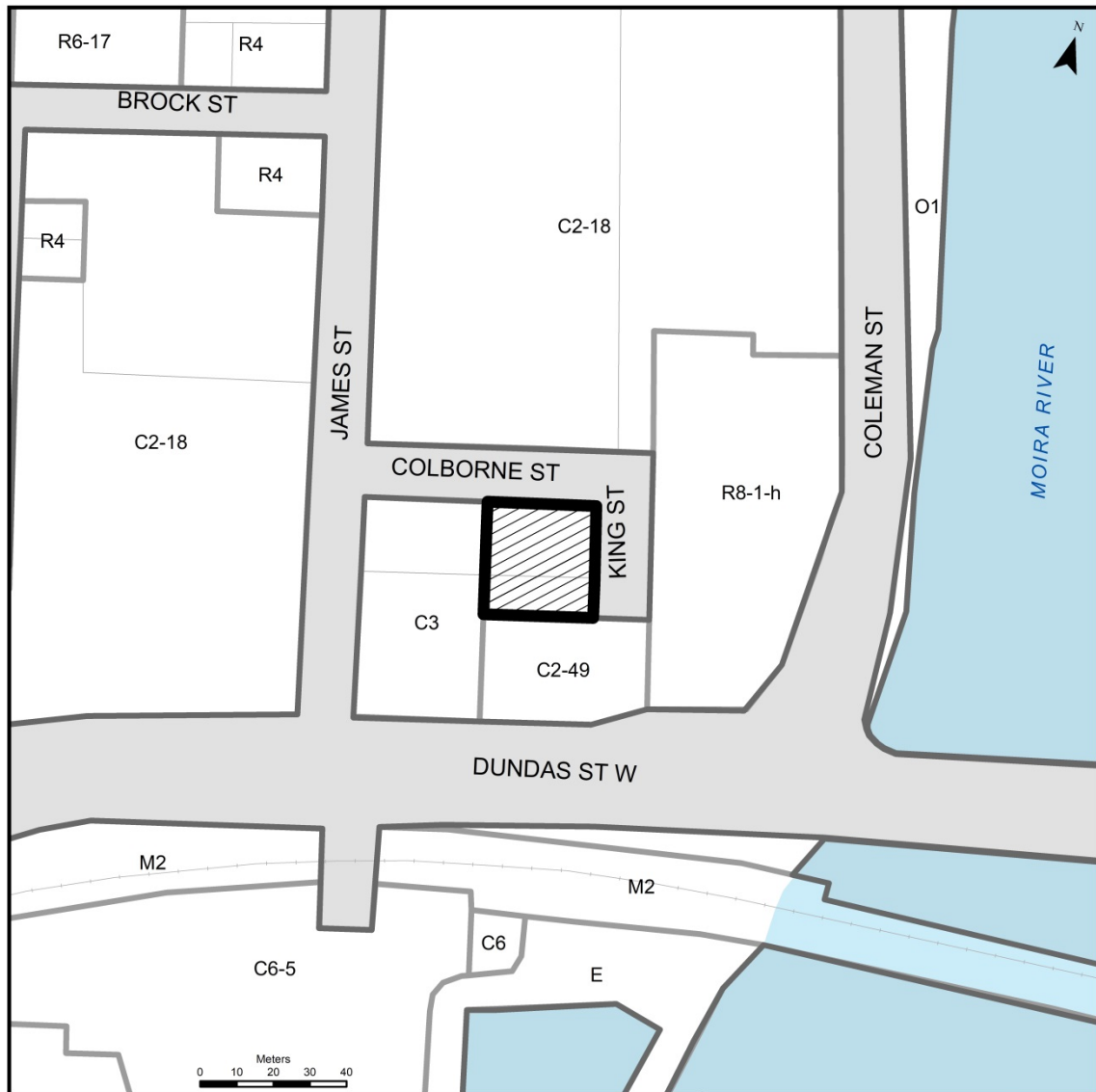
Respectfully submitted



Thomas Deming
Principal Planner, Policy Planning
Engineering and Development Services Department

Attachments

- Attachment #1 – Location Map
- Attachment #2 – A survey plan
- Attachment #3 – Official Plan Designation Map



PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: 8-12 KING ST



PROPOSED ZONING CHANGE FROM C3 (HIGHWAY COMMERCIAL) TO C2 (GENERAL COMMERCIAL) WITH SPECIAL PROVISIONS



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT SERVICES DEPARTMENT

B-77-1095

PLAN 21R-10673
RECEIVED AND DEPOSITED
DATE Nov 3rd 1987

DATE NOVEMBER 2 1987
R. Douglas Boyce
R. DOUGLAS BOYCE
DEPUTY LAND REGISTRAR
OF HASTINGS (21)

SCHEDULE				
PART	LOT	PLAN	INSTRUMENT	AREA
1	9	14	223719	5392.5 SQ. FT.
2	10	14	188918	2917.4 SQ. FT.
3	10	14	RIGHT OF WAY PER 188918	348.0 SQ. FT.
4	10	14	RIGHT OF WAY PER 188918	348.0 SQ. FT.

PLAN SHOWING SURVEY OF
LOT 9, and
PART OF LOT 10 STREET
WEST OF KING STREET
REGISTERED PLAN 14
CITY OF BELLEVILLE
COUNTY OF HASTINGS
SCALE: 1 INCH = 20 FEET
R. DOUGLAS BOYCE O.L.S.
1987

NOTE
BEARINGS ARE ASTROMOMIC AND ARE REFERRED TO THE
NORTHERLY LIMIT OF COLBORNE ST. 96.00' ON
PLAN 21R-9850, HAVING A BEARING OF N 73° 14' 00" E.

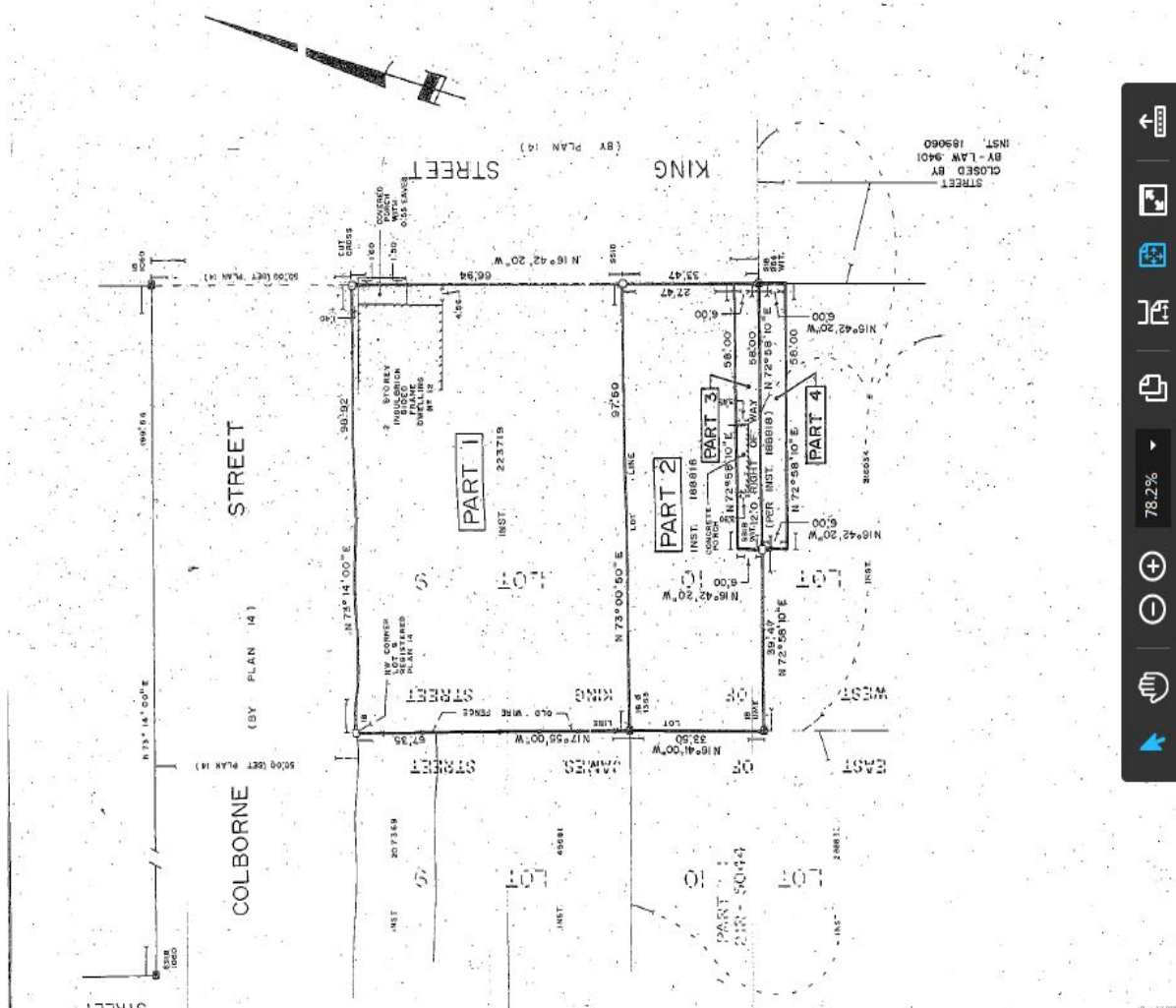
LEGEND
 □ DENOTES SURVEY MONUMENT PLANTED
 ○ DENOTES SURVEY MONUMENT FOUND
 SSB DENOTES SHORT STANDARD IRON BAR
 B DENOTES BOUNDARY MARK
 INST. DENOTES INSTRUMENT
 W.I. DENOTES FINISH
 JUNE DENOTES UNWIN MURPHY AND ESTEN LTD.

SURVEYOR'S CERTIFICATE

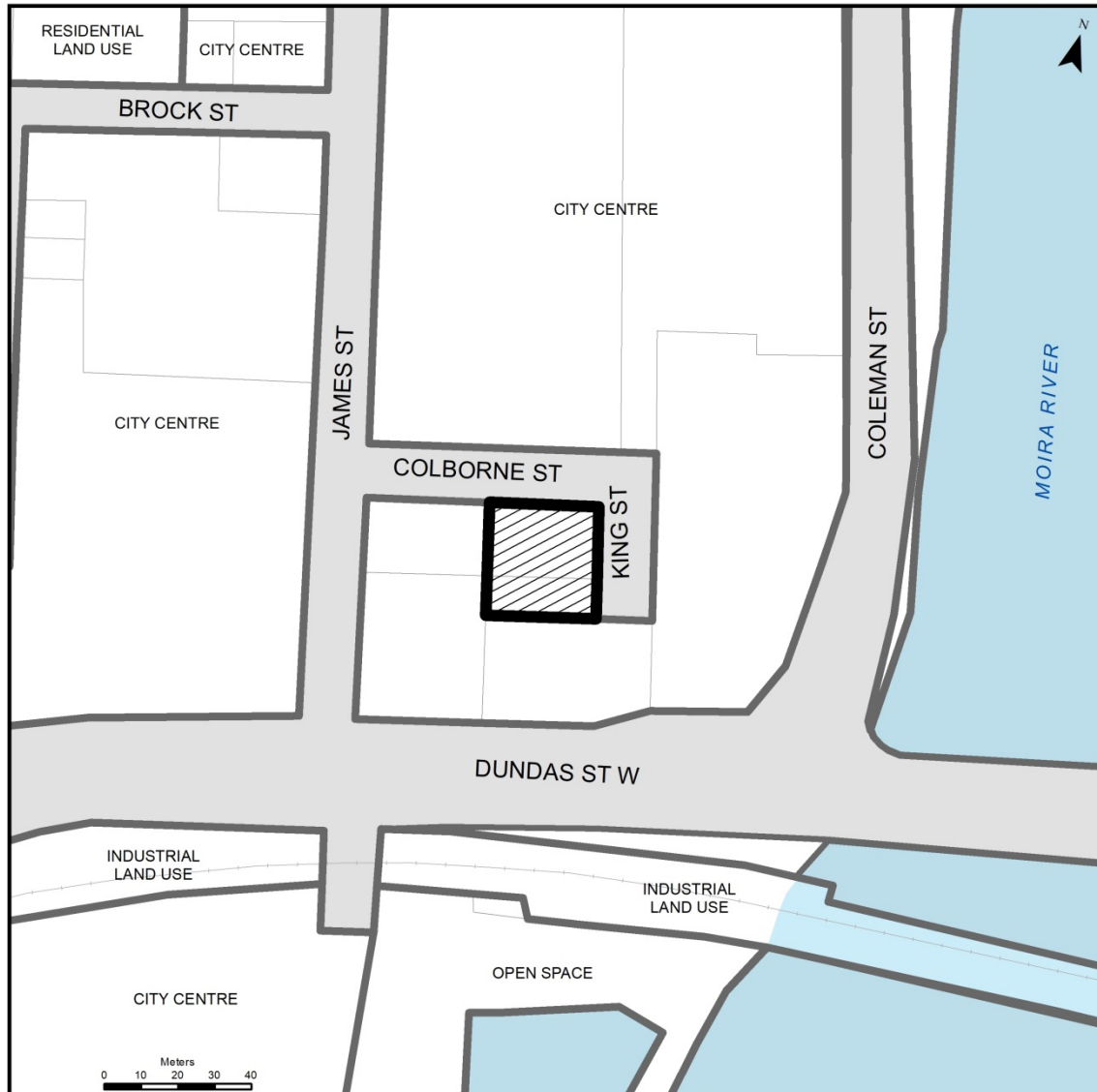
I CERTIFY THAT
 1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT AND THE REGISTRY ACT AND THE REGULATIONS MADE THEREUNDER.
 2. THE SURVEY WAS COMPLETED ON OCTOBER 25, 1987.
 DATE NOVEMBER 2, 1987
R. Douglas Boyce
 R. DOUGLAS BOYCE
 ONTARIO LAND SURVEYOR

CAUTION THIS PLAN IS NOT A PLAN OF
SUBDIVISION WITHIN THE MEANING
OF THE PLANNING ACT.

R. DOUGLAS BOYCE
 ONTARIO LAND SURVEYOR
 354 PINNACLE STREET, BELLEVILLE, ONTARIO K8N 3B4
 966 1993



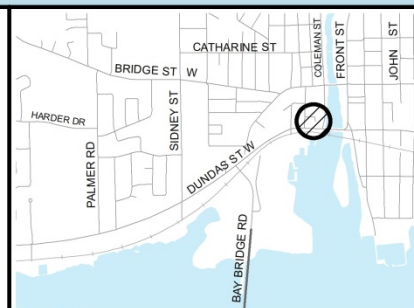
Navigation toolbar with icons for back, forward, search, zoom in (+), zoom out (-), and a 78.2% zoom level indicator.



LOCATION MAP

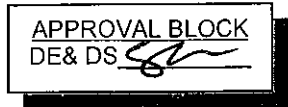
LOCATION: 8-12 KING ST

 - SUBJECT LANDS



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT
SERVICES DEPARTMENT

B-77-1095



CITY OF BELLEVILLE

Thomas Deming, Principal Planner
Engineering and Development Services Department
Report No. PP-2020-03
January 6, 2020

To: Belleville Planning Advisory Committee

Subject: RECOMMENDATION REPORT
Proposed Amendment to the Official Plan and Zoning By-Law
Number 3014; Lots 8 & 9 of Registered Plan No. 124, City of
Belleville, County of Hastings

OWNER: Andy Geertsma, GCL Developments Ltd.
APPLICANT: GCL Developments Ltd.
AGENT: Lorelei Jones, Macaulay Shiomi Howson Ltd.

File: B-77-1096

Recommendation:

That the Planning Advisory Committee recommends the following to
City Council:

“THAT Application B-77-1096 to amend the City of Belleville Official
Plan and Zoning By-Law Number 3014, as amended for Lots 8 & 9 of
Registered Plan No. 124, City of Belleville, County of Hastings, be
APPROVED as follows:

THAT Schedule 'B' Land Use Plan of the Official Plan be amended by
replacing the Open Space designation with a Residential Land Use
designation and replacing part of the Residential Land Use designation
with an Open Space designation; AND

THAT Zoning By-Law Number 3014, as amended, be amended by
rezoning the subject land from Development (D-r) Zone and Hazard
(H) Zone to Low Density Residential Type 1 (R1-27) Zone, Medium
Density Residential (R3-1, R3-2, R3-3) Zone, High Density Residential
(R4-6) Zone, Community Facility (CF) Zone and Hazard (H) Zone to
permit 367 residential units of various types and densities, a park,
open space, and walkways.”

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes. This report aligns with each of the City's nine strategic themes and the City's mission statement by providing innovative and efficient services in support of our community's vision. The proposal specifically aligns with the Residential Development theme which includes the following strategic objectives:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential growth for 10 years; and
- Provide for a variety of housing forms to reflect our changing demographics and need for affordability.

Background:

An application for the proposed amendment to the Official Plan and Zoning By-law Number 3014 was received by the City of Belleville on October 29, 2019. The application proposes 367 residential units of various types and densities, a park, open space, and walkways.

The subject lands are identified on Attachment #1 Location Map.

An initial public meeting was held in accordance with the requirements of the Planning Act. The purpose of this meeting was for Committee Members to formally hear and receive public comments. The Applicant and the Agent were present at the meeting. They presented the proposal and answered questions from the Committee.

The Planning Advisory Committee reviewed Report No PP-2019-85 (see Attachment #2) which was a joint report with the Approvals Section for the proposed draft plan of subdivision. Now that input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department, Planning Staff has prepared a recommendation report which specifically focuses on the proposed Official Plan amendment and rezoning.

The Approvals Section will submit a separate recommendation report for the draft plan of subdivision.

Site details for the subject land:

Site Review	Description
Site Location	Lots 8 & 9 of Registered Plan No. 124 located at the southeast corner of Farnham Road and Scott Drive
Site Size	21.2 hectares
Present Use(s)	Predominately grass covered with a tree covered area
Proposed Use	367 residential units, a park, open space and walkways
Belleville Official Plan Designation	<ul style="list-style-type: none"> • Residential Land Use • Open Space • Environmental Protection
Present Zone Category	<ul style="list-style-type: none"> • Development (D-r) Zone • Hazard (H) Zone
Proposed Zone Category	<ul style="list-style-type: none"> • Low Density Residential Type 1 (R1) Zone with special provisions; • Medium Density Residential (R3) Zone with special provisions; • High Density Residential (R4) Zone with special provisions; • Community Facility (CF) Zone • Hazard (H) Zone
Land uses to the north	Farmland, single detached dwellings
Land uses to the east	Moir River valley
Land uses to the south	Single detached and townhouse dwellings
Land uses to the west	Estate residential lots and farmland

In support of the application, the following was submitted:

- Riverstone Draft Plan of Subdivision Preliminary Design prepared by Ainley Group dated October 21, 2019 (Attachment #3)
- Draft Official Plan Amending By-Law received October 30, 2019 (Attachment #4)
- Draft Zoning By-Law 3014 Amending By-Law received October 30, 2019 (Attachment #5)
- Planning Justification Report prepared by Macaulay Shiomi Howson Ltd. dated November, 2019 (Attachment #6)
- Draft Environmental Impact Study – Cannif North Lands, City of Belleville prepared by Ainley Group dated August 9, 2019 (Attachment #7)
- Riverstone Development Servicing Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019 (Attachment #8)
- Riverstone Development Stormwater Management Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019 (Attachment #9)
- Riverstone Subdivision Application – Traffic Review Memorandum

- prepared by Ainley Group dated October 30, 2019 (Attachment #10)
- Riverstone Draft Plan and Rezoning Application – Phase I/II ESA Summary Memorandum prepared by Ainley Group dated October 30, 2019 (Attachment #11)
- Riverstone Development Preliminary Watermain Design Brief for Proposed Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019 (Attachment #12)
- Conceptual Street Tree Design and associated Landscape Design Drawings prepared by Wentworth Landscapes dated October 29, 2019 and November 6, 2019 (Attachment #13)
- Various photos of the subject property (Attachment #14)

These documents have been available for public review at the Planning Department.

Proposal

To implement the development of 367 residential dwelling units, the applicant is proposing an amendment to both the Official Plan and Zoning By-Law.

In the Official Plan, the subject land is designated as “Residential Land Use” and “Open Space”. The application proposes to replace part of the Residential land with Open Space and part of the Open Space land with Residential land in order to locate the open space area in a more central location within the development.

The application proposes to extend the road network from the Caniff Mills Subdivision to the south and connect with Farnham Road to the west and Scott Drive to the north.

The Applicant requests a rezoning of the subject lands from Development (D-r) Zone and Hazard (H) Zone to the following zones:

- Low Density Residential Type 1 (R1-27) Zone with special provisions;
- Medium Density Residential (R3-1, R3-2, R3-3) Zone with special provisions;
- High Density Residential (R4-6) Zone with special provisions;
- Community Facility (CF) Zone
- Hazard (H) Zone

The purpose of the rezoning of the subject lands in conjunction with the application for subdivision approval is to permit the following:

- Up to 79 single detached lots with frontages of 11 m (36 ft) and up;

- 30 single detached lots with frontages ranging between 8.5 (28 ft) and 10.5 m (34.5 ft) m and laneway access;
- 4 semi-detached lots (8 units) with 9.8 m (32 ft) frontages and laneway access;
- 48 townhouse lots with 6.7 m (22 ft) frontages and laneway access;
- 66 townhouse lots with 6.0 m (20 ft) frontages;
- 63 bungalow townhouses with 7.5 m (25 ft) frontages;
- 1 medium density block with approximately 35 units;
- 1 condominium block with approximately 42 townhouse units;
- Open Space block containing the wetlands and spring plus a 30 m setback from the wetland and a 15 m setback from the spring; and
- Parkette/access to wetland.

Unique to this proposal is the concept of flexible zoning and laneway housing. The proposed R3 Zones will provide flexibility to the applicant to develop single detached, semi-detached, and townhouse dwellings under the same zone. With this flexibility, the residential dwelling units can be located in various blocks to address market demand. However, the number of units for the entire development will not exceed 367.

The proposed laneway houses would be a new type of dwelling within the City of Belleville. The laneway houses have a rear laneway access with garages at the rear of the lot that connect to the dwelling through a hallway connection.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement.

The proposed development will contribute to maintaining a three year supply of draft plan approved lands as required by the Provincial Policy Statement.

Staff is of the opinion that this project aligns with the Provincial Policy Statement by:

- promoting efficient development and land use patterns;
- proposing a mix of densities and land uses;
- efficiently using land and resources, such as the significant wetland area;
- supporting active transportation;
- implementing appropriate development standards which facilitate intensification, redevelopment, and compact form; and
- locating next to and incorporating an existing built-up area.

Official Plan

The current Official Plan was adopted by City Council on June 18, 2001 and approved by the Ministry of Municipal Affairs and Housing on January 7, 2002. Since 2002, a significant number of new and updated policies and legislation have occurred at the provincial level. The City undertook a Municipal Comprehensive Review and the policies of the Official Plan are currently being updated to ensure they comply with current provincial policies and legislation. The City will have to comply with the Province's new legislation, regulations, and policies when updating the Official Plan.

The land is designated "Residential Land Use", "Open Space", and "Environmental Protection" in the City's Official Plan (Attachment #15 – Official Plan Designation Map). The subject site is also located within the Special Policy Area known as the Cannifton Planning Area.

The development proposes to replace part of the Residential land with Open Space and part of the Open Space land with Residential land in order to locate the open space area in a more central location within the development. The land designated Environmental Protection will remain unchanged.

The Official Plan policies state that the Open Space designation applies to areas where the predominant use of land is for significant public parks and recreation uses. Open space uses typically include local or neighbourhood parks, community parks, and regional parks.

The land currently designated Open Space does not have public road access as Scott Drive does not extend east of the PSW area. The land is also located outside of the flood plain and beyond the environmental buffer for the river and the wetland and could be considered appropriate for development.

The application proposes to relocate the Open Space area and provide a public park in a more central and accessible location within the subdivision. In addition to the proposed public park, there is additional open space provided adjacent and west of the Environmental Protection land to enhance the visibility and access to that land and the proposed trail.

The application also proposes a walkway be provided within the condominium site, extending from the trail to the Moira River trail to provide good connectivity between open space areas. Trail development is an important component to the development of an open space system and the promotion of the community's quality of life. Trails that connect shoreline areas, valleys, existing parks or other important physical or man-made features should be developed wherever possible.

This new configuration will provide better access to the Open Space area while simultaneously remaining connected to the larger trail network. Staff are of the opinion this proposal conforms to the Open Space policies of the Official Plan.

The Residential Land Use identifies residential development as low density if it is below 18 units per hectare (gross residential density). The proposed development of 367 units on 21.2 hectares of land is equal to 17.3 units per hectare of gross residential density meaning the Official Plan classifies this proposal as low density residential.

The application proposes a mixture of ownership types including a condominium block. The Official Plan encourages all neighbourhoods contain a mixture of dwelling types at different densities including development in all forms of tenure such as freehold, rental, cooperative, and condominium.

Staff are of the opinion this proposal conforms to the Residential Land Use policies of the Official Plan.

The Environmental Protection policies provide that no new development will be permitted within provincially significant wetlands (PSW), such as the Corbyville PSW. The application included an Environmental Impact Study which assessed the impact of the proposed development on the wetland and proposes a 30 metre buffer around the PSW. This has been agreed to by Quinte Conservation.

Staff are of the opinion this proposal conforms to the Environmental Protection policies of the Official Plan.

A servicing report has been submitted to the City that indicates that there is servicing capacity to accommodate the development. The submitted traffic brief also states that the road network can accommodate the proposed development and Farnham Road is expected to be a location for future transit. Staff are of the opinion that this proposal conforms to the servicing and transportation policies within the Official Plan.

The Cannifton Planning Area is identified in the Official Plan as having significant development potential including future residential, commercial and industrial development. The Official Plan states residential development in the Cannifton Planning Area should occur at all densities, but will consist primarily of low density residential uses.

Staff are of the opinion that this proposal conforms with the intention of the Official Plan policies.

Zoning By-Law

The application requests a rezoning of the subject land from Development (D-r) Zone and Hazard (H) Zone to the following zones:

- Low Density Residential Type 1 (R1-27) Zone with special provisions;
- Medium Density Residential (R3-1, R3-2, R3-3) Zone with special provisions;
- High Density Residential (R4-6) Zone with special provisions;
- Community Facility (CF) Zone
- Hazard (H) Zone

The proposed zoning contemplates a concept being adopted by many municipalities known as flexible zoning. Flexible zoning allows for a developer to modify their development based on market demand. Portions of the proposed development may be developed with a mix of housing types to a maximum of 367 units in the development. This flexibility will provide the benefit of avoiding rezoning to address changes in market demand.

The Hazard (H) Zone would continue to be applied to the Corbyville PSW area and expanded outwards to incorporate the 30 metre buffer surrounding the PSW, the groundwater spring which flows into the PSW, and the proposed 15 metre buffer around the groundwater spring. No special provisions would be required for this zone.

The Community Facility (CF) Zone would be applied to the proposed parkland areas. No special provisions would be required for this zone.

The proposed residential zones all contain special provisions. The following chart summarizes the proposed zoning provisions that are requested:

Zone	Lot Frontage (Min)	Lot Area (Min)	Front Yard Depth (Min)	Rear Yard Depth (Min)	Interior Side Yard Width (Min)	Exterior Side Yard Width (Min)	Lot Coverage All Buildings (Max)
R1 - 27 Single Detached	11.0 m, 12.2 m on corner lot	340 m ²	6.0 m	7.6 m	1.2 m on one side & 0.6 m on other	2.4 m	45%
R3-1 Laneway Singles, Semis and Townhouses	Singles & Semis: 8.5 m & 9.7 m on corner lot; Townhouse: 6.7 m & 9.1 m on corner lot	Singles & Semis: 270 m ² ; Townhouse: 210 m ²	3.0 m	6.7 m	1.2 m one side, 0.6 m on other; Semis & Townhouse: 1.2 m, 0 m where attached	2.4 m	Singles & Semis: 65%; Townhouse: 75%
R3-2 Singles,	Singles: 11 m & 12.2 m	Singles: 340 m ² ;	6.0 m	7.0 m	Singles: 1.2 m one side	2.4 m	Singles: 45%;

Semis, Townhouses and Bungalow Townhouses	on corner lot; Semis: 7.5 m & 8.7 m on corner lot Townhouse: 6.0 m & 9.1 m on corner lot; Single storey Townhouse: 7.5 m & 9.9 m on corner lot	Semis: 230 m ² ; Townhouse: 180 m ² ; Single storey Townhouse: 230 m ²			& 0.6 m on other; Semis & Townhouses: 1.2 m, 0 m where attached		Semis: 48%; Townhouse: 48%; Single storey Townhouse: 56%
R3-3 Condo Townhouses	15.0 m for the condo lot	1 wall attached: 232 m ² ; more than 1 wall attached: 105 m ²	6.0 m	6.0 m	1.2 m, 0 m where attached	2.4 m	45%
R4-6 Condo Townhouses &/or Apartment	Row dwelling: 6 m; Apartment: 30 m	4,200 m ²	6.0 m	7.0 m	Row dwelling 1.2 m, 0 m where attached Apartment: 2.4 m	2.4 m	Row dwelling: 45% Apartment: 35%

Within the R3-1 Zone, also known as the laneway houses zone, the following provisions are requested for an accessory building to be used as a private garage which connects to the main dwelling via an internal hallway:

- Minimum Distance to the rear of dwelling: 4.6 m
- Minimum Distance from the interior side lot line: 0.6 m on one side (except where there is an attached wall) and 2.1 m on the other side
- Minimum Distance from the exterior side lot line: 2.4 m
- Minimum Distance to the rear lot line: 0.6 m
- Notwithstanding the definition of Accessory Building or Structure, an accessory building to be used as a garage may be attached to the dwelling subject to the following regulations:
 - Maximum width of the dwelling at point of attachment to private garage : 3.5 m
 - Maximum height of the dwelling at point of attachment to private garage: 1 storey
 - Maximum height of the accessory building: 7.5 m
 - For a coach house dwelling unit located above a private garage accessed by a lane, the calculation of the width for the required additional parking space may include contiguous land on an adjacent lot that is secured by an easement which is registered on title.
- All residential lots shall have rear lane access

- The maximum number of townhouse lots in one block shall be 6

The application’s Planning Justification Report indicates that laneway houses have been built and very well received in other municipalities, such as the City of Kingston. It further states that this style of dwelling creates an attractive streetscape with garages in the rear while providing for user comfort and convenience by allowing a connection to the rear garage through a hallway connection to the dwelling. Ordinarily, once an accessory building is attached to a main building it must meet the same provisions as the main building, including setbacks. The proposed zoning would permit the connection without classifying the accessory building (garage) as part of the main building (dwelling).

Staff are of the opinion that the proposed zoning would provide an appropriate range of housing types in a similar style to nearby subdivisions while also introducing a new and innovative design to the City’s housing stock. Moreover, this proposal implements a development that aligns with the intention of the Official Plan including its low density residential policies.

Public Comments

Written notice and a location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, signs were placed on the subject lands notifying the general public that a public meeting was scheduled for December 2, 2019.

Both the notice and signs stated that additional information is available in the City’s planning files for review by any member of the public during business hours.

Public Meeting

At the December 2, 2019 public meeting, the applicant and agent presented their proposal to the Planning Advisory Committee. During the meeting, concerns were brought up by Committee members and were responded to by the Applicant and Agent. The Agent further submitted a written response which is attached to this report as Attachment #16. The response is summarized below:

Concern	Agent’s Response
Affordability A member of PAC noted that	The proposed Riverstone development provides for a wide variety of unit types and lot sizes. The types of units include single

<p>Belleville should be trying to achieve more affordable housing in new developments. He asked how this plan conforms to the needs of the City with respect to affordable housing.</p>	<p>family homes (minimum 11 m frontage), bungalow townhouses, two-storey townhouses, medium density blocks for apartment units and condominium townhouses, as well as semi-detached, single detached, and townhouse units with laneway access. The subdivision offers a greater range of lot sizes and unit types than is typically developed within one subdivision in the City and as a result, also allows for more density. This will create a mix of price ranges including lower price points within the intensified areas of development that will be suitable for a larger number of residents.</p>
<p>Bike Lanes</p> <p>A member of PAC asked if the roadways will be developed to include bike lanes, as active transportation is becoming more popular with younger generations.</p>	<p>Bike lanes are not currently proposed within the development; however, the development will include minor collector roadways (Essex Drive and Street 'A') that have a 26 m wide right-of-way. The City's standard for this type of roadway cross-section includes a 1.5 m sidewalk on one side of the road and a 3.0 m asphalt trail on the other side. As such, a large portion of the development will be designed to include the 3.0 m asphalt trail that is suitable for biking and other types of active transportation.</p>
<p>Official Plan Amendment for Open Space Designated Lands</p> <p>The Riverstone development is proposing an Official Plan Amendment to redesignate the lands immediately east of the Corbyville Wetland from Open Space to Residential and to redesignate lands from Residential to Open Space to create a new 2.0 acre (0.8 ha) parkland block in the centre of the subdivision as well as establish open space areas around the wetlands</p>	<p>It is our understanding that the lands were not designated Open Space for environmental reasons because if they did have environmental features that merited protection, they would have been designated Environmental Protection. In addition, the existing Open Space designation represents about 1.6 ha which is in excess of the amount of parkland dedication that can be required under the Planning Act for this development.</p> <p>In our opinion, it would be better to locate the Open Space lands in a more central location within the development. The proposed park has frontage on three public roadways thereby providing high visibility and more convenient access for the whole</p>

<p>and spring. A member of PAC was concerned that the amount of Open Space to be removed through the OPA did not exactly equal the amount of Open Space being created. The member was also concerned that these lands were previously environmentally protected.</p>	<p>subdivision. The developer is proposing wood chip trails through the wetland setback for connectivity and active use and the proposed open space around the wetlands and spring area enhances the use of the area. In addition, a pedestrian connection between the wetland and river will be maintained. We therefore believe that the proposed open space locations are more ideally suited for the proposed subdivision.</p>
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Staff concur with the response from the Agent.

Staff also received a letter (Attachment #17) from a member of the public citing concerns of increased traffic along Farnham Road, the poor condition of Farnham Road, and how the proposal will affect water pressure in the area.

Road Network

The 2015 Farnham Road Master Plan indicates that over the next 20 years, Farnham Road traffic demands are projected to double and concludes that Farnham Road should be realigned, widened to a major collector roadway, and that the Scott Drive access to Farnham Road be closed.

Engineering Staff commented that the proposed draft plan appears to accommodate the future realignment of Farnham Road; however it does not appear to accommodate the recommendation from the Farnham Road Master Plan that the Scott Drive access to Farnham Road is to be closed. The Master Plan recommended that Scott Drive access to Farnham Road is to be through new development roads. Therefore, there needs to be a condition in the draft plan of subdivision that the Scott Drive access to Farnham Road will be closed when the subdivision roads or some agreed upon portion thereof are connected to Scott Drive.

The completion of the City of Belleville Farnham Road Master Plan in 2015 followed a Municipal Class Environmental Assessment process which is an approved process under the Environmental Assessment Act. Public consultation was a key component of the study.

Water Pressure

There is existing sanitary sewer, storm sewer, and watermain located within the Canniff Mills Residential Subdivision to the immediate south of this development. The sewers and watermain within Canniff Mills have been oversized in order to accommodate servicing the subject land. The

application proposes the development be serviced by the 300mm diameter watermain to be installed within Essex Drive and Farnham Road as part of the Canniff Mills Residential Development. It is proposed to connect to these mains to service the development.

The Approvals Section has confirmed that verification of water pressure for fire protection and water supply will be addressed through conditions of the subdivision agreement to the satisfaction of the Engineering and Development Services Department which is a standard requirement of any new subdivision development.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, and MPAC.

At the time of writing this report, the Minsitry of Transportation, Elexicon Energy and Hydro One provided general comments for the application but did not have concerns.

WSP Global Inc. (WSP) has provided comments on behalf of Bell Canada indicating the development will require sufficient wire-line communication/ telecommunication infrastructure to be made available. The Approvals Section have confirmed this will be a condition of the subdivision agreement.

Staff has also received written notice requesting notice of decision from Hastings and Prince Edward District School Board.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the Development Engineer, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, the Accessibility Coordinator, and the Chief Building Official.

Parks & Open Space, Approvals, and Belleville Fire and Rescue have provided correspondence and they have no comments and/or concerns.

At the time of writing this report, no other comments have been received regarding this application.

Considerations:

Public

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Planning Analysis:

Consistency with Provincial Policy Statement, Official Plan and Zoning By-law

This application is consistent with the Provincial Policy Statement. This proposal is located within a designated settlement area of the City, which is to be the focus of growth. This project promotes a cost-effective development pattern with standards to help minimize land consumption and servicing costs. This project, proposing 367 dwelling units including single detached, semi-detached, townhouses, and an apartment block is occurring adjacent to Canniff Mills Phase 10 Subdivision. The proposal also includes active transportation trails which will connect to the larger active transportation network.

This application conforms to the City of Belleville Official Plan. The proposal to relocate the open space to a more central location within the subdivision will provide better access for the surrounding area. Moreover, the proposed connecting trails through the Corbyville PSW and proposed condominium block will ensure the area maintains its connection to the Moira River.

In addition, the proposal conforms with the Residential Land Use policies of the Official Plan as it provides a mixture of housing types and densities while addressing traffic and servicing concerns.

The proposed zoning introduces five new exception zones. The lot frontages and setback provisions for the single detached lots are similar to other development which has occurred in the Cannifton Planning Area. The change

in zoning provisions maintains compatibility with other existing development in the area.

The Medium Density Residential (R3) Zones will provide flexibility to the developer to accommodate changes in market demand. The R3 Zone permits single detached dwellings and semi-detached dwellings, and this proposal would add townhouse dwellings as a permitted use. Typically within Zoning By-Law 3014, townhouses are only permitted within the High Density Residential (R4) Zone. This is reflective of the age of the current by-law. The R4 Zone also permits apartment buildings which is not the intent of the proposal which is why the application proposes modified R3 Zones that permit townhouses and not apartment buildings.

The proposed R3-1 Zone introduces laneway housing to the City of Belleville. The laneway houses would have access through a rear laneway to a detached garage located in the rear yard. This new exception zone would permit a connecting hallway from the dwelling to the detached garage to provide internal access. While normally connecting a dwelling to an accessory building would require the accessory building to comply with the setbacks and provisions of the main building, this exception zone would negate that requirement. Instead, the garage would continue to be treated as an accessory building and the connecting hallway would be limited in size to ensure the backyard's landscaped area is protected.

Conclusion:

This application is consistent with the Provincial Policy Statement and conforms to the current Official Plan. The proposed zoning by-law changes will continue to protect the Corbyville PSW while also introducing a new style of residential build called laneway housing and effectively implements the low density residential provisions of the Official Plan.

It is the opinion of Planning Staff that the proposed Official Plan amendment and zoning by-law amendment before the City represents good planning and Staff supports this application.

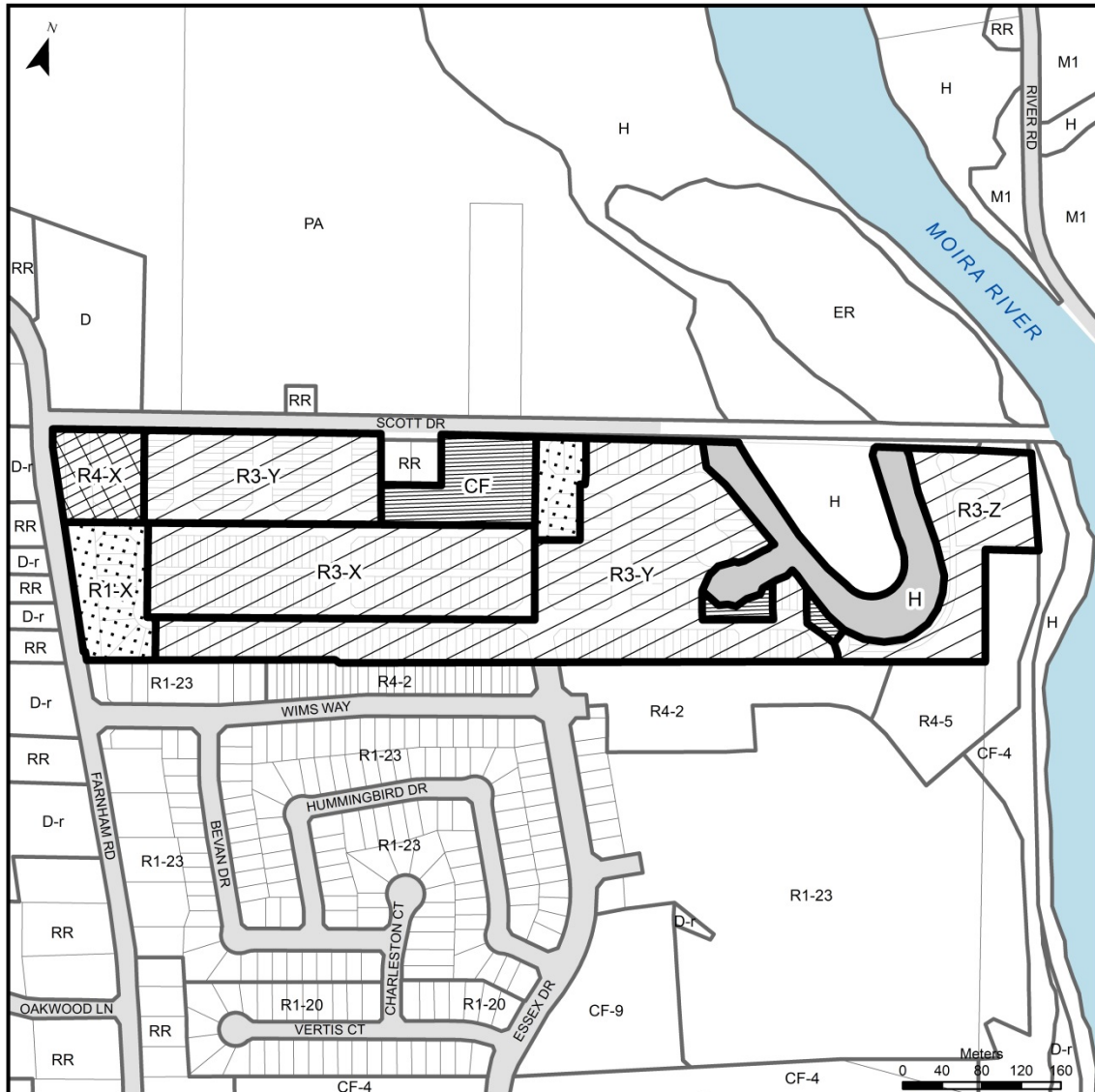
Respectfully submitted



Thomas Deming
Principal Planner, Policy Planning Division
Engineering and Development Services Department






Attachments

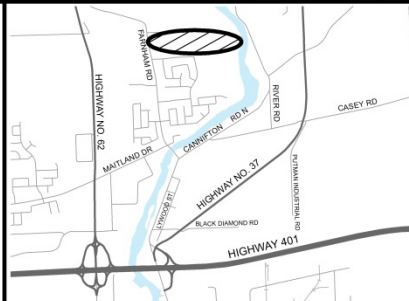
Attachment #1 –	Location Map
Attachment #2 –	Report No. PP-2019-85
Attachment #3 –	Draft Plan of Subdivision
Attachment #4 –	Proposed Official Plan Amendment
Attachment #5 –	Proposed Zoning By-Law
Attachment #6 –	Planning Justification Report
Attachment #7 –	Environmental Impact Study
Attachment #8 –	Servicing Brief
Attachment #9 –	Stormwater Brief
Attachment #10 –	Traffic Review Memo
Attachment #11 –	Environmental Site Assessment
Attachment #12 –	Watermain Design Brief
Attachment #13 –	Conceptual Street Tree Design
Attachment #14 –	Photos of Subject Property
Attachment #15 –	Official Plan Designation Map
Attachment #16 –	Agent Response to Public Meeting Comments
Attachment #17 –	Letter From Member of the Public



PROPOSED ZONING BY-LAW AMENDMENT

LOCATION: FARNHAM RD & SCOTTS DR

-  PROPOSED ZONING CHANGE FROM D-r (DEVELOPMENT) TO R1 (RESIDENTIAL FIRST DENSITY) WITH SPECIAL PROVISIONS
-  PROPOSED ZONING CHANGE FROM D-r (DEVELOPMENT) TO R3 (RESIDENTIAL THIRD DENSITY) WITH SPECIAL PROVISIONS
-  PROPOSED ZONING CHANGE FROM D-r (DEVELOPMENT) TO R4 (RESIDENTIAL FOURTH DENSITY) WITH SPECIAL PROVISIONS
-  PROPOSED ZONING CHANGE FROM D-r (DEVELOPMENT) TO CF (COMMUNITY FACILITY)
-  PROPOSED ZONING CHANGE FROM D-r (DEVELOPMENT) TO H (HAZARD)



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT SERVICES DEPARTMENT

B-77-1096



APPROVAL BLOCK

DE& DS _____

CITY OF BELLEVILLE

Thomas Deming, Principal Planner & Greg Pinchin, Manager of Approvals
Engineering and Development Services Department
Report No. PP-2019-85
December 2, 2019

To: Belleville Planning Advisory Committee

Subject: Notice of Complete Application and Introductory Public Meeting for Proposed Amendment to the Official Plan and Zoning By-Law Number 3014 and Draft Plan of Subdivision; Lots 8 & 9 of Registered Plan No. 124, City of Belleville, County of Hastings

OWNER: Andy Geertsma, GCL Developments Ltd.

APPLICANT: GCL Developments Ltd.

AGENT: Lorelei Jones, Macaulay Shiomi Howson Ltd.

Files: B-77-1096 & 12T-19003

Recommendation:

"That Report No. PP-2019-85 dated December 2, 2019 regarding Notice of Complete Application and Introductory Public Meeting for Proposed Amendment to the Official Plan and Zoning By-Law Number 3014, and Draft Plan of Subdivision; Lots 8 & 9 of Registered Plan No. 124, City of Belleville, County of Hastings be received as information, and;

That Staff report back at such time as input from the public, commenting agencies, and municipal departments has been received, assessed, and addressed to the satisfaction of the Engineering and Development Services Department."

Background:

An application for the proposed amendment to the Official Plan and Zoning By-law Number 3014 and Draft Plan of Subdivision was received by the City of Belleville on October 29, 2019. The application proposes 367 residential units of various types and densities, a park, open space, and walkways.

The initial public meeting is held in accordance with the requirements of the Planning Act. The purpose of this meeting is for Committee Members to formally hear and receive public comments. The intent of this statutory public planning meeting is to receive public feedback and incorporate it into a recommendation report from Staff.

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The subject land is identified on the attached Location Map (Attachment #1).

Site details for the subject land:

Site Review	Description
Site Location	Lots 8 & 9 of Registered Plan No. 124 located at the southeast corner of Farnham Road and Scott Drive
Site Size	21.2 hectares
Present Use(s)	Predominately grass covered with a tree covered area
Proposed Use	367 residential units, a park, open space and walkways
Belleville Official Plan Designation	<ul style="list-style-type: none"> • Residential Land Use • Open Space • Environmental Protection
Present Zone Category	<ul style="list-style-type: none"> • Development (D-r) Zone • Hazard (H) Zone
Proposed Zone Category	<ul style="list-style-type: none"> • Low Density Residential Type 1 (R1) Zone with special provisions; • Medium Density Residential (R3) Zone with special provisions; • High Density Residential (R4) Zone with special provisions; • Community Facility (CF) Zone • Hazard (H) Zone
Land uses to the north	Farmland, single detached dwellings
Land uses to the east	Moirra River valley
Land uses to the south	Single detached and townhouse dwellings
Land uses to the west	Estate residential lots and farmland

In support of the application, the following was submitted:

- Riverstone Draft Plan of Subdivision Preliminary Design prepared by Ainley Group dated October 21, 2019 (Attachment #2)
- Draft Official Plan Amending By-Law received October 30, 2019 (Attachment #3)
- Draft Zoning By-Law 3014 Amending By-Law received October 30, 2019 (Attachment #4)
- Planning Justification Report prepared by Macaulay Shiomi Howson Ltd. dated November, 2019 (Attachment #5)
- Draft Environmental Impact Study – Cannif North Lands, City of Belleville prepared by Ainley Group dated August 9, 2019 (Attachment #6)
- Riverstone Development Servicing Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019 (Attachment #7)

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- Riverstone Development Stormwater Management Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019 (Attachment #8)
- Riverstone Subdivision Application – Traffic Review Memorandum prepared by Ainley Group dated October 30, 2019 (Attachment #9)
- Riverstone Draft Plan and Rezoning Application – Phase I/II ESA Summary Memorandum prepared by Ainley Group dated October 30, 2019 (Attachment #10)
- Riverstone Development Preliminary Watermain Design Brief for Proposed Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications prepared by Ainley Graham & Associates dated October 2019
- Conceptual Street Tree Design and associated Landscape Design Drawings prepared by Wentworth Landscapes dated October 29, 2019 and November 6, 2019
- Riverstone Zoning Chart (for Proposed Amendments)
- Various photos of the subject property

These documents have been available for public review at the Planning Department.

Proposal

In the Official Plan, the subject land is designated as “Residential Land Use” and “Open Space”. The application proposes to replace part of the Residential land with Open Space and part of the Open Space land with Residential land in order to locate the open space area in a more central location within the development.

The Applicant requests a rezoning of the subject lands from Development (D-r) Zone and Hazard (H) Zone to the following zones:

- Low Density Residential Type 1 (R1) Zone with special provisions;
- Medium Density Residential (R3) Zone with special provisions;
- High Density Residential (R4) Zone with special provisions;
- Community Facility (CF) Zone
- Hazard (H) Zone

The purpose of the rezoning of the subject lands in conjunction with the application for subdivision approval is to permit the following:

- Up to 79 single detached lots with frontages of 11 m (36 ft) and up;
- 30 single detached lots with frontages ranging between 8.5 (28 ft) and 10.5 m (34.5 ft) m and laneway access;
- 4 semi-detached lots (8 units) with 9.8 m (32 ft) frontages and

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laneway access;

- 48 townhouse lots with 6.7 m (22 ft) frontages and laneway access;
- 66 townhouse lots with 6.0 m (20 ft) frontages;
- 63 bungalow townhouses with 7.5 m (25 ft) frontages;
- 1 medium density block with approximately 35 units;
- 1 condominium block with approximately 42 townhouse units;
- Open Space block containing the wetlands and spring plus a 30 m setback from the wetland and a 15 m setback from the spring; and
- Parkette/access to wetland.

It is noted that Scott Drive abuts the northern boundary of the proposed development. Due to the proposed realignment of Farnham Road, staff has requested and the developer has proposed to close the Scott Drive access to Farnham Road and instead incorporate Scott Drive into the subdivision's internal street network. Details may be finalized through draft plan conditions of approval.

The City of Belleville Farnham Road Master Plan completed in 2015 notes the closure of the Scott Drive access to Farnham Road, with access relocated to a future road to the south. The preparation of the Master Plan followed a Municipal Class Environmental Assessment process which is an approved process under the Environmental Assessment Act. Public consultation was a key component of the study.

Provincial Policy Statement

Municipalities are required to ensure all decisions related to land use planning matters shall be consistent with the Provincial Policy Statement.

Planning Staff will consider the following policies in the PPS:

- 1.1.1 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) promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;
- 1.1.3.1 Settlement areas shall be the focus of growth and development, and their vitality and regeneration shall be promoted.
- 1.1.3.2 Land use patterns within settlement areas shall be based on:
 - a) densities and a mix of land uses which:

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1. efficiently use land and resources;
 2. 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;
 3. minimize negative impacts to air quality and climate change, and promote energy efficiency;
 4. support active transportation;
 5. are transit-supportive, where transit is planned, exists or may be developed.
- 1.1.3.4 Appropriate development standards should be promoted which facilitate intensification, redevelopment and compact form, while avoiding or mitigating risks to public health and safety.
- 1.1.3.6 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.
- 1.4.3 Planning authorities shall 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.

Official Plan

The current Official Plan was adopted by City Council on June 18, 2001 and approved by the Ministry of Municipal Affairs and Housing on January 7, 2002. Since 2002, a significant number of new and updated policies and legislation have occurred at the provincial level. The City undertook a Municipal Comprehensive Review and the policies of the Official Plan are currently being updated to ensure they comply with current provincial policies and legislation. The City will have to comply with the province's new legislation, regulations, and policies when updating the Official Plan.

Planning Staff will use the policies within the Official Plan to make a recommendation. The land is designated Residential Land Use, Environmental Protection, and Open Space in the City's Official Plan. The Residential lands are where the housing will be directed. The Open Space and Environmental Protection lands on the east portion of the lands contain the Corbyville Provincially Significant Wetland, a 50 metre protection area

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from this PSW, and parkland featuring a trail system. This trail system will eventually connect to the large trail system adjacent to the Moira River (See Attachment #11 – Official Plan Designation Map).

The application proposes to adjust the boundaries for part of the Residential land with Open Space and part of the Open Space land with Residential land in order to locate the open space area in a more central location with the development. The Environmental Protection designation will remain unchanged for the Corbyville Provincially Significant Wetland to protect this area.

Policies that will be considered include:

2.2.4 Settlement Patterns

The urban service area will be the focus of the majority of future residential growth and non-residential development.

3.5.3 Significant Wetlands and the Habitat of Endangered and Threatened Species

b) No new development within provincially significant wetlands or within significant portions of the habitat of endangered and threatened species, or the expansion or redevelopment of existing development within such areas (excluding established agricultural activities) shall be permitted. Conservation activities associated with maintaining and restoring wetlands and natural habitats of threatened species are strongly encouraged by this Plan.

3.6.1 Open Space Permitted Uses

Generally, open space uses would include local or neighbourhood parks, community parks, and regional parks. Parks can also be defined by their primary function, as either active or passive open space; many parkland areas have a combination of both active and passive functions.

3.6.2 Open Space Policies

c) Trail development is an important component to the development of an open space system and the promotion of the community's quality of life. Trails that connect shoreline areas, valleys, existing parks or other important physical or man-made features should be developed wherever possible but must be planned and designed in such manner that respects the interests of abutting property owners.

h) All open space areas should have safe pedestrian access and circulation

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on-site.

3.10.2 Residential Policies

a) Residential development within areas designated Residential land use should be permitted to occur at various densities within the City to ensure a full range of housing forms at different sizes and styles that meets the needs of all citizens is provided.

b) The type and arrangement of dwellings and densities are important to the character of the City and specific residential neighbourhoods. Ideally all neighbourhoods should contain a mixture of dwelling types at different densities, but in some cases this is not possible nor is it desirable; some neighbourhoods therefore may consist predominantly of one form of housing whereas other neighbourhoods would have greater variety. Care should be exercised however to not create areas of excessively high densities without ample supply of municipal services and community facilities to meet the needs of such a neighbourhood.

c) This Plan supports the development of affordable housing, and ideally all residential neighbourhoods should have a variety of housing types at various levels of affordability.

d) When allocating or determining the preferred locations for high density residential development, Council should be guided by the following principles:

- i) The lands should have direct frontage on or immediate access to arterial or major collector roads; developments with access only to collector streets should generally be smaller scale.
- ii) The main access routes to such developments should not be through areas of low density residential development.
- iii) The preferred locations for large scale high density residential developments would be along major arterial streets or at major intersections where access to two or more major transportation corridors is available.
- iv) High density residential development should be directed to areas which are adequately serviced with open space and other required community facilities and services, all of which should be of sufficient size to meet the needs of the residents of the housing development.
- v) While not a prerequisite, a preferred location for large scale high density residential development would be in close proximity to or adjacent to non-residential land uses which service the residential

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area (neighbourhood commercial uses, schools, parks, churches).

- vi) High density residential development is a preferred housing form to be established immediately abutting a non-residential land use in another land use category, or along very high traffic corridors.

i) This Plan supports the development of all forms of housing in all forms of tenure, being freehold, rental, cooperative, and condominium.

Zoning By-law

The Applicant requests a rezoning of the subject land from Development (D-r) Zone and Hazard (H) Zone to the following zones:

- Low Density Residential Type 1 (R1) Zone with special provisions;
- Medium Density Residential (R3) Zone with special provisions;
- High Density Residential (R4) Zone with special provisions;
- Community Facility (CF) Zone
- Hazard (H) Zone

The following chart summarizes the proposed zoning provisions that are requested:

Zone	Lot Frontage (Min)	Lot Area (Min)	Front Yard Depth (Min)	Rear Yard Depth (Min)	Interior Side Yard Width (Min)	Exterior Side Yard Width (Min)	Lot Coverage All Buildings (Max)
R1 - XX Single Detached	11.0 m, 12.2 m on corner lot	340 m ²	6.0 m	7.6 m	1.2 m on one side & 0.6 m on other	2.4 m	45%
R3-X Laneway Singles, Semis and Townhouses	Singles & Semis: 8.5 m & 9.7 m on corner lot; Townhouse: 6.7 m & 9.1 m on corner lot	Singles & Semis: 270 m ² ; Townhouse: 210 m ²	3.0 m	6.7 m	1.2 m one side, 0.6 m on other; Semis & Townhouse: 1.2 m, 0 m where attached	2.4 m	Singles & Semis: 65%; Townhouse: 75%
R3-Y Singles, Semis, Townhouses and Bungalow Townhouses	Singles: 11 m & 12.2 m on corner lot; Semis: 7.5 m & 8.7 m on corner lot Townhouse: 6.0 m & 9.1 m on corner lot; Single	Singles: 340 m ² ; Semis: 230 m ² ; Townhouse: 180 m ² ; Single storey Townhouse: 230 m ²	6.0 m	7.0 m	Singles: 1.2 m one side & 0.6 m on other; Semis & Townhouses: 1.2 m, 0 m where attached	2.4 m	Singles: 45%; Semis: 48%; Townhouse: 48%; Single storey Townhouse: 56%

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December 2, 2019

	storey Townhouse: 7.5 m & 9.9 m on corner lot						
R3-Z Condo Townhouses	15.0 m for the condo lot	1 wall attached: 232 m ² ; more than 1 wall attached: 105 m ²	6.0 m	6.0 m	1.2 m, 0 m where attached	2.4 m	45%
R4-X Condo Townhouses &/or Apartment	Row dwelling: 6 m; Apartment: 30 m	4,200 m ²	6.0 m	7.0 m	Row dwelling 1.2 m, 0 m where attached Apartment: 2.4 m	2.4 m	Row dwelling: 45% Apartment: 35%

For the lots within the R3-X Zone, the following provisions are requested for an accessory building to be used as a private garage with rear lane access:

- Minimum Distance to the rear of dwelling: 4.6 m
- Minimum Distance from the interior side lot line: 0.6 m on one side (except where there is an attached wall) and 2.1 m on the other side
- Minimum Distance from the exterior side lot line: 2.4 m
- Minimum Distance to the rear lot line: 0.6 m
- Notwithstanding the definition of Accessory Building or Structure, an accessory building to be used as a garage may be attached to the dwelling subject to the following regulations:
 - Maximum width of the dwelling at point of attachment to private garage : 3.5 m
 - Maximum height of the dwelling at point of attachment to private garage: 1 storey
 - Maximum height of the accessory building: 7.5 m
 - For a coach house dwelling unit located above a private garage accessed by a lane, the calculation of the width for the required additional parking space may include contiguous land on an adjacent lot that is secured by an easement which is registered on title.
 - All residential lots shall have rear lane access
 - The maximum number of townhouse lots in one block shall be 6

Public Comments

Written notice and location map was mailed by first class mail to all registered owners of land within 120 metres of the subject property. The notice provided information that a public meeting was scheduled for December 2, 2019.

Similarly, signs were placed on the subject lands notifying the general public

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December 2, 2019

that a public meeting was scheduled for December 2, 2019.

Both the notice and signs state that additional information is available in the City's planning files for review by any member of the public during business hours.

At the time of writing this report, no correspondence from members of the public has been received by the City. Written comments and comments received at the public meeting will be analysed by City staff and form part of the public record for the final Recommendation Report.

Staff and Agency Comments

External Agency Circulation

The subject application was circulated for comment to the Algonquin & Lakeshore Catholic School Board, the Hastings & Prince Edward District School Board, Hastings and Prince Edward Health Unit, Bell Canada, Canada Post, Ontario Power Generation, Union Gas, Elexicon Energy, Hydro One, TransCanada Pipeline, Enbridge Pipelines, Trans-Northern Pipelines, MPAC, Quinte Conservation and the Health Unit.

Elexicon Energy, Hydro One, and the Ministry of Transportation have provided comment that they have no concerns with this proposal. Hastings & Prince Edward District School Board have requested notification of the City's decision, but have not otherwise commented.

At the time of writing this report, no other comments or concerns have been received regarding this application.

Internal Department Circulation

The subject application was circulated for comment to the Belleville Fire Department, Belleville Police Service, the Development Engineer, the General Manager of Transportation & Operations Department, General Manager of Environmental Services, the Director of Recreation, Culture and Community Services, the Manager of Parks & Open Spaces, the Chief Administrative Officer, the Manager of Economic & Strategic Initiatives, the City Clerk, and the Chief Building Official.

Belleville Fire Department have provided that they have no objections to this application.

At the time of writing this report, no other comments have been received regarding this application.

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December 2, 2019

Considerations:**Public**

Circulation to the public complies with the requirements of the Planning Act, R.S.O. 1990.

Financial

The fees of the application have been received by the City. Any planning, engineering, surveying and legal costs to facilitate the plan of subdivision for the subject lands would be at the owner's expense.

Impact on and input from other Departments/Sources

Circulation of this application to other departments/agencies has occurred.

Strategic Plan Alignment

The City of Belleville's Strategic Plan identifies nine strategic themes including Residential Development.

Strategic objectives of the Residential Development theme include:

- Plan for residential growth to meet our needs for 20 years and designate sufficient land in our planning documents to accommodate residential growth for 10 years; and
- Provide for a variety of housing forms to reflect our changing demographics and need for affordability.

Conclusion:

Comments received at this public meeting, as well as subsequent written comments will be considered by the Engineering and Development Services Department in analysis of the application received to amend the City of Belleville Official Plan and Zoning By-law 3014. A recommendation report will be brought forward upon receipt of all agency and public comments.

Respectfully submitted



Thomas Deming
Principal Planner, Policy Planning Section
Engineering and Development Services Department



Greg Pinchin
Manager, Approvals Section

PP-2019-85

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December 2, 2019

Attachments

Attachment #1 –	Location Map
Attachment #2 –	Draft Plan of Subdivision
Attachment #3 –	Proposed Official Plan Amendment
Attachment #4 –	Proposed Zoning By-Law
Attachment #5 –	Planning Justification Report
Attachment #6 –	Environmental Impact Study
Attachment #7 –	Servicing Report
Attachment #8 –	Stormwater Brief
Attachment #9 –	Traffic Memo
Attachment #10 –	Environmental Site Assessment
Attachment #11 –	Official Plan Designation Map

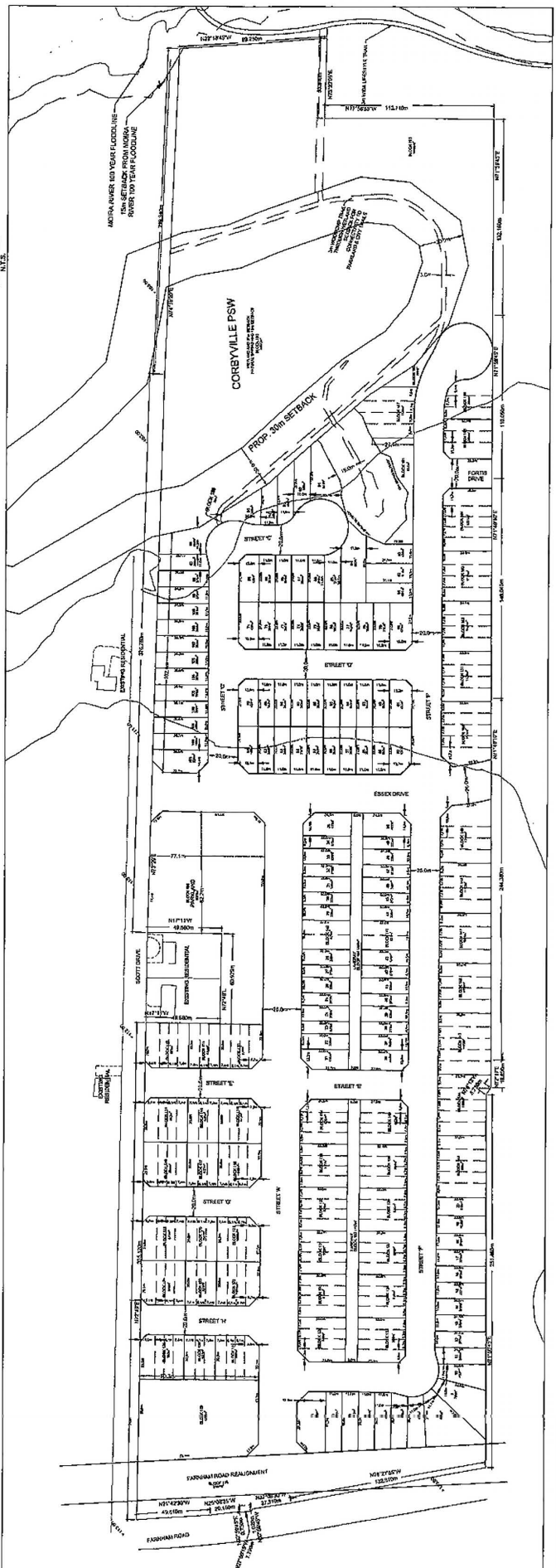
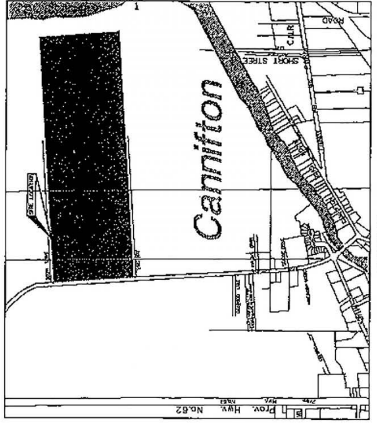
LAND USE SUMMARY

AREA	AREA
1.5m SWALE (STANDARD LOT)	78
1.5m SWALE (STRIPED LOT)	3,252
1.5m SWALE (STRIPED LOT WITH CURB)	0.25
1.5m SWALE (STRIPED LOT WITH CURB)	0.28
1.5m SWALE (STRIPED LOT WITH CURB)	1,125
1.5m SWALE (STRIPED LOT WITH CURB)	1,588
1.5m SWALE (STRIPED LOT WITH CURB)	36
1.5m SWALE (STRIPED LOT WITH CURB)	0.42
1.5m SWALE (STRIPED LOT WITH CURB)	0.82
1.5m SWALE (STRIPED LOT WITH CURB)	0.14
1.5m SWALE (STRIPED LOT WITH CURB)	3,477
TOTAL	997

- ADDITIONAL INFORMATION REQUIRED UNDER SECTION 91(7) OF THE PLANNING ACT**
- 1) SHOW ON DRAFT PLAN AND SURVEYOR'S CERTIFICATE
 - 2) SHOW ON DRAFT AND KEY PLANS
 - 3) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
 - 4) SHOW ON DRAFT PLAN
 - 5) SHOW ON DRAFT PLAN
 - 6) SHOW ON DRAFT PLAN
 - 7) FULL MUNICIPAL SERVICES
 - 8) SOIL IS FARMINGTON LOAM AND SOLMESVILLE CLAY LOAM
 - 9) ALL MUNICIPAL SERVICES TO BE PROVIDED
 - 10) SHOW ON DRAFT PLAN

RIVERSTONE
DRAFT PLAN OF SUBDIVISION
 PART OF PARK LOTS 8, 9, REGISTERED PLAN N.124
 AND PART OF LOT 8, CONCESSION 3
 FORMER GEOGRAPHIC TOWNSHIP OF THURLOW
 NOW CITY OF BELLEVILLE
 HASTINGS COUNTY
 SCALE 1:1250

METRIC NOTE
 DISTANCES SHOWN ON THIS PLAN ARE IN METRIC AND ON
 CONTOUR DATA.
 CONTOUR DATA, INFORMATION, GENERATED USING
 INFORMATION PROVIDED BY ONTARIO AERIAL PHOTOGRAPHY.



SURVEYOR'S CERTIFICATE
 I, **KEITH CHYZEK**, being duly sworn, certify that the land to be
 subdivided hereon is correctly shown.
 DATE: _____

OWNER'S CERTIFICATE
 I, **ANDY GERBASHA**, being duly sworn, certify that I own the land to be
 subdivided hereon and I consent to the subdivision of the land to be
 subdivided hereon.
 DATE: _____

REV.	DATE	BY	REASON
0			DESIGN

SCALE: 1:1250
 DESIGNED BY: CHYZEK
 DRAWN BY: CHYZEK
 CHECKED BY: CHYZEK
 DATE: OCT 2019

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE
DRAFT PLAN

CONTRACT No. 15593-1 DWG. 15593-DP

The Corporation of the City of Belleville
By-law Number _____

A By-law to adopt amendment XX to the City of Belleville Official Plan

The Council of the Corporation of the City of Belleville, in accordance with the provisions of the Planning Act, 1990, R.S.O., c.P. 13, as amended, hereby enacts as follows:

1. That Amendment No. XX to the Official Plan of the City of Belleville, being the attached text and schedules, is hereby adopted.
2. That the City Clerk is hereby authorized and directed to make application to the Minister of Municipal Affairs and Housing for the approval of Amendment No. XX to the Official Plan of the City of Belleville.

BY-LAW read and passed by the Council of the City of Belleville Hills this _____ day of _____, 2020.

MAYOR

CLERK

AMENDMENT NO. XX TO THE OFFICIAL PLAN
OF THE CITY OF BELLEVILLE

The attached text and schedules constitute Amendment No. XX to the Official Plan of the City of Belleville, which was adopted by the Council of the City of Belleville by By-law 2020--_____ in accordance with the provisions of the Planning Act, 1990, R.S.O., c.P. 13, as amended:

THE CORPORATION OF THE CITY OF BELLEVILLE.

MAYOR

CLERK

AMENDMENT NO. XX

TO THE OFFICIAL PLAN FOR THE CITY OF BELLEVILLE

PART A – THE PREAMBLE does not constitute part of the Amendment.

PART B - THE AMENDMENT, consisting of the following text and schedules, constitutes Amendment No. XX to the Official Plan for the City of Belleville.

Part A – The Preamble AMENDMENT NO. XX TO THE OFFICIAL PLAN
OF THE CITY OF BELLEVILLE

1. Purpose of the Amendment

The purpose of this Amendment is to relocate an Open Space designation from the east side of the wetland to a more central location within the proposed plan of subdivision in order to enhance the parkland's accessibility and visibility, provide active recreational opportunities that more easily serve the entire subdivision and improve the pedestrian experience along main roads within the development.

2. Location

The lands affected by this Amendment are located south of Scott Drive and west of the Moira River. The lands are identified as part of Lots 8 and 9, Concession 3, former Township of Thurlow, now City of Belleville.

3. Basis of the Amendment

The Official Plan policies state that the Open Space designation applies to areas where the predominant use of land is for significant public outdoor parks and recreation uses and to some privately owned lands that have open space characteristics. Open space uses typically include local or neighbourhood parks, community parks, and regional parks. Parks can provide active or passive recreational opportunities and many parks have a combination of both functions.

The lands are not designated Environmental Protection which would apply to lands with natural hazards or natural heritage features. The lands are located outside of the flood plain and beyond the environmental buffer for the river and the wetland and are therefore not required for environmental protection purposes. The subdivision will provide a walkway connection between the wetland and the river.

At present, the area designated Open Space within the subdivision does not have public road access as Scott Drive does not extend east of the wetland area and the internal subdivision road access is limited by the location of the wetland. The Open Space designation is being relocated adjacent to Scott Street, Essex Drive and Street A where the Open Space location will have frontage and access from three public roads. This will provide excellent exposure and visibility to enhance public safety, whereas the existing open space location would have a much lower level of visibility. The new location will provide easy access for active park facilities that serve the whole development. It will also enhance the streetscape of Street A and Essex Drive which will be the main access roads into the subdivision, thereby improving the pedestrian experience and overall character of the subdivision.

Part B – The Amendment AMENDMENT NO. XX TO THE OFFICIAL PLAN
OF THE CITY OF BELLEVILLE

All of this part of the document entitled PART B – THE AMENDMENT, consisting of the following text and schedules, constitutes Amendment No. XX to the Official Plan for the City of Belleville.

Details of the Amendment

1. That Schedule 'B' – Land Use Plan - Urban Serviced Area is amended as shown on Schedule 1 attached to and forming part of this Amendment No. XX, by replacing the Open Space land use designation with a Residential Land Use designation and replacing a Residential Land Use designation with an Open Space designation.

Implementation and Interpretation

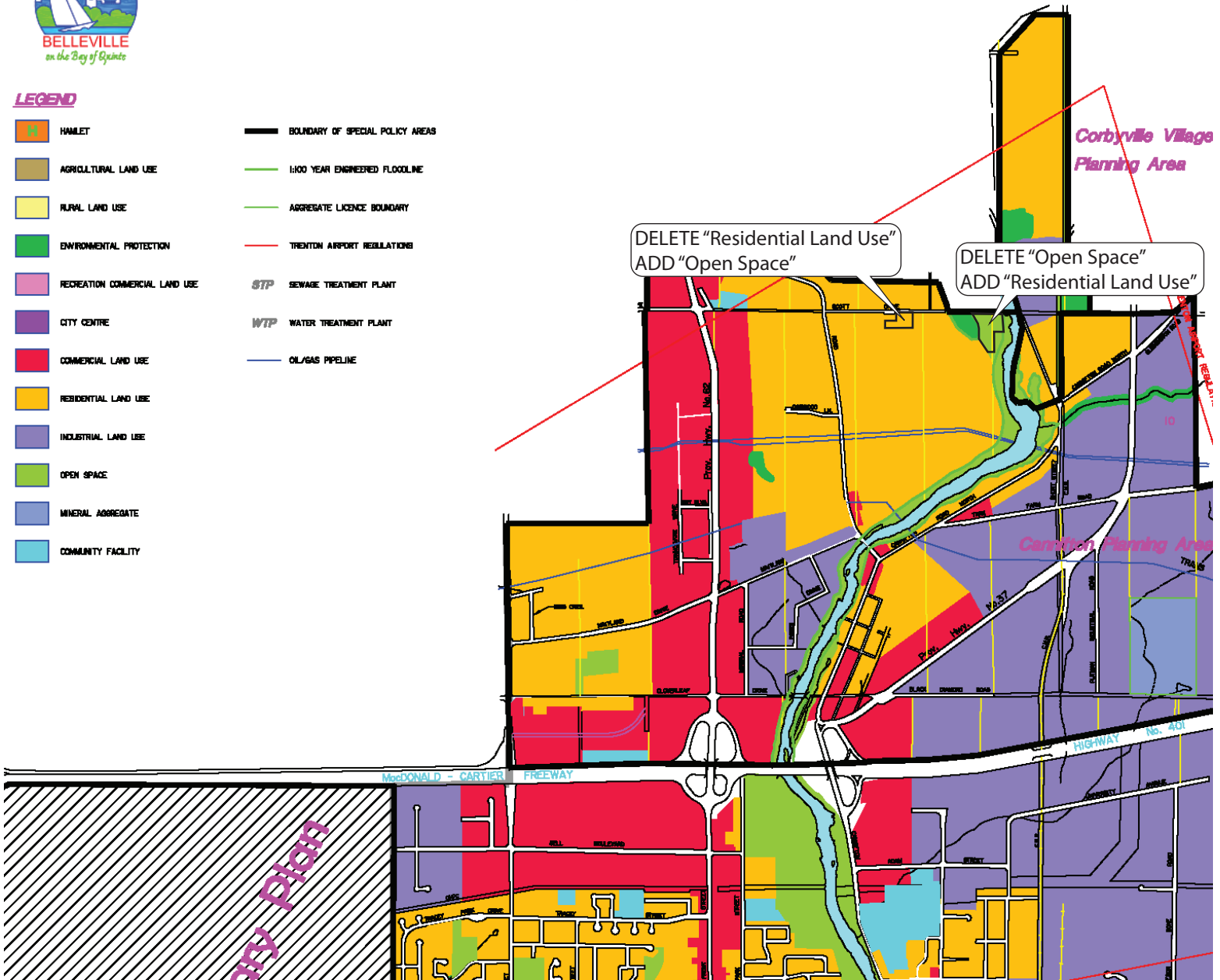
This Official Plan Amendment shall be implemented and interpreted in accordance with the implementation and interpretation provisions set out in the Amendment and the relevant sections of the Official Plan.

CITY OF BELLEVILLE - OFFICIAL PLAN SCHEDULE 'B' LAND USE PLAN - URBAN SERVICED AREA



LEGEND

- HAMLET
- AGRICULTURAL LAND USE
- RURAL LAND USE
- ENVIRONMENTAL PROTECTION
- RECREATION COMMERCIAL LAND USE
- CITY CENTRE
- COMMERCIAL LAND USE
- RESIDENTIAL LAND USE
- INDUSTRIAL LAND USE
- OPEN SPACE
- MINERAL AGGREGATE
- COMMUNITY FACILITY
- BOUNDARY OF SPECIAL POLICY AREAS
- 1:100 YEAR ENGINEERED FLOODLINE
- AGGREGATE LICENCE BOUNDARY
- TRENTON AIRPORT REGULATIONS
- STP SEWAGE TREATMENT PLANT
- WTP WATER TREATMENT PLANT
- OIL/GAS PIPELINE



This is Schedule 'A' to OPA No. ___
Passed this ___ day of _____, 2019.

Mayor _____

Clerk _____

The Corporation of the City of Belleville
By-law Number _____

A By-law to amend Township of Thurlow Zoning By-law 3014

The Council of the Corporation of the City of Belleville enacts the following:

- 1) That Schedule A1 of By-law 3014, as amended, is hereby amended by rezoning lands located southeast of Farnham Road and Scott Drive, legally known as Part of Lots 8 & 9, Plan N.124 and Part of Lot 8, Concession 3, Thurlow, City of Belleville, from D-r and H to R1-XX, R3-X, R3-Y, R3-Z, R4-X, CF and H.

- 2) That Part 6.1 of By-law 3014 as amended shall hereby be amended by adding a new subsection as follows:

(xx) Notwithstanding the provisions of Section 6.1.2 of By-law 3014, within the lands zoned R1-XX, the following provisions shall apply to the use of land and the construction and use of buildings in this zone:

 - a. Minimum Lot Area: 340 sq. m
 - b. Minimum Lot Frontage: 11.0 m, and 12.2 m for a corner lot
 - c. Minimum Front Yard Depth: 6.0 m
 - d. Minimum Interior Side Yard Width: 1.2 m on one side and 0.6 m on the other side. The 0.6 m setback shall be beside a 1.2 m setback on the adjacent property
 - e. Minimum Exterior Side Yard Width: 2.4 m
 - f. Maximum Lot Coverage: 45 percent

- 3) That Part 6.3 of By-law 3014 as amended shall hereby be amended by adding a new subsection as follows:

(x) Notwithstanding the provisions of Sections 6.3.1, 6.3.2 and 6.3.3 of By-law 3014, within the lands zoned R3-X, the following provisions shall apply to the use of land and the construction and use of buildings in this zone:

- a. Permitted Uses
 - i) Residential uses:
 - Single detached dwelling house,
 - Semi detached dwelling house
 - Townhouse with frontage on a public road
 - ii) Non Residential Uses:
 - Public uses of utilities in accordance with the provisions of this By-law
 - iii) Accessory Uses:
 - Uses, buildings or structure accessory to any of the permitted uses in accordance with the provisions of this By-law
- b. Minimum Lot Area:
 - i. 270 sq. m for a Single detached dwelling house and Semi detached dwelling house
 - ii. 210 sq. m for a Townhouse
- c. Minimum Lot Frontage:
 - i. 8.5 m for a Single detached dwelling house and a Semi detached dwelling house and 9.7 m for a Single detached dwelling house and Semi detached dwelling house on a corner lot
 - ii. 6.7 m for a Townhouse and 9.1 m for a Townhouse on a corner lot
- d. Minimum Front Yard Depth: 3.0 m
- e. Minimum Rear Yard Depth: 6.7 m
- f. Minimum Interior Side Yard Width:
 - i. Single detached dwelling: 1.2 m on one side and 0.6 m on the other side,
 - ii. Semi detached dwelling: 1.2 m except where the interior side yard is adjacent to a common wall of a Semi detached dwelling house where the minimum width shall be 0 m
 - iii. Townhouse: 1.2 m except where the interior side yard is adjacent to a common wall of a Townhouse where the minimum width shall be 0 m
- g. Minimum Exterior Side Yard width: 2.4 m
- h. Maximum Lot Coverage:
 - i. 65 percent for a Single detached dwelling unit and Semi detached dwelling unit
 - ii. 75 percent for a Townhouse
- i. Minimum number of Parking Spaces: 1 per dwelling unit

- j. Notwithstanding the provisions of Section 4.1, the following regulations shall apply to an accessory building to be used as a private garage with rear lane access:
 - i) Minimum Distance to rear of dwelling: 4.6 m
 - ii) Minimum Distance from interior side lot line: 0.6 m on one side and 2.1 m on the other side
 - iii) Minimum Distance from exterior side lot line: 2.4 m
 - iv) Minimum Distance to the rear lot line: 0.6 m

 - k) Notwithstanding the definition of Accessory Building or Structure in section 7.2, an accessory building to be used as a private garage may be attached to the dwelling subject to the following regulations:
 - i) Maximum width of dwelling at point of attachment to private garage: 3.5 m
 - ii) Maximum height of dwelling at point of attachment to private garage: 1 storey
 - iii) Maximum height of accessory building: 7.5 m

 - l) Pursuant to Section 4.24, for a coach house dwelling located above a private garage accessed by a lane, the calculation of the width for the required additional parking space may include contiguous land on an adjacent lot that is secured by an easement which is registered on title.

 - m) All residential lots shall have rear lane access

 - n) The maximum number of Townhouses in one block shall be 6.
- 4) That Part 6.3 of By-law 3014 as amended shall hereby be amended by adding a new subsection as follows:
- (x) Notwithstanding the provisions of Section 6.3.1 and 6.3.3 of By-law 3014, within the lands zoned R3-Y, the following provisions shall apply to the use of land and the construction and use of buildings in this zone:
 - a. In addition to the permitted residential uses in section 6.3.1.1, a Semi Detached dwelling house, and a Townhouse shall be permitted.

 - b. Minimum Lot Area:
 - i. 340 sq. m for a Single detached dwelling house
 - ii. 230 sq m for a Semi detached dwelling house
 - iii. 180 sq. m for a Townhouse
 - iv. 230 sq m for a single storey Townhouse

 - c. Minimum Lot Frontage:

- i. 11.0 m for a Single detached dwelling and 12.2 m for Single detached dwelling on a corner lot
 - ii. 7.5 m for a Semi detached dwelling house and 8.7 m for Semi detached dwelling house on a corner lot
 - iii. 6.7 m for a Townhouse and 9.1 m for a Townhouse on a corner lot
 - iv. 7.5 m for a single storey Townhouse and 9.9 m for a single storey Townhouse on a corner lot
 - d. Minimum Front Yard Depth: 6.0 m
 - e. Minimum Interior Side Yard Width:
 - i. Single detached dwelling: 1.2 m on one side and 0.6 m on the other side,
 - ii. Semi detached dwelling: 1.2 m except where the interior side yard is adjacent to a common wall of a Semi detached dwelling house where the minimum width shall be 0 m
 - iii. Townhouse and single storey Townhouse: 1.2 m except where the interior side yard is adjacent to a common wall of a Townhouse or single storey Townhouse where the minimum width shall be 0 m
 - f. Minimum Exterior Side Yard Depth: 2.4 m
 - g. Minimum Rear Yard Depth: 7.0 m
 - h. Maximum Lot Coverage
 - i. Single detached dwelling unit: 45 percent
 - ii. Semi detached dwelling unit: 48 percent
 - iii. Townhouse: 48 percent
 - iv. Single storey Townhouse: 56 percent
- 5) That Part 6.3 of By-law 3014 as amended shall hereby be amended by adding a new subsection as follows:
 - (x) Notwithstanding the provisions of Section 6.3.1 and 6.3.3 of By-law 3014, within the lands zoned R3-Z, the following provisions shall apply to the use of land and the construction and use of buildings in this zone:
 - a. In addition to the permitted residential uses in section 6.3.1.1, a Row dwelling house and Townhouse shall be permitted.
 - b. Minimum Lot Area for a Row dwelling house and Townhouse shall be the sum of the areas for each dwelling unit as follows:

- i. Dwelling unit with one wall attached: 232 sq m
 - ii. Dwelling unit with more than one wall attached: 105 sq. m
 - c. Minimum Lot Frontage: 15 m
 - d. Minimum Front Yard Depth to the closest wall of any building on the lot: 6.0 m
 - e. Minimum setback from centreline of municipal street: 15 m
 - f. Minimum Interior Side Yard Width for a Row dwelling house and a Townhouse: 1.2 m except where the interior side yard is adjacent to a common wall where the minimum width shall be 0 m.
 - g. Minimum Exterior Side Yard Depth for a Row dwelling house and a Townhouse: 2.4 m
 - h. Minimum Rear Yard Depth for a Row dwelling house and Townhouse: 6.0 m
 - i. Minimum landscaped open space for a Row dwelling house and Townhouse: 30 percent
 - j. Maximum Lot Coverage for Row dwelling houses and Townhouses: 45 percent
- 6) That Part 6.4 of By-law 3014 as amended shall hereby be amended by adding a new subsection as follows:

(xx) Notwithstanding the provisions of Section 6. of By-law 3014, within the lands zoned R4-X, the following provisions shall apply to the use of land and the construction and use of buildings in this zone:

- a. Minimum Lot Area: 4,200 sq m
- b. Minimum Front Yard Depth: 6.0 m
- c. Minimum Interior Side Yard Width: 1.2 m for a Row dwelling house, and 2.4 for an Apartment dwelling house
- d. Minimum Exterior Side Yard Depth: 2.4 m
- e. Minimum Rear Yard Depth: 7.0 m
- f. Maximum Lot Coverage: 45 percent for a Row dwelling house, and 35 percent for an Apartment dwelling house

- g. Notwithstanding section 7.116, for the purposes of calculating Lot Coverage, a Lot shall be deemed to be all of the lands within the total block of land on the plan of subdivision, irrespective of whether a condominium corporation is created.
- 7) Notwithstanding Section 6.2.3 in By-law 3014, provision 6.2.3.9 shall not apply to the lands zoned R3-X, R3-Y, R3-Z, and R4-X whereas the By-law requires in areas designated "Residential" in the Official Plan NOT MORE than 25% of the dwelling units in any plan of subdivision shall be semi-detached or duplex dwelling units.
- 8) Notwithstanding Sections 6.1.7.3, 6.3.3.12 and 6.4.3.8 in By-law 3014, the provisions shall not apply to the lands zoned R1-XX, R3-X, R3-Y, R3-Z and R4-X which requires a minimum set back from the centre line of a street as follows:
- | | |
|--------------------------------------|-------------|
| 6.2.3.11.1 Provincial Highway: | 26 metres |
| 6.2.3.11.2 County of Collector Road: | 21 metres |
| 6.2.3.11.3 Township Road: | 17.7 metres |
- 9) All provisions of the By-law apply to all Dwelling units fronting onto private and public roads whereas the By-law applies to Dwelling units on public roads only.
- 10) All other provisions in By-law 3014 shall apply.
- 11) This By-law shall come into force and take effect on the day of passing thereof provided not notice of appeal is filed pursuant to the provisions of the Planning Act R.S.O. 1990, as amended. In the event that an appeal is filed, the By-law shall come into force and take effect in accordance with the provisions of the Planning Act R.S.O. 1990.

Read a first time this ____ day of _____, 2020.

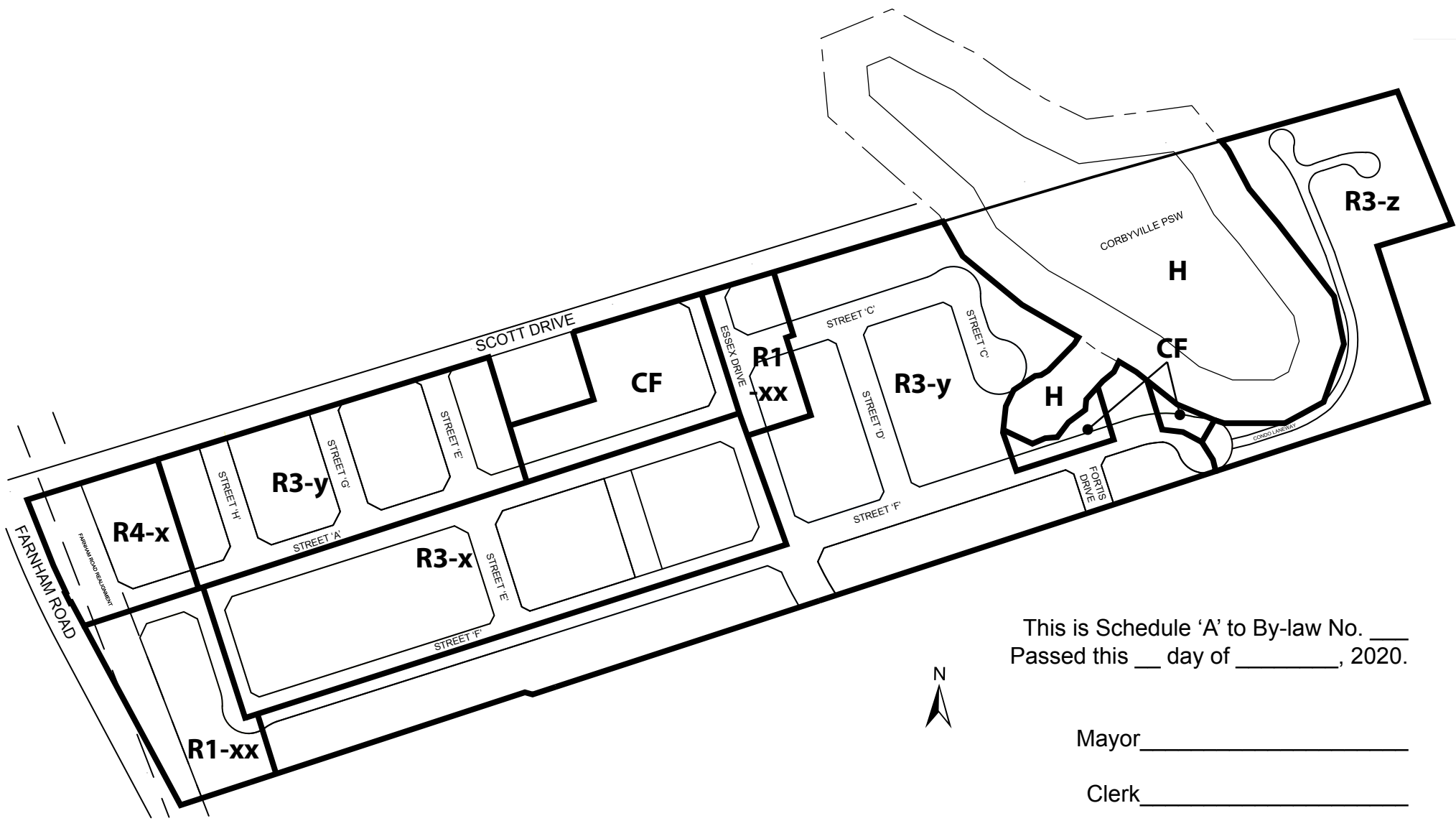
Read a second time this ____ day of _____, 2020.

Read a third time and finally passed this ____ day of _____, 2020.

MAYOR

CITY CLERK

Schedule 'A' To Zoning By-law No. ___ City of Belleville



This is Schedule 'A' to By-law No. ___
Passed this __ day of _____, 2020.

Mayor _____

Clerk _____

PLANNING JUSTIFICATION REPORT

Part of Lots 8 and 9, Registered Plan N.1245 and
Part of Lot 8 Concession 3
former Township of Thurlow, now City of Belleville

**Application for Official Plan Amendment, Zoning By-law
Amendment, and Plan of Subdivision for the
Riverstone Development**

prepared for
GCL Development Ltd.

by
Macaulay Shiomi Howson Ltd



November 2019

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1 Introduction

1.1 Background

The purpose of this report is to provide a planning rationale in support of Official Plan amendment, rezoning and subdivision applications on behalf of GCL Development Ltd for lands located in part of Lots 8 and 9, Plan N.124 and Part of Lot 8, Concession 3, former Township of Thurlow, now City of Belleville. The subject lands, referred to as Riverstone, are located north of Highway 401 near the north end of the urban area of Belleville. The subject lands contain 21.2 ha. They are predominately grass covered with a tree covered area and part of the Corbyville wetland complex and a small spring located on the eastern portion of the property. There are vacant buildings including a former house, barn and sheds on the western portion of the property fronting Farnham Road.

1.2 Context

The subject lands are located on the east side of Farnham Road, south of Scott Drive and west of the Moira River. The lands to the south are currently being developed with a combination of single detached and townhouse lots as well as parkland and a stormwater management facility.

There are two existing single detached houses on the south side of Scott Drive that are not part of the subdivision. The lands north of Scott Drive are currently being farmed. The lands on the west side of Farnham Road contain estate residential lots and farmland. The lands to the east are part of the Moira River valley.

An air photo of the existing context is shown on Figure 1.

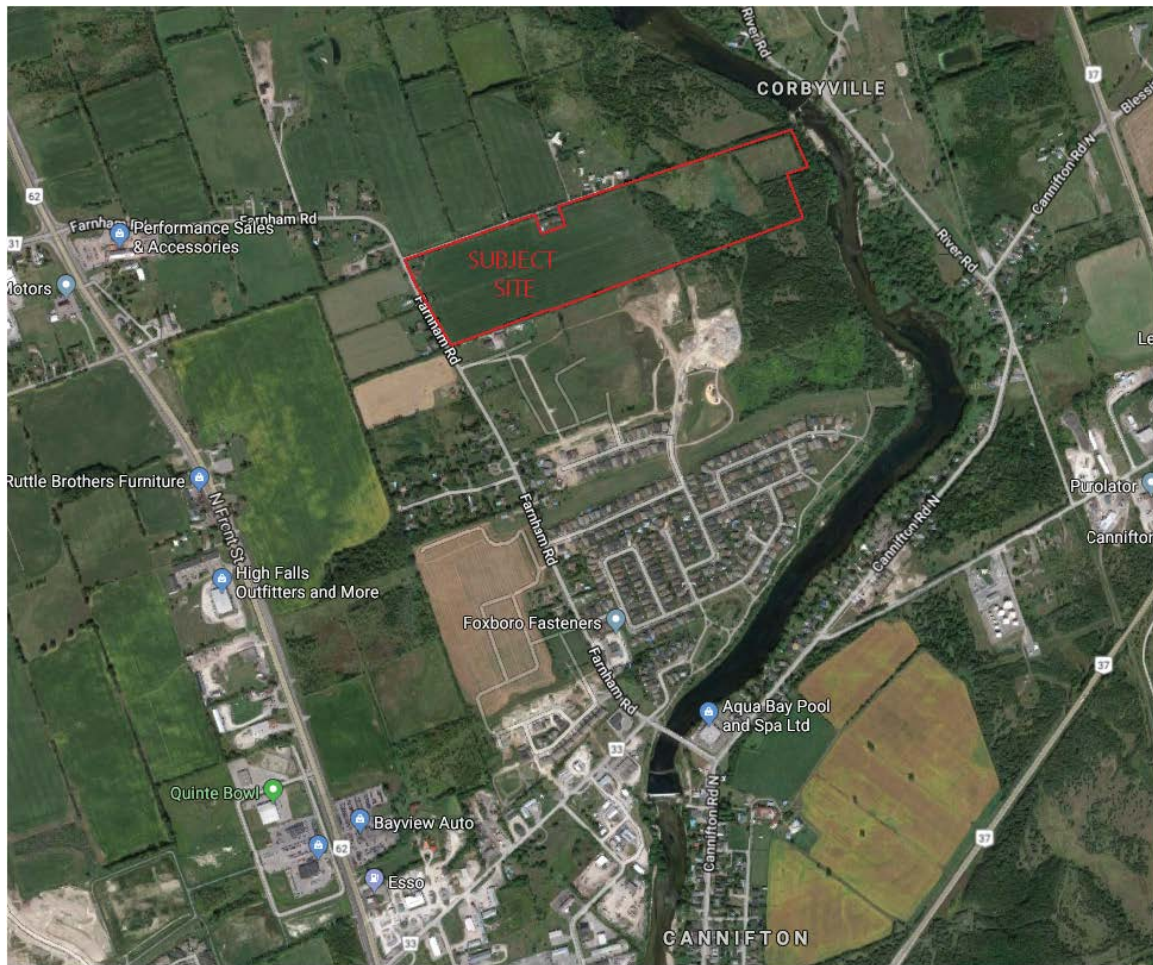


Figure 1 Context Air Photo

1.3 Proposed Development

The Riverstone development as shown on Figure 2, is proposing 367 residential units, a park, open space and future walkways consisting of:

- Up to 79 single detached lots with frontages of 11 m (36 ft) and up
- 30 single detached lots with frontages ranging between 8.5 (28 ft) and 10.5 m (34.5 ft) m and laneway access
- 4 semi-detached lots (8 units) with 9.8 m (32 ft) frontages and laneway access
- 48 townhouse lots with 6.7 m (22 ft) frontages and laneway access
- 66 townhouse lots with 6.0 m (20 ft) frontages
- 63 bungalow townhouses with 7.5 m (25 ft) frontages
- 1 medium density block with approximately 35 units

Riverstone Development
Planning Rationale Report

- 1 condominium block with approximately 42 townhouse units
- 1 park block containing 0.8 ha (2.0 ac)
- Open Space block containing the wetlands and spring plus a 30 m setback from the wetland and a 15 m setback from the spring containing 3.48 ha (8.6 ac)
- Parkette/ access to wetland block 0.11 ha (0.27 ac)
- Farnham Road realignment and road widening containing 0.69 ha (1.7 ac)
- New internal roads containing 5.11 ha (12.6 ac)
- Laneways containing 0.28 ha (0.69 ac)

A 5 m (16 ft) wide walkway block connecting the open space block to the river will be provided at the time of site plan approval of the condominium townhouses.

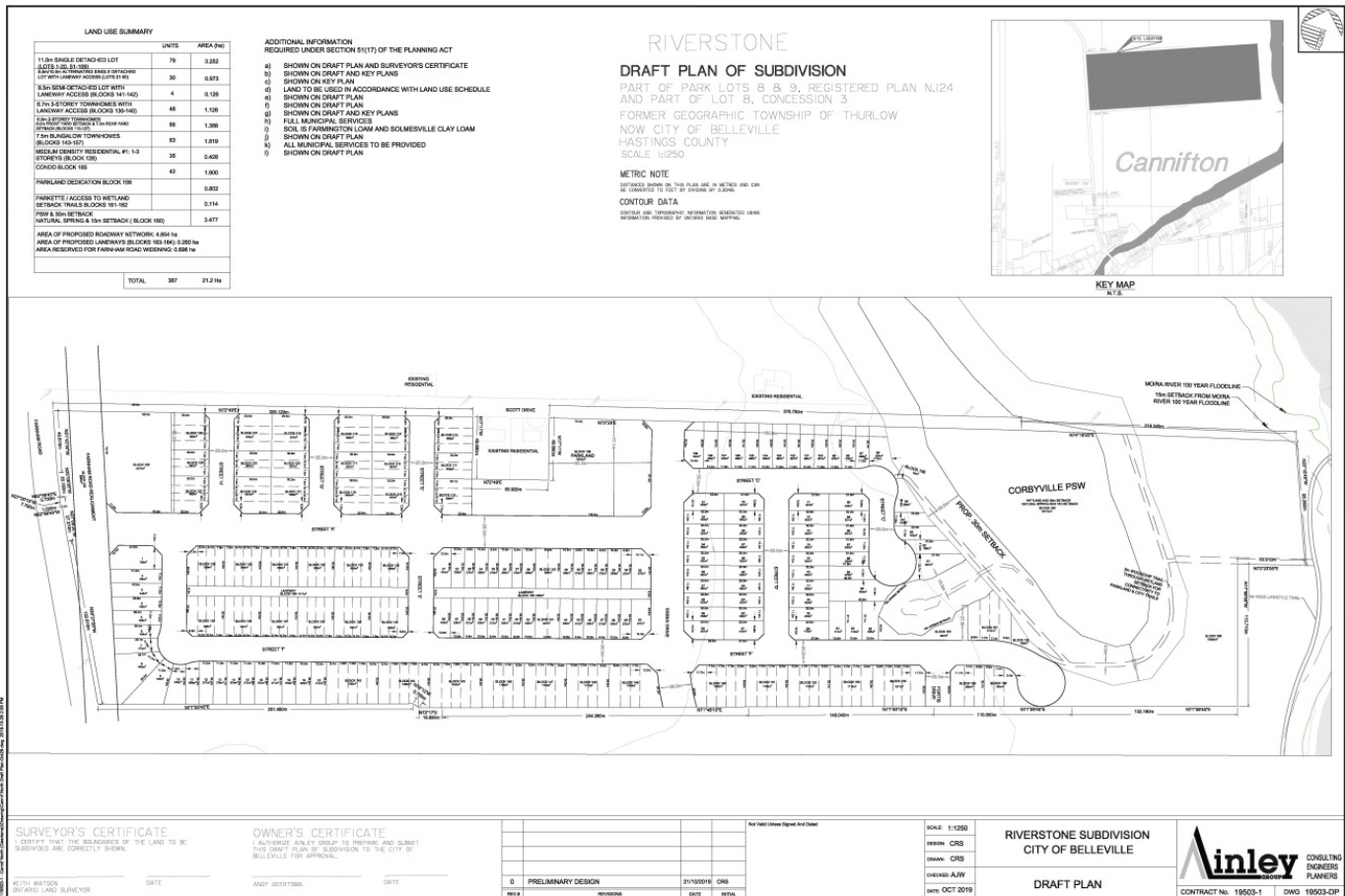


Figure 2 Draft Plan of Subdivision

2 Provincial Policy Statement

The Provincial Policy Statement (PPS) 2014 provides policy direction on matters of provincial interest related land use planning and all decisions made under the Planning Act shall be consistent with the PPS. The following analysis addresses how the proposed development is consistent with the PPS:

1.0 Building Strong Healthy Communities

1.1 *Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns*

The proposed subdivision is located within the Urban Serviced Area of Belleville and represents a logical extension of the development area. It provides for additional forms of housing within the community thereby accommodating a mix of residential uses and increasing the range of options, which improves the opportunity for housing that is more affordable. It provides cost effective development pattern by extending services within a residential area thereby contributing to a healthy, liveable and safe community. It supports active transportation by providing sidewalks and trails for pedestrian connections.

1.2 *Coordination*

The community was planned to allow for the development of these lands to ensure a coordinated approach to the development.

1.4 *Housing*

The proposed development will assist in maintaining a 10 year supply of residential lands within the City as well as a three year supply of draft plan approved lands and land zoned to facilitate residential intensification. The subdivision provides for a variety of lot sizes and built form to facilitate an appropriate range of housing types and densities to meet projected needs of current and future residents with an appropriate level of infrastructure and public service facilities that support the residents.

1.4 *Public Spaces, Recreation, Parks, Trails and Open Space*

The public park block provides active and passive recreational opportunities and there is an open space block/parkette and buffers to protect the provincially significant wetland and spring. A woodchip trail is proposed through the buffer area of the wetland that will connect to the trail along Moira River to the east of the subject lands. The subdivision will promote healthy, active communities by

providing sidewalks and walkways to meet the needs of pedestrians, and parks and open space for active and healthy living.

1.5 Infrastructure and Public Service Facilities

This development will be on full municipal services and will optimize use of existing municipal sewer and water services. A Municipal Servicing Capacity Report and a Stormwater Management Report has been prepared by Ainley Group to demonstrate that sufficient capacity exists to provide for the development and that the stormwater can appropriately be addressed through the expansion of the existing stormwater management facility. This development makes efficient use of existing infrastructure.

1.6 Long Term Economic Prosperity

The proposed development helps with long term economic prosperity by optimizing use of land, infrastructure and public service facilities.

1.7 Energy, Air Quality and Climate Change

The proposed development promotes active transportation and the homes will include energy and water efficiency features.

2.0 Wise Use and Management of Resources

2.1 Natural Heritage

A scoped Environmental Impact Study has been prepared for the subject lands by Ainley Group. The report addresses development on the subject lands and within 120 m of a Provincially Significant Wetland (PSW). It indicates that the proposed retention of the features and the associated buffers are sufficient to protect the ecological functions of the features.

2.2 Water

Water quality will be addressed through the use of stormwater management techniques which are addressed in the Stormwater Report prepared by Ainley and described in section 5.3 of this report.

2.6 Cultural Heritage and Archaeology

A Stage 1 and 2 Archaeological Assessment was undertaken for the property for the previous owner. No archaeological resources were recovered during the Stage 2 analysis and the report concluded that there were no areas of archaeological significance or potential on the subject lands. It therefore recommended that no further archaeological assessment was required.

3.0 Protecting Public Health and Safety

3.1 *Natural Hazard policies*

The subject lands are located outside of the 100 year floodline of the Moira River and contain no hazard lands.

Summary and Conclusions

In summary, the proposed development of the subject lands will support a strong, resilient community with an appropriate range of housing types that make efficient use of existing infrastructure and public services. Recreational and open space opportunities are available, active transportation will be supported and water resources have been appropriately addressed. No development will occur within the wetland and appropriate buffering has been provided to the wetland and the spring. As a result, the proposed development is consistent with the PPS.

3 Belleville Official Plan

The subject lands are currently designated Residential, Open Space and Environmental Protection in the Official Plan (OP) as shown on Figure 3. The subject lands are also located within the Urban Serviced Area and are part of the Cannifton Planning Area.

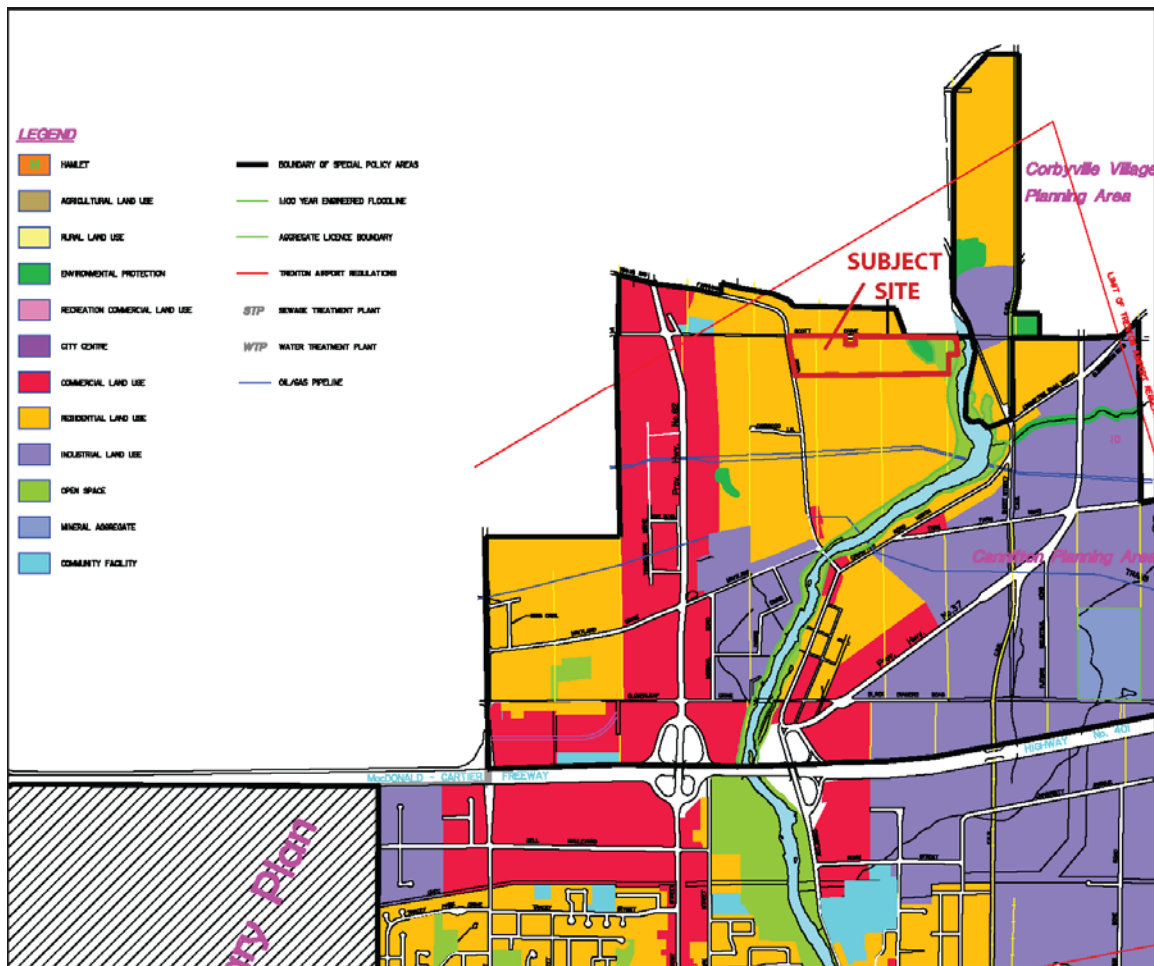


Figure 3 Existing Official Plan designations – Excerpt of Schedule B from City of Belleville Official Plan

Residential

The Residential designation permits low, medium and high densities with built forms that range from single detached dwellings to a variety of attached and multiple dwellings and the proposed residential uses are therefore permitted.

The densities that are permitted in the OP are:

- i) Low density residential uses which would normally include single detached and attached two-unit dwellings, developed up to 18 units per hectare gross residential density or 25 units per hectare net residential density.
- ii) Medium density residential uses which would normally include various types of attached, multiple or cluster housing projects such as row dwellings and small low-profile apartment complexes, developed up to 60 units per hectare net residential density.
- iii) High density residential uses which would normally include various types of multiple dwellings such as apartment complexes and stacked townhouses, developed up to 115 units per hectare net residential density.

The policies state that ideally all neighbourhoods should contain a mixture of dwelling types at different densities. It also supports the development of all forms of housing in all forms of tenure, being freehold, rental, cooperative, and condominium.

In determining the neighbourhood densities, consideration should be given to:

- the capacity of servicing systems to handle the traffic, water and sewage flows, and other services;
- the capacity of schools, parks, and other soft services in the area to service the neighbourhood; and
- the availability of or the ability to provide transit services.

The proposed number of units within Block 1 which is located at the southeast corner of Farnham Road and Scott Drive falls within the high density residential density range. While the density may be within the high density category, the proposed height is a maximum of 3 storeys which is a height more typically associated with medium density development. The proposed 11 m frontage single detached lots and the condominium townhouses east of the wetland fall within the low density range. The remainder of the proposed development falls into the medium density range although some of units are single and semi-detached units which are typically considered to be low density and overall within the development 30 percent of the total number of units are single and semi detached. The overall density of the development is 20.72 units per ha of gross residential density as defined by the Official Plan.

The OP policies state that the preferred locations for medium and high density residential development should be guided by the following principles:

- The lands should have direct frontage on or immediate access to arterial or major collector roads for high density residential and collector roads for medium density residential; high density developments with access only to collector streets should generally be smaller scale.

- The main access routes to such developments should not be through substantial areas of low density residential development.
- The preferred locations for large scale high density residential developments would be along major arterial streets or at major intersections where access to two or more major transportation corridors is available. Where located along collector streets, the preferred locations for medium density residential developments would be at intersections or where access to two or more transportation corridors is available.
- High and medium density residential development should be directed to areas which are adequately serviced with open space and other required community facilities and services, all of which should be of sufficient size to meet the needs of the residents of the housing development.
- A preferred location would be in close proximity to or adjacent to non-residential land uses which service the residential area (neighbourhood commercial uses, schools, parks, churches).
- High and medium density residential development is a preferred housing form immediately abutting a non-residential land use in another land use category, or along very high traffic corridors.

In this case, the subject lands front onto Farnham Road which is a collector road. In addition, although proposed Street A is not designated a collector road, it is being designed to look and function like a collector road. Essex Drive, which will extend into the new development from the south, is also designed with a collector road width. As a result, traffic from the high density block has direct access to a collector road and traffic from the medium density residential has close or direct access to roads with the width and potential function of collector roads.

The proposed high density residential will be developed at a small scale given its proposed maximum 3 storey height and relatively low number of units (35) so that its built form will fit within the character of the community. The proposed medium and high density development will be close to local parks and have excellent access to open space areas and the Moira River trail. It will also be located within good proximity to commercial uses and places of worship in Cannifton approximately 1.4 km away.

A servicing report has been prepared that indicates that there is servicing capacity to accommodate the development. A traffic brief also states that the road network can accommodate the proposed development and Farnham Road is expected to be a location for future transit.

As a result, proposed subdivision will contribute to a range of housing types and sizes within the community and the proposed medium and high density residential development meets the intent of the OP policies for the location of these uses.

Environmental Protection

Lands within the Environmental Protection designation “require special care and regulation due to their inherent natural or physical characteristics” due to be hazard lands or containing natural heritage features. On the subject lands, the Environmental Protection designation applies to lands that are a small part of a larger wetland complex.

The OP policies state that no new development will be permitted within provincially significant wetlands and that development may be permitted within 120 m where it has been demonstrated through an Environmental Impact Study (EIS) that there would be no adverse impact on the natural area or ecological functions. A scoped Environmental Impact Study (building on a previous EIS for the subject lands) has been prepared which assesses the impact of the proposed development on the wetland and proposed 30 m buffer. It concludes that the subject lands provide limited ecological functions and do not exhibit high levels of sensitivity to environmental disturbance. It also states that given the lack of sensitive habitat, the relatively simple flora and fauna communities and the low level of hydrological connectivity between the on-site wetland and surrounding land, a 30 m vegetated buffer surrounding the wetland is sufficient to protect its ecological functions.

A woodchip trail is proposed within the 30 m buffer and the EIS concludes that it is acceptable provided it is located along the edge, the foot print remains concentrated for trail construction only, and erosion and sediment control barriers are installed to limit potential impacts to the wetland.

The subject lands also contain a groundwater spring that is not located within the land designated Environmental Protection. The water from the spring flows to the wetland and the lands containing the spring and surrounding area have been protected. The EIS states that the spring does not contribute to fish habitat or other significant natural features and as a result, it concludes that a 15 m vegetated buffer around the spring is sufficient to protect the function of the feature.

As a result, the proposed development meets the requirements of the Environmental Protection policies.

Open Space

The OP policies state that the Open Space designation applies to areas where the predominant use of land is for significant public outdoor parks and recreation uses and to some privately owned lands that have open space characteristics. The designation does not apply to all parkland areas that exist or that would be established, as open space areas are allowed to locate in other land use designations.

Open space uses typically include local or neighbourhood parks, community parks, and regional parks. Parks can provide active or passive recreational opportunities and many parks have a combination of both functions. The policies state that “while the majority of open space lands and facilities would be publicly owned and operated, certain recreational facilities with commercial potential can be owned and operated privately, either in a commercial capacity or as non-profit ventures.” In the case of the subject lands, the property is privately owned and there are no plans for commercial recreational facilities in this location.

At present, the land designated Open Space does not have public road access as Scott Drive does not extend east of the wetland area. The lands designated Open Space are located outside of the flood plain and beyond the environmental buffer for the river and the wetland. Some of the Open Space lands are tree covered but are not deemed significant woodland. In addition, the area designated Open Space significantly exceeds the lands required for 5% parkland dedication. As a result, there does not appear to be a clear rationale for the extent of the current Open Space designation.

Given the mix of housing types that are going to be developed, it is proposed to provide public parkland in a more central and accessible location within the subdivision. As a result, it is proposed to relocate the Open Space designation adjacent to Scott Street, Essex Drive and Street A. The Open Space location would have frontage and access from three public roads which provide excellent exposure and visibility to enhance public safety, whereas the existing open space location would have a lower level of visibility and access would be limited by the location of the wetland. The new location would also be close most of the proposed townhouses, and provide easy access for active park facilities that serve the whole development. It would also enhance the streetscape of Street A and Essex Drive which will be the main access roads into the subdivision, thereby improving the pedestrian experience and overall character of the subdivision.

In addition to the proposed public park, there is additional open space provided adjacent to the spring lands to enhance the visibility and access to those lands and the woodchip trail. There will also be a walkway provided during the condominium site plan

approval from the woodchip trail to the Moira River trail thereby providing good connectivity between open space areas.

Special Policy Area # 5 – Cannifton Planning Area

The Cannifton Planning Area is intended to accommodate a significant portion of the City's future residential, commercial and industrial development. The policies state that development should occur in phases as the logical extension of servicing becomes available. As noted in the Servicing Report, the services will be available at the property line as a result of development occurring immediately to the south and are sufficient size to accommodate the proposed development. A stormwater report also addresses how stormwater objectives will be achieved for the subject land.

Within the Cannifton Planning Area, the policies indicate that residential development should occur at all densities but should consist primarily of low density residential. The Cannifton Planning Area will provide housing for up to 7,500 persons once fully developed, consisting of approximately 2,000 low density residential units and 1,000 medium/high density residential units. The proposed subdivision will provide the full range of low, medium and high density residential development options. It is noted that there is already a significant number of low density residential units existing or proposed within the Cannifton area and that therefore the proposed subdivision provides a greater diversity of residential options within the overall community. As indicated above, while some of the proposed development falls within the medium density category, it still provides a low density built form (i.e. single and semi-detached lots) and with the possible exception of the high density block, all units will have ground oriented direct outdoor access.

The policies also state that recreational land uses within the Cannifton Planning Area should consist of a network of active and passive parks and trail systems that complement the City's efforts to provide a variety of recreational opportunities to the area. As discussed above, the proposed subdivision provides a network of opportunities for active and passive recreation, trails and a connection to the river trail system.

Policies require master drainage plans to address water quality and to ensure that there should be a zero percent increase in peak stormwater runoff. These requirements are addressed in the stormwater report.

Servicing

The OP stipulates that development will not be permitted unless there is adequate servicing available and as discussed in further detail in section 5.2 below, services can be

extended from the subdivision to the south and there is sufficient capacity within the pipes to accommodate the development. Policies also state that adequate consideration must be given to stormwater management prior to permitting development to proceed and as noted below, storm sewers will be available for connection to the lands to the south where stormwater management facilities will control water quantity and quality. Some additional quality control will be provided for lands on the east side of the proposed development which were not originally anticipated to be captured by the facilities to the south.

Transportation

Policies indicate that all development should have frontage on and access to a public road and that direct access to municipal roads will only be permitted in locations that can accommodate traffic in a safe manner. All of the proposed lots and blocks will have access to local roads with good sight lines that can safely accommodate them.

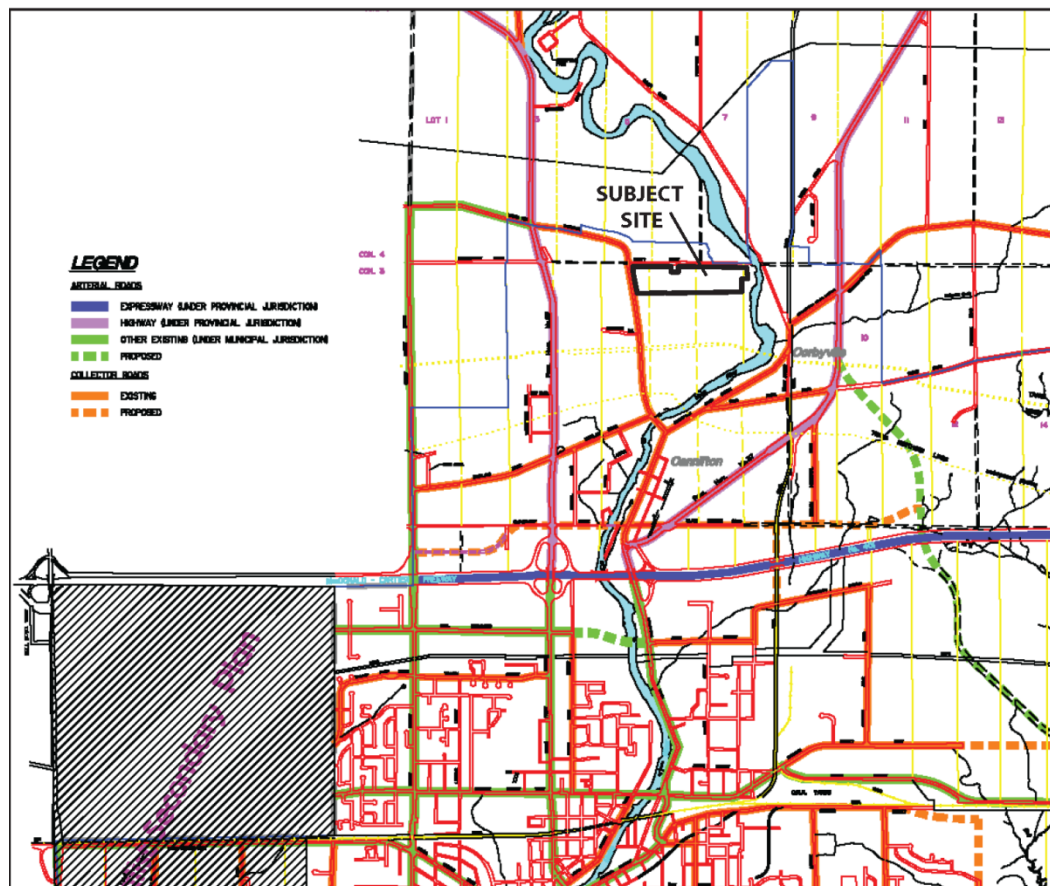


Figure 4 Official Plan Transportation designations – Excerpt of Schedule C from City of Belleville Official Plan

Farnham Road is designated as a collector road and provision has been made for a widening and realignment of the road to improve the capacity and function of the road in accordance with the Farnham Road Master Plan. There is only one road which exits onto Farnham Road and no individual lot driveways will have access in order to protect the carrying capacity of the road. The other roads within the subdivision are local roads although as noted, the extension of Essex Drive and Street A are proposed to be collector road widths. Essex Road connects to the subdivision to the south to provide good connectivity.

The OP policies state that recreational trails connecting various parts of the City are considered an integral part of the City's transportation system and provision has been made for a trail within the wetland buffer and also a connection to the Moira River trail system. Sidewalks will be provided along all public roads to provide a safe pedestrian realm and encourage active transportation.

The policies state that parking is an integral component of the transportation system. Adequate parking will be provided in the subdivision through garages and driveways on individual lots and in the case of the residential blocks, through the provision of parking facilities for residents and visitors.

Summary and Conclusions

The subject lands are currently designated Residential, Open Space and Environmental Protection in the Official Plan. They are also located within the Urban Serviced Area and are part of the Cannifton Planning Area.

The proposed development will create a range of densities and housing forms to provide a wide array of housing options in an attractive setting. It will introduce laneway housing which will provide an attractive streetscape by removing garages from the road. The proposed medium and high density residential development meets the intent of the OP policies for the location of those uses. There is adequate servicing available and appropriate roads and road capacity to accommodate the development.

The lands designated Environmental Protection will be protected and appropriately buffered. A proposed wood chip trail through the buffer area will enhance pedestrian access while respecting the significance of the area.

It is proposed to amend the Official Plan to allow for the relocation of the Open Space designation to a more central location within the development in order to improve access to active recreational opportunities for all residents. The relocation will increase the visibility of the open space area as it will have frontage on three public roads and it will enhance the pedestrian experience and streetscapes of the main access roads into

the development. The proposed walkway to the Moira River trail system will maintain a connection between the river and the wetland area. The proposed open space relocation therefore ensures the provision of both active and passive recreational opportunities and provides increased benefits to the community.

4 Zoning By-law

The current zoning on the subject lands is D-r and H in the Thurlow Zoning By-law 3014. As zoning by-law amendment application has been submitted rezone the property to permit the lots in the draft plan of subdivision and to provide site specific zone provisions that permit the type of residential dwellings that are being proposed.

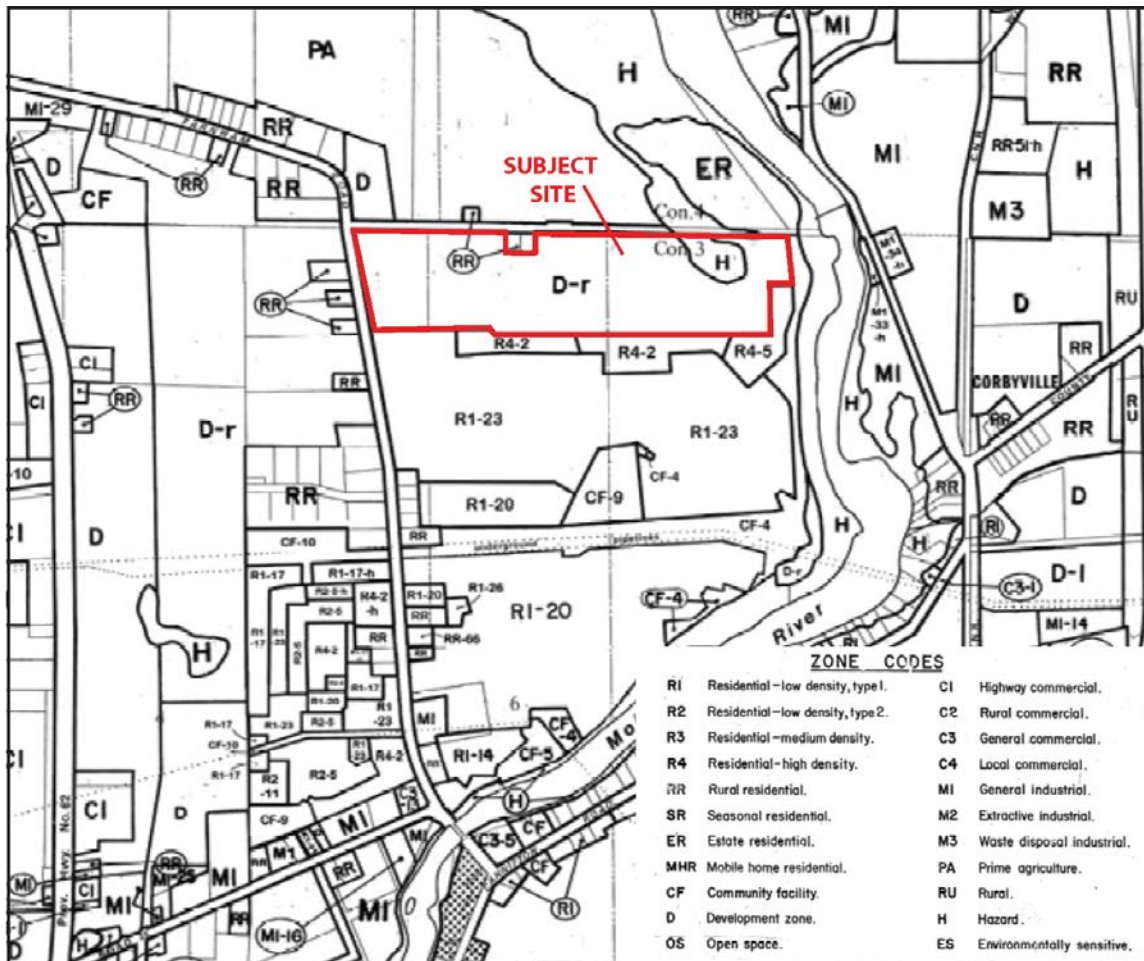


Figure 5 Existing Zoning - Excerpt of Thurlow Zoning By-law 3014

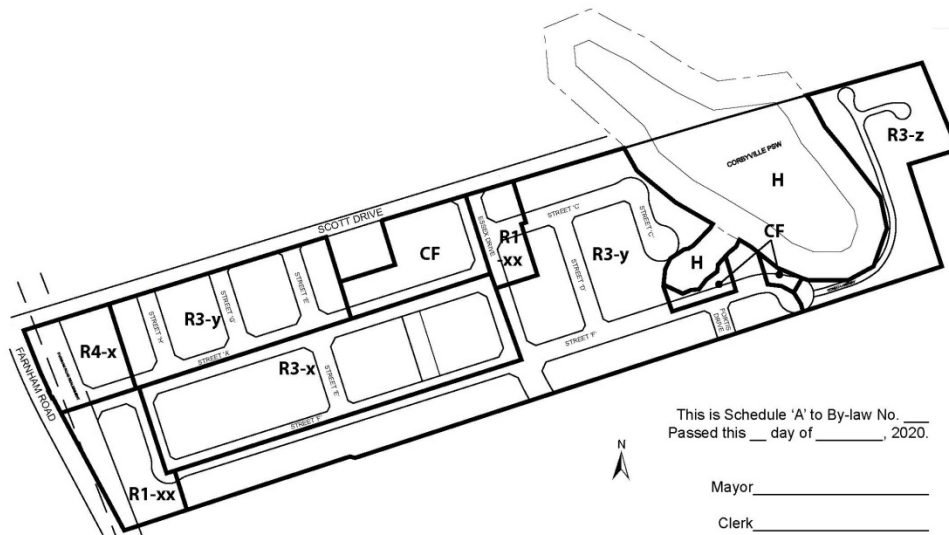
The following chart summarizes the proposed zoning provisions that are requested. For greater detail, please see the draft Zoning By-law that is provided with the application.

	Lot Frontage (Min)	Lot Area (Min)	Front Yard Depth (Min)	Rear Yard Depth (Min)	Interior Side Yard Width (Min)	Exterior Side Yard Width (Min)	Lot Coverage All Bldgs (Max)
R1 - XX Single Detached	11.0 m, 12.2 m on corner lot	340 sq m	6.0 m	7.6 m	1.2 m on one side & 0.6 m on other	2.4 m	45%
R3-X Laneway Singles, Semis and Townhouses	Singles & Semis: 8.5 m & 9.7 m on corner lot; Townhouse: 6.7 m & 9.1 m on corner lot	Singles & Semis: 270 sq m; Townhouse: 210 sq m	3.0 m	6.7 m	1.2 m one side, 0.6 m on other; Semis & Townhouse: 1.2 m, 0 m where attached	2.4 m	Singles & Semis: 65%; Townhouse: 75%
R3-Y Singles, Semis, Townhouses and Bungalow Townhouses	Singles: 11 m & 12.2 m on corner lot; Semis: 7.5 m & 8.7 m on corner lot Townhouse: 6.0 m & 9.1 m on corner lot; Single storey Townhouse: 7.5 m & 9.9 m on corner lot	Singles: 340 sq m; Semis: 230 sq m; Townhouse: 180 sq m; Single storey Townhouse: 230 sq m	6.0 m	7.0 m	Singles: 1.2 m one side & 0.6 m on other; Semis & Townhouses: 1.2 m, 0 m where attached	2.4 m	Singles: 45%; Semis: 48%; Townhouse: 48%; Single storey Townhouse: 56%
R3-Z Condo Townhouses	15.0 m for the condo lot	1 wall attached: 232 sq m; more than 1 wall attached: 105 sq. m	6.0 m	6.0 m	1.2 m, 0 m where attached	2.4 m	45%
R4-X Condo Townhouses &/or Apartment	Row dwelling: 6 m; Apartment: 30 m	4,200 sq m	6.0 m	7.0 m	Row dwelling 1.2 m, 0 m where attached Apartment: 2.4 m	2.4 m	Row dwelling: 45% Apartment: 35%

For the lots within the R3-X zone, the following provisions are requested for an accessory building to be used as a private garage with rear lane access:

- Minimum Distance to the rear of dwelling: 4.6 m
- Minimum Distance from the interior side lot line: 0.6 m on one side (except where there is an attached wall) and 2.1 m on the other side
- Minimum Distance from the exterior side lot line: 2.4 m
- Minimum Distance to the rear lot line: 0.6 m
- Notwithstanding the definition of Accessory Building or Structure, an accessory building to be used as a garage may be attached to the dwelling subject to the following regulations:
 - Maximum width of the dwelling at point of attachment to private garage : 3.5 m
 - Maximum height of the dwelling at point of attachment to private garage: 1 storey
 - Maximum height of the accessory building: 7.5 m
- For a coach house dwelling unit located above a private garage accessed by a lane, the calculation of the width for the required additional parking space may include contiguous land on an adjacent lot that is secured by an easement which is registered on title.
- All residential lots shall have rear lane access
- The maximum number of townhouse lots in one block shall be 6

Schedule 'A'
To Zoning By-law No. ___
City of Belleville



The purpose of the changes to the By-law is to allow for a diverse range of housing choices that can be built within the community. The lot frontages and setback provisions for standard single detached lots are similar to other development which has occurred in Cannifton. The laneway housing which is proposed has been built and very well received in other municipalities. It creates an attractive streetscape with garages in the rear while providing for user comfort and convenience by allowing a connection to the rear garage. There are both standard townhouses as well as bungalow townhouses to address the needs of a wide demographic of homeowners.

The change in zoning provisions reflects a more contemporary approach while maintaining compatibility with development in the area. The proposed residential zoning will allow for appropriate standards of built form. The Community Facility and Hazard zones reflect the standard provisions for those zones.

5 Supporting Studies

5.1 Scoped Environmental Impact Study

A scoped environmental impact study (EIS) has been undertaken for the subject lands that includes a review of site features and potential ecological constraints taking into consideration the proposed development. The scoped EIS builds on a previous EIS completed for the property in September 2018, which included the entire the property but which did not utilize the current draft plan in undertaking the assessment of the impacts.

Terrestrial vegetation communities that occur on the subject property are considered to be common, and no Areas of Natural and Scientific Interest (ANSI's) or significant wildlife habitat has been identified on the subject lands. Two species at risk, the Barn Swallow and Eastern Meadowlark were noted in proximity to the site but were not observed on the subject lands during field investigations in 2019.

No fish habitat is present on-site and there is limited amphibian habitat and species occurring on the subject lands. No turtle habitat is interpreted to occur on-site due to a lack of sufficient surface water.

The wetland located on the subject lands is isolated from the other wetland units that form the Corbyville PSW Complex and so there is only limited hydrological connectivity with the surrounding lands. The major water source for the wetland is a spring that flows in a small channel to the wetland from the southwest. Water that flows from the spring dissipates as it enters the wetland and the wetland is dry during the summer months. The function of the wetland is considered limited due to the lack of surface water and the limited complexity of floral and faunal communities within the wetland.

Previous studies (Morris, 2012) and recent field investigations indicate that the features on the subject lands provide limited ecological functions and would not be highly sensitive to environmental disturbance. The outlet to the drainage channel along the northern edge of the property limits water attenuation within the wetland and there is limited use of the wetland by wildlife as it generally lacks surface water. The wetland is also inundated with Reed Canary Grass and doesn't have any open areas.

Due to the lack of sensitive habitats, the relatively simple flora and fauna communities observed on-site, and the low level of hydrological connectivity between the on-site

wetland and surrounding lands, a 30 m vegetated buffer surrounding the PSW is considered sufficient to protect the ecological functions of this feature.

With respect to the groundwater spring and ponded area, the Significant Wildlife Habitat Technical Guide indicates that springs that are part of some other natural vegetation community should be considered to have greater significance than those that are isolated or in disturbed habitats. In addition, springs that are important to other natural heritage features, such as fish habitat, should be considered significant.

The on-site spring does not contribute to fish habitat or any other significant natural feature and is not known to provide habitat for species of conservation concern as it is only associated with common species. The spring is within a vegetated setting but it is surrounded by farmland on three sides. As a result, a 15 m vegetated buffer of the spring and its associated channel is considered sufficient to protect their functions.

The report recommends the following mitigation measures for the proposed development:

- Development should provide a minimum of a 30 m buffer from the PSW to ensure no impacts to the ecological function of the feature. Constructing a woodchip trail within the buffer is acceptable provided the footprint is restricted to the trail construction only and erosion and sediment control barriers are installed to limit potential impacts on the adjacent PSW.
- Development should respect a buffer of a minimum of 15 m from the groundwater spring and channel to ensure no impacts to the ecological function of the feature.
- A permit from Quinte Conservation should be obtained prior to any works within 120 m of the PSW. Precautions should be taken to avoid accidental spillage or discharge of chemical contaminants (e.g. gasoline, oils and lubricants) during construction to prevent any contamination of the PSW, spring and associated surface water features. These precautions should include that refueling be carried out a minimum of 30 m from wetland and spring features in a controlled manner so as to prevent fuel spillage. In addition, all machinery should be kept out of the buffers, and an emergency spill response kit should be on site at all times. In the event of a spill, proper containment, clean up and reporting, in accordance with regulatory requirements, should be undertaken.
- It is recognized that vegetation removal will occur during construction but measures should be taken to limit vegetation removal to the fullest extent

possible in an effort to maintain the ecological integrity of the landscape. During tree removal, appropriate tree felling and grubbing procedures should be utilized in order to minimize impacts on surrounding vegetation.

5.2 Servicing Brief

The report was prepared to address servicing to accommodate the proposed development. There are existing sanitary sewers and watermains located within the Cannif Mills subdivision immediately south of the subject lands. The sewers and watermains within Cannif Mills have been oversized to accommodate servicing of the subject lands. Once the northern limits of Cannif Mills infrastructure has been constructed, they will be available for connection to the proposed Riverstone development.

The northern portions of Cannif Mills development include watermain installation along Farnham Road. It is proposed to connect to the future services located along Farnham Road and Essex Drive in order to service the proposed development.

The proposed sanitary collection system is to consist of a standard gravitational design in accordance with typical municipal standards. The sewer is proposed to be conveyed to the southeast portion of the development and connect to the Essex Drive sanitary sewer in the Cannif Mills development.

The existing sanitary pump station was designed to accommodate the subject lands, as they are currently zoned for development. However, the pump station in its existing condition may not meet the requirements of its Environmental Compliance Approval (ECA), and existing pumps may be undersized. The City is currently reviewing the pump station, and if it is determined that the pumps need to be upgraded in order to meet the requirements of the ECA and accommodate the proposed development, the developer will work with the City to make necessary upgrades to the facility to service the proposed development.

Utilities will be available to service the development and natural gas, electrical, telephone and cable utilities will be designed in accordance with the distributor's specifications and incorporated into the detailed subdivision design.

5.3 Stormwater Brief

A preliminary Stormwater Brief has been prepared to address the stormwater requirements for the proposed development.

There is existing storm sewer located within the Cannif Mills subdivision to the immediate south of the subject lands that is available for connection to the proposed development. The storm sewers within Cannif Mills have been oversized in order to accommodate development of the subject lands.

When the storm sewer system was designed for the Cannif Mills lands it assumed that there would be a catchment area of 12.63 ha from the subject lands and that development would contain a mix of single family dwellings and townhouses. The proposed development area of the subject lands is 4 ha greater than the contributing area had been assumed to be. This difference in area will require an additional storm sewer to be provided that is not conveyed toward the existing Stormwater Management (SWM) Facility in Cannif Mills.

When providing stormwater controls, both quantity and quality controls must be addressed. For 12.63 ha of the subject lands that were originally anticipated to be developed, those controls will be provided in the existing ponds in the Cannif Mills development. The approximately 4 ha of additional the development lands will be required to address quality and quantity controls. Due to the close proximity of the Moira River, quantity control mitigation measures are not required. Conveyance of the quantity event (100 year) to the wetland area and Moira River will be provided via overland drainage routes.

In order to address quality controls, overland drainage will be directed to level spreader berms located west of the wetland and at the eastern limits of the subject property. The design of these level spreader berms will provide enhanced water quality control.

An erosion and sediment control strategy will be implemented in order to minimize the transfer of silt off-site during construction. The following measures will be incorporated into the strategy as required:

- Environmental fencing and straw bales
- Regular inspection of the erosion and sediment control devices
- Removal and disposal of the erosion and sediment control devices after the site has been stabilized
- All exposed earth to be re-vegetated within thirty days.

5.4 Traffic Memo

The City undertook the Farnham Road Master Plan in 2015 which concluded that Farnham Road should be realigned and widened to a major collector roadway with a 2-lane urban cross-section (26m right of way) south of Scott Drive to Maitland Drive and a 2-lane rural cross-section north of Scott Drive (26m right of way). The report recommended that the City provide property protection along Farnham Road for a future 4-lane cross-section (30m right-of-way) between Redwood Drive/Kipling Drive and Maitland Drive. The proposed draft plan of subdivision provides for the widening and realignment of Farnham Road as outlined in the Report.

The internal roads within the proposed draft plan are 20 m wide and designed to accommodate local traffic. The extension of Essex Drive into the subdivision and Street A are both proposed to have 26 m right of ways which are the standard collector road width. Although these roads are not identified as collector roads in the Official Plan, the additional width will accommodate future traffic flows and on- street parking.

A Traffic Impact Study will be carried out when the detailed design of the subdivision is undertaken to ensure that the intersections provide for adequate turning lane configurations if warranted.

5.5 Stage 1 & 2 Archaeological Assessment

A Stage 1 and 2 Archaeological Assessment was undertaken for the subject land by Lincoln Environmental Consulting Corp for the previous owner. The assessment addressed all of the lands subject to these current applications. The report indicated that no archaeological resources were identified during the excavations. The report concludes that no further archaeological work is recommended. The study was filed with the Ministry of Tourism, Culture and Sport and has been entered into the Public Register of Archaeological Reports.

5.6 Environmental Site Assessment

Phase I and II Environmental Site Assessments (ESA) were completed in 2018 by WSP Canada Ltd. on behalf of the previous owner, and the groundwater sampling carried out by Ainley Group in 2019. In addition an Environmental Risk Information Services (ERIS) database report was completed September 27, 2019 to compare with the original ERIS

report completed on May 14, 2018. Based on all of this analysis, the ESA provided the following conclusions and recommendations:

- Groundwater samples collected on the subject property by Ainley Group met the applicable Table 1 SCS for all parameters, with the exception of Cobalt and Copper in Borehole (BH)18-2. These parameters had previously been observed to be exceeded by WSP, with WSP recording even higher concentrations. WSP noted that the elevated levels of metals in the vicinity of BH18-2 could be naturally occurring and related to the bedrock in the area.
- Drinking water for the local well users within 250m of BH18-2 should be monitored before and after construction, to ensure their well water quality is not impacted by the development. If water quality is found to have deteriorated as a result of the development, the residents can be supplied with a water service from the newly proposed watermain.
- Should any contaminants be encountered during future site activities that were beyond the scope of the reports then the appropriate investigative and remedial measures should occur to adequately address the encountered constituent.

6 Summary and Conclusions

This report has been prepared in support of Official Plan amendment, rezoning and subdivision applications for the proposed Riverstone development. The subject lands contain 21.2 ha (52.36 ac) and the proposed draft plan of subdivision will create 367 residential units as shown on Figure 1 consisting of:

- Up to 79 single detached lots with frontage of 11 m (36 ft) and up
- 30 single detached lots with frontages between 8.5 and 10.5 m (32 ft) m and laneway access
- 4 semi-detached lots (8 units) with 9.8 m (32 ft) frontages and laneway access
- 48 townhouse lots with 6.7 m (22 ft) frontages and laneway access
- 66 townhouse lots with 6.0 m (20 ft) frontages
- 63 bungalow townhouses with 7.5 m (25 ft) frontages
- 1 medium density block with approximately 35 units
- 1 condominium block with approximately 42 townhouse units
- 1 park block containing 0.8 ha (2.0 ac)
- Open Space block containing the wetlands and spring plus a 30 m setback from the wetland and a 15 m setback from the spring containing 3.48 ha (8.6 ac)
- Parkette/ access to wetland block 0.11 ha (0.27 ac)
- Farnham Road realignment and road widening containing 0.69 ha (1.7 ac)
- New internal roads containing 5.11 ha (12.6 ac)
- Laneways containing 0.28 ha (0.69 ac)

A 5 m (16 ft) wide walkway block connecting the open space block to the river valley will be provided at the time of site plan approval of the condominium townhouses.

The proposed development is consistent with the PPS. It will support a strong, resilient community with an appropriate range of housing types that make efficient use of existing infrastructure and public services. It will provide park and open space opportunities, support active transportation and address water resources. It will address natural heritage features and function by protecting and buffering the wetland and spring areas.

An Official Plan amendment is proposed to relocate the Open Space lands. The portion of the subject lands that are currently designated Open Space exceed 5 percent of the total land area and are not used for commercial recreation purposes which appears to be the usual rationale for designating private land as Open Space. The relocation of the Open Space designation to a more central location within the development will improve access to active recreational opportunities for all residents. The relocation will increase

the visibility of the open space area as it will have frontage on three public roads and it will enhance the pedestrian experience and streetscapes of the main access roads into the development. The proposed walkway to the Moira River trail system will maintain a connection between the river and the wetland area. The proposed open space relocation therefore ensures the provision of both active and passive recreational opportunities and provides increased benefits to the community.

The proposed subdivision meets the Belleville Official Plan requirements for residential development and provides for a range of dwelling types. The proposal will include low, medium and high density residential although the high density is in a low rise built form of 3 storeys. The location of the medium and high density residential units meets the intent of the Official Plan with respect to the locational attributes. The development of laneway units will provide a unique form of residential development that enhances the streetscape. The overall density of the development is 20.72 units per gross ha.

The subject lands can be serviced with full municipal sanitary sewer and water services. The sanitary servicing capacity is adequate. If additional pumping station capacity is required, it will be addressed by the applicant. Stormwater will be dealt by utilizing existing stormwater management facilities in the Cannif Mills subdivision to the south and through the provision of on-site quality controls that will be developed to service the subdivision.

The road network is sufficient to accommodate the proposed development and the widening and relocation of Farnham Road has been provided for. New local streets meet or exceed current City standards and provide appropriate access. New trails will connect to the Moira River trail system and combined with new sidewalks and streetscape enhancements will encourage active transportation.

Revisions to the standard zoning criteria have been requested to allow for one site specific R1 zone, three site specific R3 zones, and one site specific R4 zone. The changes allow for more contemporary zoning provisions as well as allowing for development of unique laneway units that will enhance the streetscape. The proposed residential zoning will allow for development which provides a variety of housing types that will be compatible with the neighbourhood. The proposed Community Facility and Hazard zones reflect the uses proposed and apply the standard zoning provisions.

An Environmental Impact Study has been undertaken to address the proposed development. It states that the wetland located on the subject lands is isolated from the other wetland units that form the Corbyville PSW Complex and has limited hydrological connectivity with the surrounding lands. The major water source for the wetland is a spring that flows in a small channel to the wetland from the southwest and

the wetland is dry during the summer months. The wetland's function is limited due to the lack of surface water and the limited complexity of floral and faunal communities within it. The EIS recommends that development should provide a minimum of a 30 m buffer from the PSW to ensure no impacts to the ecological function of the feature. Constructing a woodchip trail within the buffer is acceptable provided the footprint is restricted to the trail construction only.

In conclusion, the proposed development represents a logical extension of existing development, will be compatible with the adjacent lands and will increase the diversity of residential housing options within the Cannifton community. It will ensure appropriate environmental protection and will provide a variety of open space opportunities. There are no cultural heritage attributes on the subject lands, full municipal servicing is available and there will be appropriate transportation management. The subdivision will contribute to the creation of a complete community, will provide for appropriate development of the subject lands and represents good planning.

**MEMORANDUM**

**Ainley Graham & Associates
Limited**

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Date: August 9, 2019

Ref: **Draft EIS - Cannif North Lands
City of Belleville, Ontario**

INTRODUCTION

Ainley Group has been retained to complete a scoped environmental impact study (EIS) for the lands known as the Cannif North Lands, on the east side of Farnham Drive, immediately to the south of Scott Drive, in the City of Belleville. The scoped EIS includes a review of site features and potential ecological constraints for the property in consideration of a proposed housing development. This EIS is subsequent to a previous EIS completed for the property by Neil Morris, Consulting Ecologist (September, 2018), which included the entirety of the property; however, did not utilize the most current concept plan as part of the assessment of impacts. This EIS will build upon previously completed field work to discuss the newly proposed development concept plan for the site. A site location plan is included as **Figure 1**, and the newly proposed concept plan is provided in **Appendix A**.

The new concept plan includes a reduction of the proposed setback surrounding an isolated wetland pocket of the Corbyville Provincially Significant Wetland (PSW) from a 50 metre (m) setback as identified in the 2018 EIS, to a 30 m setback. The wetland setback reduction will allow for access to lands on the east side of the wetland. The setback reduction was discussed during a meeting with representatives from Ainley Group and Quinte Conservation Authority (QCA) staff on April 5, 2019. At the meeting the previous EIS findings were discussed, and QCA indicated that they did not have any concerns with the setback reduction; however, requested an EIS update be drafted in support. QCA noted in the meeting that the hydrologic balance of the wetland should be maintained as part of site development to preserve the function of the wetland. A woodchip path is currently shown on the draft concept plan, with anticipated future connectivity with a City owned waterfront trail along the Moira River. The location of the path, which is currently shown within the 30 m setback, was discussed with QCA and no significant concerns were raised.

Additional revisions to the Concept Plan include lot densification within the agricultural fields on the western portion of the site, including the creation of a 35 unit block, as well as Condo Block

1 (42 units). The area for Condo Block 1 was previously reviewed in the September 2018 EIS; however, additional studies were completed in the spring of 2019 for grassland birds, per recommendations in the previous EIS.

The review of constraints in this update EIS will incorporate findings from previous ecological studies of the property (e.g. Morris, 2018; MNRF, 2012) as well as reviewing existing conditions documented during field visits conducted by Ainley Group on May 26, June 7 and 21, and July 11, 2019.

SUMMARY OF PREVIOUS STUDIES

Within this EIS, and to provide additional contextual information for the site, two studies will be referenced and include: 1) Environmental Impact Study - Parkbridge - Belleville (Morris, 2018), and 2) Corbyville Wetland Evaluation Report (MNRF, 2012). These studies will be referenced to review potential ecological constraints related to reducing the wetland buffer from 50 m to 30 m and for additional development on the eastern portion of the site. A summary of each of these studies (including fieldwork and observations) is provided below.

Environmental Impact Study – September 2018

The following summarizes selected field investigation methodologies and findings from the previously completed EIS (Morris, 2018) conducted on the property.

Methodology

The scope of work was developed to meet requirements of Section 7.8.6 of the Hastings County Official Plan (OP) and Section 3.5.6 of the Belleville OP. The main areas of concern included potential impacts from the proposed development on the following features:

- Watercourses that occur on or near the subject property
- Woodlands that occur on or near the subject property and functions
- PSW and functions
- species of conservation concern (SOCC), including species at risk (SAR) and any significant wildlife or wildlife habitat that may occur on or near the property

Methodologies included a review of background information and conducting on-site studies. Various surveys were conducted from early May to late September in 2018 focusing on birds, amphibians, reptiles, mammals, ecological communities including Ecological Land Classification (ELC) methodology and aquatic features. Field survey locations from the previous EIS for breeding birds and amphibians are located in **Appendix B**.

Breeding Birds

Two point count surveys were conducted on June 11 and July 3, 2018, which along with incidental observations at the site, were used to document breeding birds at the site per the

Ontario Bird Breeding Atlas (OBBA) (Cadman et al., 2007) and the Marsh Monitoring Program (BSC, 2003).

Amphibians

Point count surveys as well as incidental observations were completed as part of amphibian monitoring activities at the site as per the Marsh Monitoring Program (BSC, 2003). Three point count surveys were conducted for amphibian surveys on May 1, June 10 and July 3, 2018.

Mammals

During all field visits, general surveillance methods were used for mammal monitoring including concentrated efforts for the detection of bats after sunset on June 10 and July 3, 2018.

Reptiles

During all field visits, general surveillance methods were used for reptile monitoring including concentrated efforts for the detection of snakes at large rock and log structures. Turtle presence on-site was noted to be unlikely due to limited aquatic habitat observed.

Ecological Communities

Three season vegetation studies were conducted including assessments using ELC methodology during all field visits, commencing in May 2018.

Aquatic Features

Aquatic features including on-site watercourses and PSW were studied for flora and fauna occurrence and hydrological connectivity during all field visits.

Results and Conclusions of September 2018 EIS (Morris)

Breeding Birds

Results of the point count surveys as well as general observations obtained during the EIS study in 2018 are located in **Appendix C**. A total of 17 bird species were observed in 2018 and no SAR were observed. A total of 46 species of birds were observed throughout the entire study, including two SAR birds: Barn Swallow and Eastern Meadowlark. Barn Swallows were observed at the farm north of the subject property and one Eastern Meadowlark was observed in proximity to the northeast meadow on the subject property in early May 2018; however, no evidence of nesting pairs was evident.

The bird community on the subject property was identified by Morris (2018) to be a moderately diverse mix of common species that use a variety of habitat types. No species were considered interior species and no stick nests were observed.

Amphibians

A total of three species, Grey Treefrog (*Hyla versicolor*), Green Frog (*Lithobates clamitans*) and Northern Leopard Frog (*Lithobates pipiens*) were tallied as a result of all amphibian surveys.

All species are considered secure (S Rank = S5) and species richness and absolute numbers were considered low due to limited permanent surface water on the subject property and breeding on-site was considered to be extremely limited or non-existent.

Mammals

Six mammal species were observed during the surveys and included White-tailed Deer (*Odocoileus virginianus*), Coyote (*Canis latrans*), Eastern Cottontail (*Sylvilagus floridanus*), Northern Raccoon (*Procyon lotor*), Red Squirrel (*Tamiasciurus hudsonicus*) and Eastern Gray Squirrel (*Sciurus carolinensis*).

Activity appeared to be concentrated in edge habitats including along the Moira River. All species were considered common and secure. No bats were observed during the surveys and the site was considered to be lacking in vegetation and features for use as roosting or hibernation sites.

Reptiles

No reptiles were observed on or adjacent to the subject property. The previous EIS noted that the lack of surface water is interpreted to preclude the presence of turtles. Common snakes may occur on-site but none were observed.

Ecological Communities

Seven ecological communities were described on-site and included Mineral Cultural Meadow (CUM1), Mineral Cultural Thicket (CUT1), Cropped Land, Dry-fresh Red Cedar Coniferous Forest (FOC2-1), Fresh-Moist Lowland Deciduous Forest (FOD7), and Reed Canary Grass Mineral Meadow Marsh (MAM2-2)(**Appendix D**).

Mineral Cultural Meadow (CUM1)

Two areas of Mineral Cultural Meadow were observed east and west of the wetland (*Appendix C*). The east meadow was dominated by a mix of graminoid plants and various forbs, while the west meadow was dominated by grasses such as Reed Canary Grass.

There were no plant species of conservation concern and the function if the community is limited to supporting non-specialized wildlife species.

Mineral Cultural Thicket (CUT1)

The small section of thicket was dominated by species typical of disturbed sites and was dominated by non-indigenous species such as Honeysuckle, Buckthorn, Prickly Ash.

Due to the small size of the area and abundance of non-indigenous plants, this community was not expected to provide meaningful ecological functions.

Cropped Land

The west field was planted with a soybean monoculture and therefore was thought to provide minimal ecological function.

Dry-fresh Red Cedar Coniferous Forest (FOC2-1)

Over 80% of the treed land on the subject property was dominated by Eastern Red Cedar. Eastern White Cedar was also common and species such as Bur Oak, Hackberry, White Elm, Sugar Maple and Ironwood were observed; however, were less abundant.

This community was indicative of formally cleared sites and lacked forest structure characteristics that would support a diverse wildlife community. Studies in 2018 indicated that this community supported limited wildlife species. Wildlife species associated with this type of community were common and not generally sensitive to disturbance.

Fresh-Moist Lowland Deciduous Forest (FOD7)

This treed community was located between the western boundary of the wetland and agricultural field, and was noted to contain a sparse stand of Green Ash, White Elm and Trembling Aspen. Grasses and forbs were abundant in the understory.

Studies in 2018 indicated that this community supported limited wildlife species. Wildlife species associated with this type of community were considered common and not generally sensitive to disturbance.

Reed Canary Grass Mineral Meadow Marsh (MAM2-2)

Approximately 1.7 ha of the property is identified as wetland unit. The wetland unit is an isolated portion of the Corbyville PSW and is dominated by Reed Canary Grass, with some Broad-leaved and Narrow-leaved Cattails. Other species observed included Purple Loosestrife, Boneset, Jewelweed, Climbing Nightshade, and several common sedges and rushes. Shrubs along the margins included Red-osier Dogwood and Willows. The previous study noted no open water habitat within the wetland and documented observations that it is completely dry in summer and autumn.

The function of the wetland was considered to be limited due to the fairly low diversity of plants and the lack of open water. The observed plant community was considered relatively tolerant to

fluctuations in water levels and was therefore considered relatively resistant to altered hydrological inputs.

Aquatic Features

Spring-fed Pond

A permanent spring was noted on-site within a cedar forest and water was observed to pool in a small excavated pond (approximately 200 m²) immediately north of the spring feature. The pond was inundated with watercress (*Nasturtium officinale*) and no fish, turtles or amphibians were observed in the pond.

Watercourses

A small watercourse approximately 0.2 m wide and 0.05 m deep conveyed overland flow from the small pond area to the wetland in a small channel that flowed in a northeast direction (**Appendix B**). No aquatic organisms were observed in this watercourse and there was no connectivity to fish habitat.

A second water feature was noted along the northern property boundary, conveying flow to the east towards the Moira River. The water feature was noted in a man-made ditch, and was noted to capture drainage from the north-west. This channel exhibited little vegetation and lacked features characteristic of fish habitat. Although this channel is directly attached to the Moira River in high water conditions, it is not expected to provide any critical habitat for fish.

One additional short channel feature that conveyed water from the PSW to the linear drainage ditch at the north limits of the subject property was observed. The concrete pipe at this location was perched at the outlet (draining to the north) and no aquatic fauna was present in the area.

The watercourses were thought to serve basic functions, but none appeared to provide meaningful function as habitat for aquatic species and were not considered to be highly susceptible to indirect effects.

Recommendations

Limited hydrological connectivity between the wetland and the area of proposed development was noted suggesting there would be a reduced risk of any effects on the hydrological balance of the wetland. As no species that are considered relatively sensitive to environmental disturbance occur on the subject PSW, a 50 m setback was considered adequate to protect ecological functions of the wetland. A setback of 30 m was suggested to protect the limited functions of the spring pond and watercourse.

With the identified presence of Eastern Meadowlark near the northwestern property boundary (in proximity to the small cleared field), additional field investigations were recommended if development was proposed in this area. The additional field investigations were to be consistent with approved protocols for detecting grassland birds.

Corbyville PSW - Wetland Evaluation Report (MNRF, 2012)

The following summarizes findings as identified in the Corbyville Wetland Evaluation Report (MNRF, 2012). The report provides an overview of the assessment process and field work pertaining to the wetland complex, including for the individual wetland unit located on the subject property (**Appendix D**).

The wetland evaluation included a larger wetland body along the Moira River, and an isolated wetland area on the subject property. Field work to delineate the PSW was conducted in 2012 on the following dates: July 10, 13, 18, 19, 20 and Aug 2, 14, 16. The entire wetland complex size was 127.4 ha while the catchment area was 199,956 ha. This area was large due to the fact that the wetland was riverine in nature and was associated with the Moira River.

The wetland unit on the subject property was identified as an isolated Reed Canary Grass marsh, with clay loam soils. The wetland unit measures at 2.42 hectares (ha). The dominant vegetation was identified as Reed Canary Grass with willow and dogwood species. Other species such as Purple Loosestrife and Narrow-leaved cattail were also noted.

FINDINGS FROM 2019 AINLEY GROUP STUDIES

Ainley Group conducted studies on the subject property (**Figure 1**) in 2019 and included breeding bird surveys with a focus on Eastern Meadowlark at the northeast meadow on May 29, June 7 and June 21 (**Figure 2**). Photographs from the 2019 field visits are included in **Appendix E**.

An additional site visit was conducted on July 11 to review existing conditions at the spring and associated watercourse, PSW and forest and meadow features surrounding the PSW to assess potential impacts of the proposed construction of a road located south of the wetland and additional housing units east of the wetland.

Eastern Meadowlark Surveys

Targeted surveys were completed for Eastern Meadowlark in accordance with MNRF SAR survey protocols. The protocol followed included the following:

- Establishment of point count stations at approximately 250 m intervals.
- Point count surveys at the identified stations were completed under field conditions with no precipitation, no or low wind speed, and good visibility. Weather conditions including wind, cloud cover, precipitation, and temperature were recorded during field events. GPS coordinates were recorded for each point count location.
- Surveys commenced at dawn and continued until no later than 9 am.
- Point count surveys included stopping at each point count location (within habitat suitable for Bobolink / Eastern Meadowlark) to undertake ten (10) minutes of observations (visual and auditory), with information recorded.

- Completion of three (3) sets of point count surveys with surveys taking place between the last week of May and the first week of July, and each separated by a week or more.
 - Surveys were completed on May 29, June 7, and June 21, 2019.

Table 1: Point Count Bird Survey Results - 2019

Date	Site	Common Name	Scientific Name	G Rank	S Rank
May 29	PC#1	Common Grackle	<i>Quiscalus quiscula</i>	G5	S5B
		Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
		Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B
		Song Sparrow	<i>Melospiza melodia</i>	G5	S5B
		Blue Jay	<i>Cyanocitta cristata</i>	G5	S5
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		Yellow Warbler	<i>Setophaga petechia</i>	G5	S5B
May 29	PC#2	Yellow Warbler	<i>Setophaga petechia</i>	G5	S5B
		Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
		Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B
		Song Sparrow	<i>Melospiza melodia</i>	G5	S5B
		Blue Jay	<i>Cyanocitta cristata</i>	G5	S5
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		American Goldfinch	<i>Spinus tristis</i>	G5	S5B
		Black-capped Chickadee	<i>Poecile atricapillus</i>	G5	S5
June 7	PC#1	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B
		Blue Jay	<i>Cyanocitta cristata</i>	G5	S5
		Yellow Warbler	<i>Setophaga petechia</i>	G5	S5B
		Eastern Meadowlark¹	<i>Sturnella magna</i>	G5	S4B
June 7	PC#2	Eastern Meadowlark¹	<i>Sturnella magna</i>	G5	S4B
		House Sparrow	<i>Passer domesticus</i>	G5	SNA
		Song Sparrow	<i>Melospiza melodia</i>	G5	S5B

Date	Site	Common Name	Scientific Name	G Rank	S Rank
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		Killdeer	<i>Charadrius vociferus</i>	G5	S5B,S5N
June 21	PC#1	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B
		Black-capped Chickadee	<i>Poecile atricapillus</i>	G5	S5
		Gull spp. ²	<i>Larus sp.</i>	-	-
		Blue Jay	<i>Cyanocitta cristata</i>	G5	S5
		Northern Cardinal	<i>Cardinalis cardinalis</i>	G5	S5
		Song Sparrow	<i>Melospiza melodia</i>	G5	S5B
June 21	PC#2	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
		Eastern Meadowlark¹	<i>Sturnella magna</i>	G5	S4B
		Blue Jay	<i>Cyanocitta cristata</i>	G5	S5
		Northern Cardinal	<i>Cardinalis cardinalis</i>	G5	S5
		Song Sparrow	<i>Melospiza melodia</i>	G5	S5B
		Black-capped Chickadee	<i>Poecile atricapillus</i>	G5	S5
		American Robin	<i>Turdus migratorius</i>	G5	S5B
		Winter Wren	<i>Troglodytes hiemalis</i>	G5	S5B

¹ Detected in fields to the north of property. No use of subject property detected during surveys.

² Flyover

The results of the three targeted surveys for Eastern Meadowlark did not identify individuals using the small field at the northeast corner of the property. The small size of the field is likely limiting the use of the field, as generally grassland habitats greater than 5 ha in size (contiguous) are preferred. As noted in Table 1, there were individuals audibly observed to the north; however, were not observed within the limits of the proposed development.

Findings of the Ainley Group July 11 Visit

Ainley Group conducted a field survey on July 11 to review existing conditions in the general vicinity of the PSW to further assess potential impacts to natural features by the proposed construction of an additional road south of the PSW and housing units east of the PSW.

PSW Unit

The entire on-site wetland unit on the property was dry during the July 2019 field visit. There were no open areas observed and the wetland was dominated by Reed Canary Grass (*Phalaris arundinacea*) with some Cattails (*Typha* spp.). There was no evidence of significant water levels during other times of the year observed.

Water Features

Two water features including: 1) a spring and associated pond and channel, and 2) a linear, excavated drainage channel at the north border of the subject property were observed on-site. A small amount of flow from the spring was observed (originating at the base of a large boulder), which was noted to collect in a small ponded area. Flow from the ponded area was conveyed via a small channel to the PSW. The ponded area was approximately 200 m² in area and the watercourse was approximately 0.7 m wide and 0.04 m deep with substrate material of cobble, gravels and sand. Plants observed in the pond area included Watercress (*Nasturtium officinale*), Duckweed (*Lemna* sp.), Bittersweet Nightshade (*Solanum dulcamara*) and Spotted Jewelweed (*Impatiens capensis*), amongst others. The channel conveyed groundwater from the spring water along the north edge of the south forested area toward the southwest section of the PSW. During the July 2019 visit, flow from the channel dissipated into the PSW and no flow was observed within its boundaries.

The second water feature was observed to be a dug, channelized drainage ditch that conveyed water from northwest of the subject property and then along the north margin of the property to the Moira River. Water was intermittent within the channel and stagnant. No fish were observed in the channel; however water striders and Green Frogs (*Lithobates clamitans*) were observed. The channel directs surface water from north of the subject property directly to the Moira River. Flow from the PSW at the north end also contributes to this ditch feature via a concrete culvert beneath an existing farm access road. The small PSW outlet channel (concrete pipe) exhibited no surface water during the July 2019 survey.

Birds

Bird species that were observed during the July 11, 2019 site visit are listed in **Table 2**.

Table 2: Bird Species Observed on July 11, 2019

Species - Common Name	Species – Scientific Name	G Rank	S Rank
Eastern Kingbird	<i>Tyrannus tyrannus</i>	G5	S4B
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4
Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B
Song Sparrow	<i>Melospiza melodia</i>	G5	S5B
American Goldfinch	<i>Spinus tristis</i>	G5	S5B
American Robin	<i>Turdus migratorius</i>	G5	S5B
Gull spp.	<i>Larus</i> sp.	-	-
Blue Jay	<i>Cyanocitta cristata</i>	G5	S5

Species - Common Name	Species – Scientific Name	G Rank	S Rank
Common Grackle	<i>Quiscalus quiscula</i>	G5	S5B

During the July 11, 2019 site visit, observations were made at the northeast meadow to detect the presence of Eastern Meadowlark or Bobolink (*Dolichonyx oryzivorus*). No SAR meadow birds were observed. One Eastern Kingbird was observed preying on insects in the northeast meadow.

Herpetofauna

Turtles

No turtles were observed on the subject property including in the spring pond or channelized ditch during the July 11, 2019 site visit.

Snakes

No snakes were observed on the subject property during the July 11, 2019 site visit.

Amphibians

No amphibians were observed in the PSW on July 11, 2019 likely due to the lack of surface water. No amphibians were observed in the spring pond or associated channel. Green Frogs were observed in the channelized ditch in sections where water occurred.

Fish and Fish Habitat

No fish were observed in wetted areas on the subject property including the spring pond and channelized ditch. Fish are known to occur in the Moira River east of the subject property. In flooded conditions, fish may be able to enter the channelized ditch from the river, however this feature is considered to provide little function to support fish.

Bats

No bats or roosting or hibernation features were observed on the subject property.

POTENTIAL IMPACTS AND MITIGATION

Potential impacts from the proposed housing development are discussed in the following sections. Additional areas reviewed per the new Concept Plan include the south section of the Moist Lowland Deciduous Forest, Mineral Cultural Thicket and Red Cedar Coniferous Forest that surrounds the PSW, the south margin and southeast section of the Red Cedar Coniferous Forest and the east Mineral Cultural Meadow (**Figure 3**).

Breeding Birds and SAR

Point count surveys and historical information identify generally common species on the property; however, two SAR were also noted in proximity to the eastern portion of the site. Barn Swallow were observed off the property at the farm north of the subject property, and were not interpreted to be utilizing the subject property.

Ainley Group did not observe any Eastern Meadowlark individuals on the subject property; however, individuals were audibly noted to the north of the property. The area on the property proposed for development that was surveyed in the spring of 2019 (northeast meadow) is approximately 1.1 ha in size and is smaller than the reported minimum area preferred by Eastern Meadowlark of 5 ha (COSEWIC, 2011). Based on the absence of individuals using this area, and the small size, significant use of this field by Eastern Meadowlark is not anticipated

Herpetofauna

Turtles

No turtles have been observed on the site and are not anticipated to use the site. Insufficient water occurs on the subject property for turtle hibernation. The site is currently vegetated and no evidence of turtle nesting was observed. However, should active construction proceed in the northeast meadow and along the Moira River, consideration should be given to monitoring exposed fill piles or excluding these piles during the turtle nesting season from May 15 to June 30. If turtles are observed nesting within the fill piles, works in the area should cease and a qualified environmental specialist and/or MECP be called for direction.

Amphibians

During field visits by Ainley staff, amphibians were limited in occurrence to the channelized ditch along the north margin of the property where Green Frogs were observed. This feature is not likely to provide breeding habitat, but it is not anticipated to be altered as part of the proposed development. Amphibian abundance in the PSW is considered to be very low due to a lack of surface water and absence of individuals during amphibian surveys completed as part of the previous EIS (Morris, 2018). Impacts to amphibians are not anticipated from the proposed development or the setback reduction to 30 m surrounding the proposed development.

Fish and Fish Habitat

Potential impacts to fish and fish habitat are considered to be negligible as habitat does not occur on the subject property. It is anticipated that the 30 m treed buffer of the Moira River riparian zone will provide protection for fish and fish habitat associated with the river. It is recommended, as a secondary barrier, that erosion and sediment control measures be implemented during construction at the eastern property boundary. These measures could include silt fence at the eastern limit of construction to prevent potential sediment transport towards the Moira River.

PSW

The Corbyville PSW unit that occurs on the subject property is identified to be an isolated component of a larger PSW complex along the Moira River. The wetland area on the subject property is approximately 2.42 ha, and is comprised predominantly of Reed Canary Grass. The previous EIS noted that the hydrological connection between the wetland and surrounding on-site features is limited (Morris, 2018). The vegetation community within the wetland does not exhibit a high degree of diversity, and based on field studies completed, does not support significant amounts of surface water or amphibian breeding habitat.

Based on the isolated nature of the wetland with limited diversity and function, a setback of 30 m is determined as appropriate to limit potential impacts. The 30 m buffer should remain vegetated and have limited grading within this footprint. The current concept plan shows a woodchip path within the 30 m buffer area, which was discussed with QCA, without significant concerns raised. The location of the woodchip path should be installed as far as possible from the wetland boundary, and be constructed with means limiting intrusion and disturbance to the ground surface. Erosion and sediment controls should be implemented between the location of the path and the wetland boundary if grading is required to install the path.

In an effort to maintain the hydrologic function and water balance within the wetland, the adjacent spring on the property is also recommended for protection via implementation of a 15 m buffer.

Groundwater Spring and Ponded Area

Based on site observations, it appears that the main source of water to the PSW area originates from the spring and ponded area to the west. To maintain the inputs to the wetland, measures to protect this spring feature should be implemented, and include a 15 m setback in which no grading or clearing works should be permitted. In addition, overland flows from the future buildout on the western portion of the site should not be discharged in the vicinity of this spring to limit potential impacts to groundwater quality.

CONCLUSIONS AND RECOMMENDATIONS

Terrestrial vegetation communities that occur on the subject property are considered to be common, and no ANSI's or significant wildlife habitat has been identified on the subject property. Two species at risk, Barn Swallow and Eastern Meadowlark were noted in proximity to the site; however, were not observed on the subject property during field investigations in 2019.

No fish habitat is present on-site and limited amphibian habitat and species occurrence occurs on the subject property. No turtle habitat is interpreted to occur on-site due to a general lack of sufficient surface water.

The wetland unit on the subject property is isolated from the other wetland units of the Corbyville PSW Complex and exhibits limited surface water levels and is dry during summer

months. There is very limited hydrological connectivity with the surrounding lands. The major water source for the wetland is a spring that flows in a small channel to the wetland from the southwest. Water that flows from the spring dissipates as it enters the wetland. The function of the wetland is considered limited due to the lack of surface water and limited complexity of floral and faunal communities within the wetland.

Previous studies (Morris, 2012) and recent field investigations indicate that features of the subject property provide limited ecological functions and would not exhibit high levels of sensitivity to environmental disturbance. Water inputs to the wetland appear low and the outlet to the drainage channel along the north margin of the property further limits water attenuation within the wetland. Wildlife use of the wetland is limited as the wetland generally lacks surface water. The wetland is inundated with Reed Canary Grass and exhibits no open areas.

Considering the lack of sensitive habitats, relatively simple flora and fauna communities observed on-site, and low level of hydrological connectivity between the on-site wetland and surrounding lands, considered a 30 m vegetated buffer surrounding the PSW is sufficient in protecting the ecological functions of this feature.

With respect to the groundwater spring and ponded area, the Significant Wildlife Habitat Technical Guide (OMNR, 2000) states that springs that are part of a forest or some other natural vegetation community should be considered greater in significance than those that are in disturbed habitats or isolated. In addition, springs that are important to other natural heritage features, such as fish habitat, should be considered significant.

The on-site spring does not contribute to fish habitat or any other significant natural feature as the channel is not connected to a watercourse. In addition, this spring and forested area is not known to provide habitat for species of conservation concern and are associated only with common species. The spring is within a vegetated setting; however, is surrounded by farmland with the wetland immediately to the east. With the presence of these features, a 15 m vegetated buffer surrounding the spring and associated channel is considered sufficient in protecting the functions of these features.

Measures to mitigate impacts to the site from the proposed development are recommended as follows:

- Development on the subject property should respect a buffer of a minimum of 30 m from the PSW to ensure no impacts to the ecological function of the feature. The construction of a woodchip trail within this buffer is interpreted to be acceptable provided the footprint remains concentrated for the trail construction only and erosion and sediment control barriers are installed to limit potential impacts on the adjacent PSW.
- Development on the subject property should respect a buffer of a minimum of 15 m from the groundwater spring and channel to ensure no impacts to the ecological function of the feature.
- As work is proposed within 120 m of a PSW, a permit from Quinte Conservation should be obtained prior to any works within this area.
- To prevent any contamination of the PSW, spring and associated surface water features

during construction, precautions should be taken to avoid accidental spillage or discharge of chemical contaminants (e.g. gasoline, oils and lubricants). These precautions should include that refueling be carried out a minimum of 30 m from wetland and spring features in a controlled manner so as to prevent fuel spillage. In addition, all machinery should be kept out of the buffers, and an emergency spill response kit should be on site at all times. In the event of a spill, proper containment, clean up and reporting, in accordance with regulatory requirements, should be undertaken.

- Vegetation removal is expected during construction. However, measures should be taken to limit vegetation removal to the fullest extent possible in an effort to maintain the ecological integrity of the landscape. As part of tree removal during construction, appropriate tree felling and grubbing procedures should be utilized in order to minimize impacts on surrounding vegetation.

CLOSURE

Ainley Group has prepared this Environmental Impact Study memorandum to describe the proposed development, summarize potential impacts due to the undertaking, and identify mitigation measures to limit potential impacts.

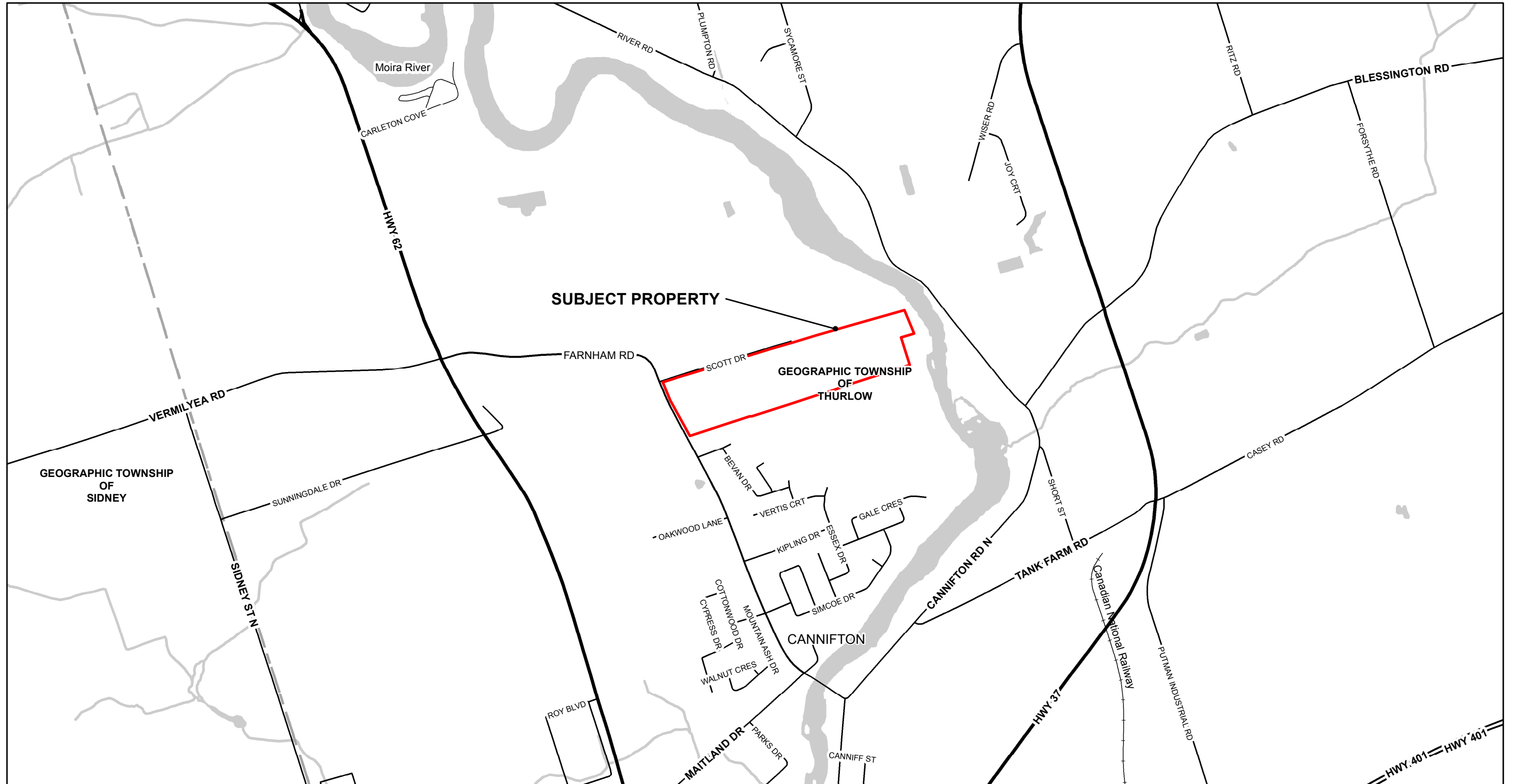
REFERENCES

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2011. COSEWIC assessment and status report on the Eastern Meadowlark (*Sturnella magna*) in Canada.

Morris, 2018. Environmental Impact Study- Parkbridge – Belleville.

OMNR. 2000. Significant wildlife habitat technical guide. 151p.

CANNIFTON NORTH LANDS		
		
SITE LOCATION PLAN		FIGURE 1



SOURCE: LAND INFORMATION ONTARIO (MNRF)

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETERS
UNLESS OTHERWISE SHOWN

CANNIFTON NORTH
LANDS



FIGURE
2



BREEDING BIRD POINT COUNT LOCATIONS - 2019

Legend

- SUBJECT PROPERTY
- BREEDING BIRD POINT COUNT LOCATIONS (BBPC)

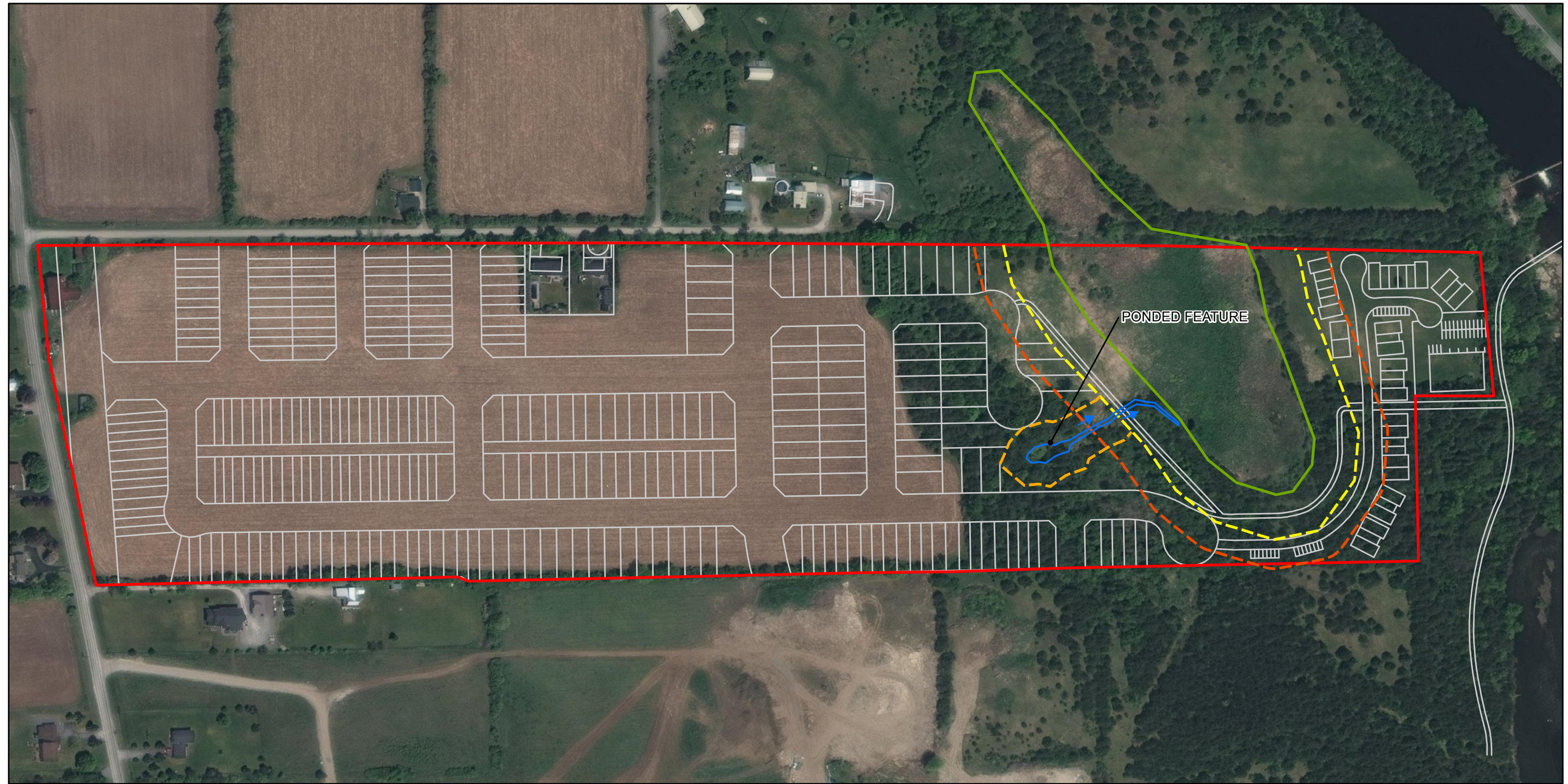


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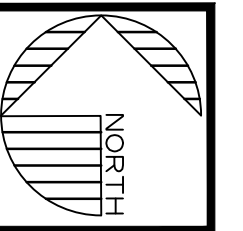
CANNIFTON NORTH LANDS		
		
CONSTRAINTS		

Legend

- SUBJECT PROPERTY
- SPRING AND DRAINAGE
- 50 m EXISTING PSW SETBACK
- CONCEPT PLAN
- 15 m PROPOSED SPRING SETBACK
- ← DRAINAGE DIRECTION
- PROVINCIAL SIGNIFICANT WETLAND (PSW)
- 30 m PROPOSED PSW SETBACK



Appendix A



LAND USE SUMMARY

	UNITS	AREA (ha)	ZONING
11.0m SINGLE DETACHED LOT	70	2.754	
8.5m/10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS	60	2.226	
9.8m SEMI-DETACHED LOT WITH LANEWAY ACCESS	8	0.282	
6.0m 2-STORY TOWNHOMES (6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK)	81	1.905	
7.5m BUNGALOW TOWNHOMES	63	1.821	
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS CONDO BLOCK 1	35	0.428	
	42	1.854	
PARKLAND DEDICATION BLOCKS		0.802	
PARLETTE / ACCESS TO WETLAND SETBACK TRAILS		0.162	
15m SETBACK AROUND SPRING AREA		0.296	
AREA OF PROPOSED ROADWAY NETWORK: 5.108 ha			
AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.693 ha			
AREA RESERVED FOR PSW & 30m SETBACK: 3.181 ha			
TOTAL	359	21.51 Ha	



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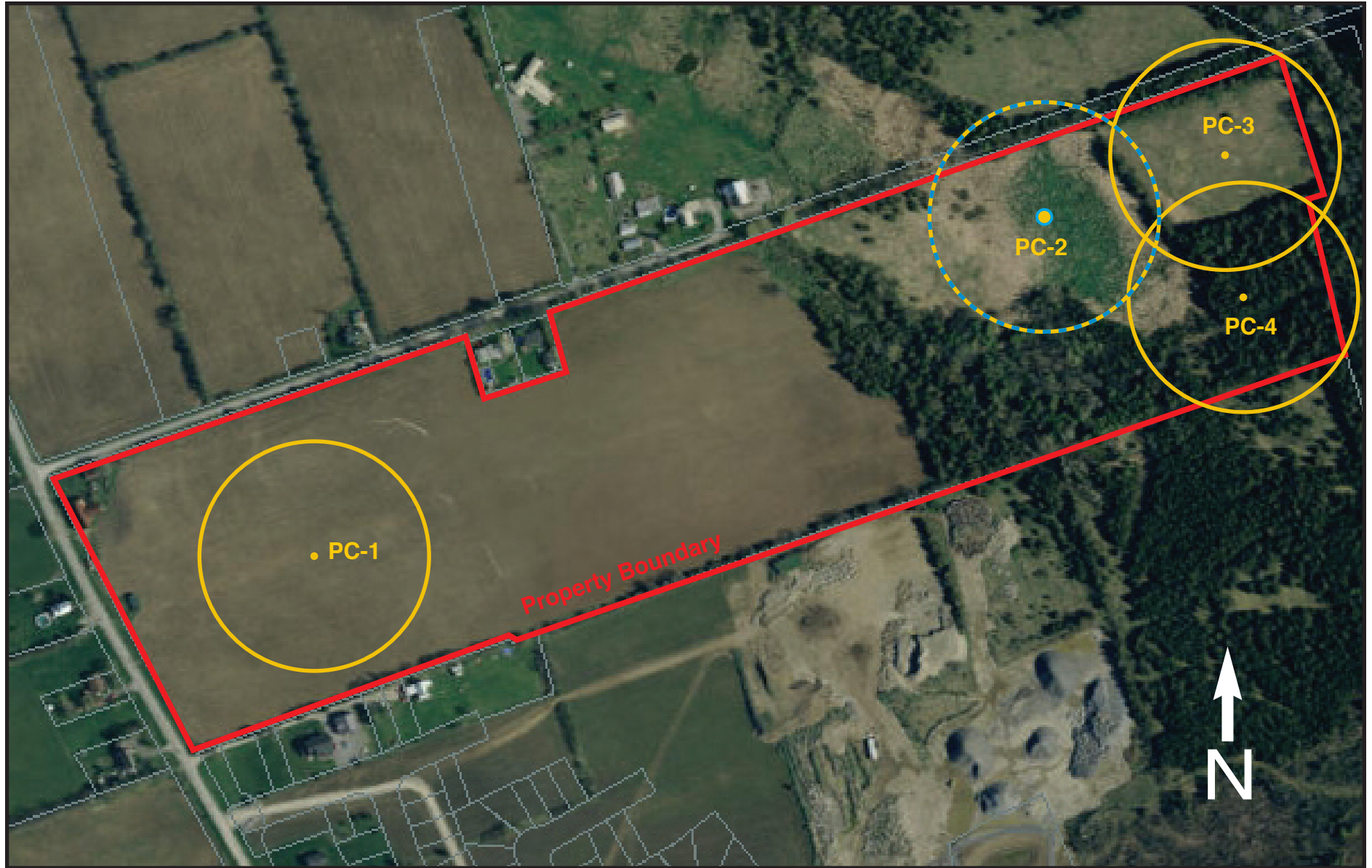
Not Valid Unless Signed And Dated			
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REV.#	REVISIONS	DATE	INITIAL

SCALE: 1:1250
 DESIGN: CRS
 DRAWN: CRS
 CHECKED: AJW
 DATE: JULY 2019

CANNIF NORTH LANDS
 CITY OF BELLEVILLE
 CONCEPT PLAN

Inley CONSULTING ENGINEERS PLANNERS
 CONTRACT No. 19503-1 DWG 19503-CP

Appendix B



 Breeding Bird Point-count Station

 Amphibian Point-count Station

Figure 3 - Ecological Monitoring Locations	
Parkbridge Belleville EIS	September 2018

Appendix C

Table 3: Summary of Bird Species Observed at the Belleville Property

Species		Breeding Status		Conservation Status		
Common name	Scientific name	Site ¹	OBBA ²	SRANK ³	COSEWIC ⁴	COSSARO ⁵
American Crow	<i>Corvus brachyrhynchos</i>	Possible	Confirmed	S5	-	-
American Goldfinch	<i>Carduelis tristis</i>	Probable	Confirmed	S5	-	-
American Redstart	<i>Setophaga ruticilla</i>	Observed	Probable	S5	-	-
American Robin	<i>Turdus migratorius</i>	Confirmed	Confirmed	S5	-	-
Barn Swallow	<i>Hirunda rustica</i>	Confirmed	Confirmed	S4	THR	THR
Belted Kingfisher	<i>Ceryle alcyon</i>	Possible	Confirmed	S4	-	-
Black-capped Chickadee	<i>Poecile atricapillus</i>	Confirmed	Confirmed	S5	-	-
Blue Jay	<i>Cyanocitta cristata</i>	Probable	Confirmed	S5	-	-
Brown Thrasher	<i>Toxostoma rufum</i>	Possible	Confirmed	S4	-	-
Brown-headed Cowbird	<i>Molothrus ater</i>	Probable	Confirmed	S4	-	-
Canada Goose	<i>Branta canadensis</i>	Possible	Confirmed	S5	-	-
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Probable	Confirmed	S5	-	-
Chipping Sparrow	<i>Spizella passerina</i>	Probable	Confirmed	S5	-	-
Common Grackle	<i>Quiscalus quiscula</i>	Probable	Confirmed	S5	-	-
Common Yellowthroat	<i>Geothlypis trichas</i>	Probable	Confirmed	S5	-	-
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Possible	Confirmed	S4	-	-
Eastern Meadowlark	<i>Sturnella magna</i>	Possible	Confirmed	S4	THR	THR
Eastern Phoebe	<i>Sayornis phoebe</i>	Confirmed	Confirmed	S5	-	-
European Starling	<i>Sturnus vulgaris</i>	Probable	Confirmed	SE	-	-
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Observed	NR	S5	-	-
Gray Catbird	<i>Dumetella carolinensis</i>	Possible	Confirmed	S4	-	-
Great Blue Heron	<i>Ardea herodias</i>	Possible	Possible	S4	-	-
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	Probable	Confirmed	S5	-	-
Green Heron	<i>Butorides virescens</i>	Possible	Probable	S4	-	-
Hairy Woodpecker	<i>Picoides villosus</i>	Possible	Confirmed	S5	-	-
House Wren	<i>Troglodytes aedon</i>	Confirmed	Confirmed	S5	-	-
Killdeer	<i>Charadrius vociferus</i>	Probable	Confirmed	S5	-	-
Mourning Dove	<i>Zenaidura macroura</i>	Probable	Confirmed	S5	-	-
Northern Cardinal	<i>Cardinalis cardinalis</i>	Probable	Confirmed	S5	-	-
Northern Flicker	<i>Colaptes auratus</i>	Possible	Confirmed	S4	-	-
Northern Harrier	<i>Circus cyaneus</i>	Confirmed	Probable	S4	NAR	NAR
Northern Oriole	<i>Icterus galbula</i>	Probable	Confirmed	S5	-	-
Palm Warbler	<i>Dendroica palmarum</i>	Observed	NR	S5	-	-
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Probable	Confirmed	S4	-	-
Ring-billed Gull	<i>Larus delawarensis</i>	Observed	NR	S5	-	-
Rock Pigeon	<i>Columba livia</i>	Possible	Confirmed	SE	-	-
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Confirmed	Confirmed	S4	-	-
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Possible	Confirmed	S5	-	-
Song Sparrow	<i>Melospiza melodia</i>	Confirmed	Confirmed	S5	-	-
Swamp Sparrow	<i>Melospiza georgiana</i>	Confirmed	Confirmed	S5	-	-
Tree Swallow	<i>Tachycineta bicolor</i>	Confirmed	Confirmed	S4	-	-
Turkey Vulture	<i>Cathartes aura</i>	Possible	Probable	S5	-	-
Warbling Vireo	<i>Vireo gilvus</i>	Probable	Probable	S5	-	-
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Possible	Confirmed	S5	-	-
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Possible	Confirmed	S5	-	-
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	Possible	Possible	S5	-	-

1. Includes adjacent lands within 50 m of property perimeter

2. The highest breeding status reported in the OBBA for Square 18UP09 (NR = not reported)

3. Provincial Rank: , S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, SE - Exotic

4. Federal Status: NAR - not at risk, S - Special Concern

5. Provincial Status: NAR - not at risk, THR - Threatened

6. As specified in the Ontario Breeding Bird Atlas (OBBA)

Table 2: Summary of Point-Count Monitoring Results¹

Species		Station Totals				Survey
Common name	Scientific name	PC-1	PC-2	PC-3	PC-4	Total
American Crow	<i>Corvus brachyrhynchos</i>				2 (2)	2 (2)
American Goldfinch	<i>Carduelis tristis</i>	1 (1)	3 (2)	2 (2)	2 (2)	8 (7)
American Robin	<i>Turdus migratorius</i>			3 (2)		3 (2)
Black-capped Chickadee	<i>Poecile atricapillus</i>				2 (1)	2 (1)
Blue Jay	<i>Cyanocitta cristata</i>			2 (1)		2 (1)
Brown-headed Cowbird	<i>Molothrus ater</i>			1 (1)		1 (1)
Cedar Waxwing	<i>Bombycilla cedrorum</i>		1 (1)			1 (1)
Chipping Sparrow	<i>Spizella passerina</i>			4 (2)		4 (2)
Common Grackle	<i>Quiscalus quiscula</i>	1 (1)	1 (1)			2 (2)
Common Yellowthroat	<i>Geothlypis trichas</i>		4 (3)			4 (3)
Northern Cardinal	<i>Cardinalis cardinalis</i>			2 (2)		2 (2)
Northern Harrier	<i>Circus cyaneus</i>		2 (2)			2 (2)
Red-winged Blackbird	<i>Agelaius phoeniceus</i>		5 (2)	2 (1)	1 (1)	8 (4)
Song Sparrow	<i>Melospiza melodia</i>		4 (2)	11 (4)	1 (1)	16 (7)
Swamp Sparrow	<i>Melospiza georgiana</i>		7 (2)			7 (2)
Rock Dove	<i>Columba livia</i>	10 (1)				10 (1)
Savannah Sparrow	<i>Passerculus sandwichensis</i>	5 (2)				5 (2)
Species Count		4	8	8	5	17
Individual Bird Count		17	27	27	8	79

1 - summary counts include only those birds occurring within 100m of the centre of the point count station

Bracketed values indicate the number of survey intervals (5 minutes each, 2 per survey event) with the species present

Appendix D

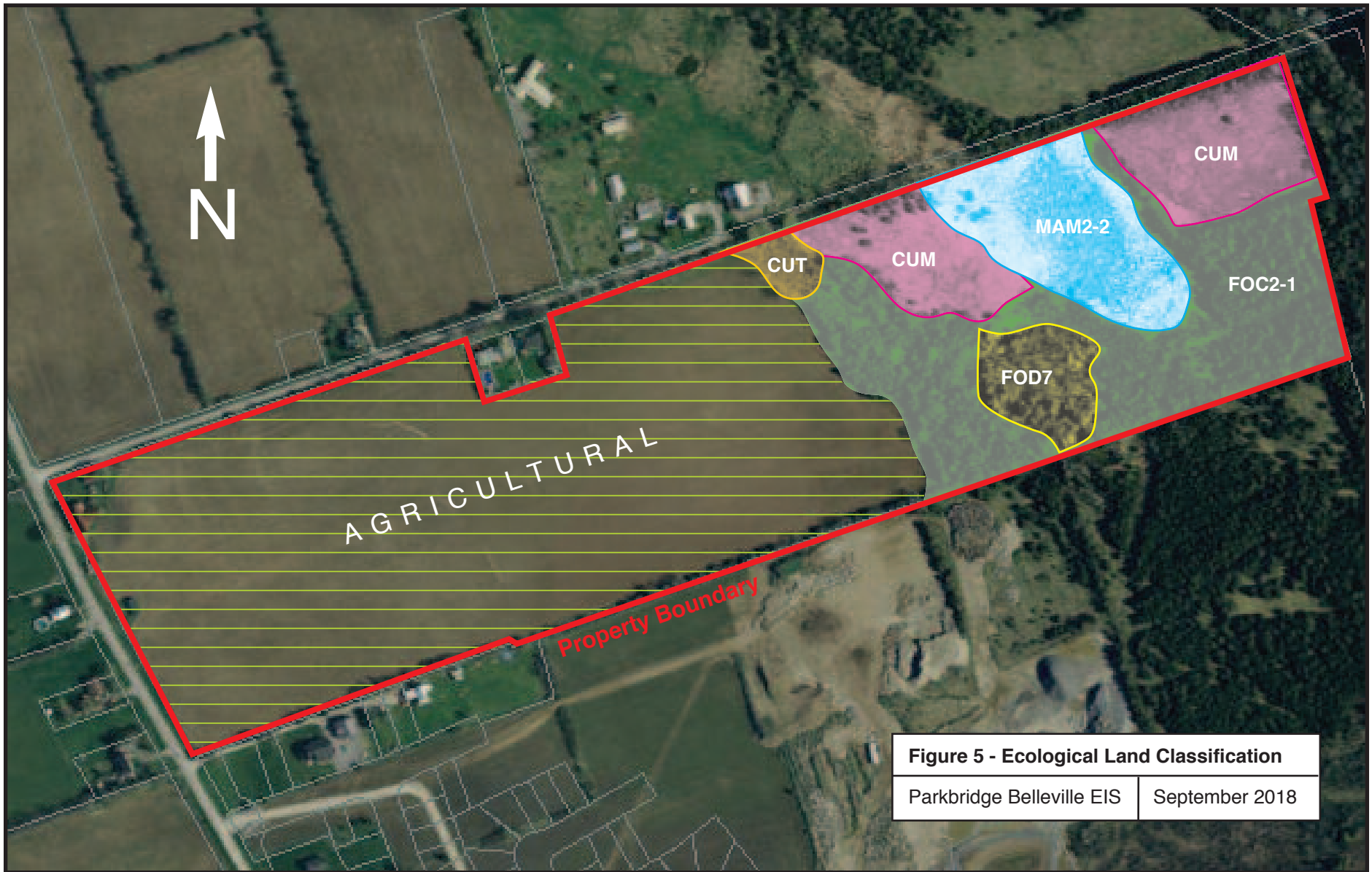







Figure 5 - Ecological Land Classification
Parkbridge Belleville EIS | September 2018

-  CUM - Mineral Cultural Meadow
-  CUT - Mineral Cultural Thicket
-  MAM2-2 - Mineral Meadow Marsh
-  FOC2-1 - Red Cedar Coniferous Forest
-  FOD7 - Moist Lowland Deciduous Forest



MNR Peterborough District

New Wetland Report

Evaluation Completion Date: **Nov 2012**Wetland Name: **Corbyville Wetland**

Wetland Code: KG-BEL-QC-011

New Significance: **PSW**

LIO Code: 102694357

Size (ha): 127.41 Coastal: No

Eco-District: 6e-8

Upper Tier Municipality: City of Belleville

Conservation Authority: Quinte Conservation

Lower Tier Municipalities: n/a

Score Components		Field Work
Biological	150	July 10, 13, 18, 19, 20 and Aug 2, 14, 16, 2012 (70+ hours)
Social	141	Evaluators T. Norris, M. Bérubé, A. Margetson, G. Clark (MNR Peterborough District)
Hydrological	103	
Special Features	250	
Total Score	643	

New Update Summary Notes

A new wetland area was identified along the Moira River between Foxboro and Corbyville in the vicinity of Thurlow Twp Cons 3-5, Lots 1-10 through examination of SOLRIS predicted wetlands and 2008 aerial imagery. The sites were visited several times throughout July and August 2012 by MNR Peterborough District to evaluate the landscape using the OWES 3rd edition scoring criteria. The following evaluation was prepared based on those field observations. Over 70 hours were dedicated to field observations throughout this wetland with the kind support of local landowners.

The **mapping** of the vegetation communities was draft delineated using 2008 aerial imagery interpretation and 1998 hard copy colour IR photos with stereo scope and on-screen digitizing. The draft maps were taken in the field and refined using GPS equipment and field observations.

A catchment area of 199,956 ha. was delineated from the Enhanced Flow Direction grids using ArcGIS's Watershed tool. The enormous watershed is due to the wetland being riverine in nature on a large river. The interspersion was determined using an automated GIS script.

The **scoring** of the wetland was entered into a digital Excel scoring record (OWES 3rd edition) using notes from the field along with other GIS data sources such as NHIC rare species observations and fisheries data. The wetland achieved a Special Features component score over 200 and a total score over 600 and is thus considered a **Provincially Significant Wetland**.

Wetland Evaluation Edition		3	This Update:	
			2012-Nov	
Corbyville Wetland				
KG-BEL-QC-011				
Comments				
Additional Information				
<i>Include relevant information that can not be entered in the wetland data record(Ex. Sections that have not been completed.)</i>				
Field work completed in several field days in July and August, 2012. Mapping based on field notes/observations and 2008 imagery.				
Official Name:	Corbyville Wetland			
Evaluation Edition:	3	Class:	n/a	OGF ID #: 102694357
Wetland Significance:	Last Evaluated (field):		2012-Nov	
PSW	Last Updated:		(new)	
Special Planning Considerations:			Scores	
Wetland Area:	127.41		Biological:	150
Detention Area:	15,200 ha.		Social:	141
Catchment Area:	199,956 ha.		Hydrological:	103
Information Source:	New field evaluation 2012		Special Features:	250
Submitted by:	M. Bérubé, T. Norris, G. Clark, A. Margetson		Overall:	643
Approved by:	Todd Norris			
Date:	November 2nd, 2012			

Southern Ontario Wetland Evaluation, Data and Scoring Record		March 1993
Wetland Manual		
WETLAND DATA AND SCORING RECORD		
i)	WETLAND NAME:	Moira River Wetland
ii)	MNR ADMINISTRATIVE REGION: Southern	DISTRICT: Peterborough
	AREA OFFICE (if different from District):	Kingston
iii)	CONSERVATION AUTHORITY JURISDICTION:	Quinte Conservation
	(If not within a designated CA, check here: _____)	
iv)	COUNTY OR REGIONAL MUNICIPALITY:	City of Belleville
v)	TOWNSHIP:	n/a
vi)	LOTS & CONCESSIONS:	Thurlow Twp: Con 3 Lot 7, Con 4 Lots 2-9, Con 5 Lots 1-10
	(attach separate sheet if necessary)	_____
vii)	MAP AND AIR PHOTO REFERENCES	
a)	Latitude: <u>44.228</u>	Longitude: <u>-77.405</u>
b)	UTM grid reference:	Zone: <u>18</u> Block: <u>T</u>
		Grid:E <u>308000</u> Grid:N <u>4899700</u>
c)	National Topographic Series:	
	map name(s)	<u>n/a</u>
	map number(s)	_____ edition _____
	scale	_____
d)	Aerial photographs: Date photo taken:	<u>27-Apr-08</u> Scale: <u>Digital Orthos</u>
	Flight & plate numbers:	<u>Drape 2008 Digital Aerial Orthophotography</u>
		<u>Flight Line 043 - 090-085; Flight Line 042 - 1125-1130</u>
	(attach separate sheet if necessary)	_____
e)	Ontario Base Map numbers & scale	<u>n/a</u>
	(attach separate sheets if necessary)	_____

Data Summary Form

Code: 102694357
Wetland Name: Corbyville Wetland

WETLAND UNIT #	DOMINATE FORM	WETLAND TYPE	FIELD CODE	MAP CODE	AREA (ha)	SITE TYPE	SOIL	FORMS	# OF FORMS	% OPEN WATER	ha OPEN WATER	FISH HABITAT (LM / HM)	Dominate Species	Additional Species	COMMENTS
1	ne	Marsh	M1	M1	1.58	Riverine	clay/loam	ne ts gc re be f	6	40	0.63		reed canary grass	buttonbush; false nettle, jewelweed, spotted Joe-pye weed, swamp milkweed, swamp dock, square-stemmed monkey flower, ditch stonecrop, ostrich fern, sensitive fern, marsh fern; arrowhead, water plantain, moneywort ; duckweed.	*no re species listed...
1	ne	Marsh	M1	M1	1.15	Riverine	clay/loam	ne ts gc re be f	6	10	0.12		reed canary grass	buttonbush; false nettle, jewelweed, spotted Joe-pye weed, swamp milkweed, ostrich fern, sensitive fern, marsh fern; arrowhead, water plantain; duckweed	*no re species listed...
1	ne	Marsh	M1	M1	1.88	Riverine	clay/loam	ne ts gc re be f	6	10	0.19		reed canary grass	buttonbush; false nettle, jewelweed, spotted Joe-pye weed, swamp milkweed, ostrich fern, sensitive fern, marsh fern; arrowhead, water plantain; duckweed	*no re species listed...
1	ne	Marsh	M2	M2	5.58	Riverine	clay/loam	ne re ts	3	0	-		reed canary grass, buttonbush, slender willow	narrow-leaved cattail, wool rush, broad-fruited bur-reed; buttonbush, slender willow; frogbit; false nettle	
1	ne	Marsh	M2	M2	0.65	Riverine	sand	ne re	3	0	-		reed canary grass	common cattail	
1	ne	Marsh	M7	M7	0.21	Riverine	clay/loam	ne	1	70	0.15		burreed		
1	h	Swamp	S1	S1	13.26	Riverine	clay/loam	h dh gc ne	4	15	1.99		silver maple, red maple, green ash	dead hardwoods; sensitive fern, false nettle, wood nettle, dwarf raspberry, hog peanut, water smartweed, clearweed, ostrich fern, marsh fern, northern blue-flag iris, beggar ticks, American water-horehound, jack-in-the-pulpit, water plantain, ; reed canary grass, rice cut grass, tuckermans sedge, hop sedge, bladder sedge, beaked sedge.	water parsnip, arrowhead, buttonbush, water arum, duckweed
1	ts	Swamp	S15	S15	1.35	Riverine	clay/loam	ts be	2	5	0.07		buttonbush	water parsnip, water plantain, *this is a gc, broad-leaved arrowhead, water smartweed, swamp milkweed, royal fern,	marsh fern, silver maple, burreed, frogbit, duckweed
1	h	Swamp	S2	S2	6.84	Riverine	clay/loam	h gc	2	0	-		silver maple, green ash, crack willow	swamp milkweed, wood nettle, false nettle, clearweed, sensitive fern, moneywort, touch-me-not, Jack-in-the-pulpit, spotted Joe-pye weed	tuckerman's sedge, reed canary grass, buttonbush, phragmites, arrowhead
1	h	Swamp	S2	S2	8.11	Riverine	clay/loam	h gc	2	0	-		green ash, silver maple	swamp milkweed, sensitive fern, moneywort, false nettle, wood nettle, bittersweet nightshade, water parsnip, American water hore-hound, touch-me-not, Jack-in-the-pulpit, spotted Joe-pye weed, mermaid weed, beggars ticks; Tuckermann's sedge, bladder sedge, porcupine sedge, Bebb's sedge,	tuckerman's sedge, reed canary grass, buttonbush, phragmites, arrowhead
1	ts	Swamp	S3	S3	2.76	Riverine	clay/loam	ts ne	2	30	0.83		buttonbush, water willow	reed canary grass, tuckermans' sedge, burreed; frogbit; water smartweed	water willow, swamp milkweed, northern blue-flag iris, water smartweed, frogbit, duckweed
1	ls	Swamp	S4	S4	0.86	Riverine	clay/loam	ls ts	2	50	0.43		water willow	buttonbush; pickerelweed	
1	h	Swamp	S6	S6	1.63	Riverine	sand	h ts gc	3	0	-		green ash, elm, silver maple, basswood	prickly ash, European buckthorn, honeysuckle, dogwood, meadowsweet; jewelweed, wood nettle, northern blue-flag iris, bittersweet nightshade	
1	su	Marsh	W3	W3	8.11	Riverine	clay/loam	su	1	100	8.11		Flowering Rush, Common Floating Pondweed, Richardson's Pondweed, Curly-leaved Pondweed, Robbin's Pondweed, Canada Water Weed, Filifom Pondweed, Eel Grass, Coontail, Millfoil,	Illinois Pondweed, Knotty Pondweed, Pale Water Milfoil, Greater Bladderwort	frogbit, fragrant white water lily, yellow pond lily, burreed
1	su	Marsh	W4	W4	0.19	Riverine	clay/loam	su f	1	100	0.19		Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily, Fragrant Water Lily	Pickrel Weed, Frogbit,	pondweed, duckweed, burreed
1	su	Marsh	W4	W4	0.93	Riverine	clay/loam	su f	1	100	0.93		Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily, Fragrant Water Lily	Pickrel Weed, Frogbit,	pondweed, duckweed, burreed
1	su	Marsh	W4	W4	0.21	Riverine	clay/loam	su f	1	100	0.21		Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily, Fragrant Water Lily	Pickrel Weed, Frogbit,	pondweed, duckweed, burreed
1	su	Marsh	W4	W4	1.35	Riverine	clay/loam	su f	1	100	1.35		Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily, Fragrant Water Lily	Wild Rice	pondweed, duckweed, burreed
2	ls	Swamp	S4	S4	1.17	Riverine	clay/loam	ls ts	2	10	0.12		water willow	buttonbush; pickerelweed	
2	h	Swamp	S7	S7	4.89	Riverine	clay/loam	h ts gc	3	5	0.24		silver maple	buttonbush, winterberry; arrowhead, false nettle, wood nettle, ostrich fern, royal fern, sensitive fern, marsh fern, American water-horehound, clearweed, water smartweed, water plantain; cutgrass, Tuckermann's sedge,	
2	h	Swamp	S7	S7	0.57	Riverine	clay/loam	h ts gc	3	5	0.03		silver maple	buttonbush, winterberry; arrowhead, false nettle, wood nettle, ostrich fern, water plantain, cutgrass	
2	su	Swamp	W4	W4	1.28	Riverine	clay/loam	su f	1	100	1.28		Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily, Fragrant Water Lily	Pickrel Weed, Frogbit,	
3	ne	Marsh	M2	M2	0.69	Riverine	sand	ne e	3	0	-		reed canary grass	common cattail	

3	h	Swamp	S2	S2	3.02	Riverine	clay/loam	h gc	2	0	-	green ash, silver maple	swamp milkweed, sensitive fern, moneywort, Jack-in-the-pulpit, spotted Joe-pye weed	
3	ls	Swamp	S4	S4	0.39	Riverine	clay/loam	ls ts	2	10	0.04	water willow	buttonbush; pickerelweed	
3	su	Marsh	W3	W3	1.97	Riverine	clay/loam	su	1	100	1.97	Flowering Rush, Common Floating Pondweed, Richardson's Pondweed, Curly-leaved Pondweed, Robbin's Pondweed, Canada Water Weed, Filifom Pondweed, Eel Grass, Coontail, Millfoil,	Illinois Pondweed, Knotty Pondweed, Pale Water Milfoil, Greater Bladderwort	
3	su	Marsh	W4	W4	0.70	Riverine	clay/loam	su f	1	100	0.70	Common Floating Pondweed, Curly-leaved Pondweed, Canada Water Weed, Filifom Pondweed, Coontail, Millfoil; Bullhead Lily,Fragrant Water Lily	Pickerel Weed, Frogbit,	
4	su	Marsh	W3	W3	3.53	Riverine	clay/loam	su	1	100	3.53	Flowering Rush, Common Floating Pondweed, Richardson's Pondweed, Curly-leaved Pondweed, Robbin's Pondweed, Canada Water Weed, Filifom Pondweed, Eel Grass, Coontail, Millfoil,	Illinois Pondweed, Knotty Ponweed, Pale Water Milfoil, Greater Bladderwort	
5	ne	Marsh	M11	M11	2.42	Isolated	clay/loam	ne ts	2	0	-	reed canary grass	willow, dogwood	purple loosestrife, narrow-leaved cattails
6	h	Swamp	S8	S8	1.01	Palustrine	sand	h ts gc	3	0	-	green ash, american elm, willow, silver maple	European buckthorn, honeysuckle, manitoba maple; ostrich fern, sensitive fern, jewelweed, meadow rue, Jack-in-the-pulpit, Marsh Marigold	
7	h	Swamp	S5	S5	2.20	Palustrine	sand	h ts gc ne	4	0	-	silver maple, black ash, green ash	ash; false nettle, meadow rue, Jack-in-the-pulpit, jewelweed, violet, virginia creeper; reed canary grass	
8	re	Marsh	M10	M10	2.71	Palustrine	humic/mesic	re gc	2	0	-	common cattail	purple loosestrife	
8	re	Marsh	M10	M10	1.92	Palustrine	humic/mesic	re gc	2	0	-	common cattail	purple loosestrife	
8	ne	Marsh	M2	M2	1.69	Palustrine	clay/loam	ne re	2	0	-	reed canary grass	common cattail	
8	ne	Marsh	M2	M2	1.94	Palustrine	sand	ne re	2	0	-	reed canary grass	common cattail	
8	ne	Marsh	M5	M5	0.95	Palustrine	sand	ne ts	2	0	-	reed canary grass	willow, dogwood	
8	h	Swamp	S10	S10	0.64	Palustrine	sand	h ts gc	3	0	-	silver maple, trembling aspen, green ash, elm	willow, nannyberry, speckled alder, dogwood, silver maple; grasses, spotted Joe-pye weed, horsetail, hog peanut, sensitive fern, jewelweed, nighshade	common cattail, Eastern white cedar
8	h	Swamp	S10	S10	0.35	Palustrine	sand	h ts gc	3	0	-	silver maple, trembling aspen, green ash, elm	willow, nannyberry, speckled alder, dogwood, silver maple; grasses, spotted Joe-pye weed, horsetail, hog peanut, sensitive fern, jewelweed, nighshade	common cattail, Eastern white cedar
8	ts	Swamp	S11	S11	8.33	Palustrine	humic/mesic	ts dh gc re	4	0	-	willow	purple loosestrife, jewelweed, grass; common cattails	reed canary grass
8	h	Swamp	S12	S12	1.50	Palustrine	clay/loam	h ne	2	0	-	green ash, elm, trembling aspen	reed canary grass	
8	h	Swamp	S13	S13	0.83	Palustrine	humic/mesic	h ts ne	3	0	-	green ash	willow, green ash; reed canary grass	
8	h	Swamp	S2	S2	0.89	Palustrine	humic/mesic	h gc	2	0	-	silver maple, black ash, green ash	jewelweed, false nettle, grasses	lake sedge, European buckthorn
8	h	Swamp	S6	S6	1.85	Palustrine	sand	h ts gc	3	0	-	green ash		
8	h	Swamp	S6	S6	1.67	Palustrine	sand	h ts gc	3	0	-	green ash		
9	h	Swamp	S9	S9	3.52	Palustrine	clay/loam	h ls	2	95	3.34	silver maple, green ash	silver maple saplings	
10	h	Swamp	S6	S6	4.43	Isolated	clay/loam	h ts gc	3	0	-	green ash, elm, silver maple, basswood	prickly ash, European buckthorn, honeysuckle, dogwood, meadowsweet; jewelweed, wood nettle, grasses, northern blue-flag iris, bittersweet; nightshade	one butternut
11	ne	Marsh	M6	M6	5.41	Palustrine	sand	ne gc re	3	0	-	narrow-leaved cattail, phragmites	purple loosestrife; reed canary grass	
12	gc	Marsh	M8	M8	0.36	Isolated	clay/loam	gc re ne f	4	55	0.20	purple loosestrife, boneset, grasses	common cattails, bulrushes; reed canary grass, giant burreed; water shield	
13	h	Swamp	S2	S2	1.23	Palustrine	clay/loam	h gc	2	0	-	silver maple	sensitive fern	
14	ne	Marsh	M2	M2	0.60	Riverine	clay/loam	ne re	2	0	-	reed canary grass	common cattail	
15	h	Swamp	S14	S14	0.49	Riverine	clay/loam	h ts	2	0	-	silver maple, red maple	buttonbush	
15	su	Marsh	W3	W3	0.62	Riverine	clay/loam	su	1	100	0.62	Flowering Rush, Common Floating Pondweed, Richardson's Pondweed, Curly-leaved Pondweed, Robbin's Pondweed, Canada Water Weed, Filifom Pondweed, Eel Grass, Coontail, Millfoil,	Illinois Pondweed, Knotty Pondweed, Pale Water Milfoil, Greater Bladderwort	
16	su	Marsh	W3	W3	0.41	Riverine	clay/loam	su	1	100	0.41	Flowering Rush, Common Floating Pondweed, Richardson's Pondweed, Curly-leaved Pondweed, Robbin's Pondweed, Canada Water Weed, Filifom Pondweed, Eel Grass, Coontail, Millfoil,	Illinois Pondweed, Knotty Pondweed, Pale Water Milfoil, Greater Bladderwort	
17	re	Marsh	M9	M9	4.58	Palustrine	clay/loam	re	1	0	-	common cattail		

127.41

27.67

Wetland Area	Site Type		Area	FA	Soil Type	Area	FA	Dominate Vegetation	Area	FA	Wetland Type	Area	FA	Open Water Area
127.41	Isolated		7.21	0.06	clay/loam	93.74	0.74	h	58.93	0.46	Swamp	75.07	0.59	27.67
	Palustrine (permanent or intermittent flow)		43.22	0.34	silt/marl	0.00	0.00	c	0.00	0.00	Marsh	52.34	0.41	
	Riverine		76.98	0.60	limestone	0.00	0.00	dh	0.00	0.00	Fen	0.00	0.00	
	Riverine (at rivermouth)		0.00	0.00	sand	18.99	0.15	dc	0.00	0.00	Bog	0.00	0.00	
	Lacustrine (at rivermouth)		0.00	0.00	humic/mesic	14.68	0.12	ts	12.44	0.10		127.41	1.00	
	Lacustrine (on enclosed bay, with barrier beach)		0.00	0.00	fibric	0.00	0.00	ls	2.42	0.02				
	Lacustrine (exposed to lake)		0.00	0.00	granite	0.00	0.00	ds	0.00	0.00				
			127.41	1.00		127.41	1.00	gc	0.36	0.00				
								m	0.00	0.00				
								ne	24.75	0.19				
								be	0.00	0.00				
								re	9.21	0.07				
								ff	0.00	0.00				
								f	0.00	0.00				
								su	19.30	0.15				
								u (unvegetated)	0.00	0.00				
									127.41	1.00				

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viii) **WETLAND SIZE AND BOUNDARIES**

- a) **Single contiguous wetland area:** hectares
- b) **Wetland complex comprised of** 17 individual wetlands:

Wetland Unit Number (for reference)	Size of each wetland unit
--	------------------------------

Ha

Wetland Unit No.	1	56.65
Wetland Unit No.	2	7.91
Wetland Unit No.	3	6.77
Wetland Unit No.	4	3.53
Wetland Unit No.	5	2.42
Wetland Unit No.	6	1.01
Wetland Unit No.	7	2.20
Wetland Unit No.	8	25.27
Wetland Unit No.	9	3.52
Wetland Unit No.	10	4.43
Wetland Unit No.	11	5.41
Wetland Unit No.	12	0.36
Wetland Unit No.	13	1.23
Wetland Unit No.	14	0.60
Wetland Unit No.	15	1.11
Wetland Unit No.	16	0.41
Wetland Unit No.	17	4.58
Wetland Unit No.		

Wetland Unit Totals: 127.41

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE

127.41

- c) **Brief documentation of reasons for including any areas less than 0.5 ha in size:**

To attempt to capture main wetland communities in the immediate vicinity of the main
wetland body along the Moira River.

(Attach separate sheets if necessary .)

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1.0 BIOLOGICAL COMPONENT

1.1 PRODUCTIVITY

1.1.1 GROWING DEGREE-DAYS/SOILS

GROWING DEGREE DAYS		MAP	SOILS	
(check one)			Estimated Fractional Area	
1) _____	<2800		0.74	clay/loam
2) _____	2800 -3200		0.00	silt/marl
3) <u> X </u>	3200 -3600		0.00	limestone
4) _____	3600 -4000		0.15	sand
5) _____	>4000		0.12	humic/mesic
			0.00	fibric
			0.00	granite

Determine the soil type from the appropriate OMAF soils maps

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<2800	15	13	11	9	8	7	5
2800-3200	18	15	13	11	9	8	7
3200-3600	22	18	15	13	11	9	7
3600-4000	26	21	18	15	13	10	8
>4000	30	25	20	18	15	12	8

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score		
<u> 22 </u>	clay/loam	<u> 16.19 </u>
_____	silt/marl	<u> 0.00 </u>
_____	limestone	<u> 0.00 </u>
<u> 13 </u>	sand	<u> 1.94 </u>
<u> 11 </u>	humic/mesic	<u> 1.27 </u>
_____	fibric	<u> 0.00 </u>
_____	granite	<u> 0.00 </u>

Final Score Growing Degree-Days/Soils (maximum 30 points)

19

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1.1.2 **WETLAND TYPE** (Fractional Area = area of wetland type/total wetland area)

Estimate the Wetland Type from air photos or default to "swamp" (8)

	Fractional Area		Score
Bog	0.00	x 3	0.0
Fen	0.00	x 6	0.0
Swamp	0.59	x 8	4.7
Marsh	0.41	x 15	6.2
Subtotal:			10.9

Wetland type score (maximum 15 points) 11

1.1.3 **SITE TYPE** (Fractional Area = area of site type/total wetland area)

Estimate from air photos

	Fractional Area		Score
Isolated	0.06	x 1 =	0.06
Palustrine (permanent or intermittent flow)	0.34	x 2 =	0.68
Riverine	0.60	x 4 =	2.42
Riverine (at rivermouth)	0.00	x 5 =	0.00
Lacustrine (at rivermouth)	0.00	x 5 =	0.00
Lacustrine (on enclosed bay, with barrier beach)	0.00	x 3 =	0.00
Lacustrine (exposed to lake)	0.00	x 2 =	0.00
Sub Total:			3.15

Site Type Score (maximum 5 points) 3

1.2 BIODIVERSITY

1.2.1 **NUMBER OF WETLAND TYPES**

(Check only one)	Score
1) <input type="checkbox"/> one	9 points
2) <input checked="" type="checkbox"/> 13 two	13
3) <input type="checkbox"/> three	20
4) <input type="checkbox"/> four	30

Number of Wetland Types Score (maximum 30 points) 13

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1.2.2 VEGETATION COMMUNITIES [Veg Ref](#)

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species. Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities with 1-3 forms	Total # of communities with 4 -5 forms	Total # of communities with 6 or more forms
1 = 1.5 points	1 = 2 points	1 = 3 points
2 = 2.5	2 = 3.5	2 = 5
3 = 3.5	3 = 5	3 = 7
4 = 4.5	4 = 6.5	4 = 9
5 = 5	5 = 7.5	5 = 10.5
6 = 5.5	6 = 8.5	6 = 12
7 = 6	7 = 9.5	7 = 13.5
8 = 6.5	8 = 10.5	8 = 15
9 = 7	9 = 11.5	9 = 16.5
10 = 7.5	10 = 12.5	10 = 18
11 = 8	11 = 13	11 = 19
(21 communities)		
+ .5 each additional community = <u>13.0</u>	+ .5 each additional community = <u>6.5</u>	+ 1 each additional community = <u>3.0</u>
e.g., a wetland with 3 one form communities and 8 six form communities would score:	4 two form communities	12 four form communities and
	$6 + 13.5 + 15 = 34.5 = 35$ points	SubTotal: <u>23</u>
	Vegetation Communities Score (maximum 45 points)	<u>23</u>

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Wetland Name: Corbyville Wetland

Wetland Size (ha): 127.41

Vegetation Form % area in which form is dominant

h 46.25

c 0.00

dh 0.00

dc 0.00

ts 9.76

ls 1.90

ds 0.00

gc 0.28

m 0.00

ne 19.43

be 0.00

re 7.23

ff 0.00

f 0.00

su 15.15

u (unvegetated) 0.00

Total = 100% 100.00

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1.2.3 DIVERSITY OF SURROUNDING HABITAT		
(Check all appropriate items(1))		
<i>Determine from air photos</i>		
<input checked="" type="checkbox"/>	1	row crop
<input checked="" type="checkbox"/>	1	pasture
<input checked="" type="checkbox"/>	1	abandoned agricultural land
<input checked="" type="checkbox"/>	1	deciduous forest
<input type="checkbox"/>		coniferous forest
<input type="checkbox"/>		mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>		abandoned pits and quarries
<input checked="" type="checkbox"/>	1	open lake or deep river
<input checked="" type="checkbox"/>	1	fence rows with cover, or shelterbelts
<input type="checkbox"/>		terrain appreciably undulating,hilly,or with ravines
<input checked="" type="checkbox"/>	1	creek flood plain
<input checked="" type="checkbox"/>	7	Subtotal
Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)		7
1.2.4 PROXIMITY TO OTHER WETLANDS		
(Check first appropriate category only)		Scoring
<i>Determine from air photos and other wetlands evaluations in the vicinity</i>		
1)	<input checked="" type="checkbox"/>	8 Hydrologically connected by surface water to other wetlands (different dominant wetland type) or to open lake or deep river within 1.5 km
		8 points
2)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km
		8
3)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type),or to open lake or deep river from 1.5 to 4 km away
		5
4)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away
		5
5)	<input type="checkbox"/>	Within 0.75 km of other wetlands (different dominant wetland type) or open water body, but not hydrologically connected by surface water
		5
6)	<input type="checkbox"/>	Within 1 km of other wetlands, but not hydrologically connected by surface water
		2
7)	<input type="checkbox"/>	No wetland within 1 km
		0
Proximity to other Wetlands Score (Choose one only, maximum 8 points)		8

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1.2.5 **INTERSPERSION**

Optional: Complete as time permits or as scoring dictates.

Number of Intersections
(Check one)

Score

1) 26 or less	<input type="checkbox"/>	3
2) 27 to 40	<input type="checkbox"/>	6
3) 41 to 60	<input type="checkbox"/>	9
4) 61 to 80	<input type="checkbox"/>	12
5) 81 to 100	<input type="checkbox"/>	15
6) 101 to 125	<input type="checkbox"/>	18
7) 126 to 150	<input type="checkbox"/>	21
8) 151 to 175	<input type="checkbox"/>	24
9) 176 to 200	<input checked="" type="checkbox"/> 27	27 <i>(Count: 183)</i>
10) >200	<input type="checkbox"/>	30

Interspersion Score (Choose one only maximum 30 points)

27

1.2.6 **OPEN WATER TYPES** [Ref](#)

Determine from aerial photos.

Permanently flooded:
(Check one)

Score

1) <input type="checkbox"/>	type 1	8
2) <input checked="" type="checkbox"/> 8	type 2	8
3) <input type="checkbox"/>	type 3	14
4) <input type="checkbox"/>	type 4	20
5) <input type="checkbox"/>	type 5	30
6) <input type="checkbox"/>	type 6	8
7) <input type="checkbox"/>	type 7	14
8) <input type="checkbox"/>	type 8	3
9) <input type="checkbox"/>	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

8

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1.3 SIZE

Score may be lower than actual if "Vegetation Community and Interspersion" have not been calculated.

127.4 hectares 86 Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)

31

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-48	49-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<21 ha	1	5	7	8	9	17	25	34	43	50
21-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 WOOD PRODUCTS

Determine the percentage of the wetland area dominated by "h" or "c" by using aerial photograph.

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

h:	58.93	c:	0.00
----	-------	----	------

		Score
1)	<5 ha	0
2)	5 -25 ha	3
3)	26 -50 ha	6
4)	51- 100 ha	9
5)	101 -200 ha	12
6)	>200 ha	18

Source of information: 2012 field evaluation, 2008 imagery

Wood Products Score (Score one only, maximum 18 points)

9

2.1.2 WILD RICE

(Check one)

Present (minimum size 0.5 ha)

1)

6

Score (Choose one)

6 points

Absent

2)

0

0

Source of information: 2012 - field observations
Only one stem observed

Wild Rice Score (maximum 6 points)

0

2.1.3 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

12

Score (Choose one)

12 points

Habitat not suitable for fish

2)

0

0

Source of information: 2012 - field observations

If any part of the wetland is riverine or the District fisheries files indicate presence of fish score "present"

Commercial Fish Score (maximum 12 points)

12

2.1.4 BULLFROGS

(Check one)

Present

1)

1

Score (Choose one)

1 points

Absent

2)

0

0

Source of information: 2012 - field observations

Bullfrog Score (maximum 1 point)

1

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2.1.5 SNAPPING TURTLES

(Check one)

Present

1)

1

Score (Choose one)

1 point

Absent

2)

0

Source of information:

2012 evaluation

Conversation w Victoria Jackson

Snapping Turtle Score (maximum 1 point)

1

2.1.6 FURBEARERS [Fur Ref](#)

(Consult Appendix 9)

Name of furbearer

Source of information

1)	Raccoon	3
2)	Red Squirrel	3
3)	Muskrat	3
4)	Beaver	3
5)	Fox	3
SubTotal		15

2012 - field obs.
2012 - field obs.
2012 - field obs.
2012 - field obs.
2012 - Victoria Jackson

Scoring: 3 points for each species. **Maximum 12**

Furbearer Score (maximum 12 points)

12

2.2 **RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use							
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing		
High	40 points		40 points		40 points		
Moderate	20		20	20	20	20	
Low	8	8	8		8		
Not possible/NotKnown	0		0		0		
Totals		8		20		20	48

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: 2012 Field Observations

Nature: 2012 Field Observations

Fishing: 2012 Field Observations

Recreational Activities Score (maximum 80 points)

48

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2.3 LANDSCAPE AESTHETICS

Score using ortho-aerial photography

2.3.1 DISTINCTNESS

(Check one)				Score (Choose one)
Clearly distinct	1)	3		3 points
Indistinct	2)			0

Landscape Distinctness Score (maximum 3 points) 3

2.3.2 ABSENCE OF HUMAN DISTURBANCE

(Check one)				Score (Choose one)
Human disturbances absent or nearly so	1)			7 points
One or several localized disturbances	2)	4		4
Moderate disturbance; localized water pollution	3)			2
Wetland intact but impairment of ecosystem quality intense in some areas	4)			1
Extreme ecological degradation, or water pollution severe and widespread	5)			0

Source of information: 2012 - field observations

Absence of Human Disturbance Score (maximum 7 points) 4

2.4 EDUCATION AND PUBLIC AWARENESS

Optional: complete as time and scoring dictates.

2.4.1 EDUCATIONAL USES

(Check one)				Score (Choose one)
Frequent	1)			20 points
Infrequent	2)			12
No visits	3)	0		0

Source of information: New field evaluation 2012

Requires contact with Local Boards of Education.

Educational Uses Score (maximum 20 points) 0

2.4.2 FACILITIES AND PROGRAMS

(check one)				Score (Choose one)
Staffed interpretation centre	1)			8 points
No interpretation centre or staff but a system of self-guiding trails or brochures available	2)			4
Facilities such as maintained paths (e.g., woodchips) boardwalks, boat launches or observation towers but no brochures or other interpretation	3)			2
No facilities or programs	4)	0		0

Source of information: 2012 - field obs.

Facilities and Programs Score (maximum 8 points) 0

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2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done	<input type="checkbox"/>		Score	
Research papers published in refereed scientific journal or as a thesis	<input type="checkbox"/>		12 points	
One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.	<input type="checkbox"/>		10	
No research or reports	<input type="checkbox"/>	0	5	
Subtotal:	<input type="checkbox"/>	0	0	

Attach list of known reports by above categories

Refer to ESPA, EPA and ANSI reports.

Research and Studies Score (Score is cumulative, maximum 12 points) 0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community	
1) Within or adjoining settlement	40 points	<input type="checkbox"/>	26	<input type="checkbox"/>
2) 0.5 to 10 km from settlement	26	<input checked="" type="checkbox"/>	16	<input type="checkbox"/>
3) 10 to 60 km from settlement	12	<input type="checkbox"/>	8	<input type="checkbox"/>
4) >60 km from settlement	5	<input type="checkbox"/>	2	<input type="checkbox"/>
		<input checked="" type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name of settlement: Belleville

Proximity to Human Settlement Score (maximum 40 points) 26

2.6 OWNERSHIP (FA= fraction Area) Score

Select a default value of "4" if no other information exists.

FA of wetland in public or private ownership held under contract or in trust for wetland protection	<input type="checkbox"/>	x	10	=	<input type="checkbox"/>
FA of wetland area in public ownership,not as above	0.14	x	8	=	1.12
FA of wetland area in private ownership,not as above	0.86	x	4	=	3.44

Source of information: MNR GIS Data (MPAC Assessment Parcels & Crown Lake Bed)

Ownership Score (maximum 10 points) 5

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2.7 SIZE

The score may be lower than actual since economic and recreational values have not been completed.

127.4 hectares

109 Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-120	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component) 20.0

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant		=	30 points
2) Not Significant		=	0
3) Unknown	0.0	=	0
Total:	0		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant		=	0
3) Unknown	0.0	=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

0.0

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

Estimated & Calculated values can be obtained from G.I.S. data layers.

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area.

For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1: Determination of Maximum Score

- _____ Wetland is located on one of the defined 5 large lakes or 5 major rivers (Go to Step 4)
- _____ Wetland is entirely isolated (i.e. not part of a complex) (Go to Step 4)
- X** All other wetland types (Go through Steps 2,3 and 4B)

Step 2: Determination of Upstream Detention Factor (DF)

(a)	Wetland area (ha)		<u>120.20</u>
(b)	Total area (ha) of upstream detention areas (include the wetland itself)		<u>15203.00 estimate</u> ^^ Calculated with GIS
(c)	Ratio of (a):(b)		<u>0.01</u>
(d)	Upstream detention factor: (c) x 2 = (maximum allowable factor = 1)	<u>0.0</u>	<u>0.02</u>

Step 3: Determination of Wetland Attenuation Factor (AF)

(a)	Wetland area (ha)		<u>120.20</u>
(b)	Size of catchment basin (ha) upstream of wetland (include wetland itself in catchment area)		<u>199956 calculate</u>
(c)	Ratio of (a):(b)		<u>0.00</u>
(d)	Wetland attenuation factor: (c) x 10 = (maximum allowable factor = 1)	<u>0.0</u>	<u>0.01</u>

Step 4: Calculation of final score

(a)	Wetlands on large lakes or major rivers		0
(b)	Wetland entirely isolated		100
(b)	All other wetlands --calculate as follows:		
(c)	* Complex Formula - Isolated portion	<u>94.34</u>	
	Initial Score		100 *
	Upstream detention factor (DF) (Step 2)		<u>0.02</u>
	Wetland attenuation factor (AF) (Step 3)		<u>0.01</u>
	Final score: [(DF + AF)/2] x Initial score =		<u>1.09</u>
(c)	* Final score:=	<u>7</u>	

*Unless wetland is a complex with isolated portions (see above).

Flood Attenuation Score (maximum 100 points)

7.0

3.2 WATER QUALITY IMPROVEMENT

3.2.1 SHORT TERM WATER QUALITY IMPROVEMENT

Step 1: Determination of maximum initial score

 Wetland on one of the 5 defined large lakes or 5 major rivers (Go to Step 5a)
 X All other wetlands (Go through Steps 2, 3, 4, and 5b)

Step 2: Determination of watershed improvement factor (WIF)

Calculation of WIF is based on the fractional area (FA) of each site type that makes up the total area of the wetland.

(FA= area of site type/total area of wetland)	Fractional Area				
FA of isolated wetland	0.06	x	0.5	=	0.03
FA of riverine wetland	0.60	x	1	=	0.60
FA of palustrine wetland with no inflow		x	0.7	=	0.00
FA of palustrine wetland with inflows	0.34	x	1	=	0.34
FA of lacustrine on lake shoreline	0.00	x	0.2	=	0.00
FA of lacustrine at lake inflow or outflow		x	1	=	0.00
			Sub Total:		0.97
			Sum (WIF cannot exceed 1.0)		0.97

Step 3: Determination of catchment land use factor (LUF)

(Choose the first category that fits upstream landuse in the catchment.)

- 1) Over 50% agricultural and/or urban 1.0
- 2) Between 30 and 50% agricultural and/or urban 0.8
- 3) 0.6 Over 50% forested or other natural vegetation 0.6

LUF (maximum 1.0) **0.60**

Step 4: Determination of pollutant uptake factor (PUT)

Calculation of PUT is based on the fractional area (FA) of each vegetation type that makes up the total area of the wetland. Base assessment on the dominant vegetation form for each community except where dead trees or shrubs dominate. In that case base assessment on the dominant live vegetation. (FA = area of vegetation type/total area of wetland)

FA of wetland with live trees, shrubs, herbs or mosses (c,h,ts,ls,gc,m)	Fractional Area				
	0.58	x	0.75	=	0.44
FA of wetland with emergent, submergent or floating vegetation (re,be,ne,su,f,ff)	0.42	x	1	=	0.42
FA of wetland with little or no vegetation (u)	0.00	x	0.5	=	0.00
			Subtotal:		0.85

Estimate FA from air photos or use default factor of "0.75" **Sum (PUT cannot exceed 1.0)** **0.85**

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Step 5: Calculation of final score		
(a)	Wetland on large lakes or major rivers	0
(b)	All other wetlands - calculate as follows	
	Initial score	60
	Water quality improvement factor (WQF)	0.97
	Land use factor (LUF)	0.60
	Pollutant uptake factor (PUT)	0.85
Final score: 60 x WQF x LUF x PUT =		29.89
Short Term Water Quality Improvement Score (maximum 60 points)		30
3.2.2 LONG TERM NUTRIENT TRAP		
<i>Determine wetland type from aerial photos and soil type from OMAF soils maps.</i>		
Step 1:		
	<input type="checkbox"/> Wetland on large lakes or 5 major rivers	0 points
	<input checked="" type="checkbox"/> All other wetlands (proceed to Step 2)	
Step 2: Choose only one of the following settings that best describes the wetland being evaluated		
1)	<input type="checkbox"/> Wetland located in a river mouth	10 points
2)	<input type="checkbox"/> Wetland is a bog, fen or swamp with more than 50% of the wetland being covered with organic soil	10
3)	<input checked="" type="checkbox"/> Wetland is a bog, fen or swamp with less than 50% of the wetland being covered with organic soil	3
4)	<input type="checkbox"/> Wetland is a marsh with more than 50% of the wetland covered with organic soil	3
5)	<input type="checkbox"/> None of the above	0
Long Term Nutrient Trap Score (maximum 10 points)		3

3.2.3 GROUNDWATER DISCHARGE

The final score will be underestimated since some of the wetland characteristics cannot be scored

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores. If the sum exceeds 30 points assign the maximum score of 30.)

Wetland Characteristics	Potential for Discharge					
	None to Little		Some		High	
Wetland type	1) Bog = 0		2) Swamp/Marsh = 2	2	3) Fen = 5	
Topography	1) Flat/rolling = 0	0	2) Hilly = 2		3) Steep = 5	
Wetland Area: Upslope Catchment Area	Large (>50%) = 0		Moderate (5-50%) = 2		Small <(5%) = 5	5
					0.06%	
Lagg Development	1) None found = 0	0	2) Minor = 2		3) Extensive = 5	
Seeps	1) None = 0		2) = or < 3 seeps = 2	2	3) > 3 seeps = 5	
Surface marl deposits	1) None = 0	0	2) = or < 3 sites = 2		3) > 3 sites = 5	
Iron precipitates	1) None = 0	0	2) = or < 3 sites = 2		3) > 3 sites = 5	
Located within 1 km of a major aquifer	N/A = 0	0	N/A = 0		Yes = 10	
Totals		0		4		5

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

9

3.3 CARBON SINK

Choose only one of the following

- 1) Bog, fen or swamp with more than 50% coverage by organic soil 5 points
- 2) Bog, fen or swamp with between 10 to 49% coverage by organic soil 2
- 3) Marsh with more than 50% coverage by organic soil 3
- 4) Wetlands not in one of the above categories 0

Carbon Sink Score (maximum 5 points)

2

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3.4 SHORELINE EROSION CONTROL

Step 1: *Determine from ortho-aerial photography* Score

- | | | | |
|--|-------------------------------------|---|---|
| | <input type="checkbox"/> | Wetland entirely isolated or palustrine | 0 |
| | <input checked="" type="checkbox"/> | Any part of the Wetland riverine or lacustrine
(proceed to Step 2) | |

Step 2:
Choose the **one** characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

- | | | | Score |
|----|-----------------------------|----------------------------|-------|
| 1) | <input type="checkbox"/> 15 | Trees and shrubs | 15 |
| 2) | <input type="checkbox"/> | Emergent vegetation | 8 |
| 3) | <input type="checkbox"/> | Submergent vegetation | 6 |
| 4) | <input type="checkbox"/> | Other shoreline vegetation | 3 |
| 5) | <input type="checkbox"/> | No vegetation | 0 |

Shoreline Erosion Control Score (maximum 15 points) 15

3.5 GROUND WATER RECHARGE

3.5.1 WETLAND SITE TYPE

- | | | Score |
|-----|--|---|
| (a) | Wetland > 50% lacustrine (by area) or located on one of the five major rivers | 0 |
| (b) | Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland) | |

	Fractional Area			
FA of isolated or palustrine wetland	<input type="checkbox"/> 0.40	x	50 =	<input type="checkbox"/> 19.8
FA of riverine wetland	<input type="checkbox"/> 0.60	x	20 =	<input type="checkbox"/> 12.1
FA of lacustrine wetland (wetland <50% lacustrine)	<input type="checkbox"/> 0.00	x	0 =	<input type="checkbox"/> 0.0
		Subtotal:		<input type="checkbox"/> 31.9

Ground Water Recharge Wetland Site Type Component Score (maximum 50 points) 32

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3.5.2 WETLAND SOIL RECHARGE POTENTIAL

Determine from OMAF soils maps.

(Circle only **one** choice that best describes the hydrologic soil class of the area surrounding the wetland being evaluated.)

Dominant Wetland Type	1) Sand, loam, gravel, till	2) Clay or bedrock	
1) Lacustrine or on a major river	0	0	
2) Isolated	10	5	
3) Palustrine	7	4	
4) Riverine (not a major river)	5	2	
Totals	5		0

Ground Water Recharge Wetland Soil Recharge Potential Score (maximum 10 points)

5

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4.0 SPECIAL FEATURES COMPONENT

4.1 RARITY

4.1.1 WETLANDS [Ref Map](#)

Site District 6e-8
 Presence of wetland type (check one or more)
 Bog
 Fen
 Swamp
 Marsh

Score for rarity within the landscape and rarity of the wetland type. Score for rarity of wetland type is cumulative (maximum 80 points) based on presence or absence.

Site District	Score for Rarity within the Landscape	Score for Rarity of Wetland Type			
		Marsh	Swamp	Fen	Bog
6-1	60	40	0	80	80
6-2	60	40	0	80	80
6-3	40	10	0	40	80
6-4	60	40	0	80	80
6-5	20	40	0	80	80
6-6	40	20	0	80	80
6-7	60	10	0	80	80
6-8	20	20	0	80	80
6-9	0	20	0	80	80
6-10	20	0	20	80	80
6-11	0	30	0	80	80
6-12	0	30	0	60	80
6-13	60	10	0	80	80
6-14	40	20	0	40	80
6-15	40	0	0	80	80
7-1	60	0	60	80	80
7-2	60	0	0	80	80
7-3	60	0	0	80	80
7-4	80	0	0	80	80
7-5	60	20	0	80	80
7-6	80	30	0	80	80

Rarity within the Landscape Score (maximum 80 points) 20
Rarity of Wetland Type Score (maximum 80 points) 20

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4.1.2 SPECIES [Spp Ref](#)

4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species		Source of information
1) Blanding's Turtle	250	2012 - Mrs. Jackson
2) Eastern Musk Turtle	250	2012 - field observations
3)		
4)		
5)		
Total:	500	

Attach documentation.

Scoring:

For each species 250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered or Threatened Species Score (no maximum)

500

4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species		Source of information
1) Bobolink		2012 - field observations
2) Barn Swallow		2012 - field observations
3)		
4)		
5)		
Total:	225	

Attach documentation.

Scoring:

For one species 150 points

For each additional species 75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)

225

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4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES [Prov Ref](#)

Name of species	Source of information
1 <u>River Redhorse</u>	<u>2012 - field observations</u>
2 <u>Monarch Butterfly</u>	<u>2012 - field observations</u>
3 <u>Snapping Turtle</u>	<u>2012 - Mrs. Jackson</u>
4 <u>Eastern Ribbonsnake</u>	<u>2012 - field observations</u>
5 <u>Northern Map Turtle</u>	<u>NHIC Species Obs, Tracked</u>
6 _____	_____
7 _____	_____
8 _____	_____
9 _____	_____
10 _____	_____
11 _____	_____
12 _____	_____
13 _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species = 50 points	14 species = 154
2 species = 80	15 species = 156
3 species = 95	16 species = 158
4 species = 105	17 species = 160
5 species = 115	18 species = 162
6 species = 125	19 species = 164
7 species = 130	20 species = 166
8 species = 135	21 species = 168
9 species = 140	22 species = 170
10 species = 143	23 species = 172
11 species = 146	24 species = 174
12 species = 149	25 species = 176
13 species = 152	

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

115

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4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)	Butternut		2012 - field observations
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)

50

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4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION) [Spp Ref](#)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)	None		T.Norris
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Regionally Significant Species Score (Site Region)(no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____
11	_____	_____	_____
12	_____	_____	_____
13	_____	_____	_____
14	_____	_____	_____
15	_____	_____	_____
16	_____	_____	_____
17	_____	_____	_____
18	_____	_____	_____

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species Score (Site District) (no maximum)

0

Common Name	Scientific Name	Additional Species				Tracked	Comments
		S Rank	G Rank	Wet CoE			
Plants							
Manitoba Maple	<i>Acer negundo</i>						
Silver Maple	<i>Acer saccharinum</i>						
Red Maple	<i>Acer rubrum</i>						
Autumn Bent Grass	<i>Agrostis perrenans</i>						
Water Plantain	<i>Alisma Plantago-aquatica</i>						
Hog Peanut	<i>Amphicarpa bracteata</i>						
Canada Water Weed	<i>Anacharis canadensis</i>						
Indian Hemp	<i>Apocynum cannabinum</i>						
Jack-in-the-pulip	<i>Arisaema triphyllum</i>						
Swamp milkweed	<i>Asclepias incarnata</i>						
Devil's beggar's ticks	<i>Bidens frondosa</i>						
Nodding Bur Marigold	<i>Bidens cernua</i>						
False nettle	<i>Boehmeria cylindrica</i>						
Flowering Rush	<i>Butomus umbellatus</i>						
Marsh marigold	<i>Caltha palustris</i>						
Bebb's Sedge	<i>Carex bebbii</i>						
Bristle-leaved Sedge	<i>Carex eburnea</i>						
Graceful Sedge	<i>Carex gracillima</i>						
Great bladder sedge	<i>Carex intumescens</i>						
Lake Bank Sedge	<i>Carex lacustris</i>						
Hop sedge	<i>Carex lupulina</i>						
Tuckerman's sedge	<i>Carex tuckermanii</i>						
Yellow Sedge	<i>Carex flava</i>						
Retrorsed Sedge	<i>Carex retrorsa</i>						
Pointed Broom Sedge	<i>Carex scoparia</i>						
Northwest Territory Sedge	<i>Carex utriculata</i>						
Fox Sedge	<i>Carex vulpinoidea</i>						
Button Bush	<i>Cephalanthus occidentalis</i>						
Common Coontail	<i>Ceratophyllum demersum</i>						
Bulbiferous water hemlock	<i>Cicuta bulbifera</i>						
Gray Dogwood	<i>Cornus racemosa</i>						
Red-osier Dogwood	<i>Cornus stolonifera</i>						
Water Willow	<i>Decodon verticillatus</i>						
Canadian Tick-trefoil	<i>Desmodium canadense</i>						
Wild Cucumber	<i>Echinocystis lobata</i>						
Needle Spikerush	<i>Eleocharis acicularis</i>						
Water Horsetail	<i>Equisetum fluviatile</i>						
Spotted Joe-Pye weed	<i>Eupatorium maculatum</i>						
Booneset	<i>Eupatorium perfoliatum</i>						
Black Ash	<i>Fraxinus nigra</i>						
Green Ash	<i>Fraxinus pennsylvanica</i>						
Marsh bedstraw	<i>Galium palustre</i>						
Rattlesnake Grass	<i>Glyceria canadensis</i>						
Common Hop	<i>Humulus lupulus</i>						
Frogbit	<i>Hydrocharis morsus-ranae</i>						
Touch-me-Not	<i>Impatiens capensis</i>						
Winterberry	<i>Ilex verticillata</i>						
Wild Blue Flag Iris	<i>Iris versicolor</i>						
Soft Rush	<i>Juncus effusus</i>						
Dudley's Rush	<i>Juncus dudleyi</i>						
Wood nettle	<i>Laportea canadensis</i>						
Rice Cut Grass	<i>Leersia oryzoides</i>						
Duck weed	<i>Lemna minor</i>						
Cardinal Flower	<i>Lobelia cardinalis</i>						
Tartarian Honeysuckle	<i>Lonicera tartarica</i>						
Water Purslane	<i>Ludwigia palustris</i>						
Water horehound	<i>Lycopus americanum</i>						
Fringed Loosestrife	<i>Lysimachia ciliata</i>						
Moneywort	<i>Lysimachia numularia</i>						
Purple loosestrife	<i>Lythrum salicaria</i>						
Ostrich Fern	<i>Matteucia struthiopteris</i>						
Moonseed	<i>Menispermum canadense</i>						
Square-stemmed monkey flower	<i>Mimulus ringens</i>						
Field Forget-me-not	<i>Myosotis scorpiodes</i>						
Pale Water-milfoil	<i>Myriophyllum sibiricum</i>						
Water Cress	<i>Nasturtium officinale</i>						
Bullhead Water Lily	<i>Nuphar variegatum</i>						
Fragrant Water Lily	<i>Nymphaea odorata</i>						
Sensitive Fern	<i>Onoclea sensibilis</i>						
Royal Fern	<i>Osmunda regalis</i>						
Ditch Stonecrop	<i>Penthorum sedoides</i>						
Reed canary grass	<i>Phalaris arundinaceae</i>						
Clearweed	<i>Pilea pumila</i>						
Water Smartweed	<i>Polgonum amphibium</i>						
Pickereelweed	<i>Pontedaria cordata</i>						
Curly-leaved Pondweed	<i>Potamogeton crispus</i>						
Filiform Pondweed	<i>Potamogeton filiformis</i>						
Illinois Pondweed	<i>Potamogeton illinoensis</i>						
Knotty Pondweed	<i>Potamogeton nodosus</i>						

Common Floating Pondweed	<i>Potamogeton natans</i>				
Richardson's Pondweed	<i>Potamogeton richardsonii</i>				
Mermaid Weed	<i>Proserpinaca palustris</i>				
Common Buckthorn	<i>Rhamnus cathartica</i>				
Poison Ivy	<i>Rhus radicans</i>				
Wild Black Currant	<i>Ribes americanum</i>				
Skunk Currant	<i>Ribes glandulosum</i>				
Dwarf Raspberry	<i>Rubus pubescens</i>				
Swamp Dock	<i>Rumex verticillatus</i>				
Broad-leaved Arrowhead	<i>Sagittaria latifolia</i>				
Crack Willow	<i>Salix fragilis</i>				
Slender Willow	<i>Salix peteolaris</i>				
Missouri Willow	<i>Salix eriocephala</i>				
Elderberry	<i>Sambucus canadensis</i>				
Red-berried Elderberry	<i>Sambucus pubens</i>				
Wool-rush	<i>Scirpus cyperinus</i>				
Dark-green Rush	<i>Scirpus atrovirens</i>				
Pale Great Bulrush	<i>Scirpus heterochaetus</i>				
Water parsnip	<i>Sium suave</i>				
Carrion Flower	<i>Smilax herbacea</i>				
Bittersweet Nightshade	<i>Solanum dulcamera</i>				
Green-fruited Bur-reed	<i>Sparganium emersum</i>				
Broad-fruited Bur-reed	<i>Sparganium eurycarpum</i>				
Early meadow-rue	<i>Thalictrum dioicum</i>				
Marsh Fern	<i>Thelypteris palustris</i>				
Broad-leaved Cattail	<i>Typha latifolium</i>				
Narrow-leaved Cattail	<i>Typha angustifolia</i>				
American Stinging Nettle	<i>Urtica dioica</i>				
Greater Bladderwort	<i>Utricularia vulgaris</i>				
American Elm	<i>Ulmus americanum</i>				
Eel Grass	<i>Vallisneria americana</i>				
Blue Vervain	<i>Verbena hastata</i>				
Marsh Speedwell	<i>Veronica scutellata</i>				
Nannyberry	<i>Viburnum lentago</i>				
Marsh Blue Violet	<i>Viola cucullata</i>				
Water Meal	<i>Wolffia columbiana</i>				
Wild Rice	<i>Zizania aquatica</i>				
Amphibians					
Green Frog					
Northern Leopard Frog					
Bull Frog					
Wood Frog					
Mammals					
White-tailed Deer					
Beaver					2012 - field observations
Coyote					
Red Squirrel					Mrs. Jackson, 2012 field observations
Fisher					Mrs. Jackson
Muskrat					Mrs. Jackson, field observations
Otter					Mrs. Jackson
Fox					Mrs. Jackson
Raccoon					2012 field observations
Birds					
American Crow					
American Goldfinch					
American Redstart					
American Robin					
American Woodcock					
Baltimore Oriole					
Barn Swallow					
Black-capped Chickadee					
Blue Jay					
Bobolink					
Canada Goose					
Cardinal					
Cedar Waxwing					
Common Grackle					
Common Yellowthroat					
Downy Woodpecker					
Eastern Kingbird					
Great-blue Heron					
Great-crested Flycatcher					
Green Heron					
Hairy Woodpecker					
House Wren					
Killdeer					
Mallard					
Merlin					
Mourning Dove					

Northern Flicker						
Osprey (and nest)						
Purple Martin						
Red-eyed Vireo						
Red-winged Blackbird						
Ruby-throated Hummingbird						
Song Sparrow						
Spotted Sandpiper						
Swamp Sparrow						
Warbling Vireo						
White-breasted Nuthatch						
Wild Turkey						
Wood Duck						
Wood Pewee						
Wood Thrush						
Reptiles						
Eastern Musk Turtle						
Snapping Turtle						Mrs. Jackson
Blanding's Turtle						Mrs. Jackson
Northern Water Snake						Mrs. Jackson
Eastern Ribbonsnake						2012 field observations
Northern Map Turtle						Species Observations, Provincially Tracked
Eastern Painted Turtle						
Fish						
Bluegill						
Log Perch						
Long-nosed Gar						
Minnows						
Muskellunge*						
Pumpkinseed						
River Redhorse						
Small-mouthed Bass						
Stickleback						
Lepidoptera						
Alfalfa Butterfly						
Giant Swallowtail						
Great Spangled Fritillary						
Monarch						
Mourning Cloak						
Red Admiral						
Tiger Swallowtail						
Odonata						
12-spotted Skimmer						
Blue Dasher						
Bluets						
Clubtails						
Damselfly						
Dot-tailed Whiteface						
Eastern Amberwing						
Eastern Forktail						
Eastern Pondhawk						
Green Darner						
Halloween Pennant						
Meadowhawks						
Powdered Dancer						
Slaty Skimmer						
Widow Skimmer						

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4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT

4.2.1 NESTING OF COLONIAL WATERBIRDS

Status	Name of species	Source of Information	Score	
1) Currently nesting			50	
2) Known to have nested within past 5 years			25	
3) Active feeding area (Do not include feeding by great blue herons)			15	
4) None known		2012 Field work	0	0

Consult the Ontario Heronry database at Bird Studies Canada.

Subtotal:

0

Attach documentation (nest locations etc., if known)

Score highest applicable category only; maximum score 50 points.

Score for Nesting Colonial Waterbirds (maximum 50 points)

0

4.2.2. WINTER COVER FOR WILDLIFE

Score "locally significant" if trees & shrubs are present, also consult District deer yard data.

(Check only highest level of significance)

Score

- | | | |
|--|-------------------------------------|-----|
| | (one only) | |
| 1) <input type="checkbox"/> | Provincially significant | 100 |
| 2) <input type="checkbox"/> | Significant in Site Region | 50 |
| 3) <input type="checkbox"/> | Significant in Site District | 25 |
| 3) <input checked="" type="checkbox"/> | Locally significant | 10 |
| 4) <input type="checkbox"/> | Little or poor winter cover present | 0 |

Source of information:

2012 field evaluation

Winter Cover for Wildlife Score (maximum 100 points)

10

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4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur	10	10		10
5) Not possible		0		0
6) Unknown		0	0	0
Total:	10		0	
Subtotal:		10		

Source of information: 2012 Field work

Waterfowl Moulting and Staging Score (maximum 150 points)

10

4.2.4 WATERFOWL BREEDING

(Check only highest level of significance) Score

1) Provincially significant	100
2) Regionally significant	50
3) 10 Habitat suitable	10
4) Habitat not suitable	0

Source of information: 2012 Field work

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

(check highest applicable category)

1) Provincially significant	100
2) Significant in Site Region	50
3) Significant in Site District	10
4) 0 Not significant	0

Source of information: 2012 Field work

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

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4.2.6 FISH HABITAT

Consult District Fisheries files. If fish are present in the wetland, score 15 or 25 points depending on the size of the fish habitat present.

4.2.6. Spawning and Nursery Habitat

Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1:

Fish habitat is not present within the wetland (Score = 0)

Fish habitat is present within the wetland (Go to Step 2)

Step 2:

Choose only one option

1) Significance of the spawning and nursery habitat within the wetland is known (Go to Step 3)

2) Significance of the spawning and nursery habitat within the wetland is not known (Go through Steps 4, 5, 6 and 7)

Step 3:

Select the highest appropriate category below attach documentation:

1) Significant in Site Region 100 points

2) Significant in Site District 50

3) 25 Locally Significant Habitat (5.0+ ha) 25

4) Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

25

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Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

_____ Low marsh not present (Continue to Step 5)

_____ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16 Table 16-2) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Sub Total Score (maximum 75 points)						0.0
Total Score (maximum 75 points)						0.0

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

_____ High marsh not present (Continue to Step 6)

_____ High marsh present (Score as follows)

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Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High 1 Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16 Table 16-2) for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Sub Total Score (maximum 25 points)						0.0
Total Score (maximum 25 points)						0.0

Step 6: (Swamp: Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

_____ Swamp containing fish habitat not present (Continue to Step 7)

_____ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded				10	0.0
Permanently flooded				10	0.0
Sub SCORE (maximum 20 points)					0.0
SCORE (maximum 20 points)					0.0

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75) = 0.0

Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) = 0.0

Score for Swamp Containing Fish Habitat (maximum 20) = 0.0

Subtotal: 0.0

Sum (maximum score 100 points) = 0.0

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4.2.6.2 Migration and Staging Habitat

Score only if information on fish migration and staging exists, e.g. migration of northern pike through a wetland to access spawning areas.

Step 1:

- 1) Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.

Step 2: Select the highest appropriate category below, attach documentation:

- | | Score |
|---|-----------|
| 1) <input type="checkbox"/> Significant in Site Region | 25 points |
| 2) <input type="checkbox"/> Significant in Site District | 15 |
| 3) <input type="checkbox"/> Locally Significant | 10 |
| 4) <input type="checkbox"/> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points)

0

Step 3: Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). See Section 1.1.3. Note name of river for 2) and 3).

- | | Score |
|--|-----------|
| 1) <input type="checkbox"/> Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) <input type="checkbox"/> Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) <input type="checkbox"/> Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) <input checked="" type="checkbox"/> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points)

5

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland/total wetland area)

	Fractional Area			Scoring
Bog	0.00	x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl		x	20 =	0.0
Fen, on limestone rock		x	5 =	0.0
Swamp	0.59	x	3 =	1.8
Marsh	0.41	x	0 =	0.0
			Sub Total:	1.8

Ecosystem Age Score (maximum 25 points) **1.8**

4.4 GREAT LAKES COASTAL WETLANDS

Score for coastal (see text for definition) wetlands only

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points) **0**

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5.0 EXTRA INFORMATION		
<u>5.1 PURPLE LOOSESTRIFE</u>		
____ Absent/Not seen		
<u>X</u> Present	(a) One location in wetland	____
	Two to many locations	<u>X</u>
	Abundance code	
	(b) (1) < 20 stems	____
	(2) 20-99 stems	____
	(3) 100-999 stems	____
	(4) >1000 stems	<u>X</u>
<u>5.2 SEASONALLY FLOODED AREAS</u>		
Check one or more		
Ephemeral	(less than 2 weeks)	<u>X</u>
Temporal	(2 weeks to 1 month)	<u>X</u>
Seasonal	(1 to 3 months)	<u>X</u>
Semi-permanent	(>3 months)	<u>X</u>
No seasonal flooding		____
5.3 SPECIES OF SPECIAL SIGNIFICANCE		
<u>5.3.1 Osprey</u>		
Present and nesting		____
Known to have nested in last 5 yr		____
Feeding area for osprey		____
Not as above		<u>X</u>
<u>5.3.2 Common Loon</u>		
Nesting in wetland		____
Feeding at edge of wetland		____
Observed or heard on lake or river adjoining the wetland		____
Not as above		<u>X</u>
35		

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INVESTIGATORS	AFFILIATION	
<u>T. Norris, M. Bérubé, G. Clark, A. Margetson</u>	<u>OMNR - Peterborough District (2012)</u>	
DATES WETLAND VISITED	July 10, 13, 18, 19, 20	
	August 2, 14, 16	
DATE THIS EVALUATION COMPLETED:	November 2, 2012	
ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"		
70 Hours		
WEATHER CONDITIONS		
i) at time of field work	dry, sunny, very hot	
(Continue in the space below if necessary)		
ii) summer conditions in general	Drought conditions. Above average temperatures.	
OTHER POTENTIALLY USEFUL INFORMATION:		
CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:		
Attach a list of all flora and fauna observed in the wetland.		
*Indicate if voucher specimens or photos have been obtained, where located, etc.		
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WETLAND EVALUATION SCORING RECORD			
WETLAND NAME AND/OR NUMBER		Corbyville Wetland	
<u>1.0 BIOLOGICAL COMPONENT</u>			
1.1 <u>PRODUCTIVITY</u>			
1.1.1	Growing Degree-Days/Soils	19.4	
1.1.2	Wetland Type	10.9	
1.1.3	Site Type	3.2	
		Total for Productivity	33
1.2 <u>BIODIVERSITY</u>			
1.2.1	Number of Wetland Types	13.0	
1.2.2	Vegetation Communities (maximum 45)	22.5	
1.2.3	Diversity of Surrounding Habitat (maximum 7)	7.0	
1.2.4	Proximity to Other Wetlands	8.0	
1.2.5	Interspersion	27.0	
1.2.6	Open Water Type	8.0	
		Total for Biodiversity	86
	Sub Total for Biodiversity	86	
1.3	<u>SIZE</u> (Biological Component)		31
		Sub Total:	150
<u>TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)</u>			150

Southern Ontario Wetland Evaluation		March 1993
Wetlands Manual		
2.0 SOCIAL COMPONENT		
2.1 <u>ECONOMICALLY VALUABLE PRODUCTS</u>		
2.1.1 Wood Products	9	
2.1.2 Wild Rice	0	
2.1.3 Commercial Fish	12	
2.1.4 Bullfrogs	1	
2.1.5 Snapping Turtles	1	
2.1.6 Furbearers	12	
Total for Economically Valuable Products		35
2.2 <u>RECREATIONAL ACTIVITIES (maximum 80)</u>		48
2.3 <u>LANDSCAPE AESTHETICS</u>		
2.3.1 Distinctness	3	
2.3.2 Absence of Human Disturbance	4	
Total for Landscape Aesthetics		7
2.4 <u>EDUCATION AND PUBLIC AWARENESS</u>		
2.4.1 Educational Uses	0	
2.4.2 Facilities and Programs	0	
2.4.3 Research and Studies	0	
Total for Education and Public Awareness		0
2.5 <u>PROXIMITY TO AREAS OF HUMAN SETTLEMENT</u>		26
2.6 <u>OWNERSHIP</u>		5
Subtotal for Social Component	109.0	
2.7 <u>SIZE (Social Component)</u>		20
2.8 <u>ABORIGINAL AND CULTURAL VALUES</u>		0
Sub Total:		141
<u>TOTAL FOR SOCIAL COMPONENT (not to exceed 250)</u>		141

<u>Southern Ontario Wetland Evaluation, Score Summary</u>		<u>March 1993</u>
<u>Wetlands Manual</u>		
<u>3.0 HYDROLOGICAL COMPONENT</u>		
3.1	<u>FLOOD ATTENUATION</u>	7
3.2	<u>WATER QUALITY IMPROVEMENT</u>	
3.2.1	Short Term Improvement	29.9
3.2.2	Long Term Improvement	3.0
3.2.3	Groundwater Discharge (maximum 30)	9.0
	Total for Water Quality Improvement	42
3.3	<u>CARBON SINK</u>	2
3.4	<u>SHORELINE EROSION CONTROL</u>	15
3.5	<u>GROUNDWATER RECHARGE</u>	
3.5.1	Site Type	31.87
3.5.2	Soils	5.0
	Total for Groundwater Recharge	37
	Sub Total:	103
	<u>TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)</u>	<u>103</u>

Southern Ontario Wetland Evaluation, Score Summary

December 2002

[Wetlands Manual](#)**4.0 SPECIAL FEATURES****4.1 RARITY**

4.1.1 Wetlands

4.1.1.1 Rarity within the Landscape 20.0

4.1.1.2 Rarirty of Wetland Type (maximum 80) 20.0

Total for Wetland Rarity

40

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding 500.0

4.1.2.2 Traditional Use by Endangered or Threatened Species 225.0

4.1.2.3 Provincially Significant Animals 115.0

4.1.2.4 Provincially Significant Plants 50.0

4.1.2.5 Regionally Significant Species 0.0

4.1.2.6 Locally Significant Species 0.0

Total for Species Rarity

890

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds 0.0

4.2.2 Winter Cover for Wildlife 10.0

4.2.3 Waterfowl Staging and Moulting 10.0

4.2.4 Waterfowl Breeding 10.0

4.2.5 Migratory Passerine, Shorebird or Raptor Stopover 0.0

4.2.6 Fish Habitat 30.0

Total for Significant Features and Habitat

60

4.3 ECOSYSTEM AGE

2

4.4 GREAT LAKES COASTAL WETLANDS

0

Sub Total:

992

TOTAL FOR SPECIAL FEATURES (maximum 250)

250

<u>Southern Ontario Wetland Evaluation, Score Summary</u>		<u>March 1993</u>
Wetlands Manual		
SUMMARY OF EVALUATION RESULT		
Wetland	Corbyville Wetland	
TOTAL FOR 1.0 BIOLOGICAL COMPONENT		150
TOTAL FOR 2.0 SOCIAL COMPONENT		141
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT		103
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT		250
	<u>WETLAND TOTAL</u>	<u>643</u>
INVESTIGATORS		
	T. Norris, M. Bérubé, G. Clark, A. Margetson	
	0	
	0	
	0	
	0	
AFFILIATION		
	OMNR - Peterborough District (2012)	
	0	
	0	
	0	
	0	
DATE		
	November 2, 2012	

Appendix E



Photograph 1. July 11, 2019. Spring discharge area, looking southeast.



Photograph 2. July 11, 2019. Spring pond, looking northeast.



Photograph 3. July 11, 2019. Channel flowing northeast from spring pond.



Photograph 4. July 11, 2019. Spring channel entering wetland, looking northeast.



Photograph 5. July 11, 2019. Corbyville PSW unit near northern margin of property, looking east.



Photograph 6. July 11, 2019. Outlet of PSW unit to excavated channel, looking north.



Photograph 7. July 11, 2019. Linear excavated channel along the north margin of the subject property, looking west ('upstream').



Photograph 8. July 11, 2019. Meadow at northeast corner of the subject property, looking northwest.



Photograph 9. July 11, 2019. Recently cleared area south of the northeast meadow, looking south.



Photograph 10. July 11, 2019. Recently cleared area south of the wetland along the south limits of the subject property, looking west.

RIVERSTONE DEVELOPMENT

Servicing Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications

October 2019

AINLEY GRAHAM & ASSOCIATES

CONSULTING ENGINEERS AND PLANNERS

COLLINGWOOD · BARRIE · BELLEVILLE · KINGSTON · OTTAWA

File No. 19503-1

1.0 INTRODUCTION

Ainley Group was retained to complete a preliminary servicing brief to be included with the submission of draft plan of subdivision, zoning by-law amendment, and official plan amendment applications for the proposed Riverstone residential development. The purpose of the report is to summarize the servicing requirements for the proposed development. The following services have been considered in this report.

- Transportation System
- Grading
- Stormwater Management
- Water Distribution System
- Sanitary and Storm Sewer Collection System

In addition, brief comments regarding individual utility distributions have also been provided. A number of figures have been prepared in order to facilitate future detailed design.

2.0 SITE DESCRIPTION

2.1 Existing Conditions

The property is legally described as part of Lots 8 and 9, Concession 3, former Township of Thurlow, now City of Belleville, Hastings County (registered plan no. 124). The parcel of land is approximately 21.26 hectares. The property is bounded to the north by Scott Drive and existing residential development, Moira River to the east, Cannif Mills Residential Subdivision to the south, and Farnham Road to the west.

The Corbyville Provincially Significant Wetland (PSW) occurs within the subject property. The Moira River 100-year flood line occurs to the immediate east of the property.

The property is currently vacant and partially treed. The site is predominately flat with a slope to the east. Drainage is generally conveyed to the PSW and the Moira River.

A site location plan is attached to this report as **Figure 1**.

2.2 Proposed Conditions

The property is proposed to be developed with the following:

- Seventy-nine (79) single family residential lots,
- Thirty (30) alternating single detached lots with laneway access,
- Four (4) semi-detached lots with laneway access,
- Forty-eight (48) 3-storey townhouse lots with laneway access,
- Sixty-six (66) 2-storey townhouse lots,

- Sixty-three (63) bungalow townhouse lots,
- One medium density residential block with thirty-five (35) units,
- One condo block with forty-two (42) units,
- One parkland dedication block,
- Parkette with access to wetland setback trails, and
- Approximately 5 ha of Municipal roadway network (26m and 20m roadway widths).
- Approximately 300m of private laneway within the proposed condo block (6.5m width).

The current conceptual development plan is attached to this report as **Figure 2**.

2.3 Existing Services

There is existing sanitary sewer, storm sewer, and watermain located within the Cannif Mills Residential Subdivision to the immediate south of this development. The sewers and watermain within Cannif Mills have been oversized in order to accommodate servicing the subject lands. Once the northern limits of Cannif Mills infrastructure have been constructed, they will be available for connection to the proposed Riverstone Development. Further, the northern portions of Cannif Mills development include watermain installation along Farnham Road. It is proposed to connect to the future services located along Farnham Road and Essex Drive in order to service the proposed development.

3.0 TRANSPORTATION SYSTEM

The proposed development will be accessed from three locations: Farnham Road, Scott Drive, and Essex Drive.

The internal two-lane Municipal roadways Essex Drive and Street 'A' will be designed to meet the typical City of Belleville minimum standards for a minor collector, urban cross section with a 26 m right-of-way as identified on the development plan (**Figure 2**). The remaining Municipal roadways will be designed to meet the typical City of Belleville minimum standards for a local roadway, urban cross section with a 20m right-of-way as shown on **Figure 2**. The roadway will be designed to meet the typical local municipal minimum standards, or as recommended by the geotechnical investigation, for earth or rock as indicated below*:

40 mm	HL3 Surface Course, over
75 mm	HL8 Binder Course, over
150 mm	Granular 'A', over
350 mm	Granular 'B' Type I

*It should be noted that confirmation of the pavement structure will be required at the time of detailed design to ensure the minimal requirements are met for both earth and rock construction.

Canada Post will be circulated at the time of detailed engineering to determine the recommended

location for the community mailboxes.

4.0 GRADING

Grading of the site will be determined during detailed design and will be based predominately on the following factors:

- Maintaining a minimum soil cover of 2.7m over the sanitary sewer at the required slopes necessary for gravitational flow to the main.
- Stormwater outfall at the available sewer connection points in Cannif Mills as well as toward the proposed level spreaders to be provided for quality control.

5.0 STORMWATER MANAGEMENT

The subject site lies within the Quinte Conservation Region. As such the stormwater management requirements are subject to the Quinte Conservation Regional Event (100-year design storm). Quality control is subject to a 'level 1' treatment and quantity control measures are required to ensure post development discharge rates do not exceed pre-development rates.

A preliminary Stormwater Management Report has been prepared to accompany the application for rezoning. The report outlines that quantity control measures are provided in the existing Cannif Mills (Essex Drive Pond) stormwater management facility, and quality control is provided in the existing Cannif Mills Simcoe Drive Pond for 12.63 ha of the subject lands. Approximately 4 ha of the development lands will require additional quality control and conveyance of the quantity event. This additional quality control will be provided via level spreader berms in two locations: 1) immediately west of the wetland and 2) at the northeastern limits of the subject property. Further detail is provided in the report under separate cover.

6.0 WATER DISTRIBUTION SYSTEM

The proposed development will be serviced by the 300mm diameter PVC Municipal watermain to be installed within Essex Drive and Farnham Road as part of the Cannif Mills Residential Development. The design of the Cannif Mills Municipal watermain has been approved by the City of Belleville. It is proposed to connect to these mains to service the development.

The distribution evaluation has been prepared under separate cover, Riverstone Development Preliminary Watermain Design Brief, October 2019.

7.0 SANITARY COLLECTION SYSTEM

The proposed sanitary collection system is to consist of a standard gravitational design at a minimum depth of 2.7m. The sewer will be designed in accordance with typical municipal standards. The sewer

from this phase is proposed to be conveyed to the southeast portion of the development and connect to the Essex Drive sanitary sewer to be installed as part of the Cannif Mills Residential Development. This sanitary sewer was designed to be oversized in order to accommodate flows from the subject lands.

Based on discussions with municipal staff, it is understood that the existing sanitary pump station was designed to accommodate the subject lands, as they are currently zoned for development. However, the pump station in its existing condition may not meet the requirements of its Environmental Compliance Approval (ECA), and existing pumps may be undersized. We understand the City is currently reviewing the pump station, and if it is determined that the pumps need to be upgraded in order to meet the requirements of the ECA and accommodate the proposed development, the developer will work with the City to make necessary upgrades to the facility to service the proposed development.

Based on the existing grades of the site and the existing sanitary sewer elevations, it is anticipated that a pump station will be required to service the proposed condo block immediately east of the wetlands. Detailed design of the pump station will be included as part of the site plan approvals process for the proposed condo development.

8.0 UTILITY DISTRIBUTIONS

The electrical, telephone, gas and cable services for the proposed development will be installed within a joint utility trench. All electrical, telephone, gas and cable services will be designed by the various agencies and installed in accordance with their specifications. During detailed engineering design, the individual providers will be requested to provide layouts and a compiled plan will be included in the engineering plans.

The street lighting design and street light illumination plans will be completed in accordance with the municipal design standards and guidelines at the time of detailed design.

9.0 CONCLUSIONS

- 79 single family residential lots, 4 semi-detached lots with laneway access, 30 alternating single detached lots with laneway access, 48 3-storey townhouse lots with laneway access, 66 2-storey townhouse lots, 63 bungalow townhouse lots a medium-density block with 35 units, and a condo block with 42 units are currently proposed within the development.
- The development will be accessed from Farnham Road, Scott Drive, and Essex Drive.
- Stormwater management for quantity and quality control is provided in the existing ponds in the Cannif Mills development for 12.63 ha of the development. Additional quality control measures will be provided via level spreader berms immediately west of the wetland as well as in the northeastern corner of the property. Conveyance of the quantity event will be

provided toward the wetland and the Moira River.

- The development will be serviced by a municipal water system within the Municipal right-of-way and private services within the plan of condo east of the wetland.
- The development will be serviced by a gravity sanitary collection system directing effluent to the existing sanitary sewer within Cannif Mills residential subdivision and ultimately the City's treatment facility. It is anticipated that a pump station will be required to service the plan of condo on the east side of the wetland.
- Natural gas, electrical, telephone and cable utilities will be designed in accordance with the distributor's specifications and incorporated into the subdivision detail design.

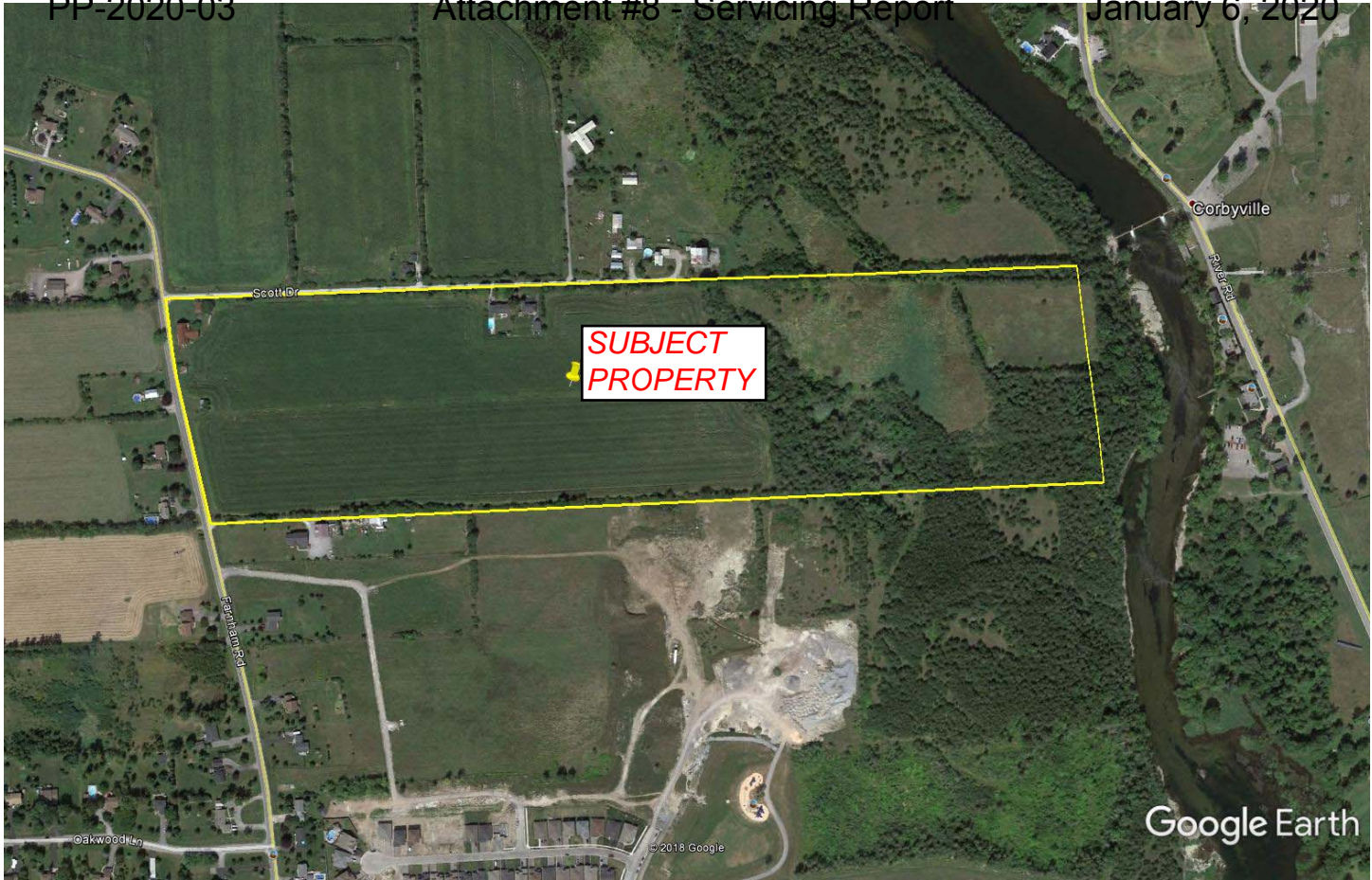
We trust the above information meets your needs at this time and should you have any further questions or concerns, please do not hesitate to contact our office.

Sincerely,

AINLEY GRAHAM & ASSOCIATES LIMITED



Caitlin Sheahan, M.Sc., P. Eng.
Project Engineer



LAND USE SUMMARY

	UNITS	AREA (ha)
11.0m SINGLE DETACHED LOT (LOTS 1-20, 21-109)	79	3.252
5.0m/10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS (LOTS 21-50)	30	0.973
8.5m SEMI-DETACHED LOT WITH LANEWAY ACCESS (BLOCKS 141-142)	4	0.126
6.7m 3-STORY TOWNHOMES WITH LANEWAY ACCESS (BLOCKS 130-140)	48	1.126
6.0m 2-STORY TOWNHOMES 6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK (BLOCKS 110-127)	66	1.388
7.5m BUNGALOW TOWNHOMES (BLOCKS 143-157)	63	1.819
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS (BLOCK 128)	35	0.428
CONDO BLOCK 165	42	1.900
PARKLAND DEDICATION BLOCK 159		0.802
PARKETTE / ACCESS TO WETLAND SETBACK TRAILS BLOCKS 161-162		0.114
PSW & 30m SETBACK NATURAL SPRING & 15m SETBACK (BLOCK 160)		3.477
AREA OF PROPOSED ROADWAY NETWORK: 4.854 ha AREA OF PROPOSED LANEWAYS (BLOCKS 163-164): 0.280 ha AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.696 ha		
TOTAL	367	21.2 Ha

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

- a) SHOWN ON DRAFT PLAN AND SURVEYOR'S CERTIFICATE
- b) SHOWN ON DRAFT AND KEY PLANS
- c) SHOWN ON KEY PLAN
- d) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
- e) SHOWN ON DRAFT PLAN
- f) SHOWN ON DRAFT PLAN
- g) SHOWN ON DRAFT AND KEY PLANS
- h) FULL MUNICIPAL SERVICES
- i) SOIL IS FARMINGTON LOAM AND SOLMESVILLE CLAY LOAM
- j) SHOWN ON DRAFT PLAN
- k) ALL MUNICIPAL SERVICES TO BE PROVIDED
- l) SHOWN ON DRAFT PLAN

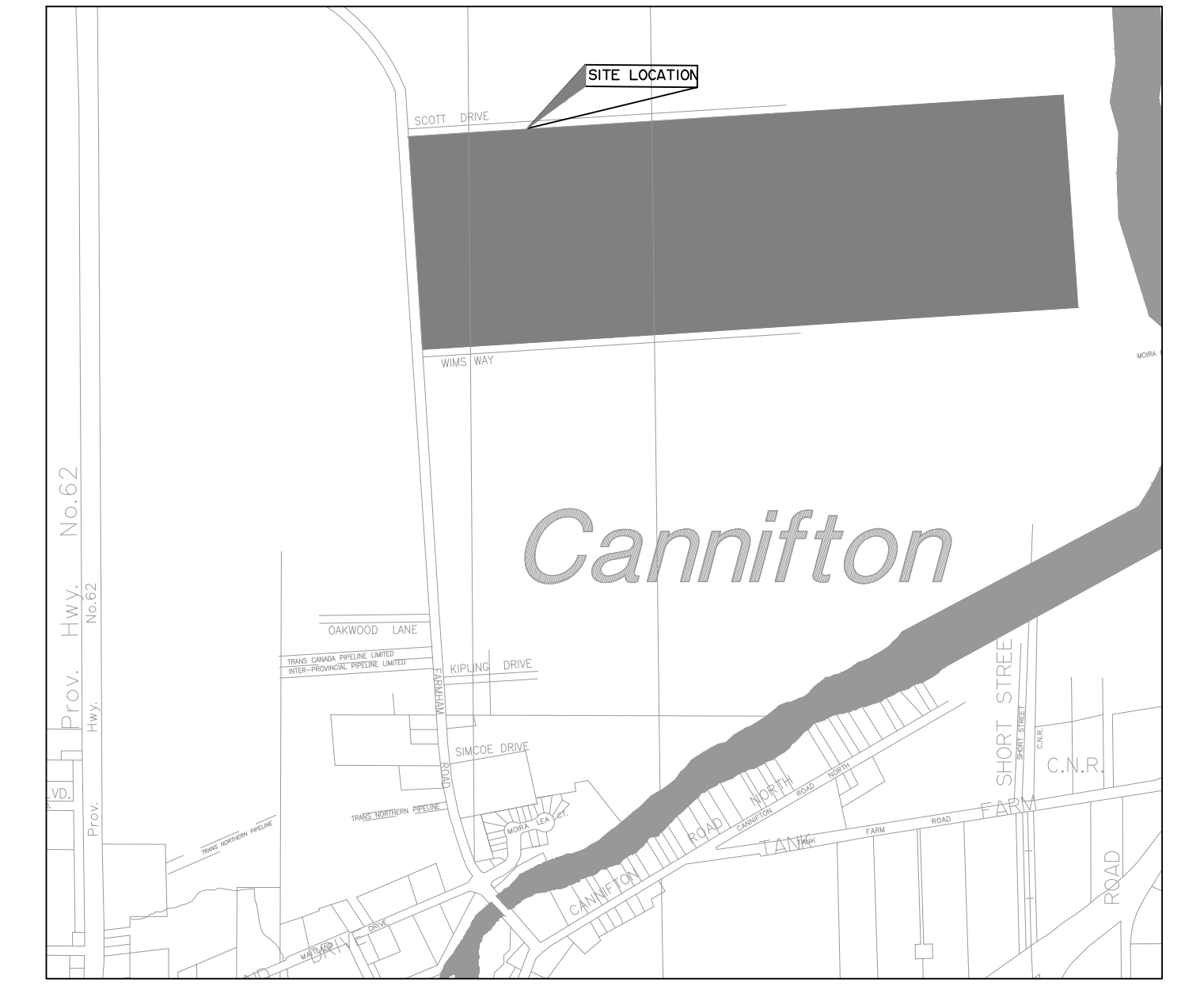
RIVERSTONE

DRAFT PLAN OF SUBDIVISION

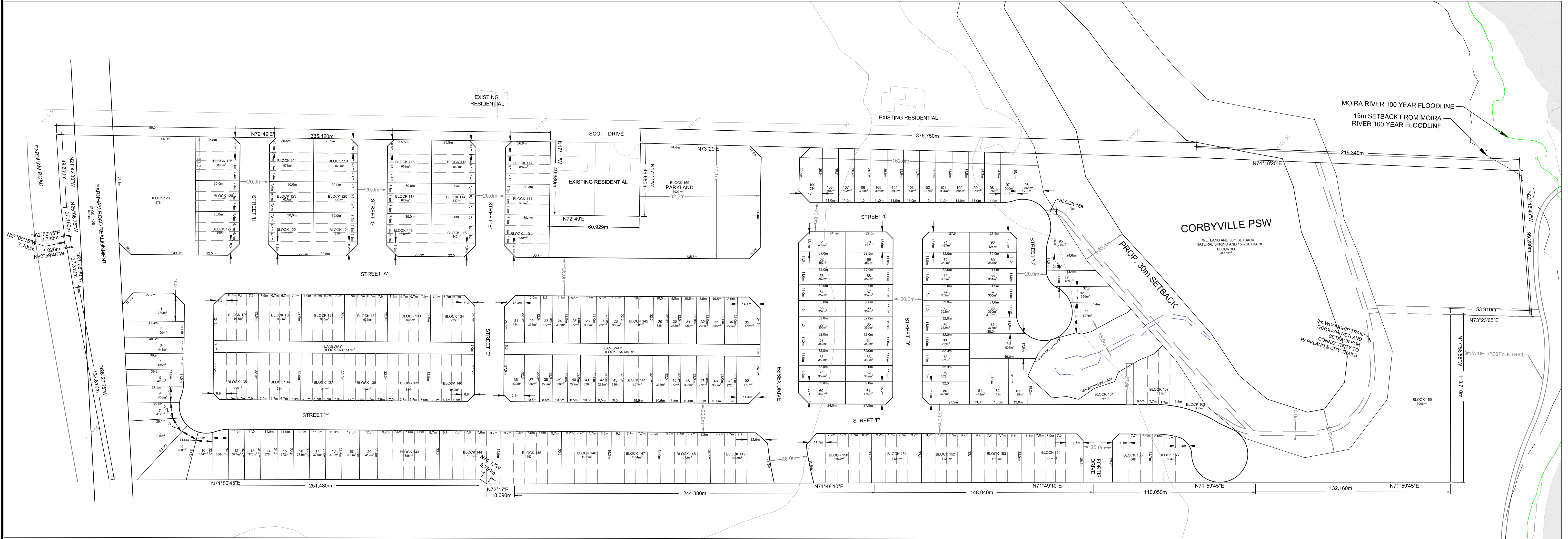
PART OF PARK LOTS 8 & 9, REGISTERED PLAN N.124 AND PART OF LOT 8, CONCESSION 3
FORMER GEOGRAPHIC TOWNSHIP OF THURLOW
NOW CITY OF BELLEVILLE
HASTINGS COUNTY
SCALE 1:250

METRIC NOTE
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CONTOUR DATA
CONTOUR AND TOPOGRAPHIC INFORMATION GENERATED USING INFORMATION PROVIDED BY ONTARIO BASE MAPPING.



KEY MAP N.T.S.



SURVEYOR'S CERTIFICATE
I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

KEITH WATSON
ONTARIO LAND SURVEYOR

OWNER'S CERTIFICATE
I AUTHORIZE AINLEY GROUP TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF BELLEVILLE FOR APPROVAL.

ANDY GEERTSMA

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	21/10/2019	CRS

Not Valid Unless Signed And Dated
SCALE: 1:1250
DESIGN: CRS
DRAWN: CRS
CHECKED: AJW
DATE: OCT 2019

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE

DRAFT PLAN

CONTRACT No. 19503-1 DWG 19503-DP

V:\19503-1 - Cannif North (Geospatial)\Drawing\Cannif North Draft Plan-Oct2019.dwg 2019-10-29 2:59:39 PM

RIVERSTONE DEVELOPMENT

Stormwater Management Brief to Support Draft Plan of Subdivision, Zoning By-Law Amendment, and Official Plan Amendment Applications

October 2019

AINLEY GRAHAM & ASSOCIATES

CONSULTING ENGINEERS AND PLANNERS

COLLINGWOOD · BARRIE · BELLEVILLE · KINGSTON · OTTAWA

File No. 19503-1

1.0 INTRODUCTION

Ainley Group was retained by GCL Developments Ltd. to complete a preliminary stormwater brief to be included with the submission of applications for Draft Plan of Subdivision, Official Plan Amendment, and Zoning By-law Amendment for the proposed residential development east of Farnham Road and south of Scott Drive. The purpose of the report is to summarize the stormwater requirements for the proposed development.

2.0 SITE DESCRIPTION

2.1 Existing Conditions

The property is legally described as part of Lots 8 and 9, Concession 3, former Township of Thurlow, now City of Belleville, Hastings County (registered plan no. 124). The parcel of land is approximately 21.26 hectares. The property is bounded to the north by Scott Drive and existing residential development, Moira River to the east, Cannif Mills Residential Subdivision to the south, and Farnham Road to the west.

The Corbyville Provincially Significant Wetland (PSW) occurs within the subject property. The Moira River 100-year flood line occurs to the immediate east of the property.

The property is currently vacant and partially treed. The site is predominately flat with a slope to the east. Drainage is generally conveyed to the PSW and the Moira River.

A site location plan is attached to this report as **Figure 1**.

2.2 Proposed Conditions

The property is proposed to be developed with the following:

- Seventy-nine (79) single family residential lots,
- Thirty (30) alternating single detached lots with laneway access,
- Four (4) semi-detached lots with laneway access,
- Forty-eight (48) 3-storey townhouse lots with laneway access,
- Sixty-six (66) 2-storey townhouse lots,
- Sixty-three (63) bungalow townhouse lots,
- One medium density residential block with thirty-five (35) units,
- One condo block with forty-two (42) units,
- One parkland dedication block (0.802 ha),
- One parkette with access to wetland setback trails (0.162 ha),
- Approximately 5.108 ha of Municipal roadway network (26m and 20m roadway widths), and
- Approximately 350m of private roadway with 8m width.

The current development draft plan is attached to this report as **Figure 2**.

3.0 EXISTING STORM SEWER

There is existing storm sewer located within the Cannif Mills Residential Subdivision to the immediate south of this development. The sewers within Cannif Mills have been oversized in order to accommodate servicing the subject lands.

The catchment area assumed to be tributary from the proposed developments lands was 12.63 ha and assumed a mix of single family dwellings, and townhouse dwellings. A copy of the storm sewer contributing area plan is included in **Appendix A**.

The proposed development area of the subject lands is 4 ha greater than the assumed contributing area. This difference in area will require additional storm sewer to be provided that is not conveyed toward the existing SWM Facility. **Figure 3** shows the three areas of post-development stormwater conveyance. Area 1 will be conveyed toward the existing Cannif Mills sewers / stormwater facility whereas Areas 2 and 3 will have additional storm sewer that will be conveyed to new quality control facilities / quantity control conveyance paths as described below.

4.0 HYDROLOGY

4.1 Model Selection

Flow calculations for the post development conditions were carried out using the SWMHYMO computer program. This program is a complex hydrologic model used for the simulation and management of stormwater runoff in either small or large rural and urban areas.

4.2 Model Parameters

The SWMHYMO model has been developed with consideration of the parameters interpreted from air photos, Ontario Soils Mapping, topographic information, and the designer's knowledge of the site based on visual observations. The soils within the subject site have been identified as Soil Groups 'B' and 'C'. Areas 1 and 2 are identified as Solesville Clay Loam Soil: Soil Group 'C' with a Curve Number of 82 and Runoff Coefficient of 0.40. Area 3 is identified as Farmington Loam Soil: Soil Group 'B' with a Curve Number of 74 and Runoff Coefficient of 0.28. Supporting documentation is enclosed in **Appendix A**.

The quality storm hyetograph was developed in accordance with a typical 4-hour distribution for the 25mm quality event. Additionally, the 100-year Chicago storm was analyzed for overland conveyance purposes of runoff from the site. The MTO IDF Look-up Tool was used to determine rainfall distribution and is included in **Appendix A**.

An estimate of the contributing site impervious cover has been prepared for use in the SWMHYMO modeling. It has been estimated that Area 2 will be approximately 52% impervious, with 36%

directly connected and Area 3 will be approximately 80% impervious, with 42% directly connected. The directly connected value assumes that $\frac{1}{2}$ of the roof runoff is directed to the street and $\frac{1}{2}$ to the rear yards. Supporting calculations for the estimate of impervious cover are included in **Appendix A**.

4.3 Post Development

The post development SWMHYMO model was developed to evaluate the runoff rate and volume generated by the Quality (25mm) and the Quantity (100 year) events from the contributing catchment areas as outlined on **Figure 3**. The SWMHYMO output is included in **Appendix B**. A summary of the post-development flows is as follows:

- Area 2: Quality event (25mm): 0.097 m³/s
- Area 2: Quantity event (100): 0.418 m³/s
- Area 3: Quality event (25mm): 0.115 m³/s
- Area 3: Quantity event (100): 0.432 m³/s

5.0 STORMWATER QUANTITY CONTROL

Drainage of the site will be handled by an urban cross-section including curb and gutters, storm sewers, and rear yard swales. Storm sewers will be designed in accordance with the City of Belleville design standard to convey the 5 year flows. The subject lands are tributary to an existing quantity control facility located within the Cannif Mills development to the south. The facility is known as the Essex Drive SWM Facility and was designed to provide quantity control for 12.63ha of the subject lands. A copy of the Essex Pond contributing area plan is enclosed.

The proposed development area of the subject lands is 16.66 ha, which is 4 ha greater than the assumed contributing area of the existing SWM Facility. This difference in area will require additional quantity conveyance measures to be provided within the proposed development. The property lies within close proximity to the Moira River; as such, additional quantity control measures are not required. However, conveyance of the quantity event (i.e. 100-year flows) from the site to the Moira River will need to be provided. It is proposed to provide conveyance of these flows via overland flow routes consisting of shallow, gentle swales. Conveyance of the 100-year flows from Area 2 will be conveyed to the wetland setback area and wetland, whereas conveyance of the 100 year flows from Area 3 will be conveyed toward the Moira River as shown in **Figure 4**. The proposed cross-sections for the swales are included in **Appendix C**.

5.0 STORMWATER QUALITY CONTROL

The subject lands are tributary to an existing quality control facility located within the Cannif Mills development to the south. The facility is known as the Simcoe Drive SWM Facility and was designed to provide quality control for 12.63ha of the subject lands. A copy of the Simcoe Pond contributing area plan is enclosed.

The proposed development area of the subject lands is 16.66 ha (i.e. 4 ha greater than the

assumed contributing area). This difference in area will require additional quality control measures to be provided within the proposed development. Quality control to 'level 1', or enhanced, treatment will be required for the additional 4 ha. It is proposed to provide this additional quality control within two separate areas approximately 2 ha in size: 1) immediately west of the wetland (Area 2) and 2) immediately east of the wetland (Area 3). It is proposed to provide storage of the quality (25mm) event through swales with level spreader berms immediately downstream of two (2) stormwater outlets (i.e. one outlet west of the wetland, one outlet east of the wetland).

The MOE SWM Design Manual (2003) provides guidance on the design of level spreader berms for storage (**Appendix D**). MOE guidance indicates that the areas contributing to level spreader facilities be 2 ha or less. Areas 2 and 3 conform to this requirement, as they are each 2 ha in size. The manual also requires that the high groundwater table be greater than 0.5m below the bottom of the level spreader berm and planted vegetation facility. It is anticipated that the depth to high groundwater will be greater than 0.5m below the level spreader facility, based on MOE well records for the area and the depth at which groundwater was found. Further investigation (e.g., test pits) can be carried out as part of the detailed SWM design that will be required as a condition of draft plan approval to confirm the depth to groundwater for the site and the design of the level spreader facility.

Based on the manual's guidance, the length of the level spreader required for Area 2 is 5.2m and the length required for Area 3 is 6.2m and the slope for each must be <5% (**Appendix D**). The proposed location and configuration of the level spreaders are shown on **Figure 4**. As shown in **Figure 4**, the length of the proposed spreader berms and swales exceed the length recommended by the MOE design guidance, and the slopes are proposed to be <5%. Rip-rap will be placed before the level spreader in order to ensure that flow is conveyed as sheet flow rather than concentrated flow. It should be noted that the proposed level spreader and berm for Area 2 is shown within the 30m setback from the wetland; it is understood that this location will need to be supported by the Environmental Consultant and a permit will be required from Quinte Conservation.

6.0 EROSION AND SEDIMENTATION CONTROL

An erosion and sediment control strategy will be implemented as per the plan included in the detailed engineering drawing package in order to minimize the transfer of silt off-site during construction. The following measures will be incorporated into the strategy as required:

- Environmental fencing and straw bales
- Regular inspection of the erosion and sediment control devices
- Removal and disposal of the erosion and sediment control devices after the site has been stabilized
- All exposed earth to be re-vegetated within thirty days

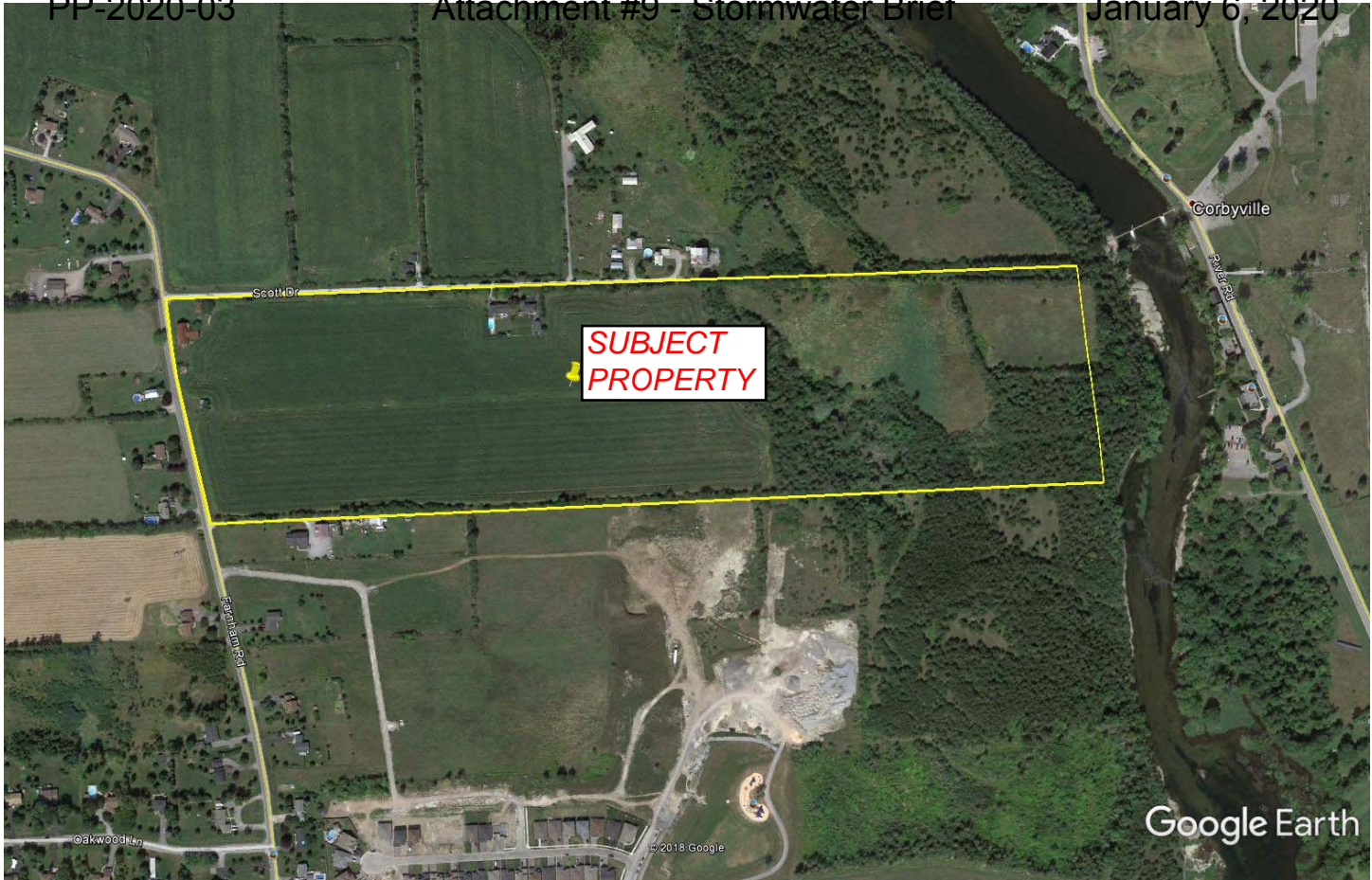
7.0 CONCLUSIONS

- 79 single family residential lots, 4 semi-detached lots with laneway access, 30 alternating single detached lots with laneway access, 48 3-storey townhouse lots with laneway access, 66 2-storey townhouse lots, 63 bungalow townhouse lots a medium-density block with 35 units, and a condo block with 42 units are currently proposed within the development.
- Storm sewers are available for connection to the immediate south and have been sized to accommodate most of the subject lands. 4 ha of the development lands will require storm sewers to be conveyed to new quality control / quantity conveyance facilities.
- Stormwater management for quantity and quality control for 12.63 ha of the subject lands is provided in the existing ponds in the Cannif Mills development.
- Approximately 4 ha of the development lands will require additional quality control and conveyance of the quantity event.
 - Quantity control mitigation measures are not required due to the close proximity of the Moira River. Conveyance of the quantity event (100 year) to the wetland area and Moira River will be provided via overland drainage routes.
 - Overland drainage will be directed to level spreader berms located west of the wetland and at the eastern limits of the subject property, where quality control will be provided with level spreaders.
- Silt fencing and straw bale barriers will be in place during construction.
- Detailed design will be completed following Draft Plan approval.

We trust the above information meets your needs at this time and should you have any further questions or concerns, please do not hesitate to contact our office.

Sincerely,
AINLEY GRAHAM & ASSOCIATES LIMITED

Caitlin Sheahan, M.Sc., P. Eng.
Project Engineer



**SUBJECT
PROPERTY**



LAND USE SUMMARY

	UNITS	AREA (ha)
11.0m SINGLE DETACHED LOT (LOTS 1-20, 21-100)	79	3.252
5.0m/10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS (LOTS 21-50)	30	0.973
8.5m SEMI-DETACHED LOT WITH LANEWAY ACCESS (BLOCKS 141-142)	4	0.126
6.7m 3-STORY TOWNHOMES WITH LANEWAY ACCESS (BLOCKS 130-140)	48	1.126
6.0m 2-STORY TOWNHOMES 6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK (BLOCKS 110-127)	66	1.388
7.5m BUNGALOW TOWNHOMES (BLOCKS 143-157)	63	1.819
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS (BLOCK 128)	35	0.428
CONDO BLOCK 165	42	1.900
PARKLAND DEDICATION BLOCK 159		0.802
PARKETTE / ACCESS TO WETLAND SETBACK TRAILS BLOCKS 161-162		0.114
PSW & 30m SETBACK NATURAL SPRING & 15m SETBACK (BLOCK 160)		3.477
AREA OF PROPOSED ROADWAY NETWORK: 4.854 ha AREA OF PROPOSED LANEWAYS (BLOCKS 163-164): 0.280 ha AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.696 ha		
TOTAL	367	21.2 Ha

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

- a) SHOWN ON DRAFT PLAN AND SURVEYOR'S CERTIFICATE
- b) SHOWN ON DRAFT AND KEY PLANS
- c) SHOWN ON KEY PLAN
- d) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
- e) SHOWN ON DRAFT PLAN
- f) SHOWN ON DRAFT PLAN
- g) SHOWN ON DRAFT AND KEY PLANS
- h) FULL MUNICIPAL SERVICES
- i) SOIL IS FARMINGTON LOAM AND SOLMESVILLE CLAY LOAM
- j) SHOWN ON DRAFT PLAN
- k) ALL MUNICIPAL SERVICES TO BE PROVIDED
- l) SHOWN ON DRAFT PLAN

RIVERSTONE

DRAFT PLAN OF SUBDIVISION

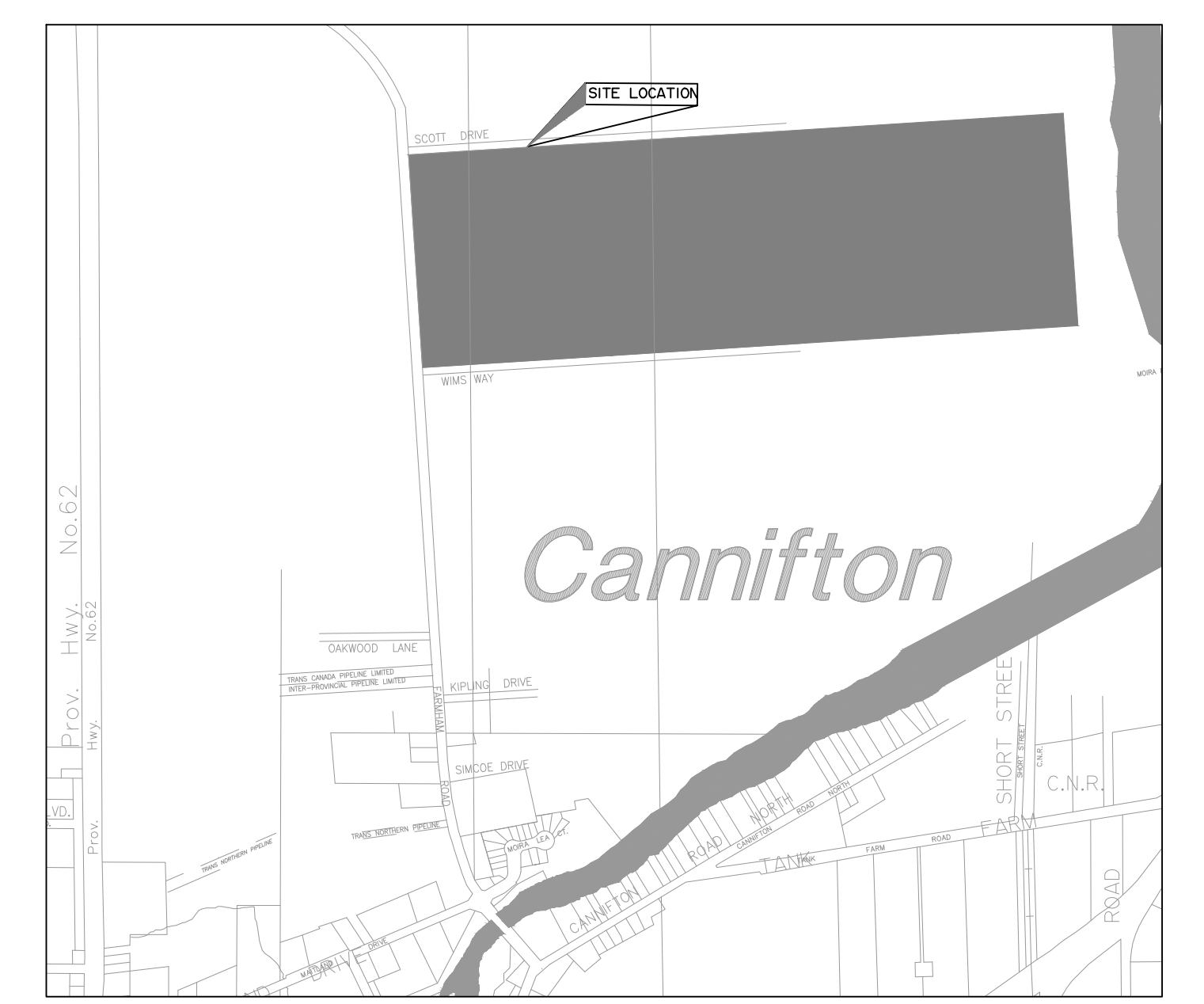
PART OF PARK LOTS 8 & 9, REGISTERED PLAN N.124 AND PART OF LOT 8, CONCESSION 3
FORMER GEOGRAPHIC TOWNSHIP OF THURLOW
NOW CITY OF BELLEVILLE
HASTINGS COUNTY
SCALE 1:250

METRIC NOTE

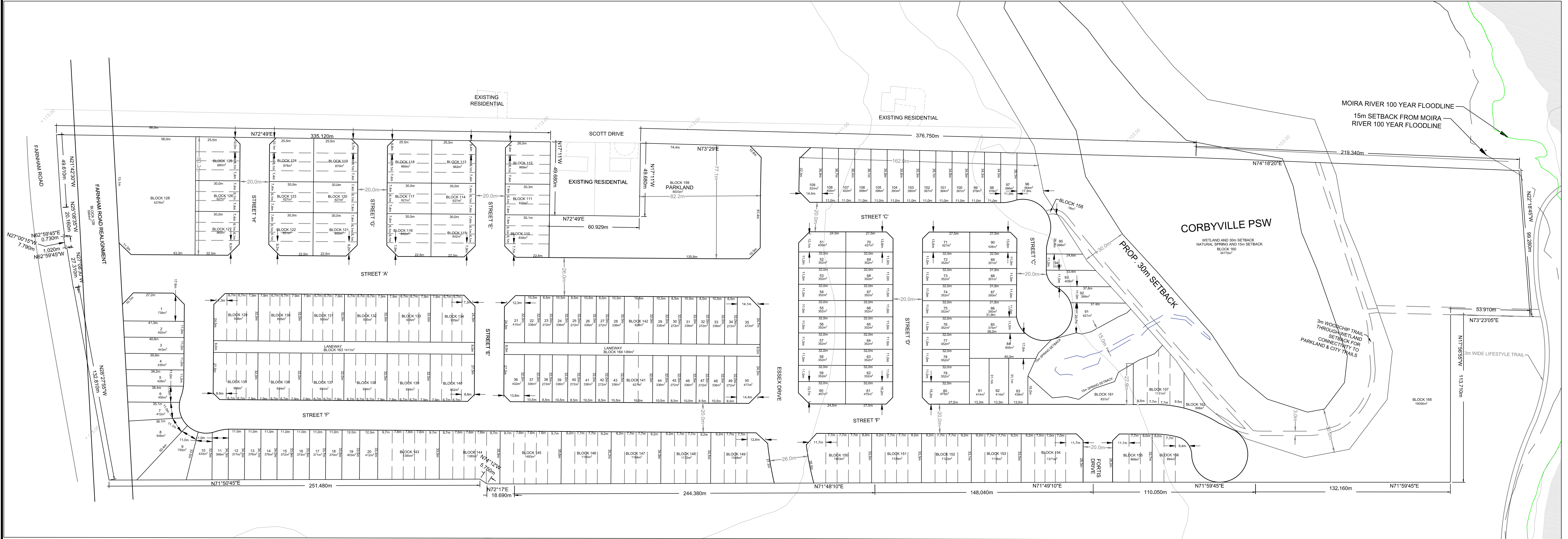
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CONTOUR DATA

CONTOUR AND TOPOGRAPHIC INFORMATION GENERATED USING INFORMATION PROVIDED BY ONTARIO BASE MAPPING.



KEY MAP N.T.S.



SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.
KEITH WATSON
ONTARIO LAND SURVEYOR

OWNER'S CERTIFICATE

I AUTHORIZE AINLEY GROUP TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF BELLEVILLE FOR APPROVAL.
ANDY GEERTSMA

0	PRELIMINARY DESIGN	21/10/2019	CRS
REV.#	REVISIONS	DATE	INITIAL

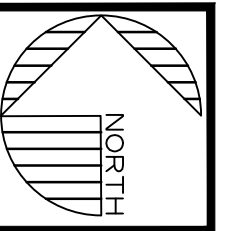
Not Valid Unless Signed And Dated

SCALE:	1:1250
DESIGN:	CRS
DRAWN:	CRS
CHECKED:	AJW
DATE:	OCT 2019

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE
DRAFT PLAN

CONTRACT No. 19503-1 DWG 19503-DP

V:\19503-1 - Cannif North (Geospatial)\Drawing\Cannif North Draft Plan-Oct2019.dwg 2019-10-29 2:59:39 PM



12.6 ha
29% — DENOTES DRAINAGE AREA IN HECTARES
— DENOTES PERCENT IMPERVIOUSNESS

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	28/10/2019	CRS

Not Valid Unless Signed And Dated

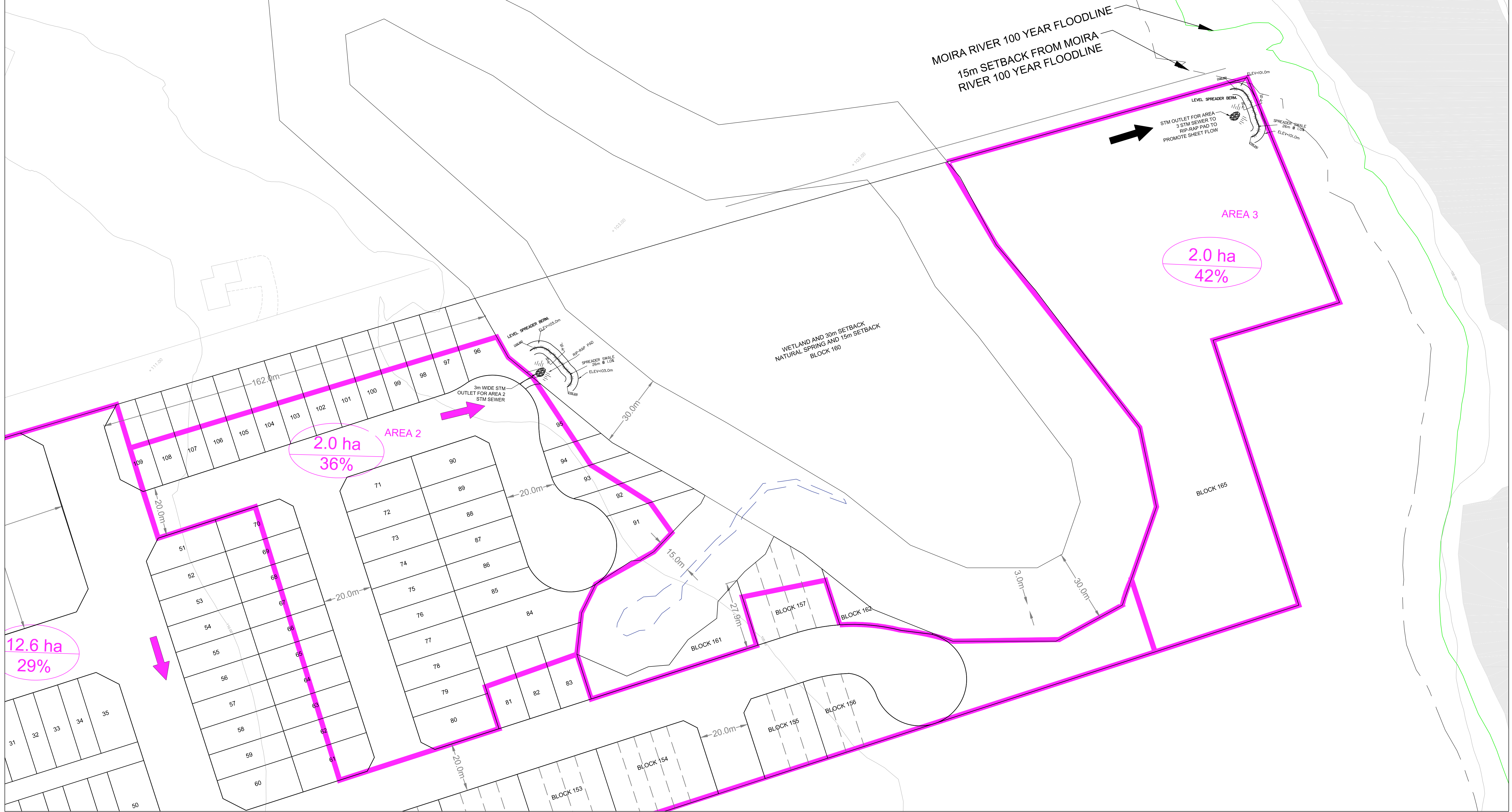
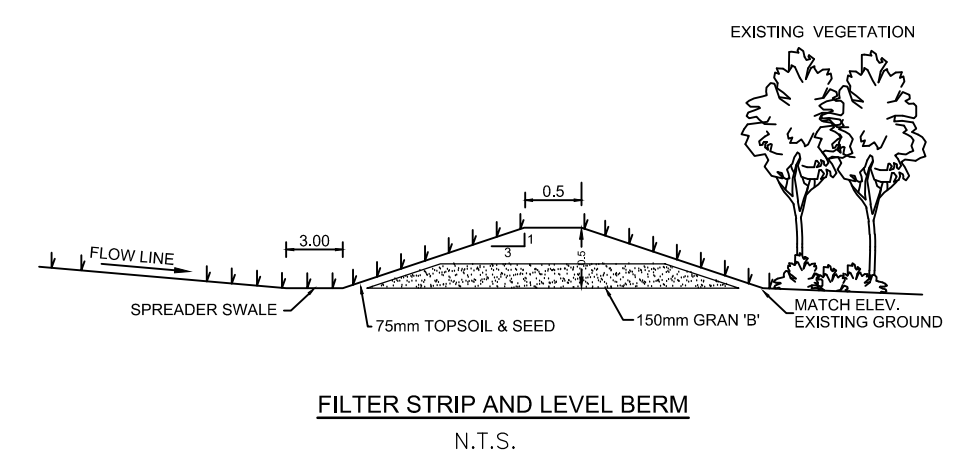
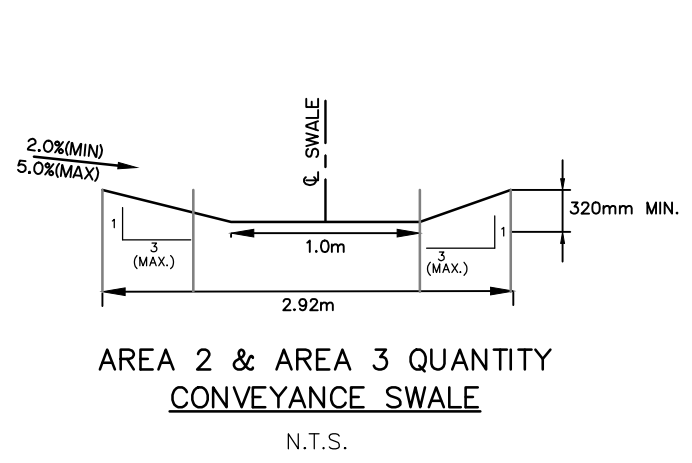
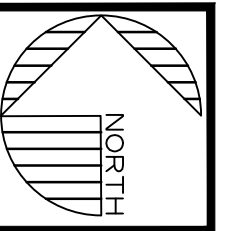
SCALE: 1:1250
DESIGN: CRS
DRAWN: CRS
CHECKED: AJW
DATE: OCT 2019

RIVERSTONE DEVELOPMENT
CITY OF BELLEVILLE

FIGURE 3



CONTRACT No. 19503-1 DWG FIGURE 3



V:\19503-1 - Canal North (Geospatial)\Drawing\Subs\SWM Figure.dwg 2019-10-29 3:55 PM

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	28/10/2019	CRS

Not Valid Unless Signed And Dated

SCALE:	1:750
DESIGN:	CRS
DRAWN:	CRS
CHECKED:	AJW
DATE:	OCT 2019

RIVERSTONE DEVELOPMENT
CITY OF BELLEVILLE

FIGURE 4



CONTRACT No. 19503-1 | DWG FIGURE 4

APPENDIX A
Model Parameters



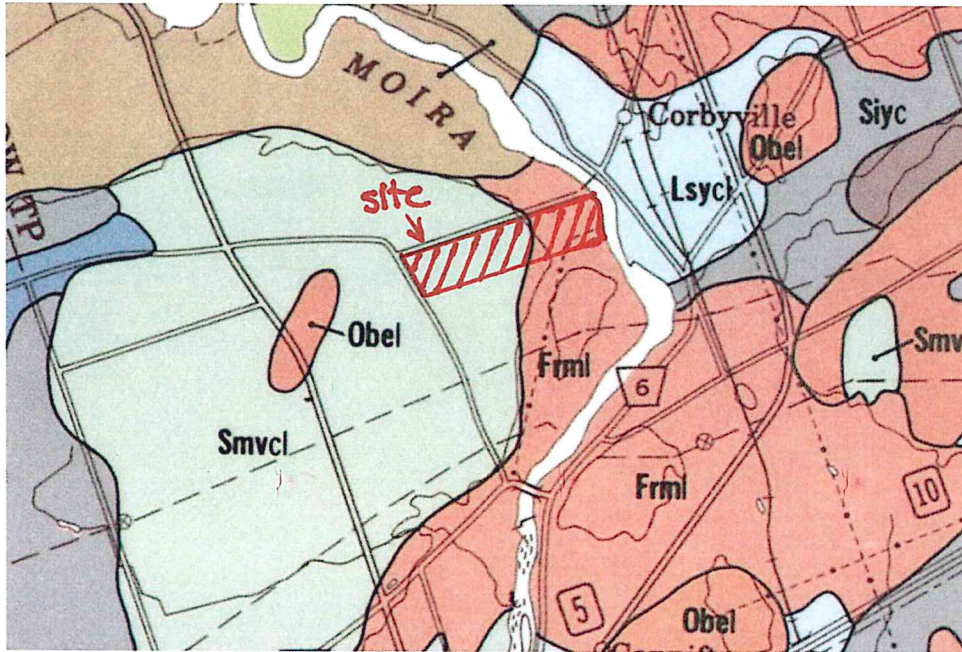
Benefitting Properties
Storm Sewer



**Benefitting Properties
Essex Drive SWM Facility**



**Benefitting Properties
Simcoe Drive SWM Facility**



Fm	FARMINGTON	Brown Forest	Variable
Fxb	FOXBORO	Dark Gray Gleysolic	Poor
Gny	GRANBY	Dark Gray Gleysolic	Poor
Lsy	LINDSAY	Dark Gray Gleysolic	Poor
Lys	LYONS	Dark Gray Gleysolic	Poor
Mgl	MONTEAGLE	Podzol	Good to excessive
Obe	OTONABEE	Brown Forest	Good
Pcy	PERCY	Gray-Brown Podzolic	Good
Shy	SOUTH BAY	Gray-Brown Podzolic	Moderately well drained
Siyc	SIDNEY	Dark Gray Gleysolic	Poor
Smv	SOLMESVILLE	Gray-Brown Podzolic	Imperfect

Area 3

Areas 1 + 2

SOIL TEXTURE

- c clay
- l loam
- cl clay loam
- sl sandy loam
- sil silt loam
- fsl fine sandy loam
- gs gravelly sand
- ls loamy sand

SOIL PHASE

- b bouldery
- R rock outcrop
- s steep
- sh shallow
- st stony

Design Chart 1.08: Hydrologic Soil Groups (Continued)

- Based on Soil Texture

<u>Sands, Sandy Loams and Gravels</u>	
- overlying sand, gravel or limestone bedrock, very well drained	A
- ditto, imperfectly drained	AB
- shallow, overlying Precambrian bedrock or clay subsoil	B
<u>Medium to Coarse Loams</u>	
- overlying sand, gravel or limestone, well drained	AB
- shallow, overlying Precambrian bedrock or clay subsoil	B
<u>Medium Textured Loams</u>	
- shallow, overlying limestone bedrock	B
- overlying medium textured subsoil	BC
<u>Silt Loams, Some Loams</u>	
- with good internal drainage	BC
- with slow internal drainage and good external drainage	C
<u>Clays, Clay Loams, Silty Clay Loams</u>	
- with good internal drainage	C
- with imperfect or poor external drainage	C
- with slow internal drainage and good external drainage	D

Area 3

Area 2

Source: U.S. Department of Agriculture (1972)

MTO Drainage Management Manual

Design Chart 1.07: Runoff Coefficients (Continued)

- Rural

Land Use & Topography ³	Soil Texture		
	Open Sand Loam	Loam or Silt Loam	Clay Loam or Clay
CULTIVATED			
Flat 0 - 5% Slopes	0.22	0.35	0.55
Rolling 5 - 10% Slopes	0.30	0.45	0.60
Hilly 10- 30% Slopes	0.40	0.65	0.70
PASTURE			
Flat 0 - 5% Slopes	0.10	0.28 <i>A3</i>	0.40 <i>Area 2</i>
Rolling 5 - 10% Slopes	0.15	0.35	0.45
Hilly 10- 30% Slopes	0.22	0.40	0.55
WOODLAND OR CUTOVER			
Flat 0 - 5% Slopes	0.08	0.25	0.35
Rolling 5 - 10% Slopes	0.12	0.30	0.42
Hilly 10- 30% Slopes	0.18	0.35	0.52
BARE ROCK	COVERAGE³		
	30%	50%	70%
Flat 0 - 5% Slopes	0.40	0.55	0.75
Rolling 5 - 10% Slopes	0.50	0.65	0.80
Hilly 10- 30% Slopes	0.55	0.70	0.85
LAKES AND WETLANDS	0.05		

² Terrain Slopes

³ Interpolate for other values of % imperviousness

Sources: American Society of Civil Engineers - ASCE (1960)
 U.S. Department of Agriculture (1972)

MTO Drainage Management Manual

Design Chart 1.09: Soil Conservation Service Curve Numbers (Continued)

Land Use or Surface	Hydrologic Soil Group						
	A	AB	B	BC	C	CD	D
Fallow (special cases only)	77	82	86	89	91	93	94
Crop and other improved land	66** (62)	70** (68)	86 <i>A2</i> 74	78	91 <i>A3</i> 82	84	86 AMC I
Pasture & other unimproved land	58* (38)	62* (51)	65	71	76	79	81
Woodlots and forest	50* (30)	54* (44)	58	65	71	74	77
Impervious areas (paved)							98
Bare bedrock draining directly to stream by surface flow							98
Bare bedrock draining indirectly to stream as groundwater (usual case)							70
Lakes and wetlands							50

Notes

- (i) All values are based on AMC II except those marked by * (AMC III) or ** (mean of AMC II and AMC III).
- (ii) Values in brackets are AMC II and are to be used only for special cases.
- (iii) Table is not applicable to frozen soils or to periods in which snowmelt contributes to runoff.

Active coordinate

44° 13' 15" N, 77° 23' 45" W (44.220833,-77.395833)

Retrieved: Thu, 30 May 2019 18:52:43 GMT



Location summary

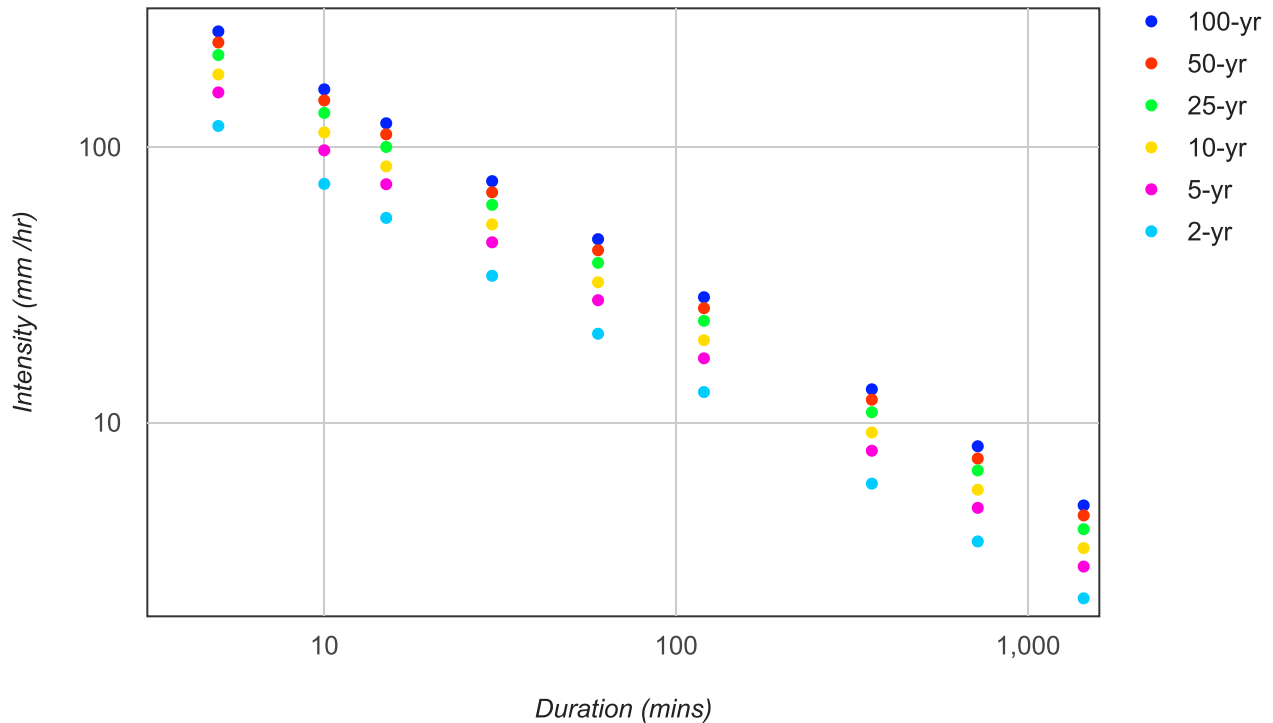
These are the locations in the selection.

IDF Curve: 44° 13' 15" N, 77° 23' 45" W (44.220833,-77.395833)

Results

An IDF curve was found.

Coordinate: 44.220833, -77.395833
IDF curve year: 2010



Coefficient summary

IDF Curve: 44° 13' 15" N, 77° 23' 45" W (44.220833,-77.395833)

Retrieved: Thu, 30 May 2019 18:52:43 GMT

Data year: 2010

IDF curve year: 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
A	21.0	27.8	32.3	38.0	42.2	46.3
B	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

Statistics

Rainfall intensity (mm hr⁻¹)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	119.3	73.5	55.3	34.1	21.0	12.9	6.0	3.7	2.3
5-yr	157.9	97.3	73.3	45.1	27.8	17.1	7.9	4.9	3.0
10-yr	183.5	113.0	85.1	52.4	32.3	19.9	9.2	5.7	3.5
25-yr	215.8	133.0	100.1	61.7	38.0	23.4	10.9	6.7	4.1
50-yr	239.7	147.7	111.2	68.5	42.2	26.0	12.1	7.4	4.6
100-yr	263.0	162.0	122.0	75.2	46.3	28.5	13.2	8.2	5.0

Rainfall depth (mm)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	9.9	12.2	13.8	17.0	21.0	25.9	36.0	44.4	54.7
5-yr	13.2	16.2	18.3	22.6	27.8	34.2	47.7	58.7	72.4
10-yr	15.3	18.8	21.3	26.2	32.3	39.8	55.4	68.2	84.1
25-yr	18.0	22.2	25.0	30.8	38.0	46.8	65.2	80.3	98.9
50-yr	20.0	24.6	27.8	34.3	42.2	52.0	72.4	89.2	109.8
100-yr	21.9	27.0	30.5	37.6	46.3	57.0	79.4	97.8	120.5

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[Ontario Ministry of Transportation](#) | [Terms and Conditions](#) | [About](#)

Last Modified: September 2016

Cannif North Area 1

Estimate of Impervious Cover - Post-Development					CN	C	
Total Area			12.6 ha		82	0.45	Directly
	#units	Area (m2)					Connected or not
Driveway	250	24	6000.00 m2		98	0.95	y
Singles	65	135	8775.00 m2		98	0.95	y (50%)
Towns	185	120	22200.00				
Med Dens Res	1	4280	4280.00 m2		98	0.95	y (50%)
			19055.00 m2				
Sidewalk	-	2850	2850.00 m2		98	0.95	y (50%)
Road		14820	14820.00 m2		98	0.95	y
Total			17670.00 m2				
		Total Impervious =	36725.00 m2				
			29.15 %				
		Directly Connected Impervious	28772.50 m2				
			22.84 %				

Average CN

	A	CN	A*CN
Total Area	12.6		
Impervious Area	3.6725	98	359.91
Pervious Area	8.9275	82	732.06
		SUM	1091.96

87

Average RC

	A	C	A*C
Total Area	12.6		
Impervious Area	3.6725	0.95	3.49
Pervious Area	8.9275	0.45	4.02
		SUM	7.51

0.60

Cannif North Area 2

Estimate of Impervious Cover - Post-Development					CN	C	
Total Area				2 ha	82	0.45	Directly
	#units	Area (m2)					Connected or not
Driveway	45	24	1080.00	m2	98	0.95	y
Singles	45	135	6075.00	m2	98	0.95	y (50%)
Towns	0	120	0.00				
Med Dens Res	0	4280	0.00	m2	98	0.95	y (50%)
			7155.00	m2			
Sidewalk	-	535	535.00	m2	98	0.95	y (50%)
Road		2792	2792.00	m2	98	0.95	y
Total			3327.00	m2			
			Total Impervious = 10482.00 m2				
			52.41 %				
			Directly Connected Impervious 7177.00 m2				
			35.89 %				

Average CN

	A	CN	A*CN	
Total Area	2			
Impervious Area	1.0482	98	102.72	
Pervious Area	0.9518	82	78.05	
		SUM	180.77	90

Average RC

	A	C	A*C	
Total Area	2			
Impervious Area	1.0482	0.95	1.00	
Pervious Area	0.9518	0.45	0.43	
		SUM	1.42	0.71

Cannif North Area 3

Estimate of Impervious Cover - Post-Development					CN	C	
Total Area				2 ha	74	0.45	Directly
	#units	Area (m2)					Connected or not
Driveway	0	24	0.00	m2	98	0.95	y
Singles	0	135	0.00	m2	98	0.95	y (50%)
Towns	0	120	0.00				
Med Dens Res	1	15000	15000.00	m2	98	0.95	y (50%)
			15000.00	m2			
Sidewalk	-	153	153.00	m2	98	0.95	y (50%)
Road		795	795.00	m2	98	0.95	y
Total			948.00	m2			
Total Impervious =			15948.00	m2			
			79.74	%			
Directly Connected Impervious			8371.50	m2			
			41.86	%			

Average CN

	A	CN	A*CN
Total Area	2		
Impervious Area	1.5948	98	156.29
Pervious Area	0.4052	74	29.98
		SUM	186.28

93

Average RC

	A	C	A*C
Total Area	2		
Impervious Area	1.5948	0.95	1.52
Pervious Area	0.4052	0.45	0.18
		SUM	1.70

0.85

APPENDIX B
SWMHYMO Output

caniff

```

=====
SSSSS W W M M H H Y Y M M 000 999 999 =====
S W W W MM MM H H Y Y MM MM 0 0 9 9 9 9
SSSSS W W W M M M H H H H Y Y M M M 0 0 ## 9 9 9 9 Ver 4.05
S W W M M H H Y M M 0 0 9999 9999 Sept 2011
SSSSS W W M M H H Y M M 000 9 9
StormWater Management Hydrologic Model 9 9 9 9 # 2196493
=====
    
```

```

*****
***** SWMHYMO Ver/4.05 *****
***** A single event and continuous hydrologic simulation model *****
***** based on the principles of HYMO and its successors *****
***** OTTHYMO-83 and OTTHYMO-89. *****
***** Distributed by: J.F. Sabourin and Associates Inc. *****
***** Ottawa, Ontario: (613) 836-3884 *****
***** Gatineau, Quebec: (819) 243-6858 *****
***** E-Mail: swmhymo@fsa.Com *****
    
```

```

+++++
+++++ Licensed user: Ainley Group +++++
+++++ Belleville SERIAL#: 2196493 +++++
+++++
    
```

```

*****
***** +++++ PROGRAM ARRAY DIMENSIONS +++++ *****
***** Maximum value for ID numbers : 10 *****
***** Max. number of rainfall points: 105408 *****
***** Max. number of flow points : 105408 *****
*****
    
```

```

***** DETAILED OUTPUT *****
*****
* DATE: 2019-05-30 TIME: 16:34:36 RUN COUNTER: 000231 *
*****
* Input filename: U:\CAITLI\N\WCPHMJ-4\caniff.dat *
* Output filename: U:\CAITLI\N\WCPHMJ-4\caniff.out *
* Summary filename: U:\CAITLI\N\WCPHMJ-4\caniff.sum *
* User comments: *
* 1: *
* 2: *
* 3: *
*****
    
```

001:0001

```

*****
*# Project Name: [Caniff North] Project Number: [19503-1]
*# Date : 05-30-2019
*# Modeler : [Caitlin Sheahan]
*# Company : Ainley Group
*# License # : 2196493
*****
    
```

```

-----
| START | Project dir.: U:\CAITLI\N\WCPHMJ-4\
-----
Rainfall dir.: U:\CAITLI\N\WCPHMJ-4\
Page 1
    
```

caniff

```

TZERO = .00 hrs on 0
METOUT= 2 (output = METRIC)
NRUN = 001
NSTORM= 0
    
```

001:0002

```

*Quantity Control Area 2
* 100 year event
    
```

```

-----
| CHICAGO STORM | IDF curve parameters: A= 951.830
| Ptotal = 65.38 mm | B= 1.500
| | C= .726
-----
used in: INTENSITY = A / (t + B)^C
Duration of storm = 3.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33
    
```

The CORRELATION coefficient is = .9996760

TIME (min)	ENTERED (mm/hr)	COMPUTED (mm/hr)
5	263.00	244.56
10	162.00	161.62
15	122.00	124.36
30	75.20	77.77
60	46.30	47.84
120	28.50	29.18
360	13.20	13.22
720	8.20	8.01
1440	5.00	4.84

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.17	7.182	1.00	161.619	1.83	11.509	2.67	6.912
.33	8.552	1.17	39.197	2.00	10.060	2.83	6.446
.50	10.773	1.33	22.825	2.17	8.981	3.00	6.048
.67	15.184	1.50	16.820	2.33	8.141		
.83	30.993	1.67	13.576	2.50	7.467		

001:0003

```

*Area 2
-----
| CALIB STANDHYD | Area (ha)= 2.00
| 01:000100 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 35.00
-----
    
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)	.70	1.30
Dep. Storage (mm)	.60	2.50
Average Slope (%)	.50	1.00
Length (m)	50.00	30.00

Page 2

Mannings n = .013 .250
 Max. eff. Inten. (mm/hr)= 161.62 78.35
 over (mi n) 2.00 10.00
 Storage Coeff. (mi n)= 1.71 (ii) 9.77 (ii)
 Unit Hyd. Tpeak (mi n)= 2.00 10.00
 Unit Hyd. peak (cms)= .62 .11
 TOTALS
 PEAK FLOW (cms)= .31 .17 .418 (iii)
 TIME TO PEAK (hrs)= 1.00 1.12 1.000
 RUNOFF VOLUME (mm)= 64.78 33.33 44.337
 TOTAL RAINFALL (mm)= 65.38 65.38 65.381
 RUNOFF COEFFICIENT = .99 .51 .678
 *** ERROR: XIMP cannot be larger than TIMP.
 XIMP was forced to equal TIMP.

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 82.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0004

*Area 3

CALIB STANDHYD 03:000100 DT= 1.00	Area (ha)= 2.00 Total Imp(%)= 42.00	Dir. Conn. (%)= 42.00
--------------------------------------	--	-----------------------

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	.84	1.16
Dep. Storage (mm)=	.60	2.50
Average Slope (%)=	.50	1.00
Length (m)=	50.00	30.00
Mannings n =	.013	.250
Max. eff. Inten. (mm/hr)=	161.62	54.61
over (mi n)	2.00	11.00
Storage Coeff. (mi n)=	1.71 (ii)	11.03 (ii)
Unit Hyd. Tpeak (mi n)=	2.00	11.00
Unit Hyd. peak (cms)=	.62	.10
PEAK FLOW (cms)=	.38	.11
TIME TO PEAK (hrs)=	1.00	1.15
RUNOFF VOLUME (mm)=	64.78	25.99
TOTAL RAINFALL (mm)=	65.38	65.38
RUNOFF COEFFICIENT =	.99	.40
TOTALS .432 (iii)		
*** ERROR: XIMP cannot be larger than TIMP. XIMP was forced to equal TIMP.		

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 74.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0005

can n i f

--
 *
 * 25mm Quality Event
 *

READ STORM Ptotal= 25.00 mm	Filename: 25 mm 4 hr Comments: 25 mm 4 hr
--------------------------------	--

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
.17	2.071	1.17	5.696	2.17	5.194	3.17	2.799
.33	2.266	1.33	10.777	2.33	4.466	3.33	2.622
.50	2.524	1.50	50.214	2.50	3.949	3.50	2.476
.67	2.880	1.67	13.366	2.67	3.560	3.67	2.346
.83	3.382	1.83	8.286	2.83	3.252	3.83	2.233
1.00	4.175	2.00	6.295	3.00	3.010	4.00	2.136

001:0006

*Area 2

CALIB STANDHYD 01:000100 DT= 1.00	Area (ha)= 2.00 Total Imp(%)= 35.00	Dir. Conn. (%)= 35.00
--------------------------------------	--	-----------------------

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	.70	1.30
Dep. Storage (mm)=	.60	2.50
Average Slope (%)=	.50	1.00
Length (m)=	50.00	30.00
Mannings n =	.013	.250
Max. eff. Inten. (mm/hr)=	50.21	6.86
over (mi n)	3.00	24.00
Storage Coeff. (mi n)=	2.73 (ii)	24.09 (ii)
Unit Hyd. Tpeak (mi n)=	3.00	24.00
Unit Hyd. peak (cms)=	.40	.05
PEAK FLOW (cms)=	.09	.01
TIME TO PEAK (hrs)=	1.50	1.88
RUNOFF VOLUME (mm)=	24.40	6.47
TOTAL RAINFALL (mm)=	25.00	25.00
RUNOFF COEFFICIENT =	.98	.26
TOTALS .097 (iii)		
*** ERROR: XIMP cannot be larger than TIMP. XIMP was forced to equal TIMP.		

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 82.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0007

*Area 3

```

CALIB STANDHYD
03:000100 DT= 1.00
-----
Area (ha)= 2.00
Total Imp(%)= 42.00 Dir. Conn.(%)= 42.00
-----
IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= .84 1.16
Dep. Storage (mm)= .60 2.50
Average Slope (%)= .50 1.00
Length (m)= 50.00 30.00
Mannings n = .013 .250
Max. eff. Inten. (mm/hr)= 50.21 4.23
Time to Peak (min)= 3.00 29.00
Storage Coeff. (min)= 2.73 (ii) 28.65 (ii)
Unit Hyd. Tpeak (min)= 3.00 29.00
Unit Hyd. peak (cms)= .40 .04
-----
PEAK FLOW (cms)= .11 .01 *TOTALS*
TIME TO PEAK (hrs)= 1.50 1.98 .115 (iii)
RUNOFF VOLUME (mm)= 24.40 4.53 12.873
TOTAL RAINFALL (mm)= 25.00 25.00 24.996
RUNOFF COEFFICIENT = .98 .18 .515
*** ERROR: XIMP cannot be larger than TIMP.
XIMP was forced to equal TIMP.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----
001:0008-----
*
FINISH
-----
*****
**
WARNINGS / ERRORS / NOTES
-----
001:0003 CALIB STANDHYD
*** ERROR: XIMP cannot be larger than TIMP.
XIMP was forced to equal TIMP.
001:0004 CALIB STANDHYD
*** ERROR: XIMP cannot be larger than TIMP.
XIMP was forced to equal TIMP.
001:0006 CALIB STANDHYD
*** ERROR: XIMP cannot be larger than TIMP.
XIMP was forced to equal TIMP.
001:0007 CALIB STANDHYD
*** ERROR: XIMP cannot be larger than TIMP.
XIMP was forced to equal TIMP.
Simulation ended on 2019-05-30 at 16:34:37
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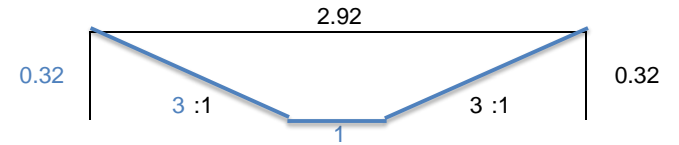
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APPENDIX C
Overland Spillway Cross-Section

Hydraulic Capacity Check
100 YEAR EVENT CONVEYANCE - AREA 2

Swale Capacity/Velocity Calculation	
V = 1/n * (A/P)^0.667 * (S)^0.5	
Channel Bottom Width	1 m
Channel Side Slopes (X : 1)	3 to 1
Flow Depth	0.32
Manning's n	0.035 Grass
Slope (%)	0.5 %
Calculated Area	0.63 m ²
Calculated Wetted Perimeter	3.02 m
Calculated Width Required	2.92
Velocity Calculated	0.71 m/s
Q Peak	0.444 m ³ /s
Required Q Peak	0.418 m ³ /s
Flow Depth during Required Event	0.310 m
Velocity during Required Event	0.696 m/s

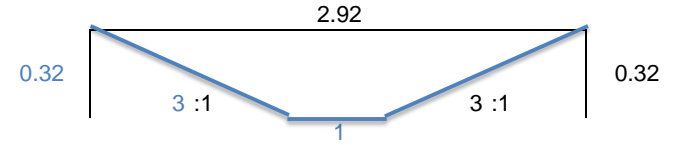
Inputs



Hydraulic Capacity Check
100 YEAR EVENT CONVEYANCE - AREA 3

Swale Capacity/Velocity Calculation	
V = 1/n * (A/P)^0.667 * (S)^0.5	
Channel Bottom Width	1 m
Channel Side Slopes (X : 1)	3 to 1
Flow Depth	0.32
Manning's n	0.035 Grass
Slope (%)	0.5 %
Calculated Area	0.63 m ²
Calculated Wetted Perimeter	3.02 m
Calculated Width Required	2.92
Velocity Calculated	0.71 m/s
Q Peak	0.444 m ³ /s
Required Q Peak	0.432 m ³ /s
Flow Depth during Required Event	0.310 m
Velocity during Required Event	0.696 m/s

Inputs



APPENDIX D
Level Spreader Design

One of the benefits of pervious catchbasins which are located off-line is that they can be plugged until construction has finished and the development has been stabilized. This helps to prolong the life of the exfiltration storage.

Pre-treatment of road drainage before it reaches the pervious catchbasins will enhance the longevity of the system and reduce the potential for groundwater contamination. Frequent catchbasin cleaning is required to ensure the longevity of this SWMP. Eventually, the exfiltration storage will become clogged and need to be replaced.

4.5.12 Vegetated Filter Strips

Vegetated filter strips are engineered stormwater conveyance systems which treat small drainage areas. Generally, a vegetated filter strip consists of a level spreader and planted vegetation. The level spreader ensures uniform flow over the vegetation which filters out pollutants, and promotes infiltration of the stormwater.

There are two types of vegetated filter strips: grass filter strips, and forested filter strips. There is a need for further research comparing the efficiency of these two systems for water quality enhancement, since the research to date has focussed on their individual assessment.

Vegetated filter strips are best utilized adjacent to a buffer strip, watercourse or drainage swale since the discharge will be in the form of sheet flow, making it difficult to convey the stormwater downstream in a normal conveyance system (swale or pipe).

Design Guidance

Drainage Area

Vegetated filter strips are feasible for small drainage areas (< 2 ha).

Slope and Width

Vegetated filter strips should be located in flat areas (< 10%) to promote sheet flow and maximize the filtration potential. The ideal slope in a vegetated filter strip is < 5% (1% - 5%).

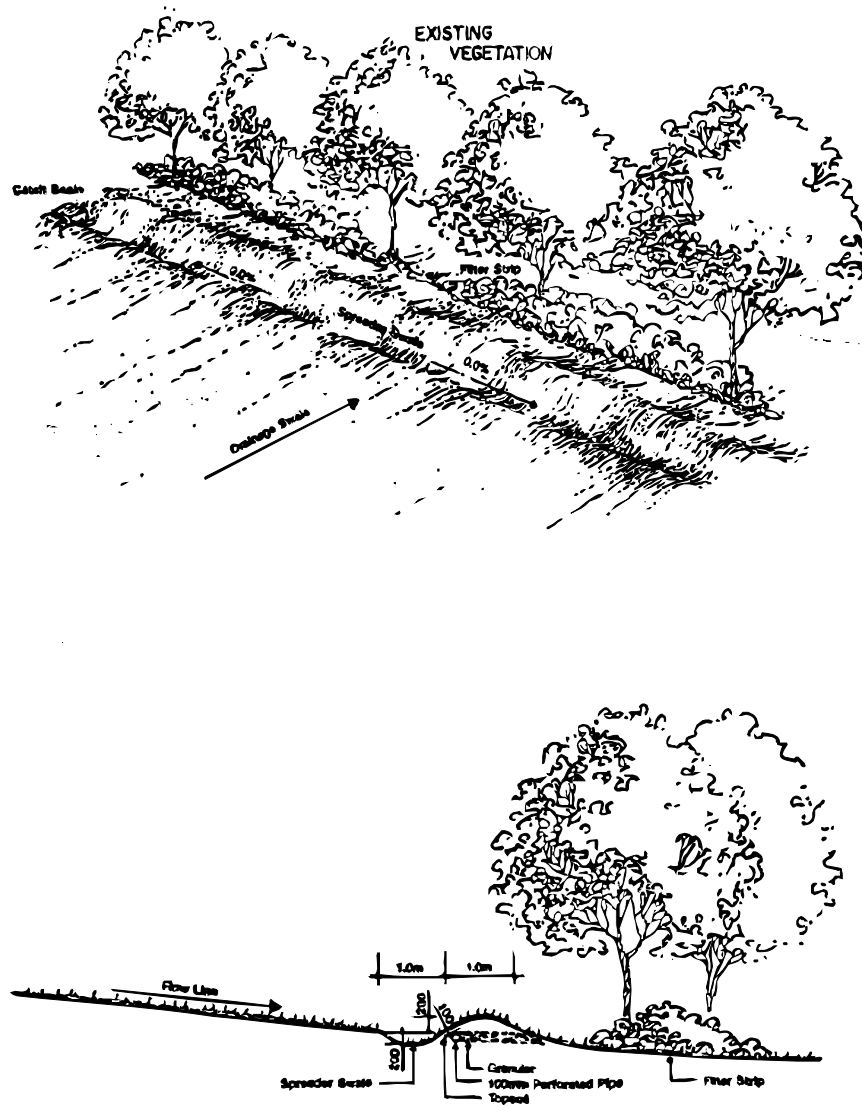
The vegetated filter strip should be 10 m - 20 m wide in the direction of flow to provide sufficient stormwater quality enhancement (Osborne et al., 1993; Metropolitan Washington Council of Governments, 1992; Minnesota Pollution Control Agency, 1989). The slope of the vegetated filter strip should dictate the actual width. Shorter vegetated filter strip widths (10 m - 15 m) are appropriate for flat slopes, whereas longer vegetated filter strips (15 m - 20 m) are required in areas with a higher slope (5% - 10%).

Level Spreader

The level spreader consists of a raised weir constructed perpendicular to the direction of flow. Water is conveyed over the spreader as sheet flow to maximize the contact area with the vegetation. Although the spreader can be engineered using concrete, more natural spreader designs/materials are recommended to maintain a natural appearance.

Figure 4.16 illustrates a typical level spreader design. A small berm is used as the level spreader. It creates a damming effect, preventing stormwater from entering the vegetation until the water level exceeds the height of the spreader. A perforated pipe (100 mm diameter) is installed in the spreader berm to ensure that any water which is trapped behind the berm after a storm can be drained. The perforated pipe should be wrapped in a filter sock to ensure that native material does not infiltrate the pipe.

Figure 4.16: Typical Filter Strip



The length of the level spreader should be chosen based on site specifics (topography, outlet location, drainage area configuration). It should be recognized, however, that a shorter level spreader necessitates the trade-off of greater upstream storage to maintain the desired flow depth over the vegetation. It is recommended that the level spreader length, and hence vegetated filter strip length, be as large as possible.

Flow Depth

The level spreader and vegetated filter strip should be designed such that the peak flow from a 4 hour Chicago 10 mm storm results in a flow depth of 50 - 100 mm through the vegetation. The flow depth over the level spreader can be calculated using a standard broad crested weir equation (Equation 4.4).

$$Q = \alpha L H^{1.5} \quad \text{Equation 4.4: Weir Flow}$$

where Q = discharge
 α = coefficient
 L = length of crest of weir
 H = head

Storage

Storage will be required behind the level spreader depending on the level of control desired, and the length of the level spreader itself. The amount of storage required should be based on the excess runoff from a 4 hour Chicago distribution of a 10 mm storm, accounting for the flow over the weir. The 10 mm storm was chosen recognizing that 70% of all daily precipitation depths are less than or equal to this amount.

Vegetation

Species such as red fescue, tall fescue and redtop can be introduced in addition to the natural surrounding vegetation to filter out stormwater pollutants. Species native to the area should be used, where commercially available, in the planting strategy.

Technical Effectiveness

Vegetated filter strips have limited effectiveness for water quality control due to the difficulty of maintaining sheet flow (i.e., preventing channelization) through the vegetation. They are best implemented as one in a series of SWMPs in a stormwater management plan.

4.5.13 Stream and Valley Corridor Buffer Strips

Buffer strips are simply natural areas between development and the receiving waters. There are two broad resource management objectives associated with buffer strips:

- The protection of the stream and valley corridor system to ensure their continued ecological form and functions; and

Level Spreader Calculation - Area 2**Equation 4.4: Weir Flow (MOE Design Manual)**

$$Q = a * L * H^{1.5}$$

Q (m ³ /s)	0.097
a	1.67 (broad-crested weir coefficient)
H (mm)	50
L (m)	5.20

L : Recommended Length of Weir / Level Spreader Berm = 5.20 m

Length provided on Figure 4 exceeds minimum length requirement

Level Spreader Calculation - Area 3**Equation 4.4: Weir Flow (MOE Design Manual)**

$$Q = a * L * H^{1.5}$$

Q (m ³ /s)	0.115
a	1.67 (broad-crested weir coefficient)
H (mm)	50
L (m)	6.16

L : Recommended Length of Weir / Level Spreader Berm = 6.16 m

Length provided on Figure 4 exceeds minimum length requirement



MEMORANDUM

Ainley Graham & Associates Limited
45 South Front Street, Belleville, ON K8N 2Y5
Tel: (613) 966-4243 P Fax: (613) 966-1168

To: Steve Ashton

Copy to: File

From: Adam Wilson

Date: October 30, 2019

Ref: Riverstone Subdivision Application – Traffic Review

File: 19503-1

Comments:

GCL Developments Ltd. is proposing to rezone a parcel of land located east of Farnham Road, south of Scott Drive, and north of future Wims Way. The land is currently zoned D-1 for future development and is proposed to be rezoned to allow for residential development. The purpose of this memo is to provide a review of the proposed concept plan with regard to the road network and traffic flow.

City of Belleville Farnham Road Master Plan (2015)

The Mineral Road and Maitland Drive Environmental Study Report for the Farnham Road Master Plan (December 2015) included a traffic component that analyzed existing and future traffic demands for Farnham Road. The analysis considered traffic projections for development growth potential. As such, development of the subject lands was included in the projected traffic demands for the study. The review indicated that over the next 20 years, Farnham Road traffic demands are projected to double, carrying approximately 11,000 vehicles per day, as shown on **Figure 1**. As development of the City's Official Plan designated land uses continues beyond the next 20 years, Farnham Road's traffic demands are projected to increase to an estimated 13,000 vehicles per day.

The study concluded that Farnham Road should be realigned and widened to a major collector roadway with a 2-lane urban cross-section (26m right of way) south of Scott Drive to Maitland Drive and a 2-lane rural cross-section north of Scott Drive (26m right of way). Further, the report recommended that the City provide property protection along Farnham Road for a future 4-lane cross-section (30m right-of-way) between Redwood Drive/Kipling Drive and Maitland Drive. The recommendations from the study for the Farnham Road Master Plan are summarized on **Figure 2**. The current concept plan (**Figure 3**) for the development incorporates the proposed widening and realignment of Farnham Road as outlined by the Environmental Study Report.

Proposed Concept Plan Road Network

The current concept plan associated with the rezoning application includes three (3) access points for the development: 1) Farnham Road, with the intersection centered between Scott Drive and future Wims Way, 2) Essex Drive extension, and 3) Scott Drive (**Figure 3**). Six (6) Municipal roads are currently proposed on the concept plan:

- 1) an extension of Essex Drive to Scott Drive,
- 2) Street 'A' that extends between Farnham Road and Essex Drive,
- 3) Fortis Drive extension that is proposed to connect to Street 'F',
- 4) Street 'C' that will be a cul-de-sac connecting to Essex Drive,
- 5) Street 'D' that will be a north-south connection between Street 'C' and Street 'F',
- 6) Street 'E' that will be a north-south connection between Street 'A' and future Scott Drive,
- 7) Street 'F' that will connection south on Street 'A' extending east ending at the condo laneway, and
- 8) Street 'G' and Street 'H' will be a north-south connection to Street 'A' and Scott Drive.

The proposed Municipal roads show a 20m right-of-way for local roads and a 26m right-of-way for Essex Drive and Street 'A', which is consistent with the current width of the Essex Drive (collector width).

The concept shows good connectivity between Farnham Road, Scott Drive, and Essex Drive. The proposed 20m and 26m width for Municipal right of ways has ample space for any turning lanes that may be required as part of detailed design. At such a time that detailed engineering is carried out, a Traffic Impact Study will be completed to outline any intersection requirements.

'Street A' Site Generated Trips and Turning Lane Review

The Farnham Road Master Plan (December 2015) indicated that over the next 20 years, Farnham Road traffic demands are projected to double, carrying approximately 11,000 vehicles per day, as shown on **Figure 1**. As development of the City's Official Plan designated land uses continues beyond the next 20 years, Farnham Road's traffic demands are projected to increase to an estimated 13,000 vehicles per day. Trip generation rates have been determined from the Institute of Transportation Engineer's Trip Generation Manual. The applicable ITE land use category for the calculation is 'single family detached and medium density townhouse' (ITE land use code 231). The applicable trip rates and corresponding trip estimates for the peak hours are provided in **Table 1**.

Table 1: Trips Generated

Land Use	Rate/ Estimate	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Town- house		219						
	Rate		0.17	0.50	0.67	0.45	0.33	0.78
	Estimate		37.2	109.5	146.7	98.6	72.3	170.8
Single Family Detached		113						
	Rate		0.19	0.56	0.75	0.64	0.37	1.01
	Estimate		21.5	63.3	84.8	72.3	41.8	114.1
Medium Density		35						
	Rate		0.09	0.27	0.36	0.27	0.17	0.44
	Estimate		3.1	9.5	12.6	9.5	5.9	15.4
Total:					244.1	Total:		300.3

The development is expected to generate 244 trips in the AM peak hour and 300 trips in the PM peak hour (both inbound and outbound trips). The need for a left turn lane at the proposed intersection was reviewed. **Figure 4** shows the MTO's Left Turn Warrant Chart for 60 km/h design speed. The anticipated number of trips generated at peak hours from the development (i.e. advancing volume) has been plotted on the MTO chart. The chart shows that, based on the opposing traffic volume of 11,000 vehicles per day (459 vehicles per hour), a left turn lane is warranted at the intersection of Street 'A' with Farnham Road and should have a storage length of 15 vehicles. MTO design criteria indicate that right turn lanes should be considered when the turning volume is anticipated to exceed 60 vehicles per hour at an unsignalized intersection. The intersection will essentially have a right turn lane, as there is no through traffic at this intersection (i.e. traffic can only proceed north or south on Farnham Road from Street "A").

Sight Line Analysis

The speed limit for the portion of Farnham Road where it intersects with Street "A" is 60 km/hour. The TAC geometric design standards indicate the minimum stopping distance for design speeds of 60 km/h is 85m. This requirement provides sufficient distance for an approaching vehicle to observe a stationary hazard in the road (such as a vehicle stopped at an intersection waiting to complete a turn) and bring their vehicle to a complete stop prior to the hazard. The available sight lines along Farnham Road as determined at the proposed Street "A" site access are 150m to the north and >200m to the south. As such, adequate sight lines are provided in both directions to ensure safe operations for vehicles turning to Farnham Road from Street "A".

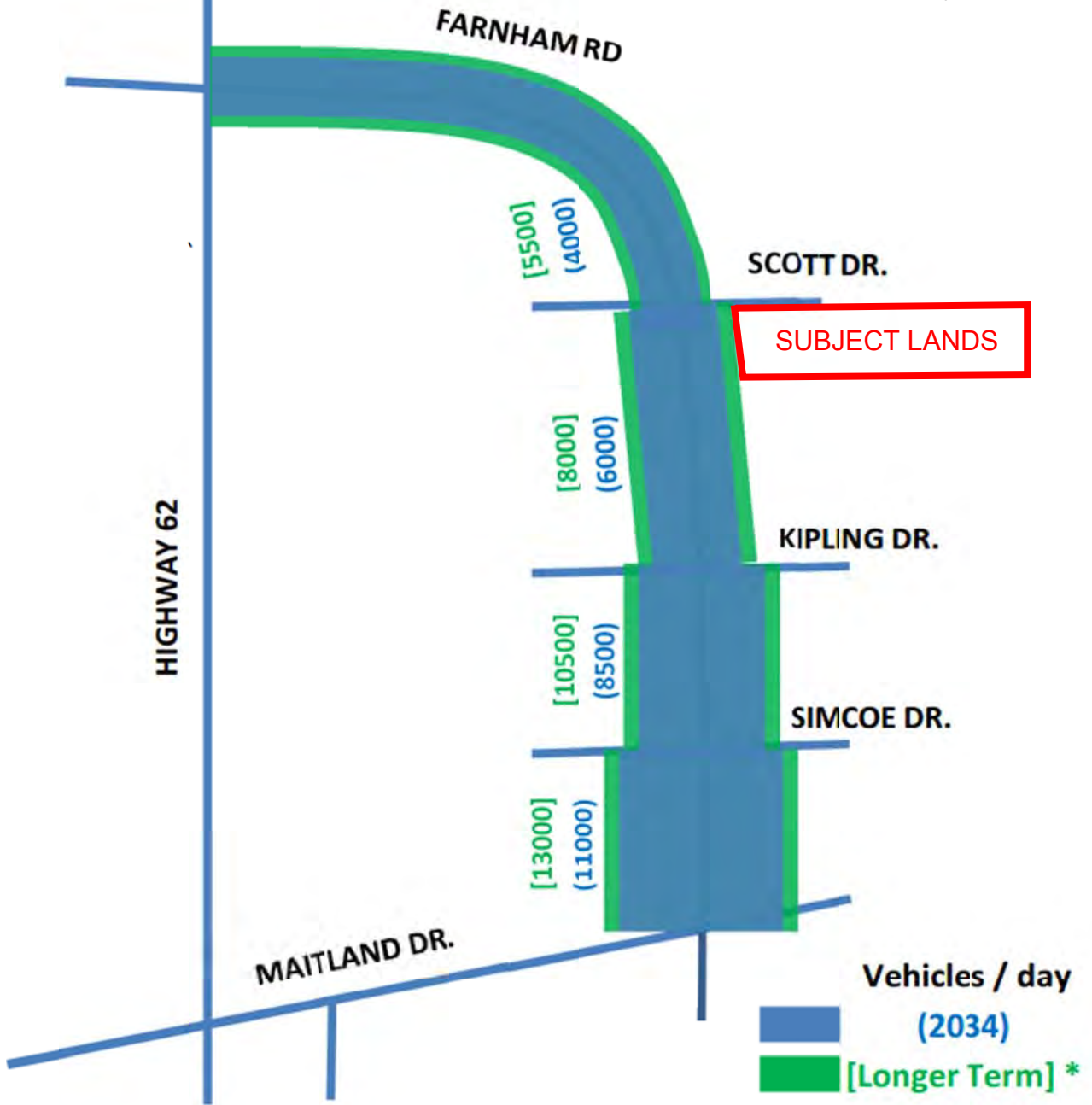
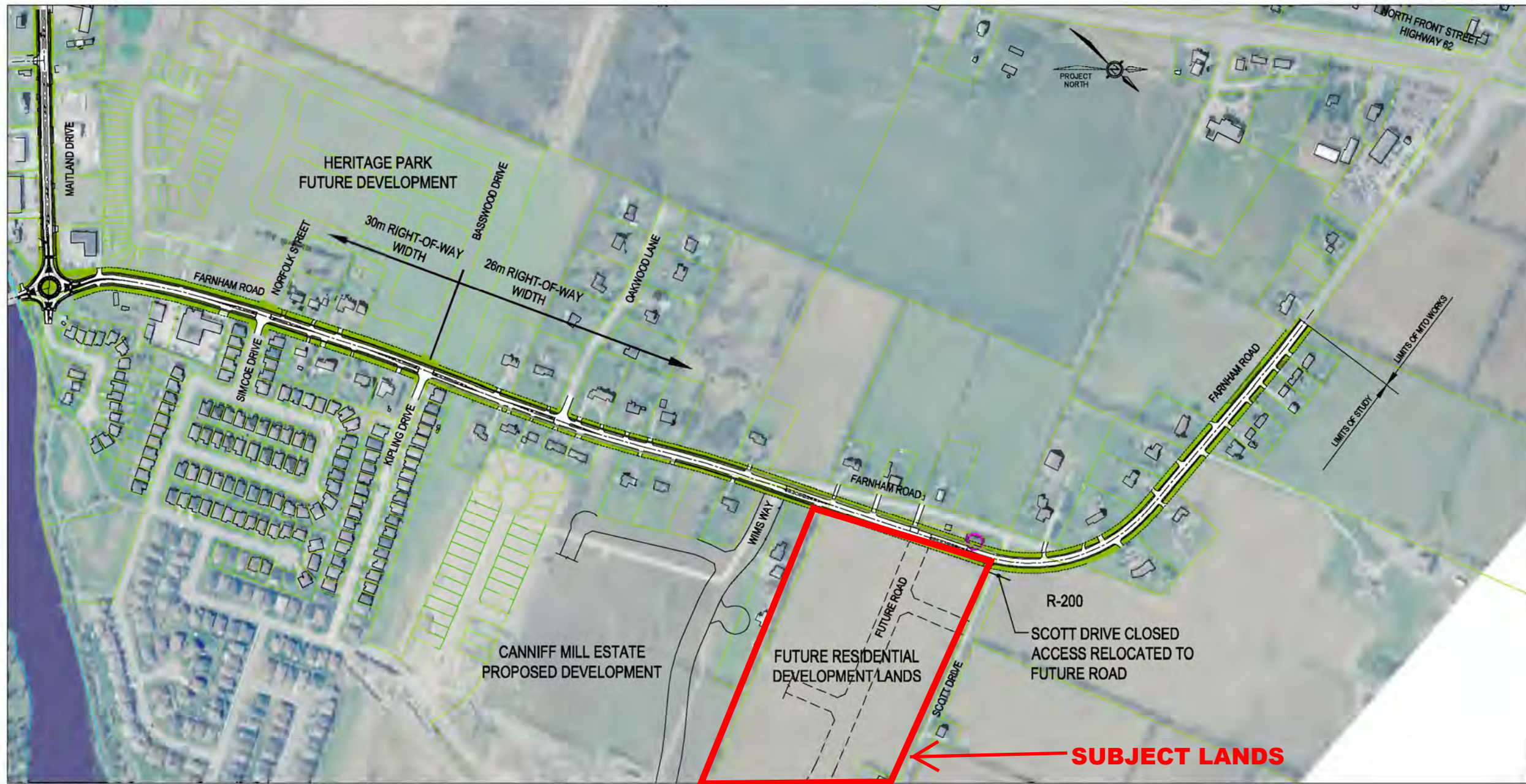
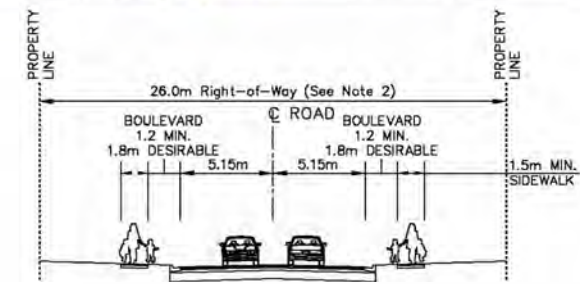


Figure 1: Projected Traffic Demands

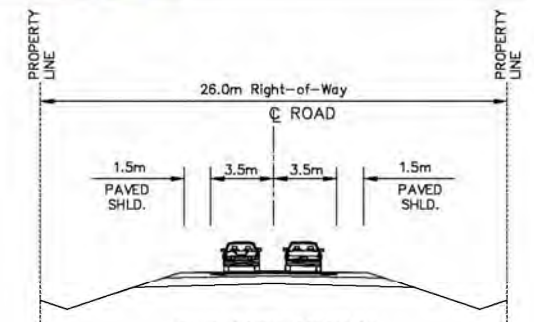


- Legend:**
- Existing Property Fabric (See Note 1)
 - - - Preliminary Property Requirements
 - Impacted Property

- Notes:**
1. This is not a legal survey, existing property fabric based on City of Belleville GIS property information. Existing property fabric and preliminary proposed property requirements are approximate only further legal survey during detail design stage will determine final property requirements.
 2. From Maitland Drive Road to Kipling Drive 30.0m proposed right-of-way width. Property protection for future 4 lane cross section.



2-LANE URBAN MAJOR COLLECTOR FROM MAITLAND DRIVE TO SCOTT DRIVE



2-LANE RURAL FROM SCOTT DRIVE TO LIMITS OF STUDY

**FIGURE 2
FARNHAM ROAD MASTER PLAN**

LAND USE SUMMARY

	UNITS	AREA (ha)
11.0m SINGLE DETACHED LOT (LOTS 1-20, 21-100)	79	3.252
5.0m/10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS (LOTS 21-50)	30	0.973
8.5m SEMI-DETACHED LOT WITH LANEWAY ACCESS (BLOCKS 141-142)	4	0.126
6.7m 3-STORY TOWNHOMES WITH LANEWAY ACCESS (BLOCKS 130-140)	48	1.126
6.0m 2-STORY TOWNHOMES 6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK (BLOCKS 110-127)	66	1.388
7.5m BUNGALOW TOWNHOMES (BLOCKS 143-157)	63	1.819
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS (BLOCK 128)	35	0.428
CONDO BLOCK 165	42	1.900
PARKLAND DEDICATION BLOCK 159		0.802
PARKETTE / ACCESS TO WETLAND SETBACK TRAILS BLOCKS 161-162		0.114
PSW & 30m SETBACK NATURAL SPRING & 15m SETBACK (BLOCK 160)		3.477
AREA OF PROPOSED ROADWAY NETWORK: 4.854 ha		
AREA OF PROPOSED LANEWAYS (BLOCKS 163-164): 0.280 ha		
AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.696 ha		
TOTAL	367	21.2 Ha

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

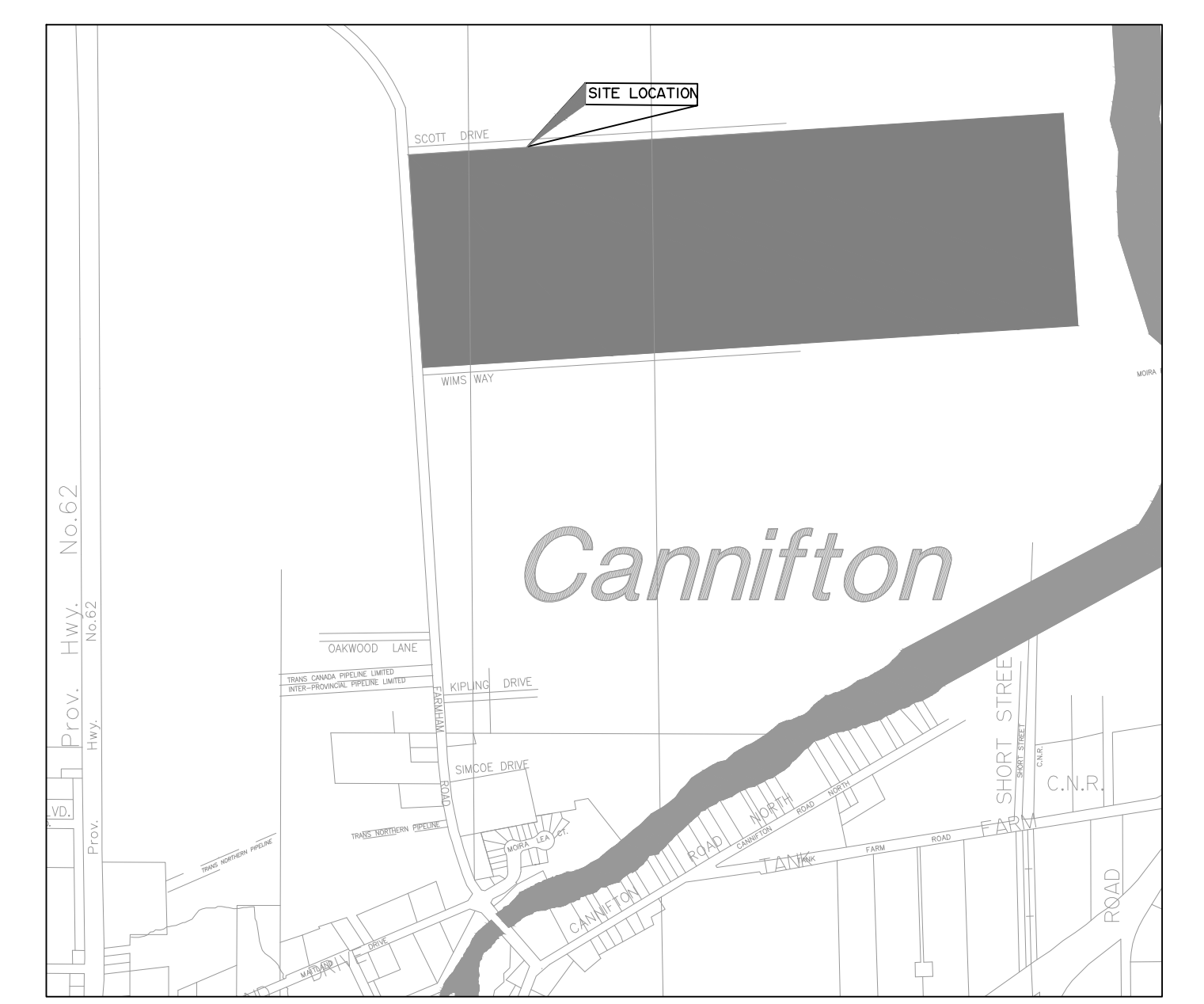
- a) SHOWN ON DRAFT PLAN AND SURVEYOR'S CERTIFICATE
- b) SHOWN ON DRAFT AND KEY PLANS
- c) SHOWN ON KEY PLAN
- d) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
- e) SHOWN ON DRAFT PLAN
- f) SHOWN ON DRAFT PLAN
- g) SHOWN ON DRAFT AND KEY PLANS
- h) FULL MUNICIPAL SERVICES
- i) SOIL IS FARMINGTON LOAM AND SOLMESVILLE CLAY LOAM
- j) SHOWN ON DRAFT PLAN
- k) ALL MUNICIPAL SERVICES TO BE PROVIDED
- l) SHOWN ON DRAFT PLAN

RIVERSTONE

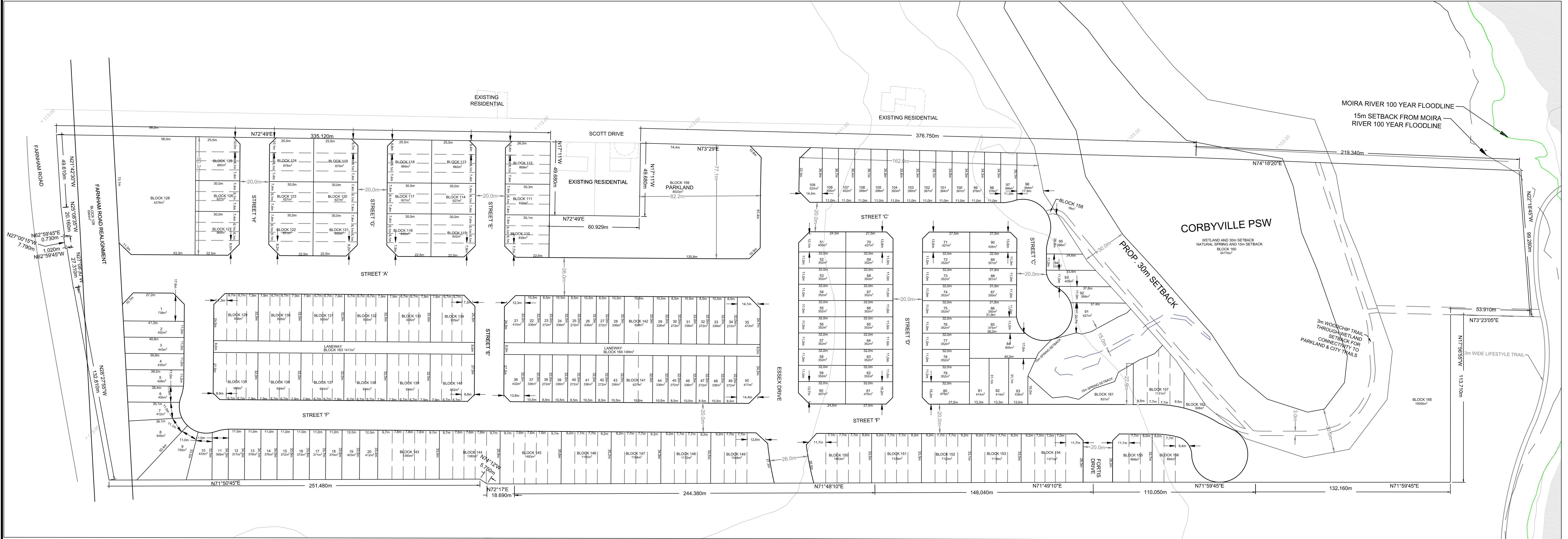
DRAFT PLAN OF SUBDIVISION
 PART OF PARK LOTS 8 & 9, REGISTERED PLAN N.124
 AND PART OF LOT 8, CONCESSION 3
 FORMER GEOGRAPHIC TOWNSHIP OF THURLOW
 NOW CITY OF BELLEVILLE
 HASTINGS COUNTY
 SCALE 1:250

METRIC NOTE
 DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CONTOUR DATA
 CONTOUR AND TOPOGRAPHIC INFORMATION GENERATED USING INFORMATION PROVIDED BY ONTARIO BASE MAPPING.



KEY MAP N.T.S.



SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

KEITH WATSON
 ONTARIO LAND SURVEYOR

OWNER'S CERTIFICATE

I AUTHORIZE AINLEY GROUP TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF BELLEVILLE FOR APPROVAL.

ANDY GEERTSMA

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	21/10/2019	CRS

Not Valid Unless Signed And Dated

SCALE:	1:1250
DESIGN:	CRS
DRAWN:	CRS
CHECKED:	AJW
DATE:	OCT 2019

RIVERSTONE SUBDIVISION
 CITY OF BELLEVILLE

DRAFT PLAN

CONSULTING ENGINEERS PLANNERS

CONTRACT No. 19503-1 DWG 19503-DP

V:\19503-1 - Cannif North (Geospatial)\Drawing\Cannif North Draft Plan-Oct20.dwg 2019-10-29 2:59:39 PM

TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL
AREAS OR URBAN AREAS WITH RESTRICTED FLOW

.....

TRAFFIC SIGNALS MAY BE WARRANTED IN
"FREE FLOW" URBAN AREAS

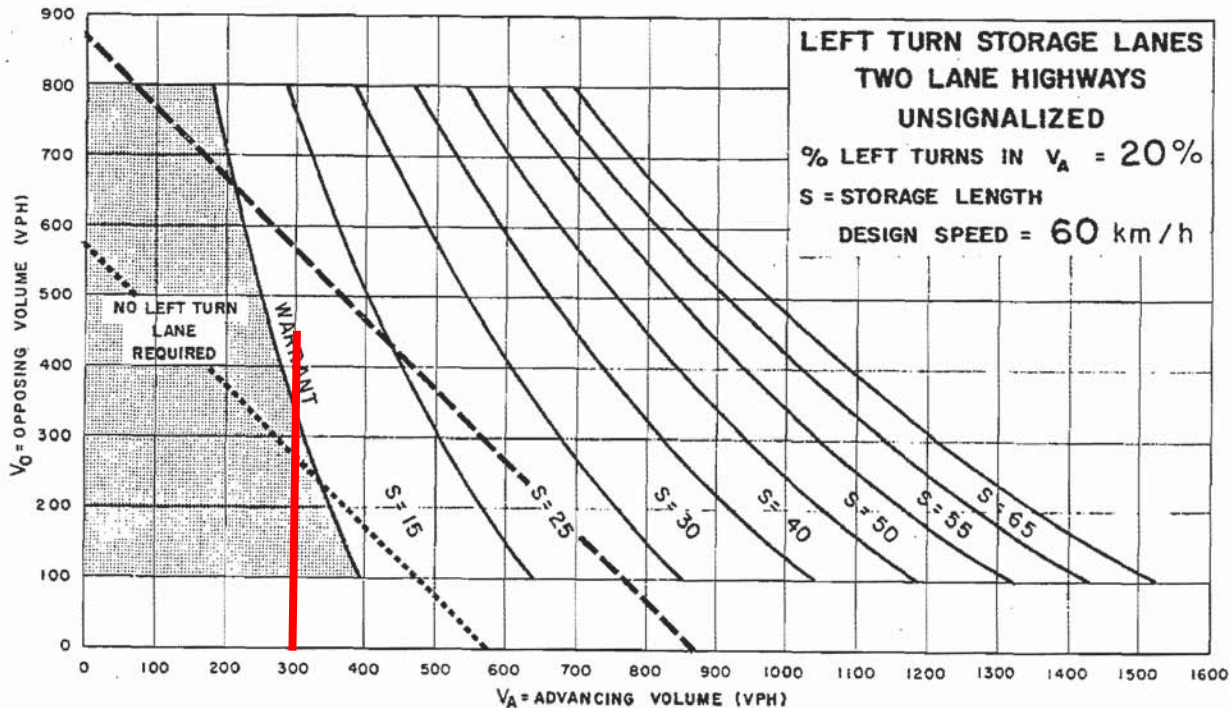


Figure EA-7

**FIGURE 4
LEFT TURN LANE
WARRANT ANALYSIS**



MEMORANDUM

Ainley Graham & Associates Limited
139 Front Street, Belleville, ON K8N 2Y6
Tel: (613) 966-4243 P Fax: (613) 966-1168

To: Steve Ashton **Copy to:** File
From: Caitlin Sheahan
Date: October 30, 2019
Ref: Riverstone Draft Plan and Rezoning Application – Phase I/II **File:** 19503-1
Summary

ESA

Comments:

GCL Developments Ltd. is proposing a Draft Plan of Subdivision, Official Plan Amendment, and Zoning By-Law Amendment application on the east side of Farnham Road, immediately south of Scott Drive. The development property is 21.26 hectares (ha) in size, and is located between an existing residential subdivision located to the south of the subject property (Canniff Mills Subdivision) and Scott Drive to the north outlined in **Figure 1**. It is proposed to develop the land with seventy-nine (79) single family residential lots, thirty (30) alternating 8.5m/10.5m single family residential lots with laneway access, four (4) semi-detached lots, forty-eight (48) townhouse lots with laneway access, sixty-six (66) townhouse lots (2-storey), sixty-three (63) bungalow townhouse lots, one medium density residential block with thirty-five (35) units within 1-3storey buildings, and one (1) condo block with forty-two (42) units (**Figure 2**). In 2018, a Zoning By-law Amendment application was submitted for this property by a different developer, with many background studies completed to support the application. Among these studies were Phase I and II Environmental Site Assessments (ESAs). The purpose of this memo is to provide a review of the previously completed Phase I and II ESAs associated with this property.

Existing Conditions:

The property is legally described as Part of Park Lots 8 and 9, Registered Plan 124, Part of Lot 8, Concession 3, former Township of Thurlow, now City of Belleville, Hastings County. The parcel of land is approximately 21.26 hectares. The property is bounded to the north by Scott Drive and existing residential development, Moira River to the east, Canniff Mills Residential Subdivision to the south, and Farnham Road to the west. A portion of the Corbyville Provincially Significant Wetland (PSW) occurs within the subject property. The Moira River 100-year flood line occurs to the immediate east of the property. The property is mostly vacant and partially treed. There are two abandoned structures at the western property limits. The site is predominately flat with a slope to the east. Drainage is generally conveyed to the PSW and the Moira River.

Phase I ESA Summary:

A Phase One Environmental Site Assessment was completed for the subject property by WSP Canada Inc. (WSP). The assessment was based off a visual observation and a review of available or supplied factual data to identify potential contaminating activities (PCAs), areas of potential environmental concern (APECs) and potential contaminant of concerns (PCOCs). The report was comprised of site information from site reconnaissance, record reviews, and interviews.

The subject property is relatively flat with an elevation of approximately 103-113 meters. The topography of the land slopes to the east towards the Moira River. The shallow groundwater has a flow direction towards the east/southeast throughout the subject property. The property is within a drumlinized till plain physiographic region. The surficial geology in the vicinity of the site is described as 'bevelled till plains'. The underlying bedrock within the area generally consists of shale, limestone, dolostone, and siltstone of the Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member, and Eastview Member. Bedrock at the property is approximately 0.5 to 2.5 meters below ground surface. Surrounding historical and current property land uses appear to have been primarily residential, agricultural and commercial uses.

PCAs within the site and/or the study area were flagged as APECs and PCOCs during the Phase I ESA. Table 1 below summarizes the PCAs that lead to the APECs and Table 2 summarizes the APECs.

Table 1: Potential Contaminating Activity Observations

PCAs	Description
PCA No. 28 Gasoline and Associated Products Storage in Fixed Tanks	<u>Phase One Property</u> - Based on WSP's site reconnaissance, an above-ground storage tank (AST) was located on the east side of the residential dwelling with no further information provided about its use or former operation. Due to the presence of this PCA on site, it was considered to be contributing to APEC 1 .
PCA No. 34 Metal Fabrication	<u>Phase One Study Area</u> - Based on a review of the historical records, WSP noted that the property located at 176 Farnham Road was reported to operate as a 'Pre-Fabricated Metal Building and Component Manufacturing', 'All Other Miscellaneous Fabricated Metal Product Manufacturing', and 'Showcase, Partition, Shelving and Locking Manufacturing'. Due to the up-gradient to cross-gradient location of this PCA relative to the site, and groundwater flow direction, it was considered to be contributing to APEC 2 .
PCA No. 40 Pesticides (Herbicides, Fungicides, and Anti- Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-	<u>Phase One Property</u> - The long-term historical use of the site for agricultural purposes is associated with the application of pesticides, which was considered to contribute to APEC 3 .

Scale Applications	
PCA No. 57 Vehicles and Associated Parts Manufacturing	<u>Phase One Study Area</u> - Based on the site reconnaissance, WSP noted that 'CPK Interiors' was located at 134 River Road, approximately 230 m north east of the site and was reported to be a manufacturer of vehicle parts. Due to the distance of this property to the site and the groundwater flow direction, WSP indicated that this was not anticipated to be contributing to an area of potential environmental concern for the site.
PCA No. 46 Rail Yards, Tracks and Spurs	<u>Phase One Study Area</u> - During the historical records review, WSP noted that a Canadian National Railway line was located near River Road approximately 230 m east of the site. Due to the relative distance of this PCA to the site and its location on the opposite side of Moira River, WSP indicated that this was not anticipated to be contributing to the area of potential environmental concern for the site.

Table 2: Summary of APECS

Area of Potential Environmental Concern	Location of Potential Environmental concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (On-Site or Off-Site)	Potential Contaminants of Concern*	Media Potentially Impacted (Ground Water, Soil and/or sediment)
APEC-1	Western portion of the Phase One Property	PCA No. 28 Gasoline and Associated Products Storage in Fixed Tanks	On-site	PHCs, BTEX, VOCs	Soil & Groundwater
APEC-2	Northwestern portion of the Phase One Property	PCA No. 34 Metal Fabrication	Off-site	Metals, VOCs, PAHs	Groundwater
APEC-3	Entire Phase One Property	PCA No. 40 Pesticides (Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-site	OC pesticides	Soil

*Potential Contaminations of Concerns: Metals, petroleum hydrocarbons (PHCs), volatile organic hydrocarbons (VOCs), polycyclic aromatic hydrocarbons (PAHs), and organochlorine (OC) pesticides.

Based on the identified APECS from the completed Phase One ESA, a Phase Two ESA was required to satisfy the environmental site assessment.

Phase II ESA Summary:

A Phase Two Environmental Site Assessment was completed for the subject property by WSP Canada Inc. The assessment included the testing of soil and groundwater prior to development. It was noted that a Record of Site Condition (RSC) was not necessary as the property is not changing to a more sensitive land use.

Based off of the PCAs that contributed to the APECs outlined in **Table 1** and **Table 2**, ten (10) borehole locations were selected and drilled on May 28 and May 29, 2018. Of the ten (10) boreholes, three (3) were converted to monitoring wells for groundwater sampling taken on June 4, 2018. The soil and ground water samples were tested for the following PCOCs; metals and other regulated parameters, PHCs, VOCs, OC pesticides, and PAHs. Soil and groundwater samples were compared to the 2011 Ministry of Environment and Climate Change (MOECC) Table 1 Full Depth Background Site Condition Standard (SCS).

Nine (9) soil samples and two (2) QA/QC samples were collected on June 1, 2019. The soil test results indicated that all nine (9) soil samples met the Table 1 SCS for all parameters.

Three (3) groundwater samples were collected on June 4, 2018 and showed elevated levels of cobalt, nickel, chloroform, ethylbenzene, and toluene compared to the Table 1 SCS. Due to these elevated parameters, a second round of sampling was carried out on June 15, 2018. A summary of the sampling results is included in Table 3.

Table 3: Groundwater Samples Exceeding Table 1 Site Condition Standards (SCS)

Sample Location	Screened Depth (mbgs)	Parameter	Table 1 SCS (ug/L)	Analytical Results (ug/L) (June 4)	Analytical Results (ug/L) (June 15)
BH18-2	2.7 – 5.8	Cobalt	3.8	12.4	5.2
		Nickel	14	57	29.5
		Copper	5	4.5	10.4
		Chloroform	2	24	2.6
QACA		Chloroform	2	3.5	-
BH18-6	2.1 – 5.2	Chloroform	2	3	1.2
BH18-10	3.1 – 5.2	Chloroform	2	20	6.6
QAQC			2	-	6.6
BH18-10		Ethylbenzene	0.5	0.59	<0.10
		Toluene	0.8	1.2	0.72

*Red values indicate results that exceed the Table 1 SCS.

WSP noted that potable water was used to facilitate coring of the bedrock and noted that this was the likely source of the elevated chloroform within the groundwater samples. They noted the levels were reduced in the second round of sampling. Further, ethylbenzene and toluene levels met the applicable site condition standards during the second round of sampling. WSP

concluded that the elevated readings in the initial testing were likely present due to sediment in the groundwater sample.

The second round of sampling still resulted in elevated metals (cobalt, nickel, and copper); however, the levels of cobalt and nickel were reduced compared to the previous sampling results. WSP noted that these higher levels could have been naturally occurring due to the shallow bedrock in the area.

2019 Monitoring Well Sampling:

Based on the results of the previous studies carried out by WSP, Ainley Group carried out an additional round of groundwater sampling from the monitoring wells at the subject property on October 8, 2019. Water level measurements were collected at all three groundwater monitoring wells from the previous study (BH18-2, BH18-6, and BH18-10, **Figure 3**). Well sampling was only achievable from BH18-2 and BH18-10; there was insufficient water in BH18-6 to carry out sampling. In previous sampling, BH18-6 only had exceeded levels of Chloroform. Further, the exceeded Chloroform levels were only observed in the first round of sampling and, as stated by WSP, this was likely caused by the use of potable water when drilling the boreholes. As such, this borehole was not anticipated to show any elevated parameters and the area is not anticipated to be of concern.

Monitoring wells BH18-10 and BH18-2 were purged and sampled using low flow (low stress) sampling technique per the US EPA Region 1 procedure (2017). Sampling only occurred once at least a full well volume had been purged and all indicator field measurements were sufficiently stable. Purging and sampling activities were completed using dedicated 12.7 mm tubing with a peristaltic pump while wearing disposable nitrile gloves. Samples were collected in laboratory prepared and supplied bottles. The samples submitted for metal analysis were field-filtered using a single-use 0.45 micron Waterra FHT-Groundwater Filter. BH18-2 ran dry during the sampling program; as such, the sample bottle for PAHs analyses was only half full.

A total of two (2) groundwater samples (one from each borehole) were collected on the subject property and submitted to Paracel Laboratories Ltd. for analysis of metals, PHCs, PAHs, VOCs, general chemistry, and cation / anion concentrations. Groundwater analytical parameters were selected per the scope of work for the subject property. Groundwater contaminants of potential concern included PHCs, BTEX, metals and PAHs. A summary of the results of the groundwater analysis are shown in **Table 4**. The full results are included in **Appendix A**.

Table 4: 2019 Monitoring Well Sampling Summary

Sample Location	Screened Depth (mbgs)	Parameter	Table 1 SCS (ug/L)	Analytical Results (ug/L) Oct 8, 2019
BH18-10	3.67	Cobalt	3.8	ND (0.5)
		Copper	5	0.9
		Chloroform	2	ND (0.5)
		Ethylbenzene	0.5	ND (0.5)
		Toluene	0.8	ND (0.5)
BH18-2	6.55	Cobalt	3.8	4.7
		Copper	5	7.8
		Nickel	14	13
		Chloroform	2	ND (0.5)
		Benzo[a]pyrene	0.01	ND (0.02)*

*ND (0.02) – Not Detected, Detection Limit = 0.02. As the PAHs sample bottle for BH18-2 was only half full, the detection limits had to be raised for the laboratory to analyze the sample. This brought the detection limit for Benzo[a]pyrene for the sample to 0.02 ug/L, which is higher than the Table 1 SCS guideline for the parameter (0.01 ug/L). As this was not a parameter of concern in the previous sampling, it is not anticipated that the parameter would have exceeded the Table 1 regulation.

As shown in **Table 4**, the only parameters that exceeded the Table 1 SCS regulation are Copper and Cobalt in BH18-2, which is consistent with the previous sampling. However, the values have dramatically improved from the previous sampling, which could be related to the low flow (low stress) sampling technique, which prevents surging and disturbance to the well and therefore less accumulation of sediment within the sample. WSP noted that the elevated levels of metals in this area could be naturally occurring and related to the bedrock in the area. If these elevated parameters were compared to the Table 2 Regulation for Potable Water, only Cobalt would be in exceedance. If these elevated parameters were compared to the Table 3 Regulation for Non-Potable Water, no parameters would be in exceedance (**Appendix A**).

The Table 3 Regulation (non-potable water) could be applied to these lands, as the development is proposed with Municipal watermain; however, there are local well users within 250m of the well (**Figure 3**, properties on Farnham Road). It is therefore recommended that the drinking water for these local well users is monitored before and after construction, to ensure their water quality is not impacted by the development.

Current ERIS Report:

An Environmental Risk Information Services (ERIS) database report was completed September 27, 2019 to compare with the original ERIS report completed on May 14, 2018. Between this timeframe there have not been any new environmental concerns, such as spills or contamination of groundwater and soil within the 250m radius of the subject property. The current ERIS report is consistent with the one fully summarized in the WSP Phase 1 ESA 2018 report.

Conclusion and Recommendations

Based on the results of the Phase I/II ESA completed by WSP Canada Ltd., the ERIS report obtained September 2019, and the groundwater sampling carried out by Ainley Group (2019) the following conclusions and recommendations are provided:

- Groundwater samples collected on the subject property by Ainley Group met the applicable Table 1 SCS for all parameters, with the exception of Cobalt and Copper in BH18-2. These parameters had previously been observed by WSP to be in exceedance, with WSP recording even higher concentrations. WSP noted that the elevated levels of metals in the vicinity of BH18-2 could be naturally occurring and related to the bedrock in the area.
- Drinking water for the local well users within 250m of BH18-2 should be monitored before and after construction, to ensure their well water quality is not impacted by the development.
- Should any contaminants be encountered during future site activities that were beyond the scope of the previous reports and this summary memo, then the appropriate investigative and remedial measures should occur to adequately address the encountered constituent.



LAND USE SUMMARY

	UNITS	AREA (ha)
11.0m SINGLE DETACHED LOT (LOTS 1-20, 21-100)	79	3.252
5.0m/10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS (LOTS 21-50)	30	0.973
8.5m SEMI-DETACHED LOT WITH LANEWAY ACCESS (BLOCKS 141-142)	4	0.126
6.7m 3-STORY TOWNHOMES WITH LANEWAY ACCESS (BLOCKS 130-140)	48	1.126
6.0m 2-STORY TOWNHOMES 6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK (BLOCKS 110-127)	66	1.388
7.5m BUNGALOW TOWNHOMES (BLOCKS 143-157)	63	1.819
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS (BLOCK 128)	35	0.428
CONDO BLOCK 165	42	1.900
PARKLAND DEDICATION BLOCK 159		0.802
PARKETTE / ACCESS TO WETLAND SETBACK TRAILS BLOCKS 161-162		0.114
PSW & 30m SETBACK NATURAL SPRING & 15m SETBACK (BLOCK 160)		3.477
AREA OF PROPOSED ROADWAY NETWORK: 4.854 ha AREA OF PROPOSED LANEWAYS (BLOCKS 163-164): 0.280 ha AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.696 ha		
TOTAL	367	21.2 Ha

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

- a) SHOWN ON DRAFT PLAN AND SURVEYOR'S CERTIFICATE
- b) SHOWN ON DRAFT AND KEY PLANS
- c) SHOWN ON KEY PLAN
- d) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
- e) SHOWN ON DRAFT PLAN
- f) SHOWN ON DRAFT PLAN
- g) SHOWN ON DRAFT AND KEY PLANS
- h) FULL MUNICIPAL SERVICES
- i) SOIL IS FARMINGTON LOAM AND SOLMESVILLE CLAY LOAM
- j) SHOWN ON DRAFT PLAN
- k) ALL MUNICIPAL SERVICES TO BE PROVIDED
- l) SHOWN ON DRAFT PLAN

RIVERSTONE

DRAFT PLAN OF SUBDIVISION

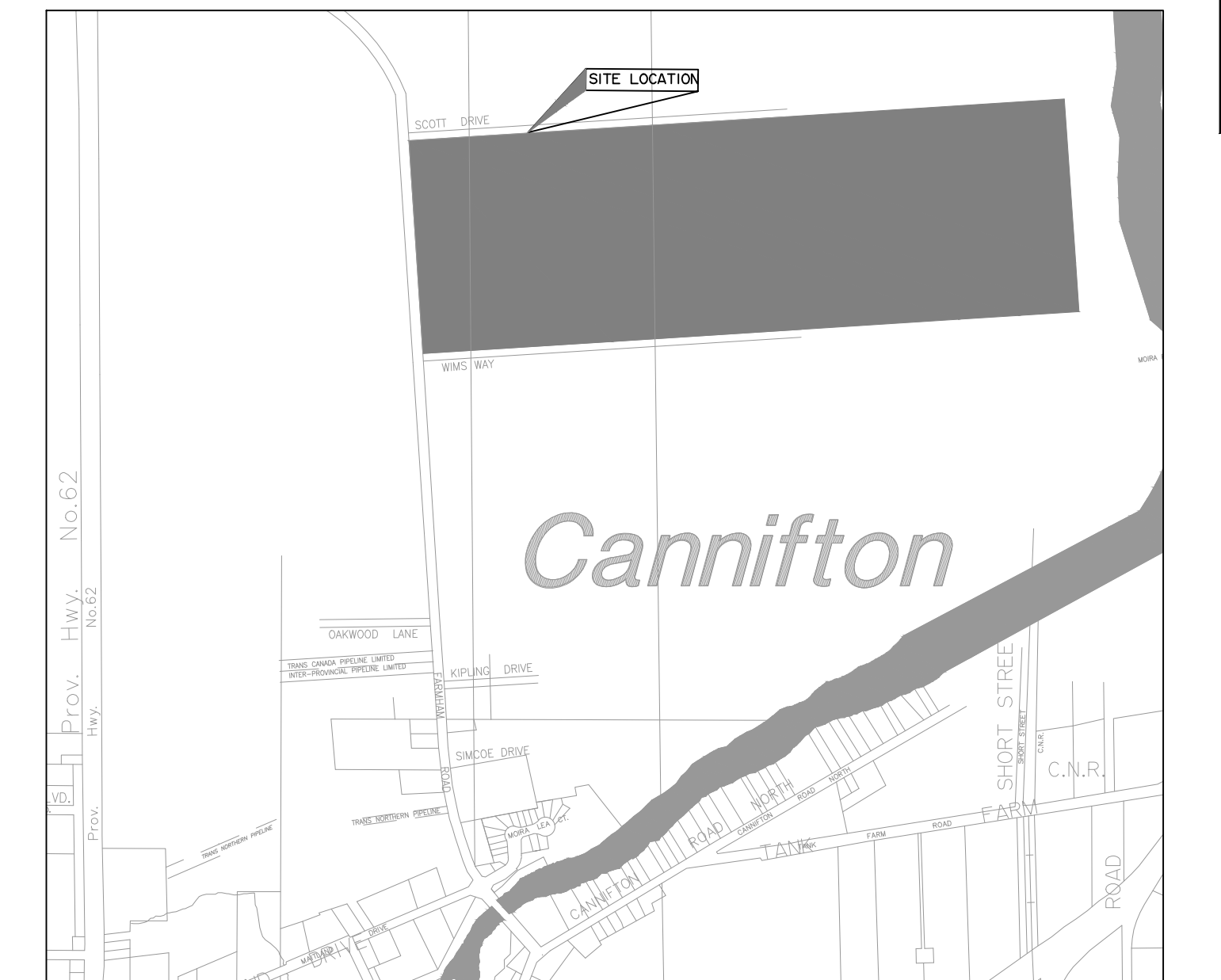
PART OF PARK LOTS 8 & 9, REGISTERED PLAN N.124 AND PART OF LOT 8, CONCESSION 3
FORMER GEOGRAPHIC TOWNSHIP OF THURLOW
NOW CITY OF BELLEVILLE
HASTINGS COUNTY
SCALE 1:250

METRIC NOTE

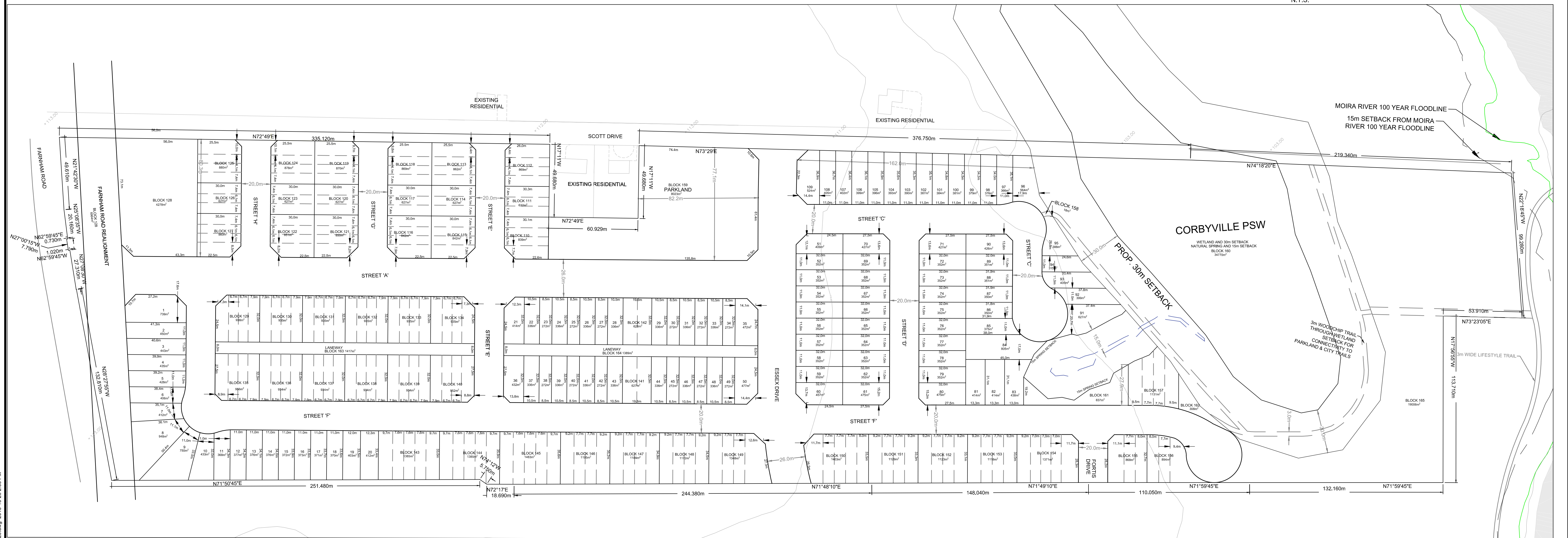
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CONTOUR DATA

CONTOUR AND TOPOGRAPHIC INFORMATION GENERATED USING INFORMATION PROVIDED BY ONTARIO BASE MAPPING.



KEY MAP N.T.S.



SURVEYOR'S CERTIFICATE
I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

KEITH WATSON
ONTARIO LAND SURVEYOR

DATE

OWNER'S CERTIFICATE
I AUTHORIZE AINLEY GROUP TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF BELLEVILLE FOR APPROVAL.

ANDY GEERTSMA

DATE

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	21/10/2019	CRS

Not Valid Unless Signed And Dated

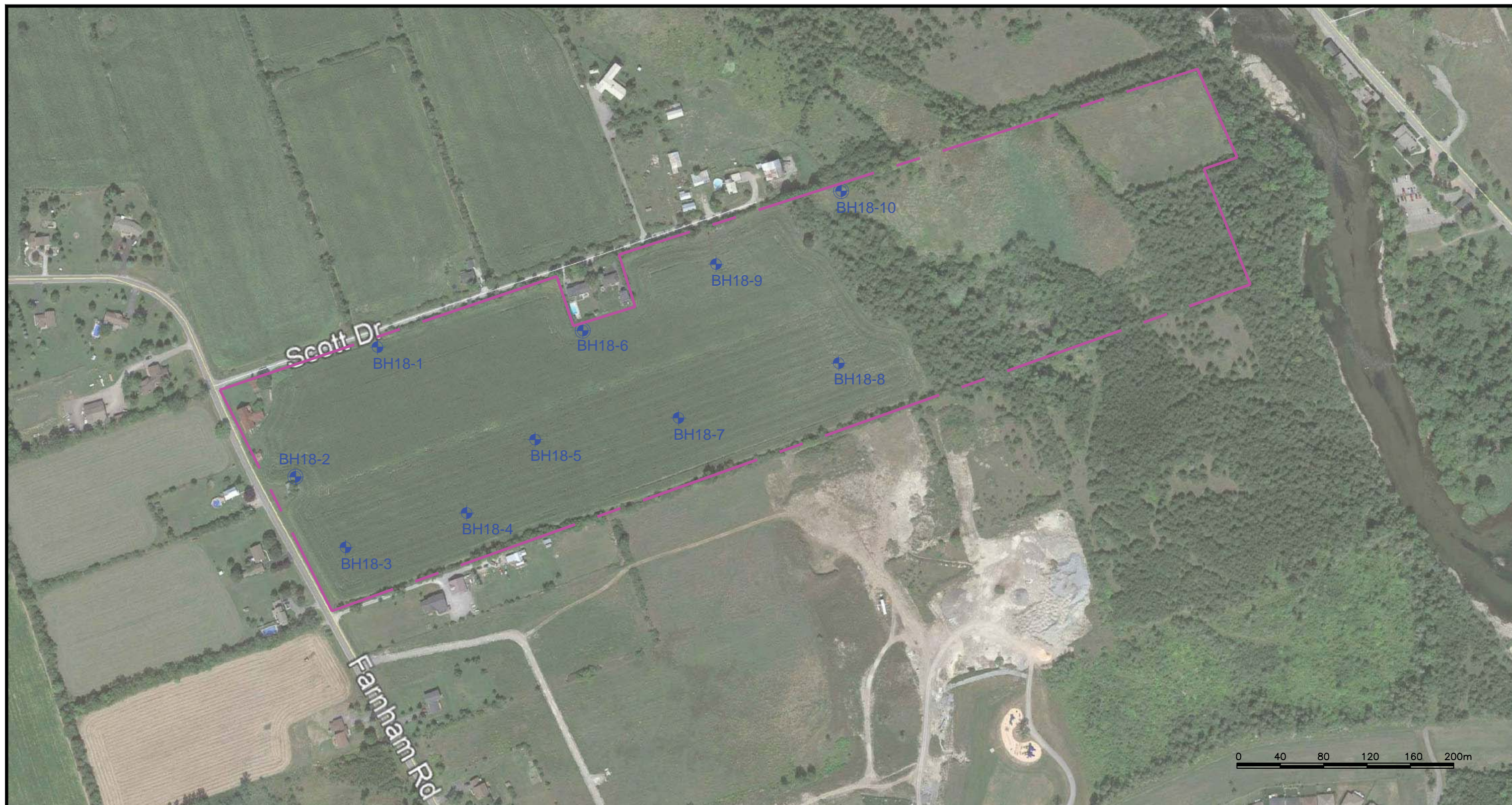
SCALE: 1:1250
DESIGN: CRS
DRAWN: CRS
CHECKED: AJW
DATE: OCT 2019

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE

DRAFT PLAN

CONTRACT No. 19503-1
DWG 19503-DP

V:\19503-1 - Cannif North (Geospatial)\Drawing\Cannif North Draft Plan-Oct2019.dwg 2019-10-29 2:59:39 PM



- Legend:
- Phase Two Property
 - Borehole
 - ⊕ Monitoring Well

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE

PHASE I/II PROPERTY
BOREHOLE LOCATION PLAN



CONSULTING
ENGINEERS
PLANNERS

APPENDIX A
2019 Sampling Results

gw_results

Appendix A		CLIENT: Ainley Graham & Associates Limited			
PARACEL LABORATORIES LTD.		ATTENTION: Victoria Chapman			
WORKORDER: 1941307		PROJECT: 19503-1			
REPORT DATE: 10/16/2019		REFERENCE: #18-778 Ainley - MTO Enviro. Services Retainer			
Parameter	Units	MDL	Regulation	Sample	
				BH18-10 1941307-01	BH18-2 1941307-02
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 1 Groundwater	10/08/2019 12:00 PM	10/08/2019 12:00 PM
Metals					
Mercury	ug/L	0.1	0.1 ug/L	ND (0.1)	ND (0.1)
Antimony	ug/L	0.5	1.5 ug/L	ND (0.5)	ND (0.5)
Arsenic	ug/L	1	13 ug/L	ND (1)	ND (1)
Barium	ug/L	1	610 ug/L	47	217
Beryllium	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Boron	ug/L	10	1700 ug/L	20	457
Cadmium	ug/L	0.1	0.5 ug/L	ND (0.1)	ND (0.1)
Chromium	ug/L	1	11 ug/L	ND (1)	ND (1)
Chromium (VI)	ug/L	10	25 ug/L	ND (10)	ND (10)
Cobalt	ug/L	0.5	3.8 ug/L	ND (0.5)	4.7
Copper	ug/L	0.5	5 ug/L	0.9	7.8
Lead	ug/L	0.1	1.9 ug/L	ND (0.1)	ND (0.1)
Molybdenum	ug/L	0.5	23 ug/L	ND (0.5)	4.8
Nickel	ug/L	1	14 ug/L	ND (1)	13
Selenium	ug/L	1	5 ug/L	ND (1)	ND (1)
Silver	ug/L	0.1	0.3 ug/L	ND (0.1)	ND (0.1)
Sodium	ug/L	200	490000 ug/L	38000	17300
Thallium	ug/L	0.1	0.5 ug/L	ND (0.1)	ND (0.1)
Uranium	ug/L	0.1	8.9 ug/L	0.6	0.9
Vanadium	ug/L	0.5	3.9 ug/L	ND (0.5)	ND (0.5)
Zinc	ug/L	5	160 ug/L	ND (5)	7
Volatiles					
Acetone	ug/L	5.0	2700 ug/L	ND (5.0)	ND (5.0)
Benzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	0.5	2 ug/L	ND (0.5)	ND (0.5)
Bromoform	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)
Bromomethane	ug/L	0.5	0.89 ug/L	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.2	0.2 ug/L	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Chloroform	ug/L	0.5	2 ug/L	ND (0.5)	ND (0.5)
Dibromochloromethane	ug/L	0.5	2 ug/L	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	1.0	590 ug/L	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
trans-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloropropane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
trans-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
1,3-Dichloropropene, total	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Ethylene dibromide (dibromoethane)	ug/L	0.2	0.2 ug/L	ND (0.2)	ND (0.2)
Hexane	ug/L	1.0	5 ug/L	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	400 ug/L	ND (5.0)	ND (5.0)
Methyl Isobutyl Ketone	ug/L	5.0	640 ug/L	ND (5.0)	ND (5.0)
Methyl tert-butyl ether	ug/L	2.0	15 ug/L	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	5.0	5 ug/L	ND (5.0)	ND (5.0)
Styrene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethane	ug/L	0.5	1.1 ug/L	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	0.8 ug/L	ND (0.5)	ND (0.5)
1,1,1-Trichloroethane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Trichlorofluoromethane	ug/L	1.0	150 ug/L	ND (1.0)	ND (1.0)
Vinyl Chloride	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
Xylenes, total	ug/L	0.5	72 ug/L	ND (0.5)	ND (0.5)
Hydrocarbons					
F1 PHCs (C6-C10)	ug/L	25	420 ug/L	ND (25)	ND (25)
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	ND (100)	ND (100)
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	ND (100)	ND (100)

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F4 PHCs (C34-C50)	ug/L	100	500 ug/L	ND (100)	ND (100)
Semi-Volatiles					
Acenaphthene	ug/L	0.05	4.1 ug/L	ND (0.05)	ND (0.10)
Acenaphthylene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.10)
Anthracene	ug/L	0.01	0.1 ug/L	ND (0.01)	ND (0.02)
Benzo[a]anthracene	ug/L	0.01	0.2 ug/L	ND (0.01)	ND (0.02)
Benzo[a]pyrene	ug/L	0.01	0.01 ug/L	ND (0.01)	ND (0.02)
Benzo[b]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Benzo[g,h,i]perylene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
Benzo[k]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Chrysene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Dibenzo[a,h]anthracene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
Fluoranthene	ug/L	0.01	0.4 ug/L	ND (0.01)	ND (0.02)
Fluorene	ug/L	0.05	120 ug/L	ND (0.05)	ND (0.10)
Indeno[1,2,3-cd]pyrene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
1-Methylnaphthalene	ug/L	0.05	2 ug/L	ND (0.05)	ND (0.10)
2-Methylnaphthalene	ug/L	0.05	2 ug/L	ND (0.05)	ND (0.10)
Methylnaphthalene (1&2)	ug/L	0.10	2 ug/L	ND (0.10)	ND (0.20)
Naphthalene	ug/L	0.05	7 ug/L	ND (0.05)	ND (0.10)
Phenanthrene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Pyrene	ug/L	0.01	0.2 ug/L	ND (0.01)	ND (0.02)

gw_results

Appendix A		CLIENT: Ainley Graham & Associates Limited			
PARACEL LABORATORIES LTD.		ATTENTION: Victoria Chapman			
WORKORDER: 1941307		PROJECT: 19503-1			
REPORT DATE: 10/16/2019		REFERENCE: #18-778 Ainley - MTO Enviro. Services Retainer			
Parameter	Units	MDL	Regulation	Sample	
				BH18-10 1941307-01	BH18-2 1941307-02
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 2 Potable Groundwater, coarse	10/08/2019 12:00 PM	10/08/2019 12:00 PM
Metals					
Mercury	ug/L	0.1	0.29 ug/L	ND (0.1)	ND (0.1)
Antimony	ug/L	0.5	6 ug/L	ND (0.5)	ND (0.5)
Arsenic	ug/L	1	25 ug/L	ND (1)	ND (1)
Barium	ug/L	1	1000 ug/L	47	217
Beryllium	ug/L	0.5	4 ug/L	ND (0.5)	ND (0.5)
Boron	ug/L	10	5000 ug/L	20	457
Cadmium	ug/L	0.1	2.7 ug/L	ND (0.1)	ND (0.1)
Chromium	ug/L	1	50 ug/L	ND (1)	ND (1)
Chromium (VI)	ug/L	10	25 ug/L	ND (10)	ND (10)
Cobalt	ug/L	0.5	3.8 ug/L	ND (0.5)	4.7
Copper	ug/L	0.5	87 ug/L	0.9	7.8
Lead	ug/L	0.1	10 ug/L	ND (0.1)	ND (0.1)
Molybdenum	ug/L	0.5	70 ug/L	ND (0.5)	4.8
Nickel	ug/L	1	100 ug/L	ND (1)	13
Selenium	ug/L	1	10 ug/L	ND (1)	ND (1)
Silver	ug/L	0.1	1.5 ug/L	ND (0.1)	ND (0.1)
Sodium	ug/L	200	490000 ug/L	38000	17300
Thallium	ug/L	0.1	2 ug/L	ND (0.1)	ND (0.1)
Uranium	ug/L	0.1	20 ug/L	0.6	0.9
Vanadium	ug/L	0.5	6.2 ug/L	ND (0.5)	ND (0.5)
Zinc	ug/L	5	1100 ug/L	ND (5)	7
Volatiles					
Acetone	ug/L	5.0	2700 ug/L	ND (5.0)	ND (5.0)
Benzene	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	0.5	16 ug/L	ND (0.5)	ND (0.5)
Bromoform	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)
Bromomethane	ug/L	0.5	0.89 ug/L	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.2	0.79 ug/L	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	0.5	30 ug/L	ND (0.5)	ND (0.5)
Chloroform	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)
Dibromochloromethane	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	1.0	590 ug/L	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	0.5	3 ug/L	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	0.5	59 ug/L	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
trans-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloropropane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
trans-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
1,3-Dichloropropene, total	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)
Ethylene dibromide (dibromoethane)	ug/L	0.2	0.2 ug/L	ND (0.2)	ND (0.2)
Hexane	ug/L	1.0	51 ug/L	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	1800 ug/L	ND (5.0)	ND (5.0)
Methyl Isobutyl Ketone	ug/L	5.0	640 ug/L	ND (5.0)	ND (5.0)
Methyl tert-butyl ether	ug/L	2.0	15 ug/L	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	5.0	50 ug/L	ND (5.0)	ND (5.0)
Styrene	ug/L	0.5	5.4 ug/L	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethane	ug/L	0.5	1.1 ug/L	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethane	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	24 ug/L	ND (0.5)	ND (0.5)
1,1,1-Trichloroethane	ug/L	0.5	200 ug/L	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	0.5	4.7 ug/L	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
Trichlorofluoromethane	ug/L	1.0	150 ug/L	ND (1.0)	ND (1.0)
Vinyl Chloride	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
Xylenes, total	ug/L	0.5	300 ug/L	ND (0.5)	ND (0.5)
Hydrocarbons					
F1 PHCs (C6-C10)	ug/L	25	750 ug/L	ND (25)	ND (25)
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	ND (100)	ND (100)
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	ND (100)	ND (100)

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F4 PHCs (C34-C50)	ug/L	100	500 ug/L	ND (100)	ND (100)
Semi-Volatiles					
Acenaphthene	ug/L	0.05	4.1 ug/L	ND (0.05)	ND (0.10)
Acenaphthylene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.10)
Anthracene	ug/L	0.01	2.4 ug/L	ND (0.01)	ND (0.02)
Benzo[a]anthracene	ug/L	0.01	1 ug/L	ND (0.01)	ND (0.02)
Benzo[a]pyrene	ug/L	0.01	0.01 ug/L	ND (0.01)	ND (0.02)
Benzo[b]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Benzo[g,h,i]perylene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
Benzo[k]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Chrysene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.10)
Dibenzo[a,h]anthracene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
Fluoranthene	ug/L	0.01	0.41 ug/L	ND (0.01)	ND (0.02)
Fluorene	ug/L	0.05	120 ug/L	ND (0.05)	ND (0.10)
Indeno[1,2,3-cd]pyrene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
1-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.10)
2-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.10)
Methylnaphthalene (1&2)	ug/L	0.10	3.2 ug/L	ND (0.10)	ND (0.20)
Naphthalene	ug/L	0.05	11 ug/L	ND (0.05)	ND (0.10)
Phenanthrene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.10)
Pyrene	ug/L	0.01	4.1 ug/L	ND (0.01)	ND (0.02)

gw_results

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WORKORDER: 1941307		PROJECT: 19503-1			
REPORT DATE: 10/16/2019		REFERENCE: #18-778 Ainley - MTO Enviro. Services Retainer			
Parameter	Units	MDL	Regulation	Sample	
				BH18-10 1941307-01	BH18-2 1941307-02
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Non-Potable Groundwater, coarse	10/08/2019 12:00 PM	10/08/2019 12:00 PM
Metals					
Mercury	ug/L	0.1	0.29 ug/L	ND (0.1)	ND (0.1)
Antimony	ug/L	0.5	20000 ug/L	ND (0.5)	ND (0.5)
Arsenic	ug/L	1	1900 ug/L	ND (1)	ND (1)
Barium	ug/L	1	29000 ug/L	47	217
Beryllium	ug/L	0.5	67 ug/L	ND (0.5)	ND (0.5)
Boron	ug/L	10	45000 ug/L	20	457
Cadmium	ug/L	0.1	2.7 ug/L	ND (0.1)	ND (0.1)
Chromium	ug/L	1	810 ug/L	ND (1)	ND (1)
Chromium (VI)	ug/L	10	140 ug/L	ND (10)	ND (10)
Cobalt	ug/L	0.5	66 ug/L	ND (0.5)	4.7
Copper	ug/L	0.5	87 ug/L	0.9	7.8
Lead	ug/L	0.1	25 ug/L	ND (0.1)	ND (0.1)
Molybdenum	ug/L	0.5	9200 ug/L	ND (0.5)	4.8
Nickel	ug/L	1	490 ug/L	ND (1)	13
Selenium	ug/L	1	63 ug/L	ND (1)	ND (1)
Silver	ug/L	0.1	1.5 ug/L	ND (0.1)	ND (0.1)
Sodium	ug/L	200	2300000 ug/L	38000	17300
Thallium	ug/L	0.1	510 ug/L	ND (0.1)	ND (0.1)
Uranium	ug/L	0.1	420 ug/L	0.6	0.9
Vanadium	ug/L	0.5	250 ug/L	ND (0.5)	ND (0.5)
Zinc	ug/L	5	1100 ug/L	ND (5)	7
Volatiles					
Acetone	ug/L	5.0	130000 ug/L	ND (5.0)	ND (5.0)
Benzene	ug/L	0.5	44 ug/L	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	0.5	85000 ug/L	ND (0.5)	ND (0.5)
Bromoform	ug/L	0.5	380 ug/L	ND (0.5)	ND (0.5)
Bromomethane	ug/L	0.5	5.6 ug/L	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.2	0.79 ug/L	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	0.5	630 ug/L	ND (0.5)	ND (0.5)
Chloroform	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)
Dibromochloromethane	ug/L	0.5	82000 ug/L	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	1.0	4400 ug/L	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	0.5	4600 ug/L	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	0.5	9600 ug/L	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	0.5	8 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	0.5	320 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
trans-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
1,2-Dichloropropane	ug/L	0.5	16 ug/L	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
trans-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)
1,3-Dichloropropene, total	ug/L	0.5	5.2 ug/L	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	2300 ug/L	ND (0.5)	ND (0.5)
Ethylene dibromide (dibromoethane)	ug/L	0.2	0.25 ug/L	ND (0.2)	ND (0.2)
Hexane	ug/L	1.0	51 ug/L	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	470000 ug/L	ND (5.0)	ND (5.0)
Methyl Isobutyl Ketone	ug/L	5.0	140000 ug/L	ND (5.0)	ND (5.0)
Methyl tert-butyl ether	ug/L	2.0	190 ug/L	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	5.0	610 ug/L	ND (5.0)	ND (5.0)
Styrene	ug/L	0.5	1300 ug/L	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethane	ug/L	0.5	3.3 ug/L	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethane	ug/L	0.5	3.2 ug/L	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	18000 ug/L	ND (0.5)	ND (0.5)
1,1,1-Trichloroethane	ug/L	0.5	640 ug/L	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	0.5	4.7 ug/L	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)
Trichlorofluoromethane	ug/L	1.0	2500 ug/L	ND (1.0)	ND (1.0)
Vinyl Chloride	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)
Xylenes, total	ug/L	0.5	4200 ug/L	ND (0.5)	ND (0.5)
Hydrocarbons					
F1 PHCs (C6-C10)	ug/L	25	750 ug/L	ND (25)	ND (25)
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	ND (100)	ND (100)
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	ND (100)	ND (100)

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F4 PHCs (C34-C50)	ug/L	100	500 ug/L	ND (100)	ND (100)
Semi-Volatiles					
Acenaphthene	ug/L	0.05	600 ug/L	ND (0.05)	ND (0.10)
Acenaphthylene	ug/L	0.05	1.8 ug/L	ND (0.05)	ND (0.10)
Anthracene	ug/L	0.01	2.4 ug/L	ND (0.01)	ND (0.02)
Benzo[a]anthracene	ug/L	0.01	4.7 ug/L	ND (0.01)	ND (0.02)
Benzo[a]pyrene	ug/L	0.01	0.81 ug/L	ND (0.01)	ND (0.02)
Benzo[b]fluoranthene	ug/L	0.05	0.75 ug/L	ND (0.05)	ND (0.10)
Benzo[g,h,i]perylene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
Benzo[k]fluoranthene	ug/L	0.05	0.4 ug/L	ND (0.05)	ND (0.10)
Chrysene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.10)
Dibenzo[a,h]anthracene	ug/L	0.05	0.52 ug/L	ND (0.05)	ND (0.10)
Fluoranthene	ug/L	0.01	130 ug/L	ND (0.01)	ND (0.02)
Fluorene	ug/L	0.05	400 ug/L	ND (0.05)	ND (0.10)
Indeno[1,2,3-cd]pyrene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.10)
1-Methylnaphthalene	ug/L	0.05	1800 ug/L	ND (0.05)	ND (0.10)
2-Methylnaphthalene	ug/L	0.05	1800 ug/L	ND (0.05)	ND (0.10)
Methylnaphthalene (1&2)	ug/L	0.10	1800 ug/L	ND (0.10)	ND (0.20)
Naphthalene	ug/L	0.05	1400 ug/L	ND (0.05)	ND (0.10)
Phenanthrene	ug/L	0.05	580 ug/L	ND (0.05)	ND (0.10)
Pyrene	ug/L	0.01	68 ug/L	ND (0.01)	ND (0.02)

RIVERSTONE DEVELOPMENT

Preliminary Watermain Design Brief

**For Proposed Draft Plan of Subdivision, Zoning By-Law
Amendment, and Official Plan Amendment Applications**

OCTOBER 2019

AINLEY GRAHAM & ASSOCIATES

CONSULTING ENGINEERS AND PLANNERS

COLLINGWOOD · BARRIE · BELLEVILLE · KINGSTON · OTTAWA

File No. 19503-1

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1.0 INTRODUCTION

1.1 General

Ainley Group has been retained to undertake engineering services necessary for the completion of a watermain design brief to support the proposed Riverstone Draft Plan of Subdivision, Zoning By-Law Amendment and Official Plan Amendment within the City of Belleville.

The proposed development is located east of Farnham Road, south of Scott Drive and north of future Wims Way. The development site is represented in **Figure 1**.

The proposal will incorporate the development of 79 single family residential lots, 4 semi-detached lots with laneway access, 30 alternating single detached lots with laneway access, 48 3-storey townhouse lots with laneway access, 66 2-storey townhouse lots, 63 bungalow townhouse lots a medium-density block with 35 units, and a condo block with 42 units.

1.2 Criteria

This report has been prepared with consideration of the following documents and guidelines;

- Form 1 – Record of Watermains Authorized as a Future Alteration,
- Ministry of the Environment publication 'Watermain Design Criteria for Future Alterations Authorized under a Drinking Water Works Permit – June 2012',
- Ministry of the Environment publication 'Design Guidelines for Drinking Water Systems, 2008',
- Fire Underwriters Survey 'Water Supply for Public Protection (1999)', and
- The Corporation of the City of Belleville 'Manual of Standard Specifications'.

2.0 PROPOSED WATERMAIN WORKS

The proposed works will include the connection to the future 300mm diameter PVC watermain located within Essex Drive and Farnham Road, to be installed to support the Cannif Mills Residential Subdivision (2 locations). For the entirety of the proposed development (i.e. all phases), the approximate length of 300mm diameter watermain is 1,335m and the approximate length of 200mm diameter is 1,875m. **Figure 2** outlines the proposed development plan and watermain layout.

3.0 EXISTING CONDITIONS

Fire hydrant flow test results were provided by the City of Belleville Water Distribution and Service Department for an existing fire hydrant located at 41 Essex Drive. The results indicated a static pressure of 58 psi. A copy of the test results are enclosed in **Appendix B**.

4.0 WATER DEMAND EVALUATION

4.1 Domestic Water Demand

An evaluation of the anticipated water demand has been prepared using the guidelines set out in the Ministry of the Environment publication 'Design Guidelines for Drinking Water Systems, 2008'.

Based on the proposed full development unit count the anticipated demands are;

- Average Day – 4.46 l/s,
- Maximum Day – 11.15 l/s,
- Minimum Hour – 2.01 l/s,
- Peak Hour – 16.73 l/s.

Supporting calculations included in **Appendix C**.

4.2 Fire Flow

Fire flow requirements have been evaluated based on the Fire Underwriters Survey 'Water Supply for Public Protection (1999)'. The fire flow calculations were carried out with the understanding that a two (2) hour firewall would be installed between every other townhouse unit. For the 4-unit townhouses, a 2 hour firewall would be placed between the middle units. For the 6-unit townhouses, a 2 hour firewall would be placed between units 2/3 and 4/5.

The resulting Fire Flow + Maximum Day requirement has been determined to be 127.55 l/s.

At such a time that detailed engineering is completed for the individual phases of development, new hydrant testing can be completed after the Essex Drive and Farnham Road extensions have been constructed. The future hydrant testing may indicate that fire flows can be achieved without firewalls in the townhouse units.

Supporting calculations included in **Appendix C**.

4.3 Transient Pressure

The proposed 300mm and 200 mm diameter PVC Class 150 DR 18 pipe has been designed by the manufacturer to withstand pressures up to 150 psi, which is higher than the maximum operating pressure (100 psi) plus any transient pressure it may be subjected to.

The proposed pipes and joints have also been designed to withstand the maximum operating pressure plus the surge pressure that would be created by stopping a water column moving 0.6 m/s. The transient pressure surge in a PVC Class 150 DR 18 pipe with a 0.6 m/s water column is 35 psi.

5.0 HYDRAULIC EVALUATION

The MOE Design Guidelines for Drinking Water Systems (2008) state that the normal operating pressures in the water distribution system should be approximately 50 to 70 psi. The maximum pressure in the system should not exceed 100 psi, and the minimum pressure in the system should be no lower than 40 psi; however, in the case of fire flows, the pressure may drop to a level no lower than 20 psi.

An EPANET model was created to model the watermain pressures for the development. The water source used in the model is based off of the hydrant testing carried out at Essex Drive (**Appendix B**). Inputs into the model included the hydrant pressure and flow data; pipe lengths, friction factors, and diameters; pipe junction elevations; and demand flows. The data input into the model are included in **Appendix D** along with the output generated from the model. The model node used to test the normal demand and fire flow demand flows was node 29, which was considered to be located in the “worst case” position, as it is at a high point in elevation, is located at a far distance from the source, and water is connecting from only one direction.

The model shows that during Maximum Day Flows (normal demand conditions), the minimum pressure in the system will be 47.14 psi (33.15 m head), whereas during the Maximum Day + Fire Flow demand, the minimum pressure in the system will be 20.44 psi (14.38 m head). Two other flows were analyzed for quality control / confidence checks: 1) at 100 l/s, the pressure at the fire flow node will be 31.98 psi (22.49 m head), and 2) the flow that will cause 20 psi pressure (14.06 m head) at the fire flow demand node was determined to be 128.55 l/s. Supporting calculations are included in **Appendix D**. As such, the EPANET model shows that the watermain pressures conform to the guidelines for normal operating pressures and fire flow pressures.

6.0 DESIGN CONSIDERATIONS

Notwithstanding the following the Guidelines outlined in The Corporation of the City of Belleville ‘Manual of Standard Specifications’ shall apply. The following outlines the design considerations to be applied for the hydraulic evaluation and design layout;

Pipe Diameters

The distribution system shall require fire flow throughout; therefore, the minimum pipe diameter shall be 150mm.

Friction Factors

For all watermain 200mm in diameter – 120

For all watermain 300mm in diameter – 120

Pipe Material

All watermain pipe 100mm to 300mm in diameter shall be PVC DR18 (or lower) and be manufactured in accordance with AWWA C900 and certified to NSF/ANSI 61 and to CSA B137.3.

The pressure class of all pipes shall be a minimum of 235psi.

System Pressure

Normal pressures in the distribution system should not go above 100 psi or below 40 psi during normal demand periods. In the case of fire flows, it may be acceptable to allow the pressure in the system to drop to a level no lower than 20 psi.

Service Pipe

Service piping shall be a minimum diameter of 19mm and of copper or polyethylene.

Copper services shall be type K soft copper with an internal working pressure of 175psi and conform to ASTM B88 and be certified to NSF/ANSI 61.

Polyethylene services shall have a standard DR of 11.0 or lower with a pressure class of 160psi or greater and shall conform to AWWA C901 and be certified to NSF/ANSI 61.

Fire Hydrants

Hydrants should be installed at locations agreed to through consultation with the Municipality during the review process.

Hydrants shall conform to AWWA Standard C502: Dry Barrel Fire Hydrants.

Fire hydrant drain holes are anticipated to be at least 1.0 m above the water table at all proposed hydrant locations.

Valves

Valves shall be installed at each intersection (2 at a 'T', 3 at a 'cross') and at minimum separations as requested by the Municipality during detailed design.

All valves shall conform to AWWA standards.

Chambers

There are no chambers proposed in this development.

Depth

All watermain shall be a minimum of 1.8m in depth.

Dead Ends

All locations where a watermain terminates (temporary or permanent) a plug and blow off shall be installed.

Restraints

All joints (at fittings, hydrants, valves and bends greater than 11.25°) shall be mechanically restrained

Separation Distances

- Horizontal – 2.5m clear,
- Vertical – 0.5m clear.

Utility Crossings

When a watermain crosses over or under a utility (other than sanitary or storm) a separation of 0.3m shall be provided.

Permeation by Organic Compounds

There are no know soil contamination concerns on the subject lands, accordingly no consideration for permeation has been considered.

Pipe Encasement

There are no encasement requirements in this phase of the development.

7.0 CONCLUSIONS

- The proposed watermain works are anticipated to meet the minimum required 20 psi under maximum day demand plus fire flow.
- Under normal demand conditions, the proposed watermain works are anticipated to meet the minimum required 40 psi. The proposed works are not anticipated to exceed the maximum 100 psi.
- The design layout should conform to the criteria outlined in section 6 of this brief.
- As each phase of development proceeds, the layout and watermain pressures should be re-evaluated and confirmed, including incorporation of current hydrant pressure test data.

We trust that the above meets your guidelines and ask that you contact the undersigned, should you have any queries.

Sincerely,

AINLEY GRAHAM & ASSOCIATES LIMITED

Prepared by:

Victoria Chapman, EIT
Engineering Intern

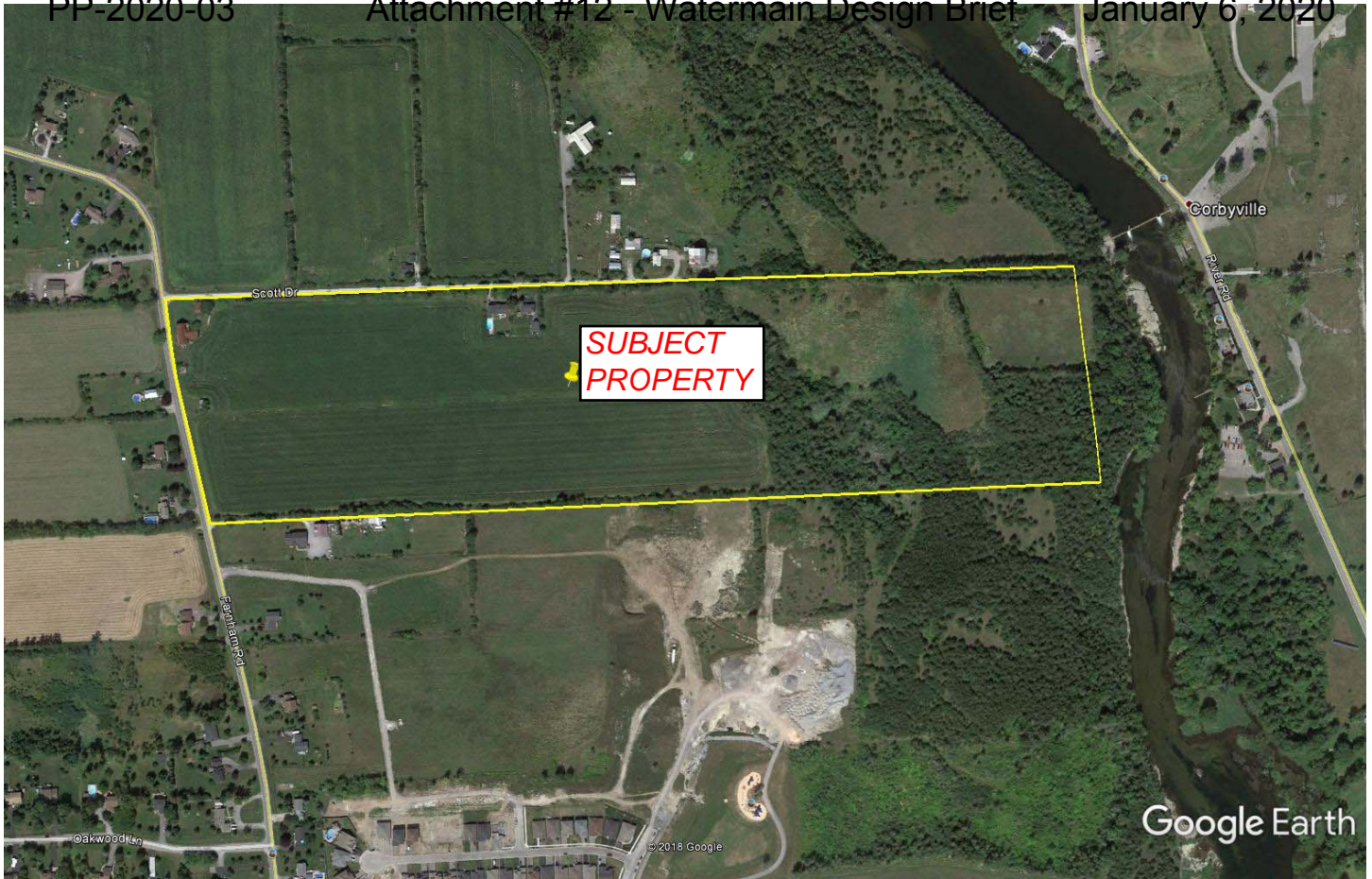
Reviewed by:

Caitlin Sheahan, M.Sc., P. Eng.
Project Engineer

Riverstone Development
Watermain Design Brief
Ainley File No. 19503-1

APPENDIX A

Figures



LAND USE SUMMARY

	UNITS	AREA (ha)
11.0m SINGLE DETACHED LOT (LOTS 1-20, 51-109)	79	3.252
8.5m 10.5m ALTERNATING SINGLE DETACHED LOT WITH LANEWAY ACCESS (LOTS 21-50)	30	0.973
8.5m SEMI-DETACHED LOT WITH LANEWAY ACCESS (BLOCKS 141-142)	4	0.126
6.7m 3-STORY TOWNHOMES WITH LANEWAY ACCESS (BLOCKS 130-140)	48	1.126
6.0m 2-STORY TOWNHOMES 6.0m FRONT YARD SETBACK & 7.0m REAR YARD SETBACK (BLOCKS 110-127)	66	1.388
7.5m BUNGALOW TOWNHOMES (BLOCKS 143-157)	63	1.819
MEDIUM DENSITY RESIDENTIAL #1: 1-3 STOREYS (BLOCK 128)	35	0.428
CONDO BLOCKS 163-164	42	1.854
PARKLAND DEDICATION BLOCK 159		0.802
PARKETTE / ACCESS TO WETLAND SETBACK TRAILS 161-162		0.114
PSW & 30m SETBACK NATURAL SPRING & 15m SETBACK (BLOCK 160)		3.477
AREA OF PROPOSED ROADWAY NETWORK: 4.854 ha		
AREA OF PROPOSED LANEWAYS (NOT CONDO): 0.280 ha		
AREA RESERVED FOR FARNHAM ROAD WIDENING: 0.696 ha		
TOTAL	367	21.19 Ha

RIVERSTONE

DRAFT PLAN OF SUBDIVISION

PART OF PARK LOTS 8 & 9, REGISTERED PLAN N.124 AND PART OF LOT 8, CONCESSION 3

FORMER GEOGRAPHIC TOWNSHIP OF THURLOW

NOW CITY OF BELLEVILLE

HASTINGS COUNTY

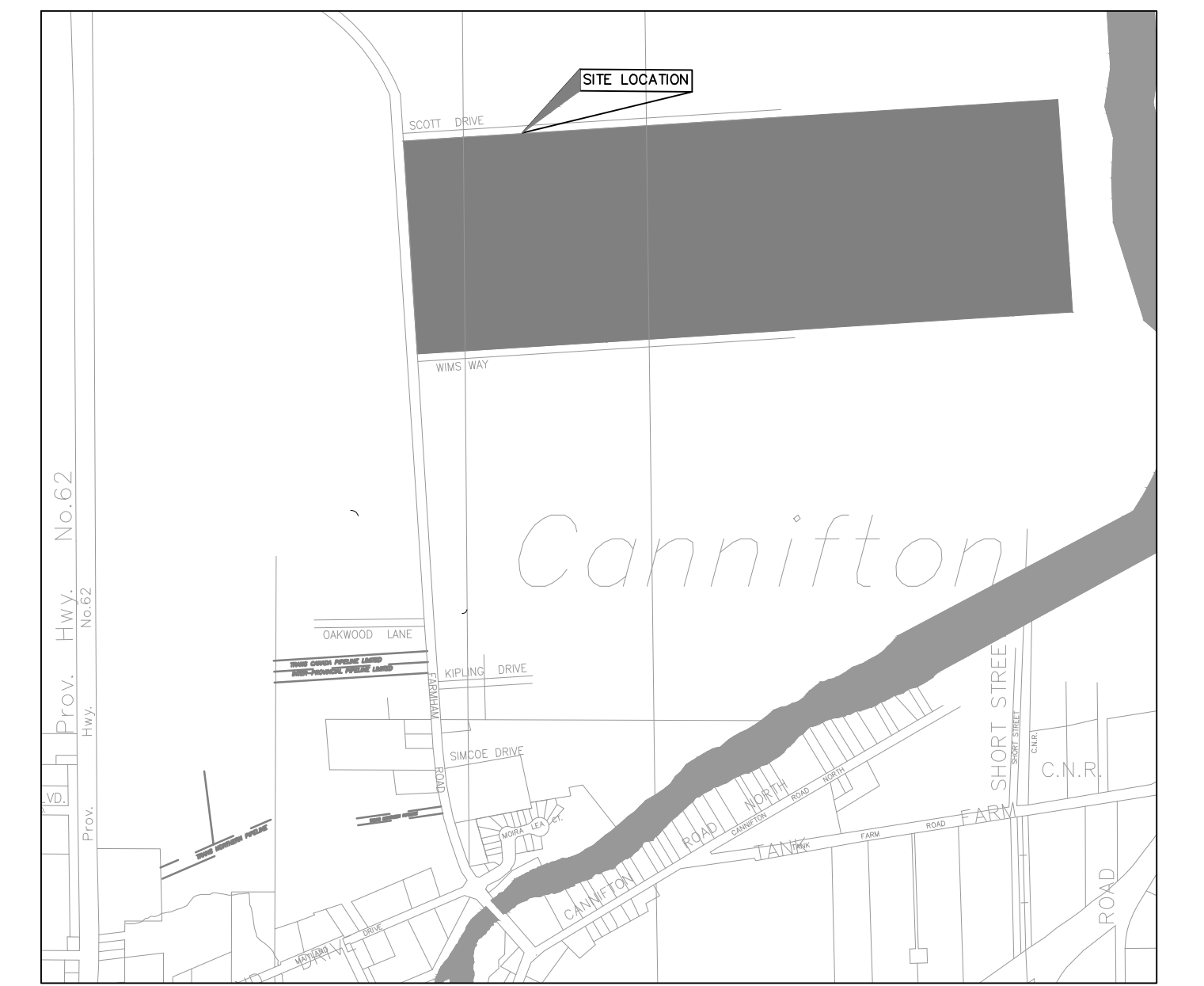
SCALE 1:1250

METRIC NOTE

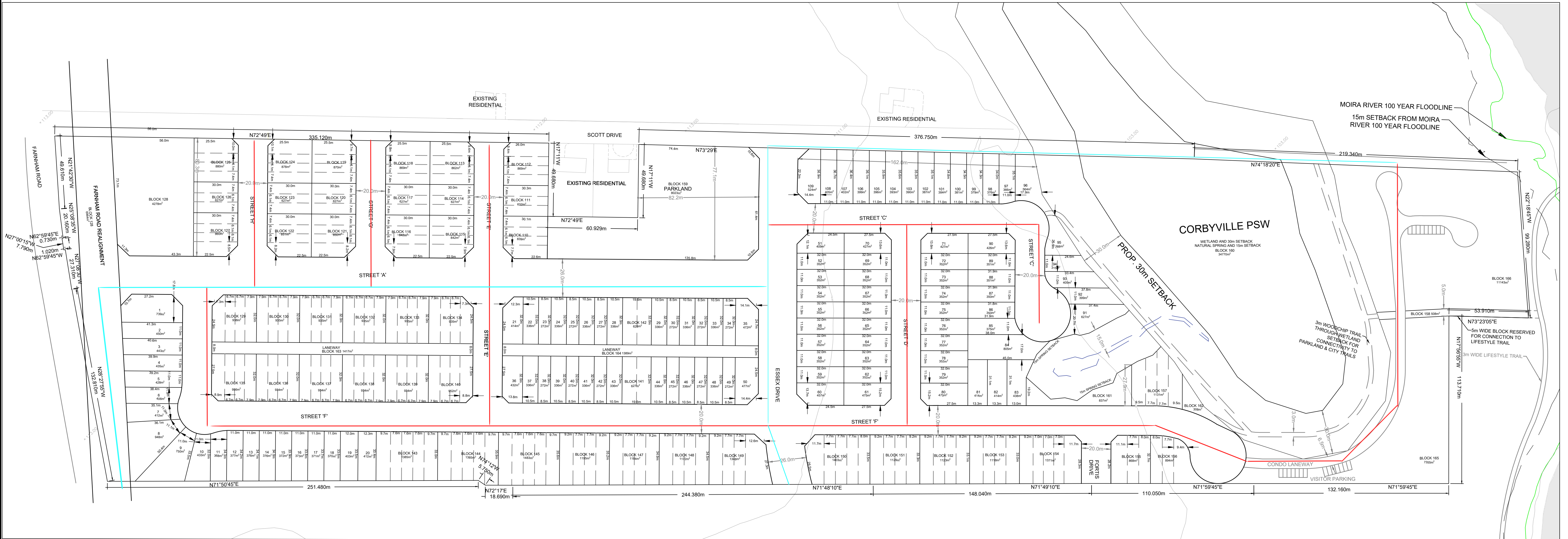
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CONTOUR DATA

CONTOUR AND TOPOGRAPHIC INFORMATION GENERATED USING INFORMATION PROVIDED BY ONTARIO BASE MAPPING.



KEY MAP
N.T.S.



— PROPOSED 200mm DIAMETER WATERMAIN
 — PROPOSED 300mm DIAMETER WATERMAIN

SURVEYOR'S CERTIFICATE
 I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

KEITH WATSON
 ONTARIO LAND SURVEYOR

DATE

OWNER'S CERTIFICATE
 I AUTHORIZE AINLEY GROUP TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF BELLEVILLE FOR APPROVAL.

ANDY GEERTSMA

DATE

REV.#	REVISIONS	DATE	INITIAL
0	PRELIMINARY DESIGN	21/10/2019	CRS

Not Valid Unless Signed And Dated

SCALE: 1:2000
 DESIGN: CRS
 DRAWN: CRS
 CHECKED: AJW
 DATE: OCT 2019

RIVERSTONE SUBDIVISION
CITY OF BELLEVILLE
DRAFT PLAN

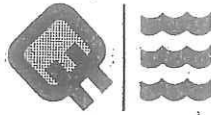
CONTRACT No. 19503-1 DWG 19503-DP

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Riverstone Development
Watermain Design Brief
Ainley File No. 19503-1

APPENDIX B
Fire Hydrant Flow Test Data

Routing
 White - 1. Op. Mgr. 2. Draft. 3. FF bk.
 Pink - File 842
 Canary - Originator



Belleville Utilities Commission
 459 SIDNEY STREET
 P.O. BOX 939
 BELLEVILLE, ONT., K8N 5B6
 (613) 966-3651

Date: April 12/17
 Time: 15:45
 Performed by AP, DR
 File: 842

FIRE HYDRANT FLOW TEST



Street Name VERTIS CRT.
 Location on St. _____
 or name of Bldg. _____

Adjacent Hydrant _____ Ft.
 Above or Below Pitot Hydrant

Provide Four Pressure Readings:

Select outlets to give 10 psi drop at adjacent hydrant if possible

OUTLETS

	one - 1"	one - 1 1/8"	one - 1 1/2"	one - 2 1/2"	two - 2 1/2"	
Step One - Adjacent Hydrant	_____	_____	_____	<u>58</u>	<u>58</u>	psi (static)
Step Two - Pitot Hydrant	_____	_____	_____	<u>35</u>	<u>16</u>	psi (flow)
Step Three - Adjacent Hydrant	_____	_____	_____	<u>53</u>	<u>49</u>	psi (residual)
Step Four - Adjacent Hydrant	_____	_____	_____	<u>58</u>	<u>58</u>	psi (static check)

low with 20 psi residual at adjacent hydrant
 = measured flow $\left(\frac{\text{available drop}}{\text{test drop}} \right)^{.54}$

Available drop is static less 20
 Test drop is static less residual

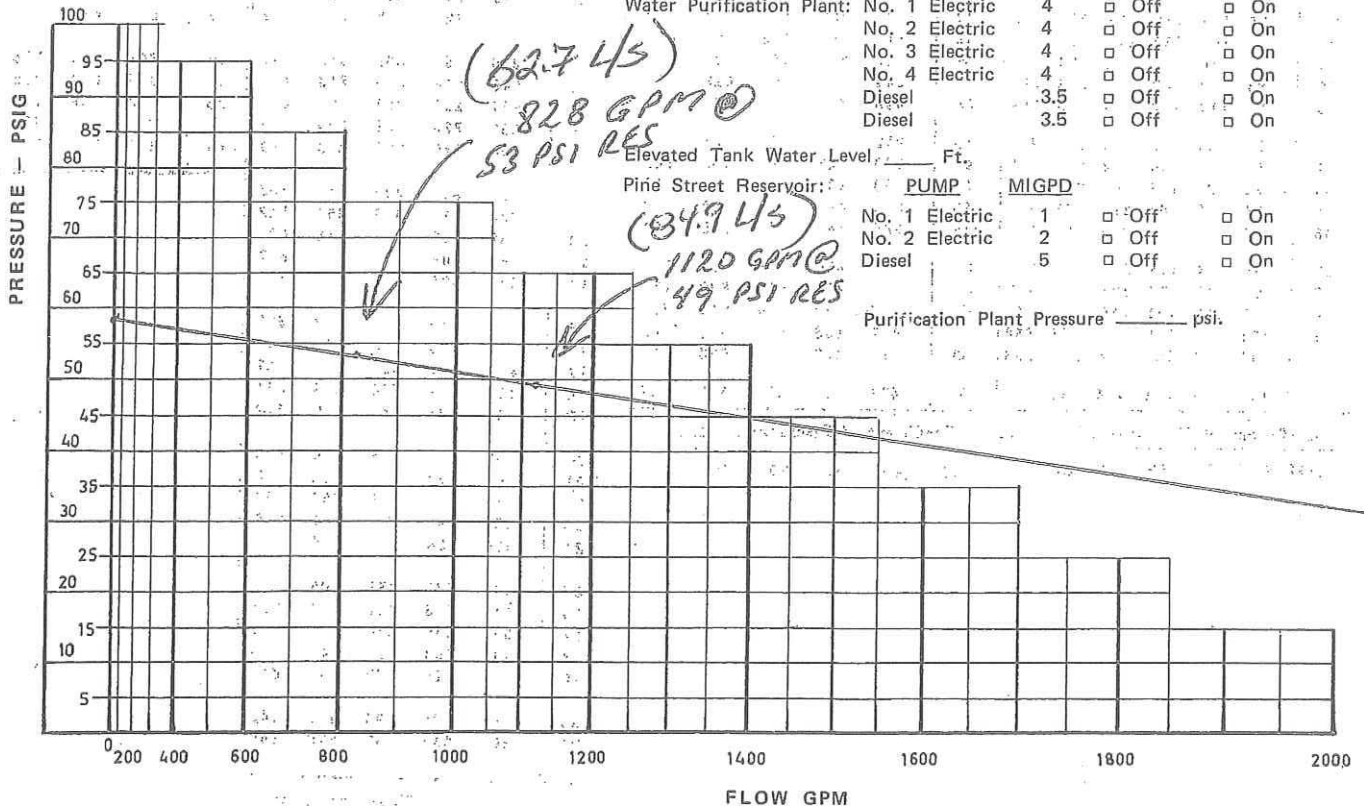
Information below can be obtained at a later date from records at Water Purification Plant.

Water Purification Plant:	PUMP	MIGPD		
No. 1 Electric	4	<input type="checkbox"/> Off	<input type="checkbox"/> On	
No. 2 Electric	4	<input type="checkbox"/> Off	<input type="checkbox"/> On	
No. 3 Electric	4	<input type="checkbox"/> Off	<input type="checkbox"/> On	
No. 4 Electric	4	<input type="checkbox"/> Off	<input type="checkbox"/> On	
Diesel	3.5	<input type="checkbox"/> Off	<input type="checkbox"/> On	
Diesel	3.5	<input type="checkbox"/> Off	<input type="checkbox"/> On	

Elevated Tank Water Level, _____ Ft.

Pine Street Reservoir:	PUMP	MIGPD		
No. 1 Electric	1	<input type="checkbox"/> Off	<input type="checkbox"/> On	
No. 2 Electric	2	<input type="checkbox"/> Off	<input type="checkbox"/> On	
Diesel	5	<input type="checkbox"/> Off	<input type="checkbox"/> On	

Purification Plant Pressure _____ psi.



Riverstone Development
Watermain Design Brief
Ainley File No. 19503-1

APPENDIX C
Water Demand Calculations

Riverwalk Development Evaluation of Water Demand

Population

#units	367
pop/unit	3
# people	1101

assumed

Average Day Flow

L/cap*d	350
ADF	385350 l/d
	4.46 l/s

assumed

Maximum Day Flow

factor	2.5
L/cap*d	350
MDF	963375 l/d
	11.15 l/s

MOE Table 3.1

Minimum Hour

factor	0.45
ADF	4.46 l/d
	2.01 l/s

MOE Table 3.1

Peak Hour

factor	3.75
ADF	4.46 l/d
	16.73 l/s

MOE Table 3.1

Fire Flow - Single Family Units

*Water Supply for Public Fire protection - Guide for Determination of Required Fire flow - Fire Underwriters Survey (1999)

Note J - Single Family Dwellings - short Method Applicable

Step

A	Construction type	Wood Frame		
B	Floor Area	130 m ²		
C	Height	2 storey max typ.		
D	F=220CsqrtA	C	1.5	l/min
		A	260	
		F	5321.09	
E	Hazard Adjustment	low (-25%)	-1330.27	l/min
		adjusted	3990.82	
F	Sprinkler Adjustment		NA	
G	Exposure Adjustment***	75%	2993.11	l/min
H	Total		6983.93	l/min
			116.40	l/s

*** (sides = 2x25%, front = 10% and rear = 15%)

Fire Flow - Townhouse Units

*Water Supply for Public Fire protection - Guide for Determination of Required Fire flow - Fire Underwriters Survey (1999)

**2 HR FIREWALL BETWEEN EVERY OTHER UNIT

Step

A	Construction type	Wood Frame		
B	Floor Area	200 m ²		
C	Height	1 storey		
D	F=220CsqrtA	C	1.5	l/min
		A	200	
		F	4666.90	
E	Hazard Adjustment	low (-25%)	-1166.73	l/min
		adjusted	3500.18	
F	Sprinkler Adjustment		NA	
G	Exposure Adjustment***	75%	2625.13	l/min
H	Total		6125.31	l/min
			102.09	l/s

*** (sides = 2x25%, front = 10% and rear = 15%)

Max Day + Fire Flow**127.55** l/s

Riverstone Development
Watermain Design Brief
Ainley File No. 19503-1

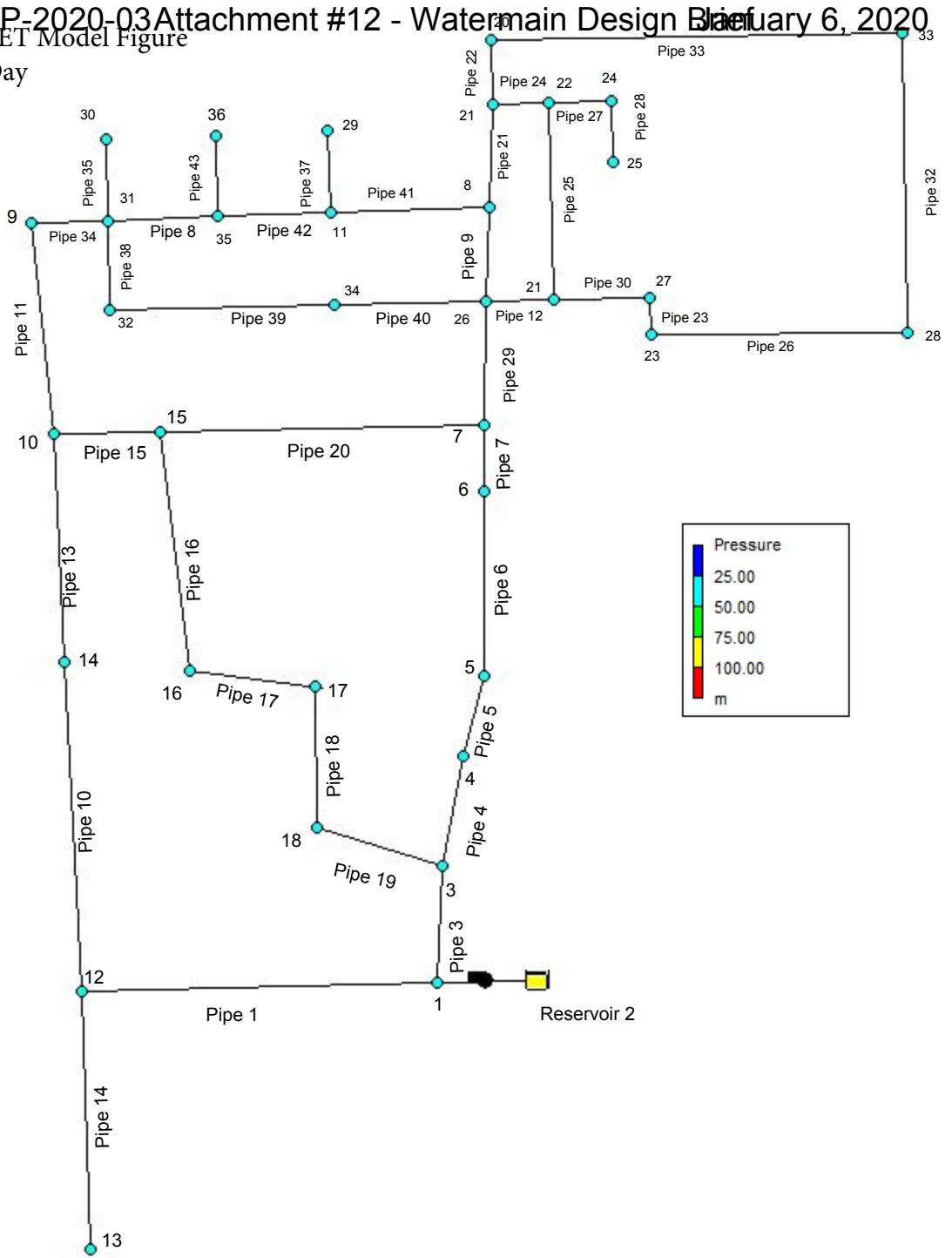
APPENDIX D
Hydraulic Calculations

Pump Curve - Essex Drive (Elevation 107m)

Flow (L/s)	Head (m)
0	40.79
62.74	37.27
84.9	34.46

Equation: Head = 40.79-0.001146(Flow)^{1.94}

Note: Curve Flow (L/s) and Head (m) values taken from Hydrant Testing and
Converted from IGPM and PSI (Appendix B)



Network Table - Links

Link ID	Length m	Diameter mm	Roughness
Pipe 14	70	300	120
Pipe 1	338	300	120
Pipe 3	130	300	120
Pipe 4	87	300	120
Pipe 5	106	300	120
Pipe 6	169	300	120
Pipe 7	44	300	120
Pipe 8	120	300	120
Pipe 9	75	300	120
Pipe 10	325	300	120
Pipe 11	180	300	120
Pipe 13	145	300	120
Pipe 15	99	300	120
Pipe 16	241	200	120
Pipe 17	140	200	120
Pipe 18	86	200	120
Pipe 19	95	200	120
Pipe 20	350	300	120
Pipe 21	85	300	120
Pipe 22	35	300	120
Pipe 24	85	200	120
Pipe 25	135	200	120
Pipe 27	45	200	120
Pipe 28	60	200	120
Pipe 29	35	300	120
Pipe 30	120	200	120
Pipe 34	58	300	120

Link ID	Length m	Diameter mm	Roughness
Pipe 35	55	200	120
Pipe 37	55	200	120
Pipe 38	88	200	120
Pipe 39	240	200	120
Pipe 41	150	300	120
Pipe 12	80	200	120
Pipe 23	30	200	120
Pipe 26	250	200	120
Pipe 32	165	200	120
Pipe 33	475	300	120
Pipe 40	160	200	120
Pipe 42	120	200	120
Pipe 43	55	200	120
Pump 2	#N/A	#N/A	#N/A

EPANET RESULTS - MAX DAY

Network Table - Nodes

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 12	113.7	0	33.96
Junc 13	113.5	0	34.16
Junc 1	106.77	0	40.90
Junc 3	106.7	0	40.96
Junc 4	107.2	0	40.46
Junc 5	108	0	39.65
Junc 6	109.6	0	38.05
Junc 7	109.7	0	37.95
Junc 8	110.2	0	37.44
Junc 9	112.45	0	35.20
Junc 10	114.03	0	33.62
Junc 11	111.2	0	36.43
Junc 14	114.5	0	33.15
Junc 15	109.7	0	37.95
Junc 16	109.9	0	37.75
Junc 17	108.2	0	39.46
Junc 18	108.6	0	39.06
Junc 19	110.63	0	37.01
Junc 20	110.8	0	36.84
Junc 22	110.38	0	37.26
Junc 24	109.73	0	37.91
Junc 25	109.06	0	38.58
Junc 26	109.88	0	37.76
Junc 27	108.91	0	38.73
Junc 29	111.57	11.15	36.01
Junc 30	112.55	0	35.09
Junc 31	112.16	0	35.48

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 32	111.79	0	35.85
Junc 21	109.48	0	38.16
Junc 23	108.76	0	38.88
Junc 28	107.51	0	40.13
Junc 33	107	0	40.64
Junc 34	110.64	0	37.00
Junc 35	111.68	0	35.96
Junc 36	112.06	0	35.58
Resvr 2	107	#N/A	0.00

EPANET RESULTS - MAX DAY + FIRE FLOW

Network Table - Nodes

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 12	113.7	0	19.46
Junc 13	113.5	0	19.66
Junc 1	106.77	0	27.08
Junc 3	106.7	0	26.54
Junc 4	107.2	0	25.77
Junc 5	108	0	24.65
Junc 6	109.6	0	22.54
Junc 7	109.7	0	22.30
Junc 8	110.2	0	21.29
Junc 9	112.45	0	19.48
Junc 10	114.03	0	18.17
Junc 11	111.2	0	19.39
Junc 14	114.5	0	17.99
Junc 15	109.7	0	22.49
Junc 16	109.9	0	22.74
Junc 17	108.2	0	24.70
Junc 18	108.6	0	24.46
Junc 19	110.63	0	20.88
Junc 20	110.8	0	20.71
Junc 22	110.38	0	21.19
Junc 24	109.73	0	21.84
Junc 25	109.06	0	22.51
Junc 26	109.88	0	21.93
Junc 27	108.91	0	22.73
Junc 29	111.57	127.55	14.38
Junc 30	112.55	0	19.30
Junc 31	112.16	0	19.69

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 32	111.79	0	20.05
Junc 21	109.48	0	22.19
Junc 23	108.76	0	22.87
Junc 28	107.51	0	24.06
Junc 33	107	0	24.53
Junc 34	110.64	0	21.18
Junc 35	111.68	0	20.01
Junc 36	112.06	0	19.63
Resvr 2	107	#N/A	0.00

EPANET RESULTS - PRESSURE AT 100 LPS FLOW

Network Table - Nodes

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 12	113.7	0	24.95
Junc 13	113.5	0	25.15
Junc 1	106.77	0	32.32
Junc 3	106.7	0	32.01
Junc 4	107.2	0	31.34
Junc 5	108	0	30.33
Junc 6	109.6	0	28.40
Junc 7	109.7	0	28.22
Junc 8	110.2	0	27.39
Junc 9	112.45	0	25.42
Junc 10	114.03	0	24.01
Junc 11	111.2	0	25.82
Junc 14	114.5	0	23.73
Junc 15	109.7	0	28.34
Junc 16	109.9	0	28.42
Junc 17	108.2	0	30.29
Junc 18	108.6	0	29.99
Junc 19	110.63	0	26.97
Junc 20	110.8	0	26.81
Junc 22	110.38	0	27.26
Junc 24	109.73	0	27.91
Junc 25	109.06	0	28.58
Junc 26	109.88	0	27.91
Junc 27	108.91	0	28.78
Junc 29	111.57	100	22.49
Junc 30	112.55	0	25.27
Junc 31	112.16	0	25.66

Node ID	Elevation m	Base Demand LPS	Pressure m
Junc 32	111.79	0	26.03
Junc 21	109.48	0	28.23
Junc 23	108.76	0	28.92
Junc 28	107.51	0	30.13
Junc 33	107	0	30.62
Junc 34	110.64	0	27.16
Junc 35	111.68	0	26.04
Junc 36	112.06	0	25.66
Resvr 2	107	#N/A	0.00

EPANET RESULTS - FLOW THAT GENERATES 20psi

Network Table - Nodes

Node ID	Demand LPS	Head m	Pressure m	Quality
Junc 12	0.00	132.93	19.23	0.00
Junc 13	0.00	132.93	19.43	0.00
Junc 1	0.00	133.63	26.86	0.00
Junc 3	0.00	133.02	26.32	0.00
Junc 4	0.00	132.75	25.55	0.00
Junc 5	0.00	132.42	24.42	0.00
Junc 6	0.00	131.90	22.30	0.00
Junc 7	0.00	131.76	22.06	0.00
Junc 8	0.00	131.24	21.04	0.00
Junc 9	0.00	131.69	19.24	0.00
Junc 10	0.00	131.96	17.93	0.00
Junc 11	0.00	130.33	19.13	0.00
Junc 14	0.00	132.26	17.76	0.00
Junc 15	0.00	131.96	22.26	0.00
Junc 16	0.00	132.41	22.51	0.00
Junc 17	0.00	132.67	24.47	0.00
Junc 18	0.00	132.84	24.24	0.00
Junc 19	0.00	131.26	20.63	0.00
Junc 20	0.00	131.26	20.46	0.00
Junc 22	0.00	131.33	20.95	0.00
Junc 24	0.00	131.33	21.60	0.00
Junc 25	0.00	131.33	22.27	0.00
Junc 26	0.00	131.56	21.68	0.00
Junc 27	0.00	131.40	22.49	0.00
Junc 29	128.55	125.63	14.06	0.00
Junc 30	0.00	131.61	19.06	0.00
Junc 31	0.00	131.61	19.45	0.00

Node ID	Demand LPS	Head m	Pressure m	Quality
Junc 32	0.00	131.60	19.81	0.00
Junc 21	0.00	131.43	21.95	0.00
Junc 23	0.00	131.39	22.63	0.00
Junc 28	0.00	131.32	23.81	0.00
Junc 33	0.00	131.28	24.28	0.00
Junc 34	0.00	131.58	20.94	0.00
Junc 35	0.00	131.45	19.77	0.00
Junc 36	0.00	131.45	19.39	0.00
Resvr 2	-128.55	107.00	0.00	0.00



11/06/2019

RIVERSTONE SUBDIVISION DEVELOPMENT - CONCEPTUAL LANDSCAPE DESIGN











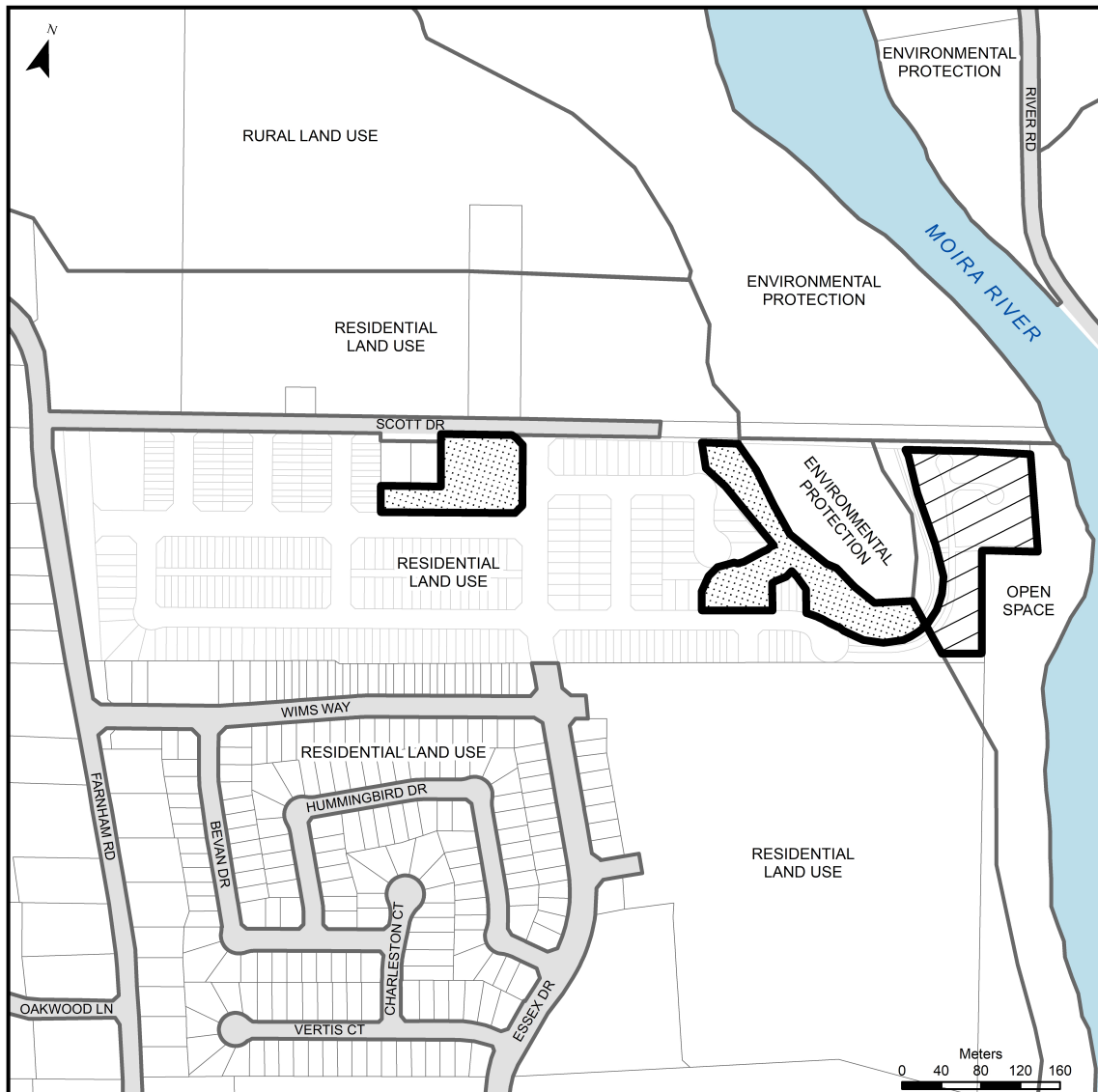








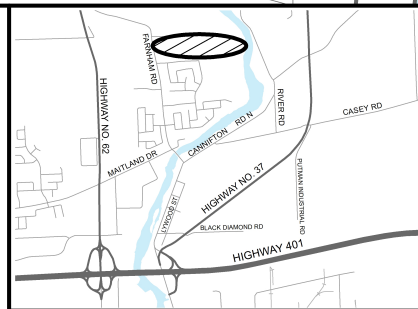




PROPOSED OFFICIAL PLAN AMENDMENT

LOCATION: FARNHAM RD & SCOTTS DR

-  - PROPOSED DESIGNATION CHANGE FROM OPEN SPACE TO RESIDENTIAL LAND USE
-  - PROPOSED DESIGNATION CHANGE FROM RESIDENTIAL LAND USE TO OPEN SPACE



CITY OF BELLEVILLE
ENGINEERING & DEVELOPMENT
SERVICES DEPARTMENT

B-50-3-30



600 Annette Street
Toronto, ON M6S 2C4

T 416.487.4101
F 416.487.5489
E mshmail@mshplan.ca

520 Industrial Parkway South
Suite 202
Aurora, ON L4G 6W8

T 905.503.3440
F 905.503.3442

Memorandum

To: Engineering and Development Services Department

Organization: City of Belleville

From: Lorelei Jones

Date: Dec 19, 2019

Project: Riverstone Development

Remarks:

GCL Developments Ltd. has submitted Draft Plan of Subdivision, Official Plan Amendment, and Zoning By-Law Amendment applications for the lands east of Farnham Road, south of Scott Drive, and north of the existing Canniff Mills Subdivision referred to as Riverstone. A public meeting was held on December 2, 2019 in order to present the proposal to the public and receive comments from the public and the Planning Advisory Committee (PAC).

The following is a summary of the main comments received and our responses to those comments.

1. Affordability

Comment

A member of PAC noted that Belleville should be trying to achieve more affordable housing in new developments. He asked how this plan conforms to the needs of the City with respect to affordable housing.

Response

The proposed Riverstone development provides for a wide variety of unit types and lot sizes. The types of units include single family homes (minimum 11 m frontage), bungalow townhouses, two-storey townhouses, medium density blocks for apartment units and condominium townhouses, as well as semi-detached, single detached, and townhouse units with laneway access. The subdivision offers a greater range of lot sizes and unit types than is typically developed within one subdivision in the City and as a result, also allows for more density. This will create a mix of price ranges including lower price points within the intensified areas of development that will be suitable for a larger number of residents.

2. Bike Lanes

Comment

A member of PAC asked if the roadways will be developed to include bike lanes, as active transportation is becoming more popular with younger generations.

Response

Bike lanes are not currently proposed within the development; however, the development will include minor collector roadways (Essex Drive and Street 'A') that have a 26 m wide right-of-way. The City's standard for this type of roadway cross-section includes a 1.5 m sidewalk on one side of the road and a 3.0 m asphalt trail on the other side. As such, a large portion of the development will be designed to include the 3.0 m asphalt trail that is suitable for biking and other types of active transportation.

3. Official Plan Amendment for Open Space Designated Lands

Comment

The Riverstone development is proposing an Official Plan Amendment in order to redesignate the lands immediately east of the Corbyville Wetland from Open Space to Residential and to redesignate lands from Residential to Open Space to create a new 2.0 acre (0.8 ha) parkland block in the centre of the subdivision as well as establish open space areas around the wetlands and spring. A member of PAC was concerned that the amount of Open Space to be removed through the OPA did not exactly equal the amount of Open Space being created. The member was also concerned that these lands were previously environmentally protected.

Response

It is our understanding that the lands were not designated Open Space for environmental reasons because if they did have environmental features that merited protection, they would have been designated Environmental Protection. In addition, the existing Open Space designation represents about 1.6 ha which is in excess of the amount of parkland dedication that can be required under the Planning Act for this development.

In our opinion, it would be better to locate the Open Space lands in a more central location within the development. The proposed park has frontage on three public roadways thereby providing high visibility and more convenient access for the whole subdivision. The developer is proposing wood chip trails through the wetland setback for connectivity and active use and the proposed open space around the wetlands and spring area enhances the use of the area. In addition, a pedestrian connection between the wetland and river will be maintained. We therefore believe that the proposed open space locations are more ideally suited for the proposed subdivision.

-----Original Message-----

From: jennifer heffernan [<mailto:xxxxxxxx@gmail.com>]

Sent: Monday, December 02, 2019 10:03 AM

To: Lloyd, Hollie

Subject: PAC Meeting Dec. 2 - re: Proposed Development Farnham Rd and Scott Dr

External Email, use caution!

To Whom It May Concern,

I would like to voice my concern about further development along Farnham Road in relation to the increase in traffic and other infrastructure issues in the general area.

I'm wondering what plans are in place for the improvement/development of road infrastructure of Farnham given the Canniff Mills and Heritage Park developments are still in development and with an additional proposal for what I believe to be another significant development, what the plans are for road improvement. The road is already very heavily travelled and is in poor condition.

As well I'm also wondering about the existing water pressure issues for that area and if that will also be addressed?

I was not aware of today's meeting and only heard about it on the morning news and am unable to attend. I am very interested in finding out what the City's plans are to help deal with the infrastructure. Looking forward to your response and being kept apprised of this proposal.

Thanks

Jennifer MacMillan

613-xxx-xxxx

xxxxxxxx@gmail.com

Sent from my iPhone

Engineering and Development Services Department (Policy Planning Section)
Official Plan and Zoning By-Law Amendment Monitoring Report
(Shaded Area Indicates that Application is Complete)

FILE NO.	APPLICANT/OWNER/AGENT	PROPOSAL	REPORT NO.	BY-LAW NO.	DATE REC'D	CIRCULATION	PAC DATE	APPROVAL (Y/N)	COUNCIL DATE	APPROVAL (Y/N)	# of DAYS	NOTICE ISSUED	LAST DAY OF APPEAL	CLERK CERT.
B-77-1021	Reginald & Janette Barkema/ G.D. Jewell Engineering Inc. c/o Steve Harvey	Trinity Court - Part Lot 2, Concession 3, Formerly Township of Thurlow Zoning By-Law amendment to permit a range of single detached residential lots and townhomes	PP 17-26 APS 18-07		Mar 21/17	Apr 11/17	May 1/17 Mar 5/18	Deferred at PAC, Draft Plan of Subdivision approved - Zoning By-law to be addressed later						
B-77-1040	Rosebush Properties Inc./ Bel-Con Design-Builders Ltd.	330 College Street East Zoning By-Law amendment to permit a convenience store and associated gas bar in addition to the permitted uses of the zone	PP 18-02		Jan 10/18	Feb 13/18	Mar 15/18	Deferred at PAC, awaiting revised Site Plan based on CN comments						
B-77-1058	Paramathas Joseph Agent: Chris Nava	55 South Church Street Zoning By-law amendment to rezone from (R2-1) to (R3) to permit a semi-detached dwelling	PP-2018-36		Aug 21/18	Sept 6/18	Oct 1/18	N	Oct 9/18	DENIED		Oct 12/18	Nov 9/18	APPEALED
B-77-1059	Panagiotis Karaglaus Agent: Chris Nava	59 South Church Street Zoning By-law amendment to rezone from (R2-1) to (R3) to permit a semi-detached dwelling	PP-2018-37		Aug 21/18	Sep 6/18	Oct 1/18	N	Oct 9/18	DENIED		Oct 12/18	Nov 9/18	APPEALED
B-77-1079	Agent/Applicant: RFA Planning Owner: Heritage Park J/V	427 Farnham Road Zoning By-law amendment to Zoning By-law 3014 to permit 13 townhouse units with reduced setbacks and increased lot coverage	PP-2019-28 PP-2019-45 PP-2019-46	2019-135	Feb 27/19	Mar 6/19 May 10/19	Apr 1/19 Jun 3/19 Jul 2/19	Applicant to review public concerns and re-submit Public Meeting for Revised Application						
								Y	Jul 8/19	N		Jul 12/19	Aug 1/19	APPEALED
B-77-1081	Agent/Applicant/Owner: City of Belleville "AGRI-TOURISM"	Belleville, Thurlow, Sidney Zoning By-law amendment to 10245, 3014 & 2076-80 to define agri-tourism	PP-2019-34		Mar 27/19	Apr 17/19	May 6/19 Jun 3/19	Gathering more Information						
B-77-1084	Owner/Applicant: Mark Glassford	9 & 13 Wilkie Street Zoning By-law amendment to Zoning By-law 10245 to rezone lands to recognize the existing dwelling units on the property	PP-2019-42		May 1/19	May 15/19	Jun 3/19	Staff Still Reviewing Comments						
B-77-1087	Applicant/Owner: John Royle Agent: Keith Watson, OLS	18 St. Paul Street Zoning By-law amendment to Zoning By-law 10245 to rezone lands from Residential Second Density (R2-1) to Residential Third Density (R3-2) to permit a semi-detached dwelling with reduced yard setbacks.	PP-2019-55		Jul 5/19	Aug 9/19	Sept 3/19	Staff waiting for Health & Safety By-law before making a recommendation						

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B-77-1093 and B-50-3-29	Applicant: Algonquin and Lakeshore Catholic District School Board Owner: Algonquin and Lakeshore Catholic District School Board Agent: Todd Colbourne - Colebourne & Kembel, Achitects Inc.	375 to 405 Bridge Street East and 172 to 184 Herchimer Avenue Requesting a portion of the subject lands be re-designated from "Residential" to "Community Facility" in the Official Plan and to amend Zoning By-law 10245 to rezone the lands from Residential Zones R2, R2-3, and R5-12 and Community Facility (CF) Zone to site-specific Community Facility (CF) Zone with special provisions	PP-2019-79 PP-2019-88	2019-220 2019-221	Sep 13/19	Oct 11/19	Nov 4/19 Dec 2/19	Y	Dec 9/19	Y	87 Days	Dec 11/19	Dec 31/19	
B-77-1094	Applicant: Joseph Chacko Owner: MHSA Properties Ltd. Agent: N/A	199 Dundas Street East Zoning By-law amendment to Zoning By-law 10245 to rezone subject lands from Highway Commercial (C3) Zone to Highway Commercial (C3) Zone with special provisions to permit a medical clinic	PP-2019-83 PP-2020-01		Oct 30/19	Nov 8/19	Dec 2/19 Jan 6/19							
B-77-1095	Applicant/Owner: UCB Canada Agent: Investment Management Syndicate LTD (IMS)	8 and 12 King Street Zoning By-law amendment to Zoning By-law 10245 to rezone subject lands from Highway Commercial (C3) Zone to General Commercial (C2) Zone with special provisions to permit a parking lot associated with the property located at 2 Dundas Street West	PP-2019-84 PP-2020-02		Oct 30/19	Nov 8/19	Dec 2/19 Jan 6/19							
B-77-1096 and B-50-3-30	Applicant/Owner: GCL Developments Agent: Lorelei Jones of Macauley Shiomi Howson Ltd.	Part of Park Lots 8 & 9, Registered Plan 124, and Part of Lot 8, Concession 3 Requesting to adjust the boundaries of the "Residential" and "Open Space" designations in the Official Plan and to amend zoning By-law 3014 to rezone subject lands to permit a range of housing types and parkland area	PP-2019-85 PP-2020-03		Oct 30/19	Nov 8/19	Dec 2/19 Jan 6/19							
B-77-1097	Applicant: John Scheerhoorn Owner: 732676 Ontario Inc. Agent: N/A	125 Mitchell Road, Pt Lt 25, Con 1 Parts 1-6, Plan 21R-25511 Zoning By-law amendment to Zoning By-law 3014 to rezone subject lands from Prime Agriculture (PA) Zone to Rural Residential (RR) Zone and Rural (RU) Zone as a condition of consent	PP-2020-04		Nov 18/19	Dec 12/19	Jan 6/20							

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B-77-1098	Applicant: John Scheerhoorn Owner: 732676 Ontario Inc. Agent: N/A	125 Mitchell Road, Pt Lt 25, Concession BF, Part 8, Plan 21R-25511 Zoning By-law amendment to Zoning By-law 3014 to rezone subject lands from Rural (RU) Zone and Prime Agriculture (PA) Zone to Rural Residential (RR) Zone and Rural (RU) Zone with special provisions for reduced lot area as a condition of consent	PP-2020-05		Nov 18/19	Dec 12/19	Jan 6/20							

NOTE: In the event that an application/file remains open a minimum of two years after the original submission, but has been inactive for a period of one year, the applicant and/or agent will be notified that the application/file has become inactive and will be given a six week timeline to respond with a plan to re-active the application/file to satisfaction of the Director of Engineering and Development Services or the application/file will be closed.