

**ONTARIO  
SUPERIOR COURT OF JUSTICE  
(DIVISIONAL COURT)**

B E T W E E N:

**VICTOR LACHANCE and  
KIRK ALBERT**

Applicants

and

**SOLICITOR GENERAL OF ONTARIO and  
ATTORNEY GENERAL OF ONTARIO**

Respondents

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**RECORD OF PROCEEDING  
VOLUME 2 OF 2**

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Date: June 2, 2023

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**Eastern Ontario Correctional Centre  
– Phase II Development Feasibility  
Assessment – Natural Heritage  
Assessment**

Draft Report

September 14, 2021

Project No.: 160401626

Prepared for:

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**EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT**

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**EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY  
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# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

Introduction  
September 14, 2021

## 1.0 INTRODUCTION

Infrastructure Ontario (IO), on behalf of the Ministry of the Solicitor General, is continuing their investigation of proposed development sites in the Ottawa area to accommodate a new correctional facility. The former University of Guelph's Kemptville Agricultural Campus in Kemptville, Ontario has been selected as a preferred location for a new facility.

As such, Stantec Consulting Ltd. (Stantec) was retained by Fotenn Planning + Design (Fotenn) to support IO's Phase II Development Feasibility Assessment of the proposed Eastern Ontario Correctional Centre (EOCC) (the Project; concept provided in **Appendix A**). Stantec's Environmental Services group (BC1609) was retained to complete a natural heritage assessment at the former University of Guelph's Kemptville Agricultural Campus (the Site) to identify existing conditions and potential natural heritage constraints within the Site and 120 metre (m) buffer surrounding the Site; herein referred to as the Study Area. The Site is situated north of College Road, east of North Grenville County Road 44 (Prescott Street), south of private lands in the northern section and west of Highway 416 (18T 450335E, 4984195N) (**Figure 1, Appendix B**).

Lands situated within the Study Area are owned by the province, municipality and/or are privately owned and therefore are subject to provincial legislation (i.e., *Endangered Species Act*, 2007).



# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

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## 2.0 METHODS

### 2.1 BACKGROUND DATA COLLECTION

As part of this natural heritage assessment at the proposed EOCC, existing conditions and potential natural heritage features within the Study Area were initially identified by reviewing the following available background documents and related information sources:

- Ontario's Natural Heritage Information Centre (NHIC) – Make a Natural Heritage Area Map (NDMNRF 2021a)
- Land Information Ontario (LIO) (NDMNRF 2021b)
- AgMaps – Geographic Information Portal (OMAFRA 2020)
- Satellite imagery (Google Earth Pro 2020)
- Rideau Valley Conservation Authority (RVCA) GeoPortal (RVCA 2021)
- RVCA's Kemptville Creek Subwatershed Report 2013: Barnes Creek Catchment (RVCA 2013)
- Official Plan of the Municipality of North Grenville (Municipality of North Grenville 2018)
- Official Plan for the United Counties of Leeds and Grenville (Leeds and Grenville 2016)

Natural heritage information gathered during the background data collection process was used to identify potential significant natural heritage features (e.g., wetlands, woodlands, wildlife habitat) within the Study Area.

A list of species at risk (SAR) and species of conservation concern (SOCC) with the potential to occur in the Study Area based on suitable habitat preferences was developed by reviewing the following sources:

- Ontario's NHIC (NDMNRF 2021a)
- Ontario's Species at Risk in Ontario (SARO) List (NDMNRF 2020)
- Environment and Climate Change Canada's (ECCC) Species at Risk Registry (ECCC 2021)
- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk Mapping (DFO 2019)
- Ontario Breeding Bird Atlas (OBBA) (Cadman et al. 2007)
- Atlas of Mammals in Ontario (AMO) (Dobbyn 1994)
- Ontario Butterfly Atlas Online (OBAO) (Toronto Entomologists' Association 2019a)
- Ontario Reptile and Amphibian Atlas (ORAA) (Toronto Entomologists' Association 2019b)
- iNaturalist Canada (iNaturalist 2021)
- eBird Canada (eBird 2021)



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Some of the sources above provide data at a scale as large as 10 km x 10 kilometres (km). Results were screened to assess their relevance to the Study Area and species were removed from consideration from **Table 3-1** below if no suitable habitat was observed in the Study Area during Stantec's field program (e.g., interior forest species). If updated information was available, only recent observations (i.e., at least one recorded observation since 2000) were carried forward throughout this assessment.

## 2.2 DEFINITIONS FOR SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN

The *Endangered Species Act, 2007* (ESA) was created to protect SAR and their habitats in Ontario. Endangered, threatened, and extirpated species listed on the Species at Risk in Ontario (SARO) list automatically receive legal protection from harm or harassment under Section 9 of the ESA. In addition to species protection, the ESA prohibits damage or destruction of habitat for endangered or threatened species (Section 10). Work on public or private land (excluding federal lands) that may harm or harass designated species (e.g., endangered or threatened) or impact their habitat may require approval from the Ministry of the Environment, Conservation and Parks (MECP).

For the purpose of this assessment, SAR are defined as:

- Endangered and threatened species that are on the SARO list and protected by the provincial ESA
- Endangered and threatened aquatic species and migratory birds that are listed on Schedule 1 of the federal *Species at Risk Act* (SARA) and protected by the SARA

For the purpose of this assessment, SOCC are defined as:

- Special concern species on the SARO list
- Species with provincial ranks of S1 to S3

Provincial ranks (S ranks) are used by the NHIC to set protection priorities for rare species and vegetation communities. They are based on the number of occurrences in Ontario and are not legal designations. Species with provincial ranks of S1 to S3 are tracked by the Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNR) and are considered SOCC. Provincial S ranks are defined as follows:

- S1: Critically imperiled; usually fewer than 5 occurrences
- S2: Imperiled; usually fewer than 20 occurrences
- S3: Vulnerable; usually fewer than 100 occurrences
- S4: Apparently secure; uncommon but not rare, usually more than 100 occurrences
- S5: Secure, common, widespread and abundant





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## 2.3 AGENCY CONSULTATION

Agency consultation has moved to a proponent driven process for both the provincial agency responsible for SAR (e.g., MECP) and proponents are directed to review the background documentation and related information sources as outlined above. As such, specific information request packages were not submitted for provincially designated features (e.g., wetlands, woodlands, etc.), SOCC and/or SAR.

A review of RVCA’s GeoPortal shows regulated lands, protected under Ontario Regulation (O. Reg.) 174/06 of the *Conservation Authorities Act*, surrounding Barnes Creek within the Study Area. Additionally, approximately 120 m of the unnamed tributary to Barnes Creek (identified as a Headwater Drainage Feature) at its confluence with Barnes Creek is within RVCA’s regulated area.

## 2.4 FIELD PROGRAM

To support the Project, Stantec proposed to identify existing conditions and potential natural heritage constraints (e.g., SAR occurrences and/or habitat) within the Study Area by completing a field program between April and July 2021 during both the wildlife active and the vegetation growing seasons. The field program was completed by Stantec biologists to characterize site conditions and identify potential direct and indirect impacts to natural heritage features within the Study Area during four separate site visits.

The potential presence of SAR was determined by assessing habitat potential while conducting meandering transects throughout the Study Area. Adjacent lands to the Study Area, where access was not available, were visually assessed using binoculars. If observed, SAR were documented by location, with a handheld global positioning system (GPS), a GPS camera and a field notebook.

The field program was designed to determine if habitat for species protected under the ESA and/or Significant Wildlife Habitat protected under the *Provincial Policy Statement* (PPS) is present.

**Table 2-1** below provides a list of surveys completed by Stantec in 2021 along with dates and environmental conditions observed.

**Table 2-1 Survey Types, Dates and Environmental Conditions Observed during Stantec’s 2021 Field Program**

Survey Type	Date	Start/End Time (24-hour)	Environmental Conditions	Biologist
<ul style="list-style-type: none"> <li>• Ecological Land Classification (ELC)</li> <li>• SAR Bat Maternity Roost Habitat Assessment</li> <li>• Significant Wildlife Habitat (SWH) Assessment</li> <li>• Fish Habitat Assessment</li> </ul>	April 16, 2021	1200 – 1700	Temperature: 7°C Wind (Beaufort scale): 1, NW Cloud Cover: 80% Precipitation: Trace 24/hr. Precipitation: ~3-5 mm	Josh Mansell



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Survey Type	Date	Start/End Time (24-hour)	Environmental Conditions	Biologist
<ul style="list-style-type: none"> <li>• Breeding Bird Survey #1</li> <li>• Butternut Search</li> <li>• SWH Assessment</li> </ul>	May 28, 2021	0600 – 1100	Temperature: 4 – 9°C Wind (Beaufort scale): 1 – 2, NW Cloud Cover: 90% Precipitation: None 24/hr. Precipitation: Trace	Josh Mansell
<ul style="list-style-type: none"> <li>• Breeding Bird Survey #2</li> </ul>	June 10, 2021	0545 – 0900	Temperature: 21°C Wind (Beaufort scale): 1, NW Cloud Cover: 80% Precipitation: None 24/hr. Precipitation: None	Jennifer Randall
<ul style="list-style-type: none"> <li>• ELC</li> <li>• Butternut Search</li> <li>• SWH Assessment</li> <li>• Fish Habitat Assessment</li> </ul>	July 30, 2021	1000 – 1500	Temperature: 18°C Wind (Beaufort scale): 1, W Cloud Cover: 0% Precipitation: None 24/hr. Precipitation: None	Josh Mansell

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# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

Results  
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## 3.0 RESULTS

### 3.1 BACKGROUND DATA COLLECTION

#### 3.1.1 Natural Heritage and Planning Documentation

According to the provincial LIO (NDMNR 2021b) database, the following natural heritage features are identified in the Study Area:

- Watercourse (Permanent)
- Natural Heritage System (Wooded Area)
- Natural Heritage System (Unevaluated Wetland)

The Study Area is within the jurisdiction of the RVCA and is therefore subject to O. Reg. 174/06 under the *Conservation Authorities Act*. RVCA's GeoPortal (RVCA 2021) shows regulated lands, protected under O. Reg. 174/06 of the *Conservation Authorities Act*, surrounding Barnes Creek and tributaries within the Study Area (**Figure 1, Appendix B**).

As shown on *Schedule B1 – Natural Heritage & Constraints* in the Municipality of North Grenville's Official Plan (2018), a Stream/Creek (Barnes Creek) and Floodplain Hazard associated with Barnes Creek is identified within the Study Area. The Floodplain Hazard is consistent with the limits of the regulated lands surrounding Barnes Creek shown by RVCA (**Figure 1, Appendix B**).

The Municipality of North Grenville's Official Plan (2018) states in Section 2.6.4.3 (c) that: *to reduce the risk to public safety and property due to erosion and slope instability, the Municipality, in cooperation with the Conservation Authority having jurisdiction, shall ensure that development avoids natural hazards and that the natural hazard processes are allowed to occur naturally, or are mitigated in cases where existing development is at risk.*

#### 3.1.2 Species of Conservation Concern

The reviewed background documents and related information sources yielded the following results of SOCC that could be present within the Study Area:

1. Snapping Turtle (*Chelydra serpentina*), Special Concern (SARA), S4 (NHIC)
2. Northern Map Turtle (*Graptemys geographica*), Special Concern (SARO), S3 (NHIC)
3. Eastern Musk Turtle (*Sternotherus odoratus*), Special Concern (SARO), S3 (ORAA)
4. Eastern Wood-pewee (*Contopus virens*), Special Concern (SARO), S4 (OBBA)
5. Gorgone Crescentspot (*Chlosyne gorgone*), Not at Risk, S1 (NHIC)
6. Flooded Jellyskin (*Leptogium rivulare*), Not at Risk, S3 (NHIC)



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## 3.1.3 Species at Risk

A desktop background review resulted in a total of 14 SAR, summarized in **Table 3-1**, that have been previously documented as occurring or have the potential to occur within the Study Area based on existing habitat conditions.

**Table 3-1 Species at Risk Identified as Potentially Occurring within the Study Area**

Common Name	Scientific Name	SARO	COSEWIC	SARA Schedule 1	Potential Habitat within the Site	Potential Habitat within Study Area
<b>BIRDS</b>						
Bank Swallow <sup>1</sup>	<i>Riparia riparia</i>	THR	THR	THR	No	No
Barn Swallow <sup>1,2</sup>	<i>Hirundo rustica</i>	THR	THR	THR	Yes	Yes
Chimney Swift <sup>1,2</sup>	<i>Chaetura pelagica</i>	THR	THR	THR	No	No
Common Nighthawk <sup>1</sup>	<i>Chordeiles minor</i>	SC	SC	THR	No	No
Eastern Whip-poor-will <sup>1</sup>	<i>Antrostomus vociferus</i>	THR	THR	THR	No	Yes
Eastern Meadowlark <sup>1, 5</sup>	<i>Sturnella magna</i>	THR	THR	THR	Yes	Yes
Bobolink <sup>1</sup>	<i>Dolichonyx oryzivorus</i>	THR	THR	THR	Yes	Yes
Wood thrush <sup>1, 5</sup>	<i>Hylocichla mustelina</i>	SC	THR	THR	Yes	Yes
<b>HERPTILES</b>						
Blanding's Turtle <sup>3,5</sup>	<i>Emydoidea blandingii</i>	THR	END	THR	No	Yes
<b>MAMMALS</b>						
Eastern small-footed Myotis <sup>4</sup>	<i>Myotis leibii</i>	END	Not Listed	Not Listed	Yes	Yes
Little Brown Myotis <sup>4</sup>	<i>Myotis lucifugus</i>	END	END	END	Yes	Yes
Northern Myotis <sup>4</sup>	<i>Myotis septentrionalis</i>	END	END	END	Yes	Yes
Tri-colored Bat <sup>4</sup>	<i>Perimyotis subflavus</i>	END	END	END	Yes	Yes
<b>VEGETATION</b>						
Butternut <sup>6</sup>	<i>Juglans cinerea</i>	END	END	END	Yes	Yes

Reference database for species inclusion:

<sup>1</sup> OBBA 2007

<sup>2</sup> eBird 2021

<sup>3</sup> ORAA 2019

<sup>4</sup> AMO 1994

<sup>5</sup> NHIC (NDMNRF 2021)

<sup>6</sup> Species range overlap



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## 3.2 FIELD PROGRAM

### 3.2.1 Ecological Land Classification

Initial characterization of existing vegetation communities was completed by interpreting available aerial imagery. Vegetation was identified, and communities were verified and assessed in the field within the Study Area following a meandering transect. Community characterizations (ecosites and vegetation types) were based on the Ontario Ecological Land Classification (ELC) system (Lee et. al., 2008).

Vegetation communities located within the Study Area were delineated into ELC units. As the Study Area is primarily developed for agricultural purposes, only two naturalized vegetation communities were observed:

1. Dry-Fresh Sugar Maple-Hardwood Deciduous Forest Type (FODM5-11)
2. Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest Type (FODM7-2)

The FODM5-11 vegetation community was observed to be a mature feature with many trees greater than 50-centimetre (cm) diameter at breast height (DBH) (**Photos 1 – 2, Appendix C**). This community, located in the northeast portion of the Study Area, is the forested upland area surrounding the FODM7-2 community and Barnes Creek.

The forested, lowland areas associated with Barnes Creek were observed to be dominated by green ash (*Fraxinus pennsylvanica*) that have been decimated by the presence of the emerald ash borer (*Agrilus planipennis*) (**Photo 3 – 4, Appendix C**). This community is found to be consistent with the boundaries of the RVCA's regulated lands and is found along the length of Barnes Creek within the Study Area.

The remaining communities observed within the Study Area were either related to agriculture (OAGM2 (**Photos 5 – 6, Appendix C**), OAGM4 (**Photo 7, Appendix C**) and IAGM1 (**Photos 8 – 12, Appendix C**)), constructed green lands (CGL\_2, CGL\_4), residential (CVR\_3, CVR\_4) and commercial developments (CVC).

See **Figure 2, Appendix B** for vegetation communities observed in the Study Area.

### 3.2.2 SAR Bat Maternity Roost Habitat Suitability Assessment

Trees on, or within 50 m of, the Project's proposed concept were assessed during leaf-off conditions on April 16, 2021, to identify trees that meet the criteria to support potential maternal roosts of SAR bats (e.g., cavities, loose bark). Suitable habitat feature criteria for identifying candidate maternity roosts are outlined in Appendix A: Methods for Evaluating Bat Significant Wildlife Habitat of the NDMNRF's *Bat and Bat Habitats: Guidelines for Wind Power Project* (2011). Within the NDMNRF's (2011) protocol, the following criteria are identified to determine potentially suitable candidate maternity roosts within a vegetation community or site:

- Use ELC to determine the presence of mixed forests (FOM) or deciduous forests (FOD) ecosites



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- Within mixed forests or deciduous forests, the best candidate snag trees are selected according to the following criteria (in order of importance):
  - Tallest snag/ cavity tree
  - Exhibits cavities or crevices most often originating as cracks, scars, knot holes or woodpecker cavities
  - Has the largest DBH
  - Is within the highest density of snags/ cavity trees (e.g., clusters of snags)
  - Has a large amount of loose, peeling bark
  - Cavity or crevice is high in snag/ cavity tree (>10m)
  - Tree species that provide good cavity habitat (e.g., white pine, maple, aspen, ash, oak)
  - Canopy is more open (to determine canopy cover, determine the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of trees)
  - Exhibits early stages of decay (decay Class 1-3)

As outlined in the NDMNRF's (2011) protocol, the above criteria to determine potentially suitable candidate maternity roosts are based on an ecosite/vegetation community (e.g., FOD) approach. Therefore, results from the ELC were used to determine suitable ecosite/vegetation communities that are considered to potentially support SAR bat maternity roost features as the above features were observed in the forested communities.

Both of the deciduous forest type communities within the Study Area (FODM5-11 and FODM7-2) were observed to provide potentially suitable candidate maternity roosts as described above. As the FODM7-2 feature was observed to be ravaged by the emerald ash borer, the canopy height coverage of the community is changing due to the loss of green ash trees. Though there are many trees that might meet the above criteria, this community is not considered to provide high-quality habitat (e.g., thermal relieve from canopy, protection from elements). The mature FODM5-11 vegetation community is considered to provide these high-quality features along with an abundance of potentially suitable maternity roost features and therefore SAR bats are anticipated to be present within this feature.

Additionally, the agricultural buildings and anthropogenic structures (IAGM1) within the Study Area may provide suitable maternity roost habitat for SAR bats.

No SAR bats were observed during Stantec's 2021 field program.

See **Figure 2, Appendix B** showing ELC mapping for the Study Area that is considered as potential SAR bat maternity roost habitat observed in the Study Area (FODM5-11 and FODM7-2).



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## 3.2.3 Butternut Search

Stantec completed a dedicated search for butternut trees within and adjacent to (50 m) the Site by meandering on foot through areas of potentially suitable habitat. Where permission to enter lands not owned by the Client within the Study Area was not provided, the areas were searched from the Site boundary or publicly accessible lands (e.g., pedestrian pathway) using binoculars. The butternut search was completed by a Forest Gene Conservation Association (FGCA) trained and MECP approved certified butternut health assessor for Ontario (BHA #520).

A total of eighteen (18) butternut (*Juglans cinerea*) were observed within 50m of the Site (**Figure 2, Appendix B**). Three trees were observed along the margin of the FODM7-2 community in the eastern portion of the Site (**Photo 13, Appendix C**), while the remainder of the trees were observed along the tree line separating the pedestrian pathway (CGL\_2 community and former rail line) and the main OAGM2 community (**Photo 14, Appendix C**). It was observed that both black walnut (*Juglans nigra*) and butternut hybrids were interspersed between these butternut trees and therefore, there is a high probability of hybridity in the observed 'true' butternut trees.

Further discussion on potential permitting considerations related to butternut are provided below.

## 3.2.4 Fish and Fish Habitat Assessment

The main branch of Barnes Creek along with a tributary that bisects the Site was observed within the Study Area. Within the Study Area, the main branch of Barnes Creek is associated with the deciduous forest vegetation communities (FODM5-11 and FODM7-2) – as is an approximate 100 m section of the tributary. The remaining sections of the straightened tributary flow through the agricultural landscape of the Site and originate from Kemptville College lands west of County Road 44.

The section of Barnes Creek in the Study Area is a natural watercourse with a well-developed, forested riparian area. RVCA's *Kemptonville Creek Subwatershed Report 2013: Barnes Creek Catchment* (2013) has classified Barnes Creek as a cool- and warmwater system based on water temperature data interpretation. Additionally, the Ministry of Northern Development, Mines, Natural Resources and Forestry's (NDMNRF) Kemptonville District indirectly identifies Barnes Creek and its tributary as having a restricted in-water activity window from March 15 to June 30 in any given year to protect spring spawning (warmwater) species (NDMNRF 2013).

The following fish species, representing a warmwater fisheries community, were recorded by RVCA (2013) at fish sampling stations along the northern boundary (Concession Road) and southern boundary (College Road) of the Site:



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- Creek Chub (*Semotilus atromaculatus*)
- Brook Stickleback (*Culaea inconstans*)
- Central Mudminnow (*Umbra limi*)
- Common Shiner (*Luxilus cornutus*)
- Emerald Shiner (*Notropis atherinoides*)
- Etheostoma sp. (*Etheostoma*)
- Fallfish (*Semotilus corporalis*)
- Golden Shiner (*Notemigonus crysoleucas*)
- Largemouth Bass (*Micropterus salmoides*)
- Mottled Sculpin (*Cottus bairdii*)
- Northern Redbelly Dace (*Chrosomus eos*)
- Pumpkinseed (*Lepomis gibbosus*)
- Rock Bass (*Ambloplites rupestris*)
- Eastern White Sucker (*Catostomus commersonii*)

DFO's Aquatic Species at Risk Mapping (2019) does not identify Barnes Creek or tributaries as Critical Habitat or as potential habitat for aquatic species protected under the SARA.

Further discussion on fish and fish habitat is provided in the *Eastern Ontario Correctional Centre – Headwaters Drainage Features Assessment* (Stantec, 2021).

### 3.2.5 Breeding Bird Survey

Two breeding surveys were completed within the Study Area were completed by Stantec during the appropriate breeding bird season on May 28 and June 10, 2021, using a standard 10-minute point count approach with an unlimited radius, except where adjacent count circles overlap. These methods are consistent with previously approved methods by the Canadian Wildlife Service (CWS). All birds heard or seen, with the assistance of binoculars, during the ten-minute "count" were recorded. The highest level of breeding evidence observed (e.g., carrying food, nest with young), as defined in the *Ontario Breeding Bird Atlas* (Cadman et al., 2007), was recorded at each survey station for each species encountered.

In total, 36 species of bird were recorded during the breeding bird survey in the Study Area. Five (5) of the 36 species within the Study Area were observed to be SOCC (special concern) or SAR species (threatened or endangered):

1. Eastern Wood-pewee
2. Grasshopper Sparrow (*Ammodramus savannarum*), Special Concern (SARO), S4B
3. Eastern Meadowlark, S4B, S3N
4. Bobolink, S4B
5. Barn Swallow, S4B

The eastern wood-pewee was observed in the FODM5-11 vegetation community. The remaining species all were observed associating with the open, grassland habitats in the Study Area (OAGM2 and OAGM4).

See **Figure 3, Appendix B** for breeding bird survey locations and SOCC/SAR occurrences in the Study Area.





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### 3.2.6 Wildlife Habitat Assessment

Wildlife habitat assessments were completed in the Study Area concurrently during each of the surveys above. These assessments focused on the identification of wildlife habitat features, specifically Significant Wildlife Habitat (SWH) features as outlined in the NDMNRF's Criteria Schedules for Ecoregion 6E (NDMNRF 2015a). When encountered, these features were identified, recorded and assessed for significance. All wildlife species were observed by sight, sound and/or through distinctive signs (e.g., tracks, scat).

No specific significant wildlife habitat features (e.g., breeding amphibian ponds, snake hibernacula) were observed within the Study Area during Stantec's 2021 field program.

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General Site Constraints and Recommendations  
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## 4.0 GENERAL SITE CONSTRAINTS AND RECOMMENDATIONS

### 4.1 GENERAL WILDLIFE PROTECTION

The following industry standard mitigation and protective measures for wildlife and wildlife habitat are recommended during the Project's activities:

- Construction should avoid sensitive timing windows when possible (e.g., migratory breeding bird period, bat maternity roosting period)
- If construction cannot avoid sensitive timing windows, they must follow appropriate mitigation measures to protect or avoid wildlife in the area (e.g., bird nest search, maternity roost bat survey)
- If possible, site clearing (i.e., vegetation removal) should proceed in phases with the most disturbed part of the site being cleared first and the least disturbed last
- Construction equipment and vehicles are to yield to wildlife
- Inform construction personnel to not threaten, harass or injure wildlife
- If wildlife species are encountered during construction, personnel are required to move away from the animal and wait for the animal to move off the construction site

### 4.2 PROTECTION OF MIGRATORY BIRDS

The *Migratory Birds Convention Act, 1994* (MBCA) provides legal protection of migratory birds and their active nests in Canada. The loss of migratory bird nests, eggs and or nestlings due to tree cutting or other vegetation impacts can be avoided by limiting impacts to vegetation (i.e., tree removal) and structures (i.e., building maintenance/demolition) to occur outside of the general nesting period for migratory birds in the region (C2) as identified by Environment and Climate Change Canada (ECCC) (i.e., between March 31 and August 27) (ECCC 2019). If work must be performed within this window, a pre-clearing survey for active nests or breeding activity must be conducted by a qualified biologist before work commences and additional mitigation measure (e.g., implementation of avoidance distance during construction) implemented, as required. Stantec considers a nest search to expire after seven (5) days due to the potential for birds to establish a nest after the survey. It is further recommended that a nest search occur within 48 hours of the start of planned construction activities within the migratory bird nesting period.

The above timing mitigation is also provided for SOCC and/or SAR species.



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## 4.3 TREE AND VEGETATION PROTECTION

Where adjacent trees and naturalized areas are to be retained, the following best management practices should be followed when construction activities occur near trees:

- Erect a fence around the critical root zone (CRZ) of trees
- Do not attach any signs, notices, or posters to any tree
- Do not damage the root system, trunk, or branches of any tree
- Do not place any material or equipment within the CRZ of the tree
- Do not raise or lower the existing grade within the CRZ
- Do not direct exhaust fumes from equipment towards any tree's canopy
- Tunnel or bore when digging within the CRZ of any tree

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# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

Constraints and Recommendations  
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## 5.0 CONSTRAINTS AND RECOMMENDATIONS

### 5.1 NATURAL HERITAGE FEATURES

#### 5.1.1 Watercourse (Permanent)

Development and/or encroachment (within 30 m) on the main branch of Barnes Creek is currently not being proposed as part of the Project.

The tributary to Barnes Creek that bisects the Site is currently proposed to be re-routed to accommodate the proposed concept. Approximately 120 m of this tributary is located within RVCA's regulated area. Further discussion on potential permitting considerations related to the proposed re-routing of the Barnes Creek tributary is provided below.

#### 5.1.2 Natural Heritage System (Wooded Area)

Development within the boundaries of the wooded areas (FODM5-11 and FODM7-2) is currently not being proposed as part of the Project.

#### 5.1.3 Natural Heritage System (Unevaluated Wetland)

Development within the boundaries of the unevaluated wetland is currently not being proposed as part of the Project. This unevaluated wetland is not considered to be a regulated wetland as per RVCA's wetland policies (RVCA 2018), however, further correspondence with the RVCA is recommended to confirm Stantec's interpretation.

### 5.2 SPECIES AT RISK

Grassland SAR birds (eastern meadowlark, bobolink, barn swallow) have been identified as occurring within the Site and butternut was found growing along the edges of the agricultural fields (OAGM2) of the Site. Furthermore, the Study Area was identified as providing potential habitat for additional SAR birds (wood thrush), turtles (Blanding's turtle) and mammals (eastern small-footed myotis, little brown myotis, northern myotis, tri-colored bat).

Further discussion on potential permitting considerations related to SAR are provided below.

Prior to any Project related construction (e.g., grading, vegetation clearing) the following general mitigation measures are recommended to protect SAR:

- Implement a worker awareness program for construction staff that includes SAR identification and suitable habitat characteristics
- Conduct a daily pre-activity search of the construction area to identify SAR, if present



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- If threatened or endangered species are seen in or near the work area, stop work immediately and contact a qualified professional for further advice
- Take photographs if possible, but do not interact with the animal

Species-specific SAR mitigation measures are provided below.

#### 5.2.1 SAR Birds

Suitable nesting and foraging habitat (OAGM2 and OAGM4) was observed to support SAR birds (eastern meadowlark, bobolink, barn swallow) and potentially suitable nesting habitat was observed for wood thrush (FODM5-11 and FODM7-2).

Protections outlined above for migratory birds are considered sufficient mitigation for avoiding SAR birds.

Further discussion is provided below related to potential permitting considerations related to impacts to SAR bird habitat.

#### 5.2.2 SAR Bats

As discussed above, there is the potential for SAR bats to occur in the forested, deciduous vegetation communities (FODM5-11 and FODM7-2) and the agricultural buildings (IAGM1) within the Study Area and therefore there is the potential for both direct and indirect impacts as a result of the Project.

To reduce the likelihood of harm to SAR bats, it is recommended that building maintenance/demolition and tree removal (i.e., trees  $\geq 10$  cm DBH) occur outside the bat maternity roost season. *Myotis* species typically give birth in late-May to early-June, and females fly with newborn young attached until they become excessively heavy. Young begin to fly in mid- to late-June, at age three to four weeks. Rearing is completed by August and bats move to hibernacula features in August or September (Broders et al. 2006, Cagle and Cockrum 1943, Gerson 1984). Therefore, building maintenance/demolition and/or tree removal is not recommended between May to August (MECP correspondence). If building maintenance/demolition and/or tree clearing is required within this window, maternity exit surveys may be conducted prior to determine if bats are using the buildings or trees.

Maternity exit surveys are conducted during evening hours and include visual and acoustic surveys following industry standard, accepted protocols as approved by the MECP.

If work is anticipated to impact SAR *Myotis* bats, ESA authorization may be required and is discussed further below.



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### **5.2.3 SAR Turtles**

There is potential for SAR turtles (i.e., Blanding's Turtle) to be encountered within the Study Area during the Project's construction activities. Barnes Creek should be considered a potential migration corridor and there is a potential for SAR turtles to be encountered moving between habitats upstream and downstream of the Study Area. No critical habitat elements were observed within Study Area (e.g., overwintering habitat, nesting habitat) and no specific mitigation measures or permitting considerations related to SAR turtles are recommended.

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## 6.0 PERMITTING CONSIDERATIONS

### 6.1 CONSERVATION AUTHORITIES ACT

The Study Area is within the jurisdiction of the RVCA and is therefore subject to O. Reg. 174/06 under the *Conservation Authorities Act*. RVCA's GeoPortal (RVCA 2021) shows regulated lands, protected under O. Reg. 174/06 of the *Conservation Authorities Act*, surrounding Barnes Creek and associated tributary within the Study Area (**Figure 1, Appendix B**).

According to the concept provided, proposed development (e.g., site grading) is anticipated to occur within the regulated lands surrounding the lowest reach of the Barnes Creek tributary. Furthermore, the Barnes Creek tributary is being proposed to be re-routed northwest to accommodate the Project's concept. Correspondence with the RVCA related to potential permitting requirements under the *Conservation Authorities Act* for both activities is recommended.

To support RVCA's review of the Barnes Creek tributary proposed re-alignment, Stantec is developing a Headwaters Drainage Feature Assessment report following the guidance outlined in the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (CVC and TRCA 2014).

### 6.2 FISHERIES ACT

The *Fisheries Act* (R.S.C., 1985, c. F-14) prohibits activities that result in the death of fish or the harmful alteration, disruption or destruction (HADD) of fish habitat (s.35[1]) unless authorized by the Minister of Fisheries and Oceans Canada (DFO). The above prohibitions apply to activities that occur within or near waterbodies that support fish and fish habitat.

Under the current fish and fish habitat protection provisions of the *Fisheries Act*, any works, undertaking or activity of a project must incorporate measures to avoid causing the death of fish and the HADD of fish habitat. To assist proponents with determining if their project will comply with the fish and fish habitat provisions, DFO has outlined measures to protect fish and fish habitat (DFO 2019b) as well as several standards and codes of practices (DFO 2021a). If a project cannot completely implement the measures to protect fish and fish habitat and if the standards and codes of practice are not applicable to the project, DFO recommends that the proponent request a review of the project by DFO. If a project can't avoid and/or mitigate impacts that will cause death of fish or the HADD of fish habitat, an Authorization under the *Fisheries Act* may be required (DFO 2021b).

As the Barnes Creek tributary was observed to provide intermittent direct fish habitat (e.g., feeding, cover) and indirect fish habitat towards Barnes Creek (e.g., nutrient inputs), the proposed re-routing of the tributary may be considered a HADD towards fish habitat. After completion of the proposed design and understanding the design considerations and potential impacts towards fish and fish habitat within the Barnes Creek tributary, a review by DFO under the *Fisheries Act* may be required.



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## 6.3 ENDANGERED SPECIES ACT, 2007

### 6.3.1 Eastern Meadowlark and Bobolink

Eastern meadowlark and bobolink were observed nesting within both the OAGM2 and OAGM4 vegetation communities within the Study Area. If activities associated with the Project (e.g., site grading, vegetation clearing) are anticipated to damage and/or destroy equal to or less than 30 hectares of suitable nesting habitat (OAGM2 or OAGM4), it is anticipated that the Project is eligible for registration under Section 23.6 – Bobolink, Eastern Meadowlark of O. Reg. 242/08 administered under the ESA.

If the Project is anticipated to damage and/or destroy greater than 30 hectares of eastern meadowlark and bobolink habitat, the development and submission of an Information Gathering Form to the MECP is recommended to illicit formal comment on additional permitting considerations under the ESA, if required.

### 6.3.2 Barn Swallow

Barn swallow were observed foraging over the OAGM2 and OAGM4 vegetation communities. Though observed associating with the agricultural buildings and service wires within the IAGM1 community, no active barn swallow nests were observed during Stantec's 2021 field program. There are additional potentially suitable anthropogenic structures within the Study Area that may be used for nesting purposes.

As such, an additional search for barn swallow nests should be completed closer to the proposed demolition date of the agricultural buildings within the Study Area. If active barn swallow nests are found during subsequent visits, it is anticipated that the Project is eligible for registration under Section 23.5 – Barn Swallow of O. Reg. 242/08 administered under the ESA.

### 6.3.3 Butternut

A total of eighteen butternut trees were observed within the Site and several are anticipated to be within 50 m of the Project's concept. After completion of the proposed design and understanding the design considerations and potential impacts towards butternut and their habitat, a butternut health assessment following the guidance outlined in the MDMNRF's *Butternut Health Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the Endangered Species Act 2007* (2014) is recommended prior to land grading and/or vegetation clearing activities.

The results of a completed butternut health assessment will inform potential permitting requirements under the ESA. If no impacts to Category 3 and/or ten (10) or less Category 2 butternut trees, the Project is anticipated to be eligible for registration under Section 23.7 – Butternut of O. Reg. 242/08 administered under the ESA. If the Project is anticipated to impact a Category 3 and/or more than ten (10) Category 2 butternut trees, the development and submission of an Information Gathering Form to the MECP is recommended to illicit formal comment on additional permitting considerations under the ESA.





## EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

Permitting Considerations  
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### 6.3.4 SAR Bats

Potentially suitable maternity roost habitat for SAR bats was identified as occurring in the forested, deciduous vegetation communities (FODM5-11 and FODM7-2) and the agricultural buildings (IAGM1) within the Study Area.

Vegetation and building decommissioning is recommended to occur outside of the SAR bat maternity roost season (May – August), however, if the Project requires clearing/decommissioning activities to occur within these areas further consultation with the MECP is recommended. The development and submission of an Information Gathering Form to the MECP is recommended to illicit formal comment on additional permitting considerations under the ESA as it relates to SAR bats.

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# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

Conclusion  
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## 7.0 CONCLUSION

This natural heritage assessment to support IO's Phase II Development Feasibility Assessment of the proposed EOCC provides a high-level assessment of the potential impacts on the natural heritage features and functions within the Study Area based on the concept and information provided to date. The key natural heritage features identified within the Study Area which may be impacted by the Project's activities include the following:

- Watercourse (Permanent)
  - Damage or loss of function during proposed re-routing activities of the Barnes Creek tributary
- Species at Risk Habitat
  - Vegetation removal within the OAGM2 and OAGM4 vegetation communities will result in the removal of habitat for the provincially threatened eastern meadowlark and bobolink
  - Building removal/decommissioning may result in the removal of nesting habitat for the provincially threatened barn swallow, if present
  - Site grading and vegetation removal activities may result in the kill, harm, harassment of the provincially endangered butternut tree and/or their habitat

The following permitting considerations for the Project's proposed concept (**Appendix A**) and associated activities have been recommended:

- Ontario Regulation 174/06 under the *Conservation Authorities Act* (RVCA)
  - Site grading anticipated to occur within RVCA regulated lands
  - Re-routing of the Barnes Creek tributary
- *Fisheries Act* (DFO)
  - Re-routing of the Barnes Creek tributary
- Ontario Regulation 242/08 (s23.5) under the *Endangered Species Act, 2007* (MECP)
  - Impacts to 30 hectares or less of eastern meadowlark and bobolink habitat (OAGM2 and OAGM4 vegetation communities)
- Ontario Regulation 242/08 (s23.6) under the *Endangered Species Act, 2007* (MECP)
  - Impacts to barn swallow nesting structures (e.g., agricultural buildings and anthropogenic structures) (only if present during building decommissioning)
- Ontario Regulation 242/08 (s23.7) under the *Endangered Species Act, 2007* (MECP)
  - Only if Project is considered eligible and is based on the results of a butternut health assessment



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If required, further consultation with the MECP, via the submission of an Information Gathering Form, is recommended if the Project's activities are not anticipated to be eligible for registration under O. Reg. 242/08 and/or if impacts to SAR bats are anticipated.

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# EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

## References

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## 8.0 REFERENCES

- Broders H.G. Forbes G.J. Woodley S. Thompson I.D. 2006. Range extent and stand selection for forest-dwelling northern long-eared and little brown bats in New Brunswick. *Journal of Wildlife Management* 70:1174–1184.
- Cadman, M.D., et al. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. (eds) Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of natural resources, and Ontario Nature, Toronto, xxii + 706 pp.
- Cagle, F.R. and L. Cockrum. 1943. Notes on a summer colony of *Myotis lucifugus lucifugus*. *Journal of Mammalogy*, 24-4: 474-492.
- Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists.
- eBird Canada. 2021. Retrieved from: <http://ebird.org/content/canada/>
- Endangered Species Act, 2007 (ESA)*. 2007. Retrieved from: <http://www.ontario.ca/laws/statute/07e06>
- Environment and Climate Change Canada (ECCC). 2019. General Nesting Periods of Migratory Birds in Canada. Retrieved from: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>
- Environment and Climate Change Canada (ECCC). 2021. Species at Risk Public Registry. Retrieved from: <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>
- Fisheries Act*. 1985. Retrieved from: <https://laws-lois.justice.gc.ca/eng/acts/F-14/>
- Fisheries and Oceans Canada (DFO). 2019a. Aquatic species at risk map. Retrieved from <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>
- Fisheries and Oceans Canada (DFO). 2019b. Measures to protect fish and fish habitat. Retrieved from: <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html>
- Fisheries and Oceans Canada (DFO). 2021a. Standards and codes of practice. Retrieved from <http://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html>
- Fisheries and Oceans Canada (DFO). 2021b. Projects Near Water. Retrieved from <http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-001-eng.html>
- Gerson, H. 1984. Habitat management guidelines for bats of Ontario. Ontario Ministry of Natural Resources.
- Google Earth Pro Ver. 7.3.3.7786. 2020. Google Earth.



## EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT

### References

September 14, 2021

iNaturalist Canada. 2021. Retrieved from: <http://inaturalist.ca>

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998 (with 2008 ELC code updates). Ecological Land Classification for Southwestern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, South Central Region, Science Development and Transfer Branch. Technical Manual ELC-005.

*Migratory Birds Convention Act, 1994* (MBCA). 1994. Retrieved from: <https://laws-lois.justice.gc.ca/eng/acts/m-7.01/>

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). 2021a. Natural Heritage Information Centre (NHIC). Provincial status of plants, wildlife and vegetation communities database. Ministry of Natural Resources and Forestry, Peterborough. Retrieved from: <https://www.ontario.ca/page/make-natural-heritage-area-map>

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). 2021b. Land Information Ontario (LIO). On-line Natural Heritage Mapping and Natural Heritage Information Database. Retrieved from: <https://www.ontario.ca/page/land-information-ontario>

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). 2020. Ontario Regulation 230/08; *Endangered Species Act, 2007*. Species at Risk in Ontario List.

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). 2011. Bats and Bat Habitats: Guidelines for Wind Power Projects. Ontario Ministry of Natural Resources.

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). 2015a. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. January 2015.

Municipality of North Grenville. 2018. Official Plan of the Municipality of North Grenville.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2020. Agricultural Information Atlas. Retrieved from: <http://www.omafra.gov.on.ca/english/landuse/gis/portal.htm>

Rideau Valley Conservation Authority (RVCA). 2013. Kemptville Creek Subwatershed Report: Barnes Creek Catchment.

Rideau Valley Conservation Authority (RVCA). 2018. Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourse (Ontario Regulation 174/06 under Section 28 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27): Wetland Policies.

Rideau Valley Conservation Authority (RVCA). 2021. RVCA GeoPortal. Retrieved from: [https://gis.rvca.ca/html5/?viewer=rvcageoportal\\_staff#](https://gis.rvca.ca/html5/?viewer=rvcageoportal_staff#)

Toronto Entomologists' Association. 2021a. Ontario Reptile & Amphibian Atlas. Retrieved from: <https://www.ontarioinsects.org/herp/>



## **EASTERN ONTARIO CORRECTIONAL CENTRE – PHASE II DEVELOPMENT FEASIBILITY ASSESSMENT – NATURAL HERITAGE ASSESSMENT**

### References

September 14, 2021

Toronto Entomologists' Association. 2021b. The Ontario Butterfly Atlas Online. Retrieved from:  
[http://www.ontarioinsects.org/atlas\\_online.htm](http://www.ontarioinsects.org/atlas_online.htm)

United Counties of Leeds and Grenville. 2016. Official Plan for the United Counties of Leeds and  
Grenville.

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**APPENDIX A**  
**Eastern Ontario Correctional Centre Concept**

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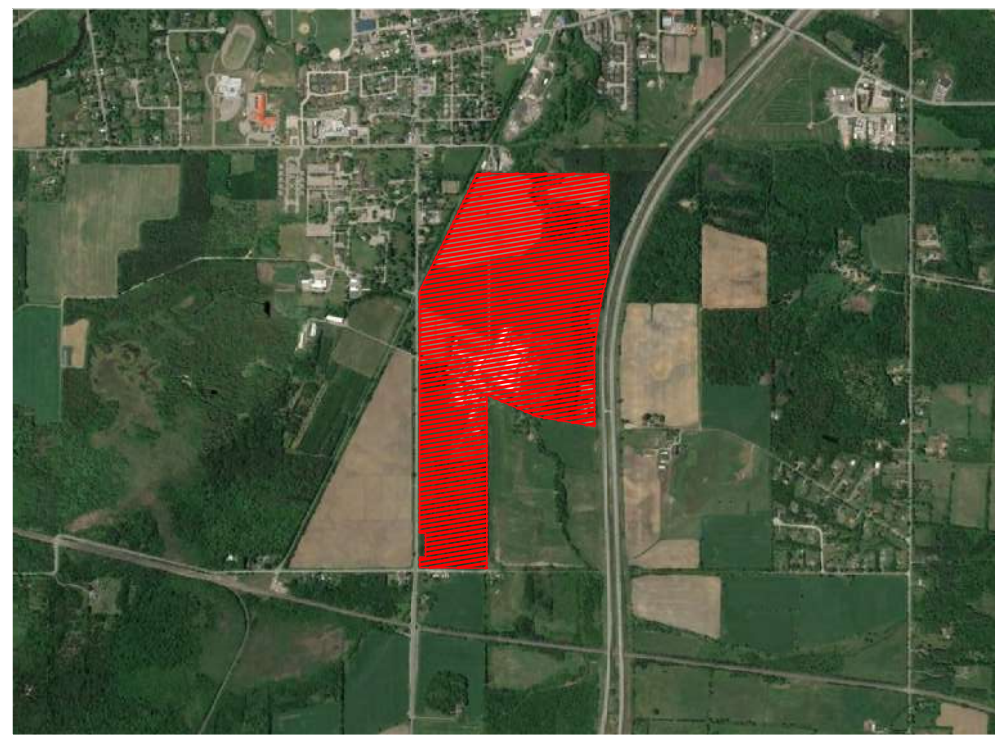


**SITE INFORMATION**

ZONING	INSTITUTIONAL (I)
<b>SITE AREA</b>	
Total Site Area:	722,068m <sup>2</sup>
<b>CORRECTIONAL CENTRE</b>	
Building	15,959m <sup>2</sup>
Outdoor Recreational Area	34,655m <sup>2</sup>
<b>PARKING RATES</b>	
	<b>RECOMMENDED</b>
Correctional Centre	0.9 /inmate bed
Contingency	0.1 /inmate bed

1. This plan is conceptual and subject to all necessary studies, investigations and approvals.
2. This plan is intended to show potential location and orientation of the correctional facility template under study and highlight potential conflicts with existing environmental and built conditions with the single purpose of aiding further discussions. Further analysis, studies and approvals are required to validate the plan.
3. Lot lines, existing roads and surrounding areas are sourced from survey N00955-KAC-ORC-RPlan.

# KEMPTVILLE CORRECTIONAL CENTRE OPTION 2



**Proposed Buildings to be Retained:**

- 30 Calf Barn
- 33 Farm Shop
- 34 Implement Storage Building/Welding Shop
- 35 Equipment Drive Shed
- 39 Bull Testing Station/ Heifer Barn
- 45 Horse Barn
- 51 Agronomy Building

**Proposed Buildings to be Removed:**

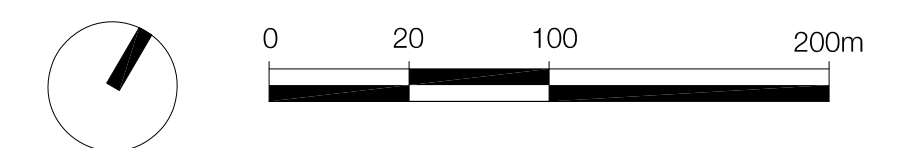
- 41 Pesticide Storage Building
- 42 Hay Storage
- 43 Horse Barn
- 44 Machinery Storage Building
- 46 AM Barr Display Arena

**Not Identified for Retention or Removal**

- 52 Farm Machinery Storage
- N/A = not identified, to be demolished*

**LEGEND**

- PROPOSED BUILDING
- LANDS IDENTIFIED FOR LOCAL GREEN INITIATIVE
- FLOOD PLAIN
- NON-PROGRAMMED OUTDOOR COURTYARD
- PROPERTY BOUNDARY
- CREEK
- RAIL TRAIL
- HYDRO LINE



7	REVISIONS	2021.03.17	LC
6	REVISIONS	2021.03.16	LC
5	REVISIONS	2021.02.02	RP
4	NEW FOOTPRINT DRAFT	2021.02.01	LC
3	DRAFT	2020.10.27	LC
2	DRAFT	2020.10.26	LC
1	DRAFT	2020.10.23	LC
No.	REVISION	DATE	BY

**CLIENT**  
INFRASTRUCTURE ONTARIO

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613.730.5709 www.fotenn.com

DESIGNED	UMG
REVIEWED	RP
DATE	2021.03.17

**P2**

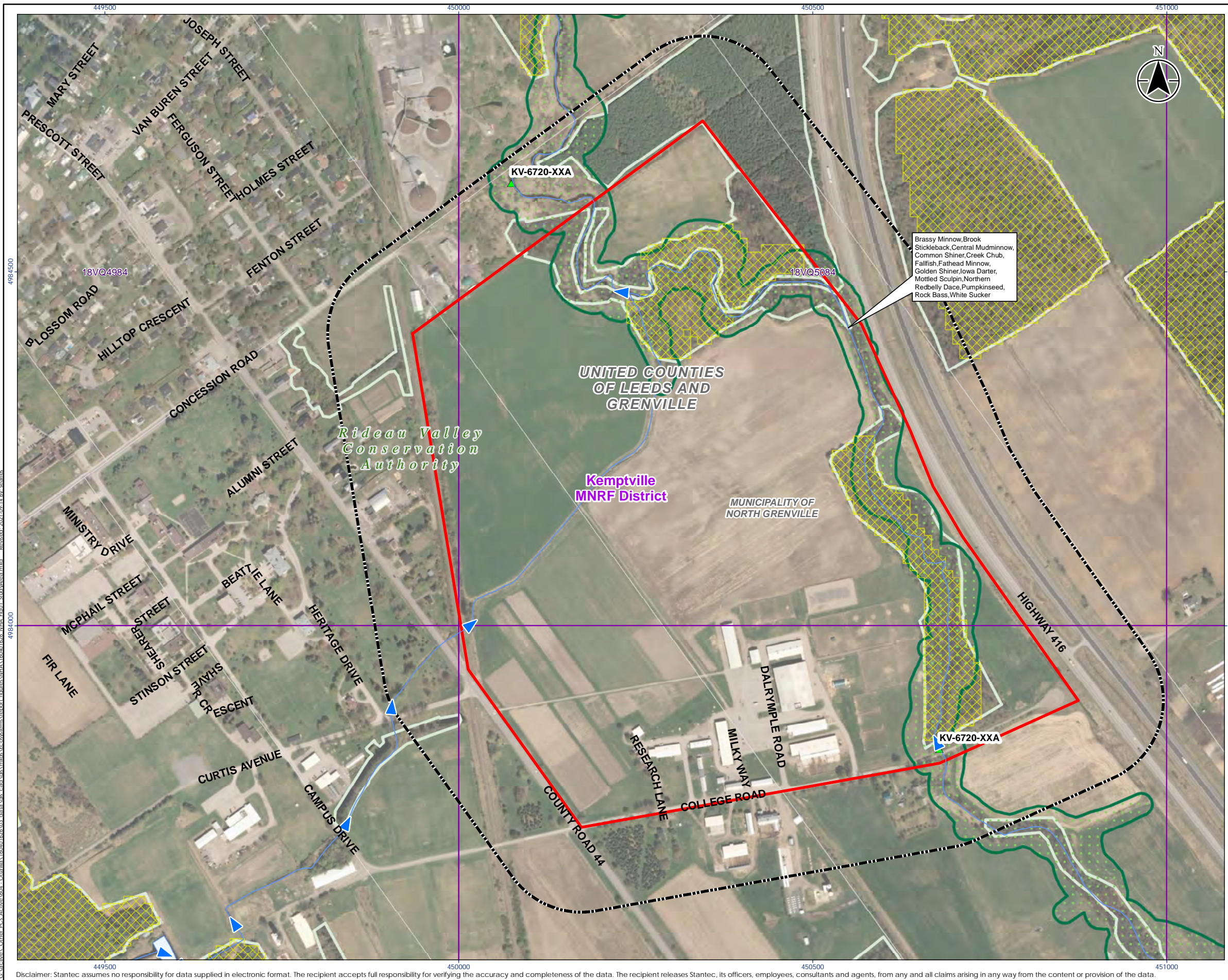


**APPENDIX B**  
**Figures**

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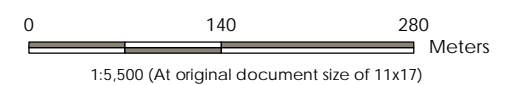






Legend

- Study Area
- 120m Buffer
- ▶ Flow Direction
- ▲ Fish Survey Point (ARA)
- Watercourse (Permanent)
- 1 km UTM Grid
- Lot
- Municipal Boundary, Lower
- Municipal Boundary, Upper
- RVCA Regulation Limit
- Significant Ecological Area
- Waterbody
- Wooded Area



Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
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3. RVCA Regulation Limit provided by Rideau Valley Conservation Authority Open Data. Accessed May 15, 2021.
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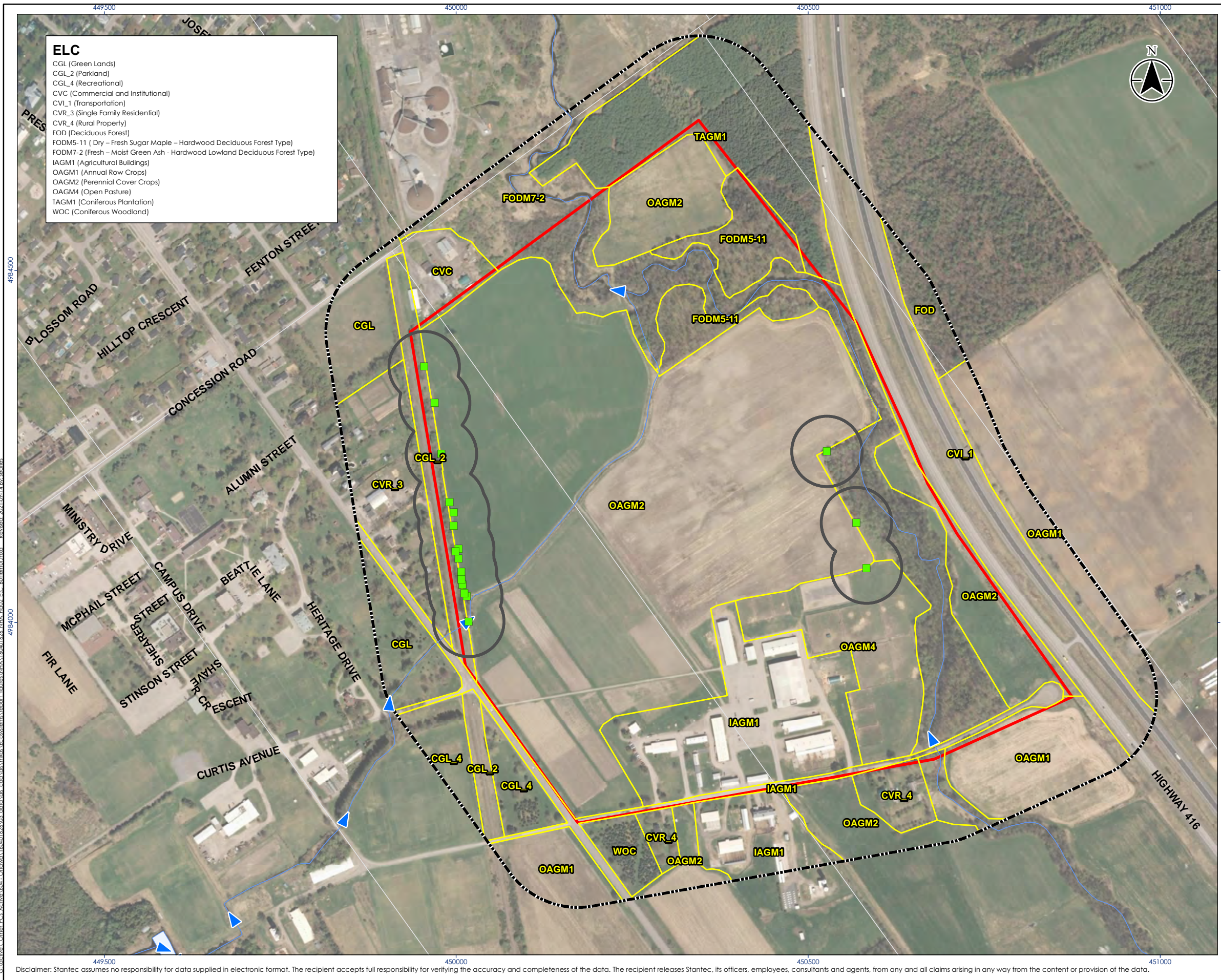
Project Location: Municipality of North Grenville  
 Prepared by SPE on 2021-09-14  
 Technical Review by DH on 2021-09-14

Client/Project: INFRASTRUCTURE ONTARIO  
 EASTERN ONTARIO CORRECTIONAL CENTRE  
 NATURAL HERITAGE ASSESSMENT (NHA)

Figure No. 1

Title: Background Natural Heritage Features





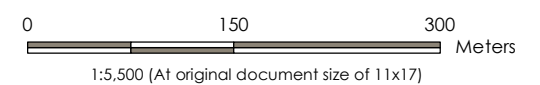
**ELC**

- CGL (Green Lands)
- CGL\_2 (Parkland)
- CGL\_4 (Recreational)
- CVC (Commercial and Institutional)
- CVL\_1 (Transportation)
- CVR\_3 (Single Family Residential)
- CVR\_4 (Rural Property)
- FOD (Deciduous Forest)
- FODM5-11 (Dry - Fresh Sugar Maple - Hardwood Deciduous Forest Type)
- FODM7-2 (Fresh - Moist Green Ash - Hardwood Lowland Deciduous Forest Type)
- IAGM1 (Agricultural Buildings)
- OAGM1 (Annual Row Crops)
- OAGM2 (Perennial Cover Crops)
- OAGM4 (Open Pasture)
- TAGM1 (Coniferous Plantation)
- WOC (Coniferous Woodland)



**Legend**

- Study Area
- 120m Buffer
- Butternut Location
- ▶ Flow Direction
- Watercourse (Permanent)
- Butternut Buffer (50m)
- Ecological Land Classification (ELC)
- Lot
- Waterbody



- Notes**
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 160401626 REV4

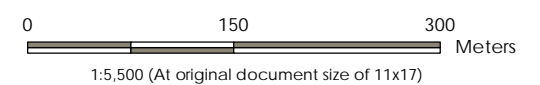
Client/Project: INFRASTRUCTURE ONTARIO  
 EASTERN ONTARIO CORRECTIONAL CENTRE  
 NATURAL HERITAGE ASSESSMENT (NHA)

Figure No.: 2  
 Title: Ecological Land Classification and Butternut Locations





- Legend**
- Study Area
  - 120m Buffer
  - Breeding Bird Survey Location
  - Barn Swallow (THR)
  - Bobolink (THR)
  - Eastern Meadowlark (THR)
  - Eastern Wood-pewee (SC)
  - Grasshopper Sparrow (SC)
  - Watercourse (Permanent)
  - Ecological Land Classification (ELC)
  - Lot
  - Potential Barn Swallow Nesting Habitat
  - Species at Risk Grassland Habitat
  - Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 18N
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Project Location: Municipality of North Grenville  
 Prepared by: SPE on 2021-09-14  
 Technical Review by: DH on 2021-09-14

Client/Project: INFRASTRUCTURE ONTARIO  
 EASTERN ONTARIO CORRECTIONAL CENTRE  
 NATURAL HERITAGE ASSESSMENT (NHA)

Figure No.: 3  
 Title: Species at Risk Observations and Habitat



**APPENDIX C**  
**Photographic Record of Site Conditions**

DRAFT





**Photo 1:** Existing conditions observed within the FODM5-11 vegetation community. Identified as potential SAR bat maternity roost habitat. Looking northeast.



**Photo 2:** Existing conditions observed within the FODM5-11 vegetation community. Identified as potential SAR bat maternity roost habitat. Looking south.



**Photo 3:** Existing conditions of Barnes Creek and the adjacent FODM7-2 vegetation community. Note extent of dead green ash trees in canopy.



**Photo 4:** Existing canopy structure of the FODM7-2 vegetation community surrounding Barnes Creek on the eastern Site boundary. Looking east.



**Photo 5:** Existing conditions of the OAGM2 (hay field) vegetation community. Identified as eastern meadowlark and bobolink nesting habitat and barn swallow foraging habitat. Looking south.



**Photo 6:** Existing conditions of the OAGM2 (hay field) vegetation community. Identified as eastern meadowlark and bobolink nesting habitat and barn swallow foraging habitat. Looking northwest.







**Photo 7:** Existing conditions of the OAGM4 (pasture) vegetation community. Identified as eastern meadowlark nesting habitat and barn swallow foraging habitat. Looking northeast.



**Photo 8:** Existing conditions of IAGM1 community showing the agricultural buildings (#39 and #45). Identified as potential nesting habitat for barn swallow and potential SAR bat maternity roost habitat.



**Photo 9:** Existing conditions of IAGM1 community showing the agricultural buildings (#45, #46, #43 and coveralls).



**Photo 10:** Existing conditions of IAGM1 community showing the agricultural building #35.



**Photo 11:** Existing conditions of IAGM1 community along College Road showing the agricultural buildings (#33).



**Photo 12:** Existing conditions of IAGM1 community along College Road showing the agricultural buildings (#39 and #35).







**Photo 13:** Butternut trees (red) observed along the edge of the FODM7-2 vegetation community at the eastern boundary of the Site. Looking east.



**Photo 14:** Butternut trees (red) observed along the edge of the CGL\_2 community at the western boundary of the Site.



**Photo 15:** Existing conditions of the main branch of Barnes Creek in the Study Area on June 6, 2021. Looking north across low-flow agricultural crossing.



**Photo 16:** Existing conditions of the main branch of Barnes Creek in the Study Area on July 30, 2021. Looking east (upstream).



**Photo 17:** Existing conditions of the Barnes Creek tributary bisecting the Study Area. Looking west (upstream).



**Photo 18:** Existing conditions of the Barnes Creek tributary bisecting the Study Area. Looking east (upstream) from existing gravel road crossing.





**Appendix F:  
Transportation Impact Assessment**



**Kemptville Correctional Centre  
– Traffic Impact Study and  
Parking Needs Assessment**

Draft Report

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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

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**Mohammed Al Hasoo, M.Eng., P.Eng.**

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**Ahmed Abdelnaby, M.Sc., P.Eng., RSP1**

# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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## 1.0 BACKGROUND

Infrastructure Ontario (IO) is planning to construct a new correctional centre located in Kemptville, Ontario. The proposed development is planned to encompass a 15,960 m<sup>2</sup> building and a 34,655 m<sup>2</sup> outdoor recreational area. The building is anticipated to have a capacity of 235 inmate beds.

The proposed development's plot has an area of 722,068 m<sup>2</sup> and currently features a variety of existing buildings in addition to greenfield and brownfield lands. The site is located to the south of the urban limits of Kemptville, in the Municipality of North Grenville. A preliminary site plan for the proposed correctional centre is illustrated in **Figure 1**.

As shown on the site plan, several existing buildings are planned to be removed (highlighted in orange), including a pesticide storage building, a hay storage building, a horse barn, a machinery storage building, and the AM Barr display arena. There are also several buildings on the site that are envisioned to be retained (highlighted in black), including a calf barn, a farm shop, a storage building / welding shop, a horse barn, a bull testing station, and an agronomy building.

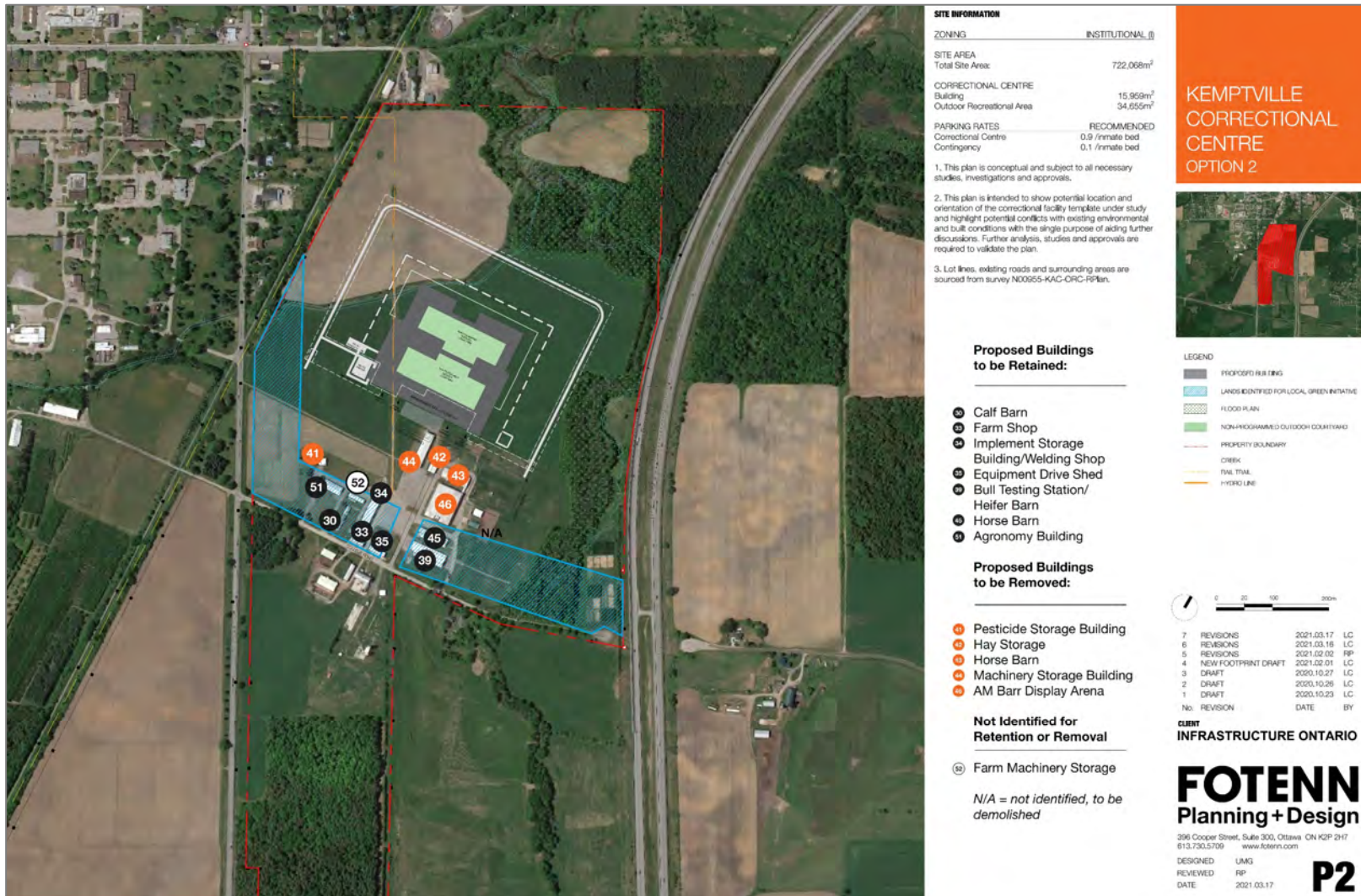
The proposed development is bound by College Road to the south, Prescott Street and green lands to the west, Highway 416 and green lands to the east, and green lands to the north. The facility is planned for completion by 2022 and will go into immediate use.



# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

Figure 1 - Site Plan



# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

## 2.0 SCOPE

The purpose of this Transportation Impact Study (TIS) is to identify the transportation impacts of the proposed development. This TIS also serves as a basis for the identification and evaluation of transportation related improvements and measures required in support of the development.

This Transportation Study adopts the 2014 Ministry of Transportation of Ontario (MTO) *General Guidelines for the Preparation of Traffic Impact Studies*. The scope of the Transportation Study was confirmed through discussions with the MTO and the County of North Grenville, and it includes:

- Performing traffic operations assessment of the proposed study area intersections as follows:
  - Prescott Street and Concession Road;
  - Prescott Street and College Road; and
  - College Road and the proposed site access.
  - Study horizons include:
    - Existing conditions;
    - Future background conditions (at site build-out);
    - Total future conditions (at site build-out);
    - Total future conditions (+5 years beyond site build-out); and
    - Ultimate future conditions (+10 years beyond site build-out)
  - Analysis time periods include the weekday AM and PM peak hours;
- Identifying the need for transportation network improvements and associated performance as needed; and
- Performing future parking conditions and needs assessment; and
- Assessing the posted speed limit along Prescott Street, in the vicinity of the site





# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

## 3.0 EXISTING CONDITIONS

### 3.1 ROADS AND TRAFFIC CONTROL

The roadways under consideration in the study area are described as follows:

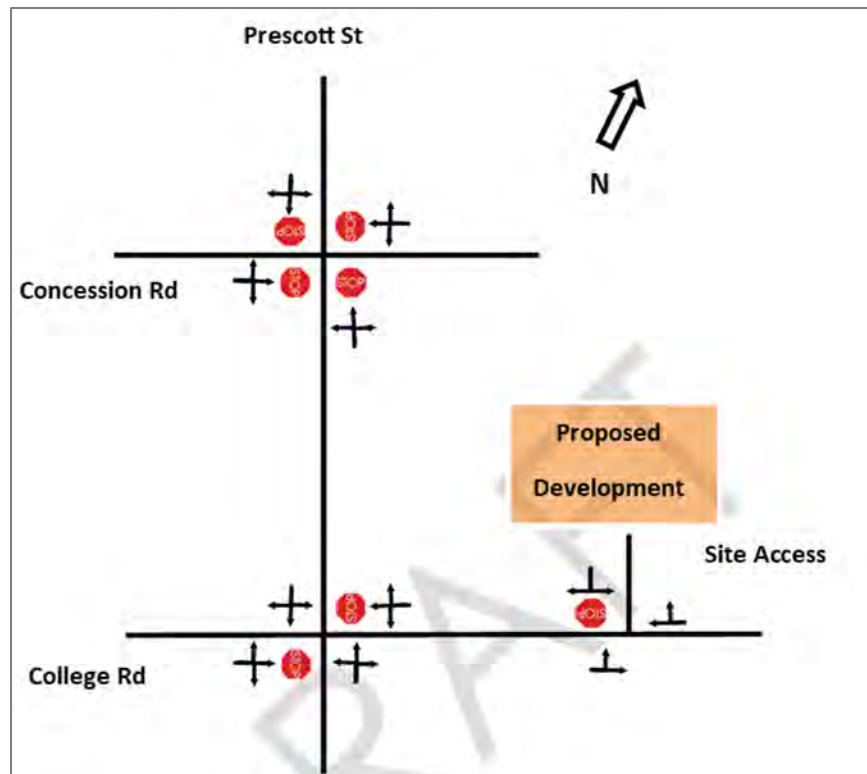
Prescott Street	Prescott Street is a two-lane north-south undivided county road with a posted speed limit of 60 km/h in the vicinity of College Road. The posted speed limit on Prescott Street increases to 80 km/h to the south of College Road and decreases to 40 km/h at Concession Road. The roadway features a rural cross section and does not include pedestrian or cyclist infrastructure, aside from a 150m multi-use pathway on the west side of the roadway, just south of the intersection with Concession Road. The intersection with College Road is a four-leg unsignalized intersection with two-way stop control on both approaches of College Road and does not feature marked pedestrian crossings or pedestrian facilities. Prescott Street connects to Highway 416 to the south of the proposed development.
College Road	College Road is a paved, two-lane, municipal undivided local road with a default speed limit of 50 km/h (in the absence of a posted speed limit). There are five existing two-lane private accesses on the north side of College Road east of the intersection Prescott Street, which provide access to the University of Guelph Research Station buildings. On the south side of the roadway, there are three existing accesses servicing agricultural land uses and two accesses serving two residential units.
Concession Road	Concession Road is a paved, two-lane, undivided municipal road with a posted speed limit of 40 km/h at Prescott Street. The roadway features a rural cross section with no pedestrian or cycling infrastructure. The intersection of Prescott Street at Concession Road is a four-leg, fully stop-controlled intersection and does not include marked pedestrian crossings or pedestrian facilities.
Highway 416	Highway 416 is a four-lane, divided provincial highway. Highway 416 provides connectivity to the City of Ottawa to the north and to Highway 401 to the south. Highway 416 is a fully controlled access highway with no at-grade access intersections allowed. Access to the highway is provided through interchange ramps.

The proposed development is located to the north of College Road, as shown in the local context in **Figure 2**.

The proposed development is envisioned to be accessed through an extension of an existing two-way private access intersecting with College Road that currently services a portion of the land uses in the vicinity of the proposed development.



Figure 2 – Existing Lane Configuration and Traffic Control



### 3.2 EXISTING LAND USE

As per the County of North Grenville's Official Plan, the proposed development is situated in an Agriculture Zone. Land uses surrounding Prescott Street and College Road are largely agricultural to the south of Curtis Avenue, with the exception of the University of Guelph Research Station. North of the intersection with Curtis Road, land uses in the vicinity of Prescott Street include an urbanized mix of residential, commercial, and institutional uses.

### 3.3 TRANSIT & ACTIVE TRANSPORTATION

The Municipality of North Grenville published their Commuter Cycling Plan in 2019. The plan is intended to guide long-range strategy relating to active transportation in the Municipality. The Plan identifies the existing routes, future plans for cycling routes, and sequencing of future works. Currently, College Road is identified as a road with no existing active transportation infrastructure or designations (*Map ES1*), whereas Prescott Street is identified as a spine route for on-road cycling (non-protected). No changes are proposed for College Road in the future network plan. The plan identifies Prescott Street as a future buffered and paved shoulder for north-south cycling connectivity, to be upgraded in Phase 3 of implementation of the plan. There are no pedestrian facilities identified for College Road or Prescott Street in the Plan, however there



# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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is an off-road, north-south cycling route that connects to Prescott Street at Curtis Avenue, which may support improved access to the centre of the urban area.

There is no existing local transit service within the area. Local transit service is currently limited to taxi service. The municipality contracts a private provider, Allegiance Transportation Services, to provide service to persons with limited mobility.

## 3.4 BASE YEAR (2021) TRAFFIC VOLUMES

Turning Movement Counts were collected for the intersection of Prescott Street and Concession Road on February 9 and 10, 2021. Google Community Mobility Reports were utilized in order to produce an adjustment factor to apply to traffic levels from the February 2021 traffic counts. This adjustment factor enables correction based on the impact of the COVID-19 pandemic on traffic activity in the study area. The Community Mobility Reports provide data at the County level based on changes in retail, recreation, grocery, parks, transit, workplace, and residential activity. Stantec used the Community Mobility Report dated February 23, 2021, which uses a baseline of traffic data from January and February 2020, representing pre-pandemic levels. The correction factor was determined to be 1.11 using data from the Leeds and Grenville United counties (i.e., traffic data should be increased by 11% to counter the impact of COVID-19 on traffic counts collected during February 2021). No further day-of-week or month-of-year correction factors were applied.

College Road at Prescott Street currently serves limited land uses, and it was therefore assumed that nominal turning traffic volumes would be observed at this intersection. The assumption of nominal traffic entails the assignment of 5 vehicles per hour per direction to/from College Road at the intersection with Prescott Street. The through traffic on Prescott Street at College Road was balanced with the traffic volumes to/from the intersection of Prescott Street and Concession Road.

The nominal site traffic to/from the east side of College Road was assumed to originate and terminate at the site access.

The traffic count at Prescott Street and Concession Road was collected for a 24-hour period beginning at 1:00 PM on February 9, 2021. The traffic count at Prescott Street and Concession Road exhibits a weekday AM peak hour from 7:45 AM to 8:45 AM and a PM peak hour from 3:00 PM to 4:00 PM. The AM peak hour factor was measured as 0.78 and the PM peak hour factor was 0.81, and these peak hour periods are therefore used for traffic capacity analysis. The adjusted 2021 baseline year traffic demands are shown in **Figure 3** below.



**KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT**

AUGUST 31, 2021

**Figure 3 - Existing (2021) Traffic Volumes**



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AUGUST 31, 2021

## **4.0 FUTURE TRANSPORTATION ENVIRONMENT**

### **4.1 FUTURE NETWORK IMPROVEMENTS**

Upon review of the transportation master plan (TMP) for the Municipality, there are no planned network improvements in the vicinity of the study area.

### **4.2 FUTURE BACKGROUND DEVELOPMENTS**

There are no background developments planned in the vicinity of the study area.

### **4.3 2022 FUTURE BACKGROUND CONDITIONS**

A conservative annual background growth rate of 2% (non-compounded) was used to account for anticipated traffic growth in the study area network. The growth rate was not applied to the nominal traffic assigned to/from College Road.

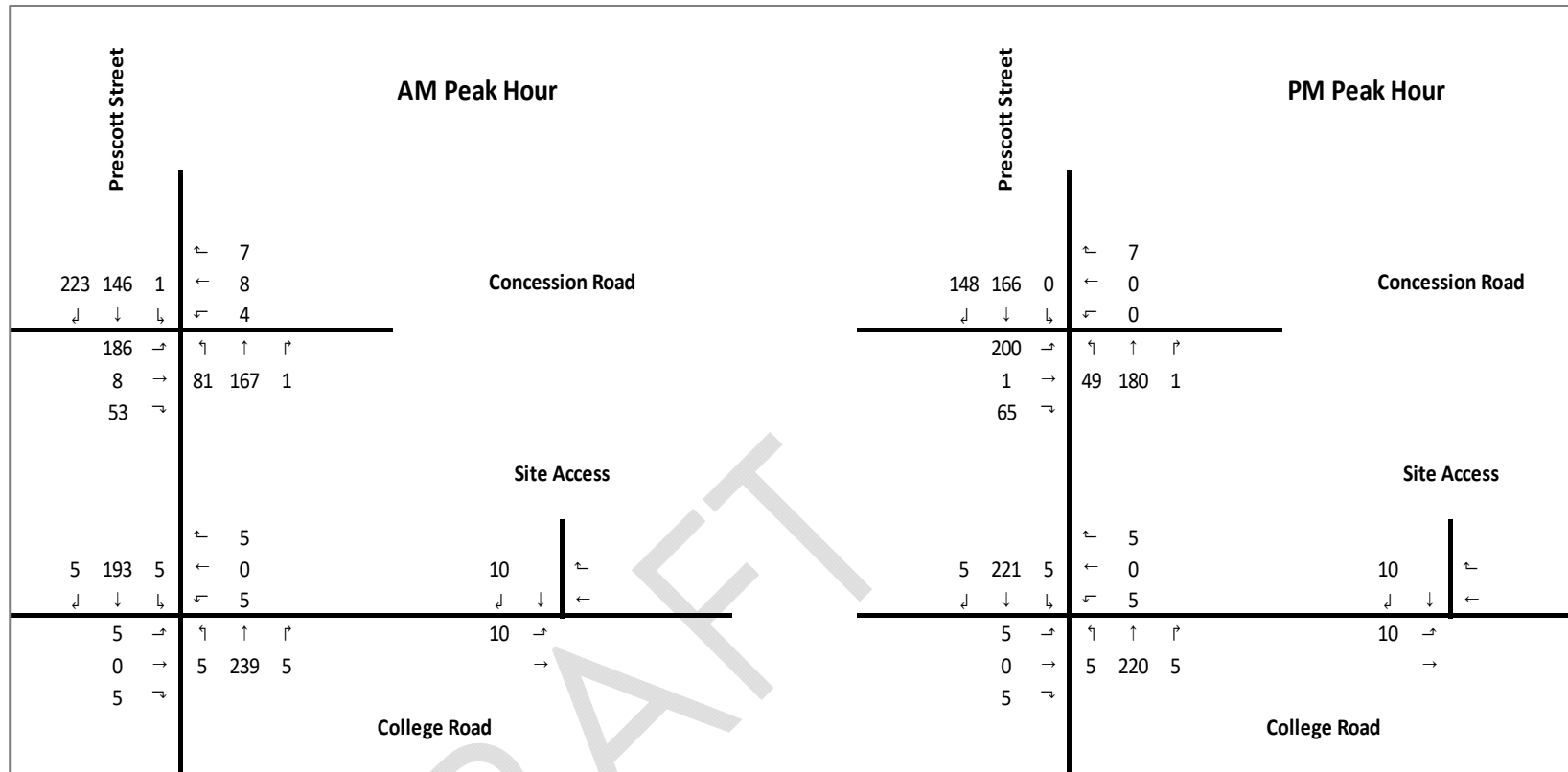
Background traffic for the year of full build-out (2022) is shown in **Figure 4**.



**KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT**

AUGUST 31, 2021

**Figure 4 - 2022 Future Background Traffic Volumes**



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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

## 4.4 TRIP GENERATION RATES

In the calculation of site generated traffic, trip generation rates previously derived for similar facilities in Ontario, more notably, the Quinte Detention Centre Expansion study, were utilized.

Table 1 - Trip Generation Rate and Site Generated trips

Time of Day	Inbound		Outbound		Total	
	Forecast Trips	Trip Rate / Bed (Quinte Study)	Forecast Trips	Trip Rate / Bed (Quinte Study)	Forecast Trips	Trip Rate / Bed (Quinte Study)
AM Peak	40	0.17	7	0.03	47	0.20
PM Peak	7	0.03	24	0.10	31	0.13

It was assumed that the current number of inmates for each time horizon is equal to the number of beds in the facility (235 beds).

To account for visitor trips, a nominal 10 inbound and 10 outbound additional visitor trips were added to the network. This is consistent with the visitor parking generation rate discussed in more detail in **Section 6.0**.

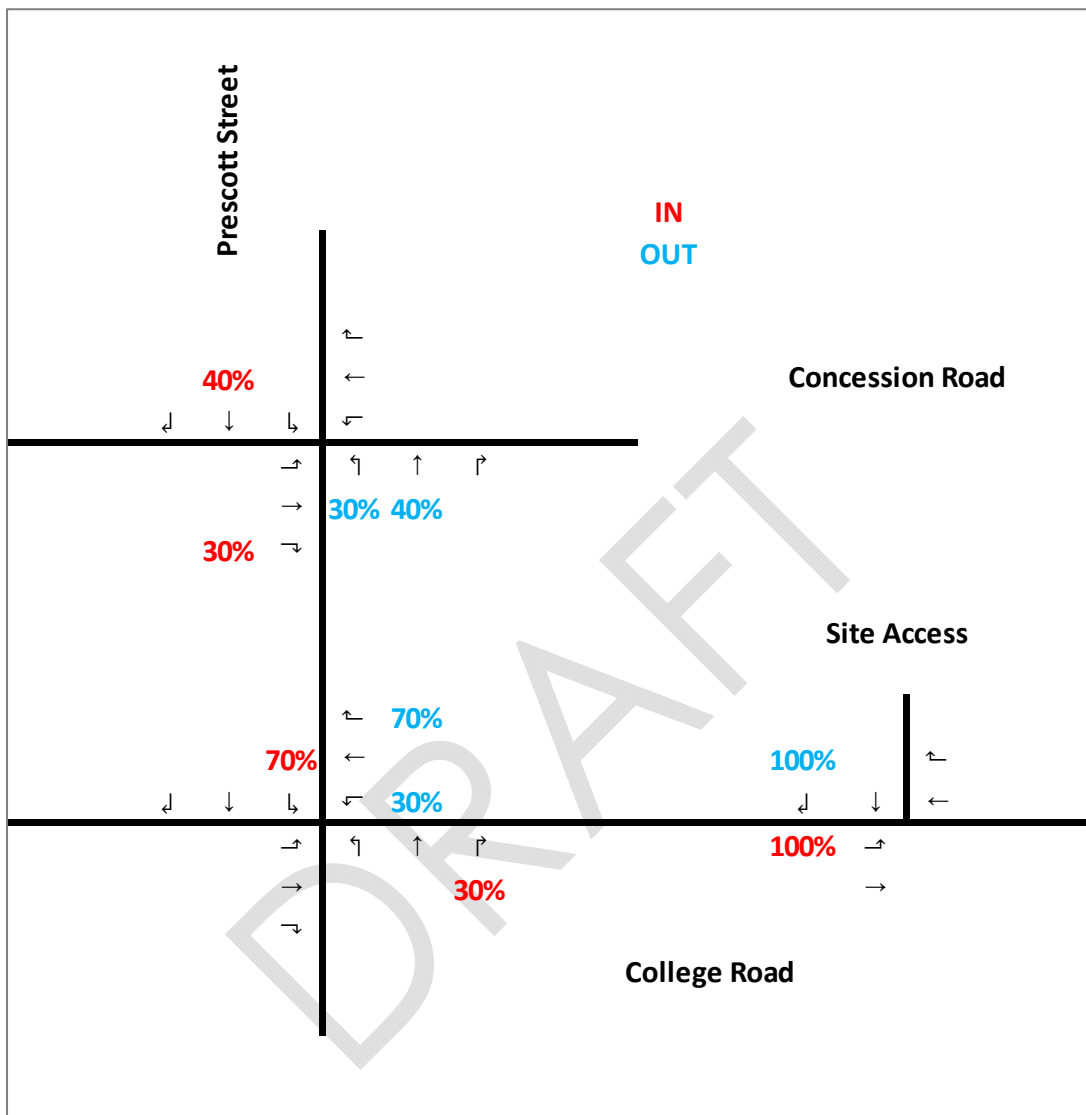
## 4.5 TRIP DISTRIBUTION

Based on the study area network and road connectivity, trips to / from the proposed correctional centre are assumed to utilize Prescott Street via two gateways and Concession Road via one gateway. Along Prescott Street, the north gateway is located just north of the intersection with Concession Road and the south gateway is located just north of the Highway 416 ramp intersection. Along Concession Road, the west gateway is located just west of the intersection with Prescott Street. Based on the two-way existing traffic volumes calculated at the described gateways, it is anticipated that 40% of the site generated traffic will travel to/from the north along Prescott Street, 30% of the site generated traffic will travel to/from the south along Prescott Street, and 30% of the site generated traffic will travel to/from the west along Concession Road.

The trip distribution to/from the proposed Kemptville Correctional Centre is illustrated in **Figure 5** below.



Figure 5 - Trip Distribution (AM and PM Peak Hours)



#### 4.6 TRIP ASSIGNMENT

Site generated trips (including the additional 10 inbound and 10 outbound visitor trips during each peak hour) were assigned to the study area road network based on the trip distribution assumptions outlined in **Figure 5** above.

The AM and PM peak hour site trips are illustrated in **Figure 6** below.

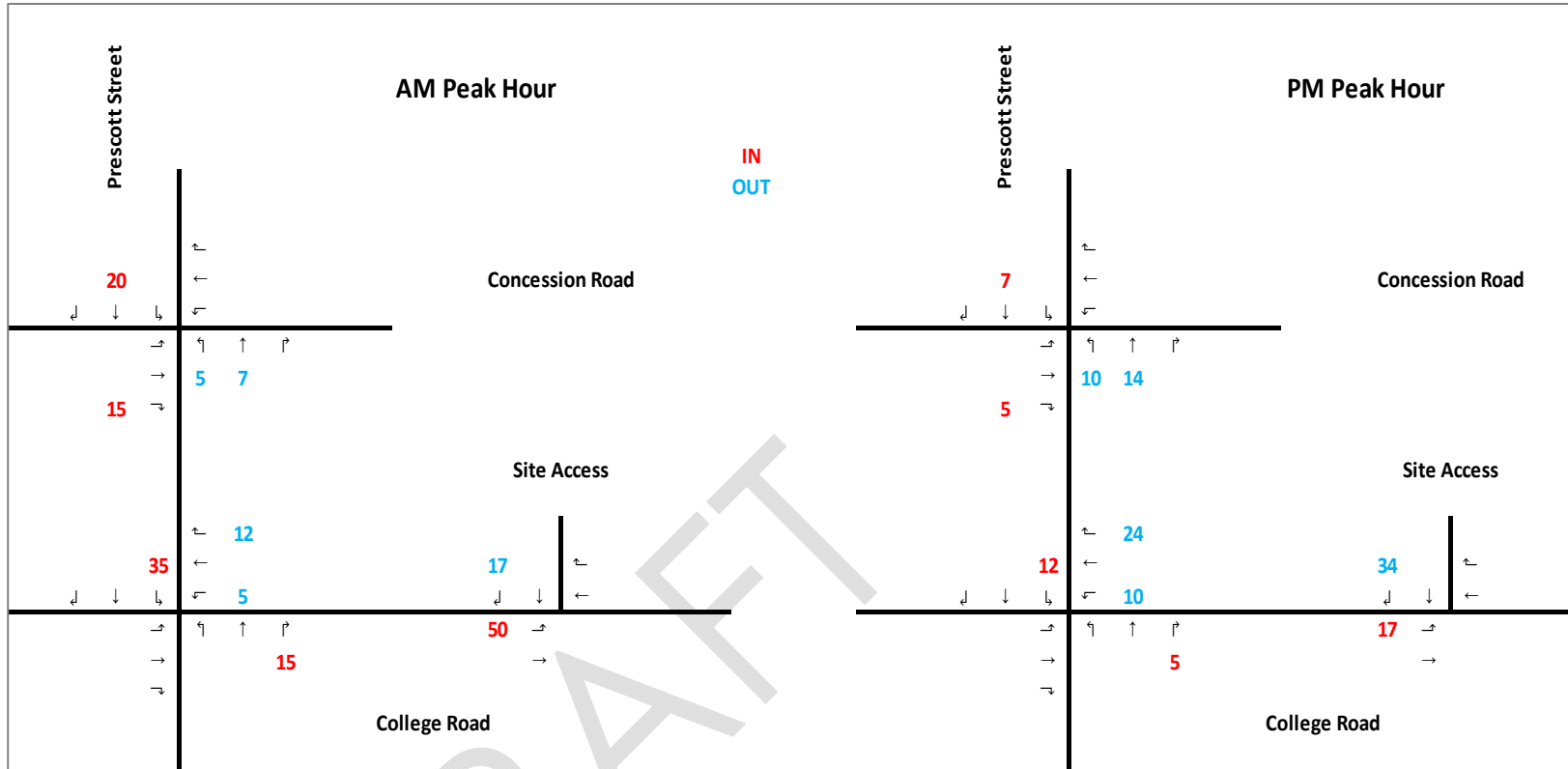




KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

AUGUST 31, 2021

Figure 6 - Site Traffic Assignment



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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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## 4.7 TOTAL FUTURE CONDITIONS (2022)

Total future conditions are examined to determine improvements that may be required as a direct result of the subject development. The 2022 total future traffic volumes were derived by adding the projected site generated trips to future background traffic volumes anticipated for 2022. The future transportation demand for the study intersections in 2022 is shown in **Figure 7** below.

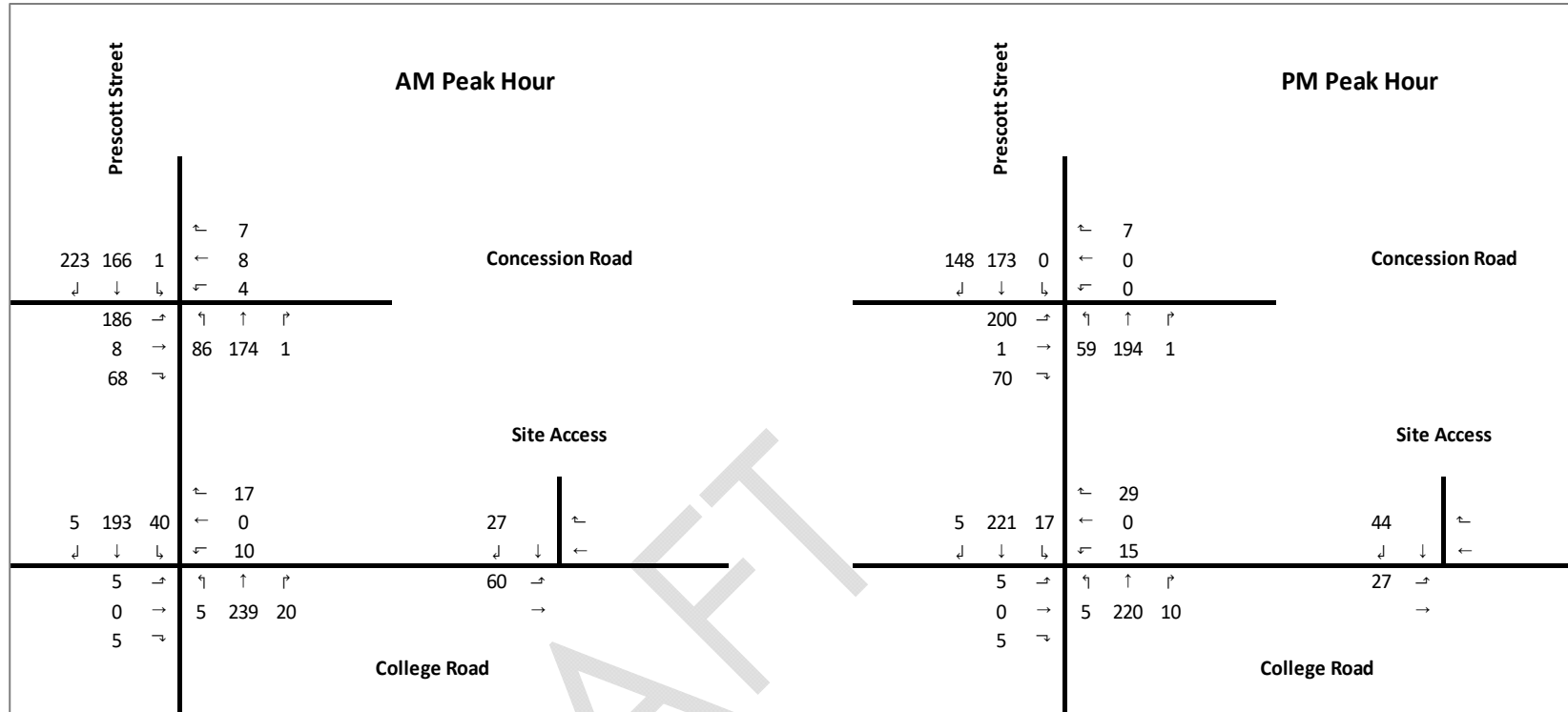
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**KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT**

AUGUST 31, 2021

**Figure 7 - 2022 Total Future Traffic Volumes**



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# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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## 4.8 2027 TOTAL FUTURE CONDITIONS

Total future conditions are examined to determine improvements that may be required as a direct result of the background traffic growth and subject development's site generated traffic 5 years beyond the anticipated buildout year. The 2027 total future traffic volumes were derived by adding the projected site generated trips to future background traffic volumes anticipated for 2027. The 2027 total future traffic volumes are illustrated in **Figure 8** below.

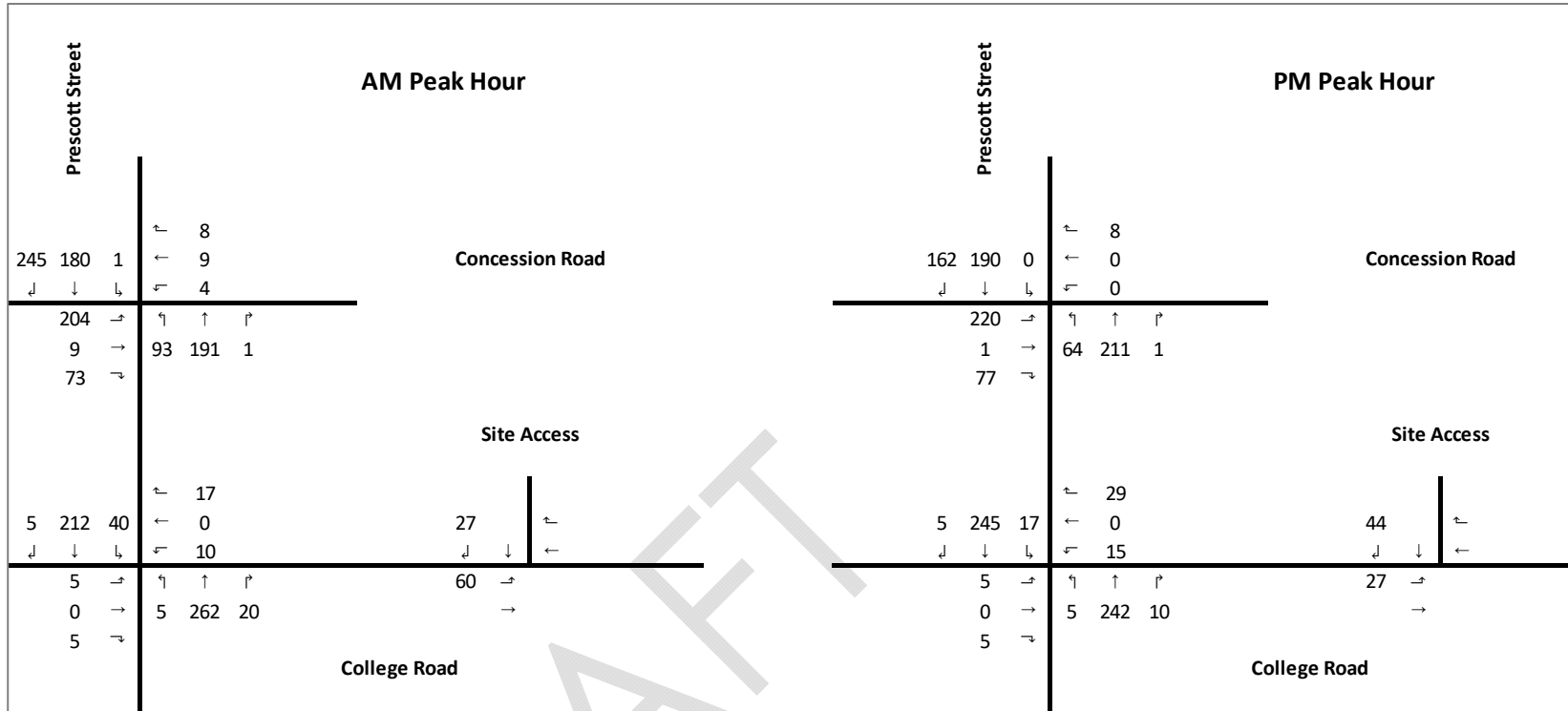
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**Figure 8 - 2027 Total Future Traffic Volumes**



# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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## 4.9 2032 TOTAL FUTURE CONDITIONS

As per MTO's TIS Guidelines, total future conditions are examined to determine improvements that may be required as a direct result of the background traffic growth and subject development's site generated traffic 10 years beyond the anticipated buildout year. The 2032 total future traffic volumes were derived by adding the projected site generated trips to future background traffic volumes anticipated for 2032.

The traffic volumes are illustrated in **Figure 9** below.

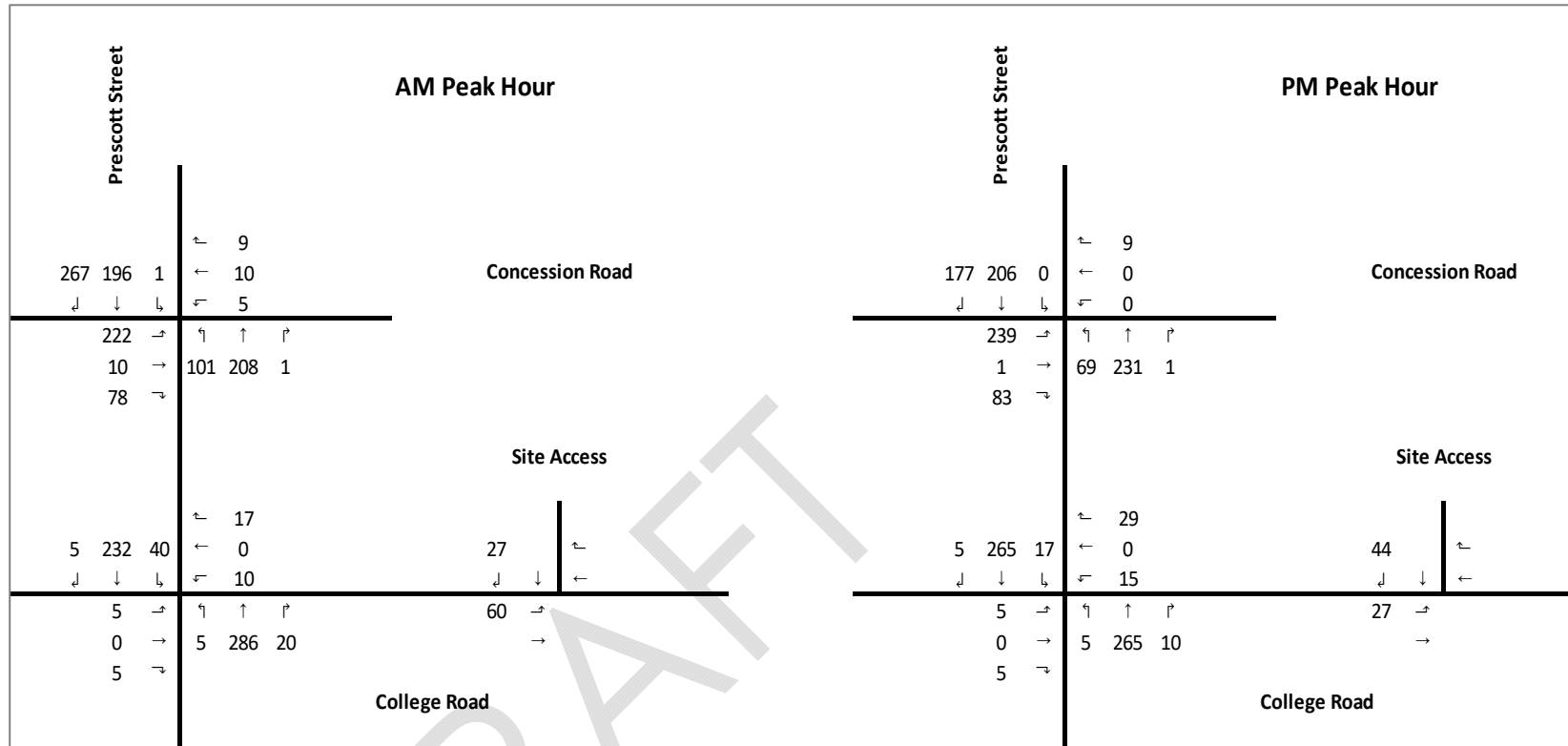
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**Figure 9 - 2032 Total Future Traffic Volumes**



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## 5.0 TRANSPORTATION ANALYSIS

Intersection operational assessments for all study horizons were performed using the Synchro 10.0 software package. The analysis was performed using the Highway Capacity manual (HCM) 6<sup>th</sup> methodology.

### 5.1 EXISTING CONDITIONS

Figure 3 illustrates the existing traffic volumes for the AM and PM peak hours.

Table 2 provides a summary of existing intersection operations.

The traffic operations analysis of the study area intersections found no critical movements. All study area movements are anticipated to operate with LOS C or better, with delays of 18s or less.

Appendix B contains the detailed intersection performance worksheets.

**Table 2 - Existing Intersection Operations**

Intersection	Intersection Control	Approach / Movement	LOS	v/c	Delay (s)	Queue 95 <sup>th</sup> (m)
Prescott Street and Concession Road	All-Way Stop	EB Left / Through / Right	C (B)	0.53 (0.51)	16.1 (14.6)	22.0 (20.0)
		WB Left / Through / Right	B (A)	0.05 (0.01)	11.0 (8.9)	1.0 (0.0)
		NB Left / Through / Right	C (B)	0.52 (0.45)	15.3 (13.7)	21.0 (16.0)
		SB Left / Through / Right	C (B)	0.67 (0.54)	18.1 (14.1)	36.0 (23.0)
		<b>Overall Intersection</b>	<b>C (B)</b>	<b>-- (--)</b>	<b>16.6 (14.1)</b>	<b>-- (--)</b>
Prescott Street and College Road	Minor Stop	EB Left / Through / Right	B (B)	0.02 (0.02)	11.7 (11.7)	1.0 (1.0)
		WB Left / Through / Right	B (B)	0.02 (0.02)	11.9 (11.7)	1.0 (1.0)
		NB Left / Through / Right	A (A)	0.0 (0.0)	7.7 (7.8)	0.0 (0.0)
		SB Left / Through / Right	A (A)	0.0 (0.0)	7.8 (7.8)	0.0 (0.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>0.7 (0.7)</b>	<b>-- (--)</b>
College Road and Site Access	Minor Stop	EB Left / Through	A (A)	0.0 (0.0)	7.2 (7.2)	0.0 (0.0)
		SB Left / Right	A (A)	0.01 (0.01)	8.4 (8.4)	0.0 (0.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>7.4 (7.4)</b>	<b>-- (--)</b>

Notes:

1. Table format: AM (PM)
2. v/c - represents the anticipated volume divided by the predicted capacity
3. # - 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer
4. LOS is based on movement delay
5. Queues are calculated by assuming a stored vehicle length of 7m





# KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT

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## 5.2 2022 FUTURE BACKGROUND CONDITIONS

Figure 4 illustrates the 2022 future background traffic volumes for the AM and PM peak hours.

Table 3 provides a summary of 2022 future background intersection operations.

The traffic operations analysis of the study area intersections found no critical movements. All study area movements are anticipated to operate with LOS C or better, with delays of 19s or less.

Appendix B contains the detailed intersection performance worksheets.

**Table 3 - 2022 Future Background Conditions - Intersection Operations**

Intersection	Intersection Control	Approach / Movement	LOS	v/c	Delay (s)	Queue 95 <sup>th</sup> (m)
Prescott Street and Concession Road	All-Way Stop	EB Left / Through / Right	C (B)	0.55 (0.52)	16.7 (15.0)	23.0 (20.0)
		WB Left / Through / Right	B (A)	0.05 (0.01)	11.1 (9.0)	1.0 (0.0)
		NB Left / Through / Right	C (B)	0.53 (0.46)	15.8 (14.0)	22.0 (18.0)
		SB Left / Through / Right	C (B)	0.68 (0.55)	19.1 (14.5)	39.0 (24.0)
		<b>Overall Intersection</b>	<b>C (B)</b>	<b>-- (--)</b>	<b>17.3 (14.5)</b>	<b>-- (--)</b>
Prescott Street and College Road	Minor Stop	EB Left / Through / Right	B (B)	0.02 (0.02)	11.8 (11.8)	1.0 (1.0)
		WB Left / Through / Right	B (B)	0.02 (0.02)	12.0 (11.8)	1.0 (1.0)
		NB Left / Through / Right	A (A)	0.0 (0.00)	7.8 (7.8)	0.0 (0.0)
		SB Left / Through / Right	A (A)	0.0 (0.00)	7.9 (7.8)	0.0 (0.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>0.7 (0.7)</b>	<b>-- (--)</b>
College Road and Site Access	Minor Stop	EB Left / Through	A (A)	0.0 (0.0)	7.2 (7.2)	0.0 (0.0)
		SB Left / Right	A (A)	0.01 (0.01)	8.4 (8.4)	0.0 (0.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>7.4 (7.4)</b>	<b>-- (--)</b>

Notes:

1. Table format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. # - 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer
4. LOS is based on movement delay
5. Queues are calculated by assuming a stored vehicle length of 7m



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## 5.4 2022 TOTAL FUTURE CONDITIONS

Figure 7 illustrates the 2022 total future traffic volumes for the AM and PM peak hours.

Table 4 provides a summary of 2022 total future intersection operations.

The traffic operations analysis of the study area intersections found no critical movements. All study area movements are anticipated to operate with LOS C or better, with delays of approximately 23s or less.

Appendix B contains the detailed intersection performance worksheets.

**Table 4 - 2022 Total Future Conditions - Intersection Operations**

Intersection	Intersection Control	Approach / Movement	LOS	v/c	Delay (s)	Queue 95 <sup>th</sup> (m)
Prescott Street and Concession Road	All-Way Stop	EB Left / Through / Right	C (C)	0.59 (0.54)	18.3 (15.6)	27.0 (22.0)
		WB Left / Through / Right	B (A)	0.05 (0.02)	11.4 (9.2)	1.0 (0.0)
		NB Left / Through / Right	C (B)	0.57 (0.50)	17.3 (14.9)	25.0 (20.0)
		SB Left / Through / Right	C (C)	0.74 (0.57)	22.6 (15.3)	46.0 (26.0)
		<b>Overall Intersection</b>	<b>C (C)</b>	<b>-- (--)</b>	<b>19.7 (15.2)</b>	<b>-- (--)</b>
Prescott Street and College Road	Minor Stop	EB Left / Through / Right	B (B)	0.02 (0.03)	12.9 (12.4)	1.0 (1.0)
		WB Left / Through / Right	B (B)	0.06 (0.09)	12.5 (11.9)	1.0 (2.0)
		NB Left / Through / Right	A (A)	0.0 (0.0)	7.8 (7.8)	0.0 (0.0)
		SB Left / Through / Right	A (A)	0.04 (0.01)	8.1 (7.9)	1.0 (1.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>1.5 (1.6)</b>	<b>-- (--)</b>
College Road and Site Access	Minor Stop	EB Left / Through	A (A)	0.05 (0.02)	7.3 (7.3)	1.0 (1.0)
		SB Left / Right	A (A)	0.03 (0.05)	8.4 (8.5)	1.0 (1.0)
		<b>Overall Intersection</b>	<b>A (A)</b>	<b>-- (--)</b>	<b>7.4 (7.5)</b>	<b>-- (--)</b>

Notes:

1. Table format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. # - 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer
4. LOS is based on movement delay
5. Queues are calculated by assuming a stored vehicle length of 7m

## 5.5 2027 TOTAL FUTURE CONDITIONS

Figure 8 illustrates the 2027 total future traffic volumes for the AM and PM peak hours.

Table 5 provides a summary of 2027 total future intersection operations.

For the analysis of the 2027 total future conditions, the peak hour factor was increased to 1.0 to normalize the arrival rates of future traffic as the volumes are anticipated to increase due to the applied growth rate. This is a common practice in the analysis of future horizons implemented by municipalities including the City of Ottawa.

The traffic operations analysis of the study area intersections found no critical movements. All study area movements are anticipated to operate acceptably with delays of approximately 15s or less.

Appendix B contains the detailed intersection performance worksheets.



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**Table 5 - 2027 Total Future Conditions - Intersection Operations**

Intersection	Intersection Control	Approach / Movement	LOS	v/c	Delay (s)	Queue 95 <sup>th</sup> (m)	
Prescott Street and Concession Road	All-Way Stop	EB	Left / Through / Right	B (B)	0.47 (0.46)	14.1 (13.4)	18.0 (17.0)
		WB	Left / Through / Right	B (A)	0.04 (0.01)	10.5 (8.7)	1.0 (0.0)
		NB	Left / Through / Right	B (B)	0.45 (0.44)	13.5 (13.0)	17.0 (15.0)
		SB	Left / Through / Right	B (B)	0.59 (0.49)	15.0 (12.8)	27.0 (19.0)
		<b>Overall Intersection</b>		<b>B (B)</b>	<b>-- (--)</b>	<b>14.2 (13.0)</b>	<b>-- (--)</b>
Prescott Street and College Road	Minor Stop	EB	Left / Through / Right	B (B)	0.02 (0.02)	11.8 (11.7)	1.0 (1.0)
		WB	Left / Through / Right	B (B)	0.05 (0.07)	11.5 (11.2)	1.0 (1.0)
		NB	Left / Through / Right	A (A)	0.0 (0.0)	7.7 (7.7)	0.0 (0.0)
		SB	Left / Through / Right	A (A)	0.03 (0.01)	7.9 (7.8)	1.0 (0.0)
		<b>Overall Intersection</b>		<b>A (A)</b>	<b>-- (--)</b>	<b>1.3 (1.4)</b>	<b>-- (--)</b>
College Road and Site Access	Minor Stop	EB	Left / Through	A (A)	0.04 (0.02)	7.3 (7.3)	1.0 (1.0)
		SB	Left / Right	A (A)	0.03 (0.04)	8.4 (8.5)	1.0 (1.0)
		<b>Overall Intersection</b>		<b>A (A)</b>	<b>-- (--)</b>	<b>7.1 (7.9)</b>	<b>-- (--)</b>

Notes:

1. Table format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. # - 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer
4. LOS is based on movement delay
5. Queues are calculated by assuming a stored vehicle length of 7m

## 5.6 2032 ULTIMATE FUTURE CONDITIONS

Figure 9 illustrates the 2032 ultimate future traffic volumes for the AM and PM peak hours.

Table 6 provides a summary of 2032 ultimate future intersection operations.

For the analysis of the 2032 ultimate future conditions, the peak hour factor was increased to 1.0 to normalize the arrival rates of future traffic as the volumes are anticipated to increase due to the applied growth rate. This is a common practice in the analysis of future horizons implemented by municipalities including the City of Ottawa.

The traffic operations analysis of the study area intersections found no critical movements. All study area movements are anticipated to operate acceptably with delays of approximately 18s or less.

Appendix B contains the detailed intersection performance worksheets.



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**Table 6 - 2032 Ultimate Future Conditions - Intersection Operations**

Intersection	Intersection Control	Approach / Movement		LOS	v/c	Delay (s)	Queue 95 <sup>th</sup> (m)
Prescott Street and Concession Road	All-Way Stop	EB	Left / Through / Right	C (B)	0.53 (0.51)	15.9 (14.9)	22.0 (21.0)
		WB	Left / Through / Right	B (A)	0.05 (0.02)	10.9 (9.0)	7.0 (0.0)
		NB	Left / Through / Right	C (B)	0.51 (0.49)	15.1 (14.5)	20.0 (19.0)
		SB	Left / Through / Right	C (B)	0.66 (0.55)	18.0 (14.5)	26.0 (24.0)
		<b>Overall Intersection</b>		<b>C (B)</b>	<b>-- (--)</b>	<b>16.4 (14.6)</b>	<b>-- (--)</b>
Prescott Street and College Road	Minor Stop	EB	Left / Through / Right	B (B)	0.02 (0.02)	12.2 (12.0)	1.0 (1.0)
		WB	Left / Through / Right	B (B)	0.05 (0.07)	11.9 (11.5)	1.0 (1.0)
		NB	Left / Through / Right	A (A)	0.0 (0.0)	7.7 (7.8)	0.0 (0.0)
		SB	Left / Through / Right	A (A)	0.03 (0.01)	8.0 (7.8)	1.0 (0.0)
		<b>Overall Intersection</b>		<b>A (A)</b>	<b>-- (--)</b>	<b>1.2 (1.3)</b>	<b>-- (--)</b>
College Road and Site Access	Minor Stop	EB	Left / Through	A (A)	0.04 (0.02)	7.3 (7.3)	1.0 (1.0)
		SB	Left / Right	A (A)	0.03 (0.04)	8.4 (8.5)	1.0 (1.0)
		<b>Overall Intersection</b>		<b>A (A)</b>	<b>-- (--)</b>	<b>7.1 (7.9)</b>	<b>-- (--)</b>

Notes:

1. Table format: AM (PM)
2. v/c - represents the anticipated volume divided by the predicted capacity
3. # - 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer
4. LOS is based on movement delay
5. Queues are calculated by assuming a stored vehicle length of 7m

## 5.7 WARRANTS

### 5.7.1 Traffic Signal Warrants

Signalization warrants were reviewed as per the *Ontario Traffic Manual (OTM) Book 12 Signal Warrant Justification Sheet*. Based on the forecasted turning volumes (2032 Ultimate) at the intersection of Prescott Street and Concession Road, it was found that a traffic signal is not warranted based on OTM's justifications 1 – 3.

As the intersection of Prescott Street and College Road is forecasted to carry minimal east-west traffic volumes, it has been excluded from signal warrant analysis.

Detailed signal warrant analysis sheets can be found in **Appendix C**.

### 5.7.2 Right & Left Turn Lane Warrants

As per the *Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads* and the *Ministry of Transportation of Ontario (MTO) TAC Geometric Design Guide Supplement*, the total traffic volumes were reviewed to discern if right turn or left turn lanes are required at the study area intersections.

#### 5.7.2.1 Prescott Street and Concession Road Intersection

As per the TAC guidelines, for unsignalized intersections, right turn lanes are considered when “the volume of decelerating or accelerating vehicles compared with the through traffic volume causes undue hazard”. The need for a southbound right turn lane was investigated due to the heavy demands of approximately



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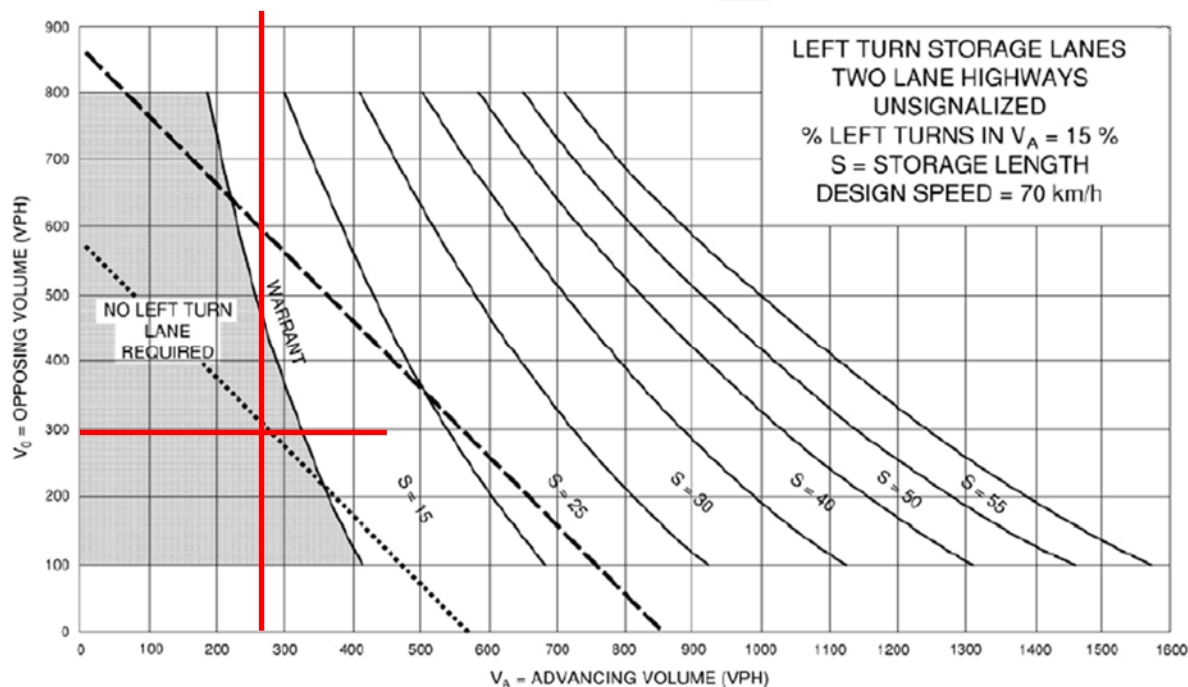
270 and 170 vehicles per hour during the AM and PM peak hours, respectively. Given the all-way stop control at the intersection, the reduced posted speed limit in the vicinity of the area (40 km/h), and the satisfactory level of operation (LOS C or better), a southbound right turning lane is not anticipated to provide significant operational improvements and therefore is not recommended.

Left turn warrants for stop-controlled intersections are based on capacity analysis, and the analysis of the westbound left and northbound left movements at the intersection found that both movements are projected to operate satisfactorily under all horizon years, with delays under 19s and 95<sup>th</sup> percentile queues under 30m. Based on the analysis findings, the addition of left turning lanes in the northbound and westbound directions at the intersection is not anticipated to net significant operational improvements.

## 5.7.2.2 Prescott Street and College Road

Based on the forecasted 2032 traffic volumes at the intersection of Prescott Street and College Road, it was found that a southbound left storage lane is not warranted. The design speed was assumed to be 70 km/h (posted speed limit + 10 km/h).

Figure 10 - Left Turn Storage Lane Analysis - Prescott Street and College Road



## 5.7.2.3 College Road and Site Access

The intersection of College Road with the Site Access is projected to carry only minor turning movements demands. As such, left and right turn storage lanes are not required.



## 6.0 PARKING REQUIREMENTS

Parking demand for correctional centres exhibits two primary patterns. Parking for administration and general staff exhibit low turnover and consistent demand from day-to-day, whereas visitor parking exhibits higher turnover and is more variable. As this is a new facility, there is no existing parking supply that will be utilized nor is there data available specific to the site. Therefore, an average parking generation rate was extracted from previous Infrastructure Ontario traffic studies of correctional centres, namely the *Quinte Detention Centre Expansion Study* and the *Thunder Bay Correctional Centre Transportation Impact Assessment and Parking Demand Study*. The parking generation rate uses the number of inmate beds as the independent variable for the calculation of peak parking demand. **Table 7** provides a summary of the parking demand requirements.

**Table 7 - Parking Demand Rate Using “beds” as the Independent Variable**

Description	Parking Space Rates / Parking Spaces Required
Quinte Detention Centre	0.40 spaces / bed (staff) 0.08 spaces / bed (visitors)
Thunder Bay Correctional Facility	0.55 spaces / bed (staff)
Blended Rate (Kemptville Correctional Centre)	0.48 spaces / bed (staff) 0.08 spaces / bed (visitors)
Peak Parking Demand (Kemptville Correctional Centre)	113 spaces (staff) 19 spaces (visitors)
Contingency (10%)	+11 spaces (staff) +2 spaces (visitors)
<b>Total Required Parking Spaces (Kemptville Correctional Centre)</b>	<b>145 spaces (124 staff + 21 visitors)</b>

The proposed correctional centre is anticipated to have 235 inmate beds when it is fully built out. Using a blended rate of 0.48 staff spaces per bed and 0.08 visitor spaces per bed results in 113 parking spaces for staff and 19 parking spaces for visitors. It is common practice to plan for a parking capacity that can accommodate roughly 10% above the peak demand to account for circulating vehicles searching for a vacant parking space. Adding a 10% contingency results in an additional 11 spaces for staff and 2 spaces for visitors. Therefore, the total parking spaces requirement for the facility is 145 spaces, of which 124 are reserved for staff, and 21 for visitors.

In reference to the Municipality of North Grenville’s Comprehensive Zoning By-Law No 50-12, Section 6.35.1 “Minimum Number of Required Parking Spaces”, the number of required spaces for the proposed Correctional Centre is 1 space per 20 square meters. For a 15,960 m<sup>2</sup> facility, the number of required parking spaces is calculated to be 798 spaces, which significantly exceeds the parking space requirements using rates from other similar correctional centre studies in Ontario (145 spaces).





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It is noted that the zoning by-law does not recognize the land use operational needs and characteristics. As such, it is recommended to utilize parking rates unique to the facility, and in this case, using the developed parking rates for other similar facilities in Ontario. Providing 798 parking spaces for the proposed development is not considered to be representative of the facility parking needs.

## 7.0 SITE ACCESS – AVAILABLE SIGHT DISTANCE ASSESSMENT

A desktop review was performed to identify sight lines availability at the intersection of the proposed site access and College Road. Equation 9.9.1 of the *Transportation Association of Canada's Geometric Design Guide for Canadian Roads* (TAC), Chapter 9 – Intersections, was utilized to calculate intersection site distance (ISD) as follows:

$$ISD = 0.278 V_{major} t_g$$

Equation 1

Where:

$V_{major}$  is the major roadway design speed in km/h; and

$t_g$  is the minor approach/turning movement time gap in seconds.

The design speed along College Road was assumed to be 60 km/h (default speed limit of 50 km/h + 10 km/h), and a time gap of 9.5s was used to represent a single-unit truck performing a left turning maneuver from a standstill, yielding a required intersection sight distance of **160m**. For a right turning maneuver from a standstill, the required gap time is reduced to 8.5s for a single-unit truck, yielding a required intersection sight distance of **145m**. The calculated sight distance triangles are illustrated in **Figure 11**. Based on aerial imagery in the figure below, no major objects along College Road obstructing the view for vehicles exiting the minor approach (site access) were found on the west side of the access

Figure 11 - Intersection Sight Distance Triangles – College Road @ Site Access



Similarly, a desktop review of the intersection sight distance was performed at the intersection of Prescott Street and College Road. The design speed along Prescott Street was assumed to be 80 km/h (posted



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speed limit in the vicinity of the intersection + 20 km/h). Utilizing the same gap time parameters, the required intersection sight distance was found to be 215m for left turns from a standstill and 190m for right turns from a standstill.

As shown in **Figure 12** below, the existing roadside vegetation along the east side of Prescott Street just north and south of the intersection with College Road (highlighted in red) may potentially restrict the available sightlines from College Road. Based on this desktop review, it is recommended to ensure seasonal monitoring and trimming of vegetation in the vicinity of the intersection to ensure sightlines are unobstructed.

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**Figure 12 - Intersection Sight Distance - Prescott Street @ College Road**



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## 7.1 SPEED LIMIT REVIEW

The *Canadian Guideline for Establishing Posted Speed Limits* was used to identify if there is a need to reconsider the default speed limit in the vicinity of the proposed development.

For Prescott Street (the segment approximately 100m south of College Road to Concession Road), it was concluded that based on the road conditions including: horizontal and vertical curvatures, pavement surface condition, average lane width, pedestrian and cyclist exposure, and number of intersections with private access driveways, a posted speed limit of 80 km/h was found to be appropriate under the existing site conditions and characteristics of the road. The currently adopted speed limit in the vicinity of the site is 60 km/h.

Detailed sheets can be found in **Appendix D**.

## 7.2 ON AND OFF RAMP CONNECTIONS TO HIGHWAY 416

Prior to completion of this study, MTO's *Access Management Guidelines* were reviewed to assess the potential for a future extension and direct connection of College Road to Highway 416. Furthermore, MTO was contacted to confirm if on and off ramps could be provided to connect to Highway 416. Through this review, it was confirmed that Highway 416, which is classified as a fully controlled access Freeway facility, would not provide for at-grade accesses. The extension of College Road towards Dangerfield Road would need to be made via a grade separated crossing.

Correspondence with MTO can be found in **Appendix E**. It is noted that MTO's confirmation was discussed verbally.

## 8.0 DEVELOPMENT OF FINDINGS AND RECOMMENDATIONS

This Traffic Impact Study was prepared for Infrastructure Ontario (IO) in support of a proposed development consisting of a 235-bed correctional centre in Kemptville, Ontario. The proposed development is bound by College Road to the south, Prescott Street and undeveloped land to the west, Highway 416 to the east, and undeveloped land to the north. The facility is planned for completion by 2022 and will go into immediate use.

The proposed development is envisioned to be accessed from an extension of an existing two-way private access intersecting with College Road that currently services the existing land uses in the vicinity of the proposed development.

Traffic impact studies for similar correctional centres in Ontario were utilized to calculate the trip generation potential using inmate beds as the independent variable. Based on the site traffic generation rate, the proposed development is forecasted to generate 47 and 31 two-way vehicle trips during the AM and PM peak hours, respectively. Traffic operational analysis of the study area intersections under base year, future background (buildout), 2022 total future (buildout), 2027 total future (buildout plus five years), and 2032



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ultimate future (buildout plus ten years) scenarios determined that all study area intersections are projected to operate satisfactorily, with level of service ratings of LOS C or better.

Signalization warrants as well as left and right turn warrants were reviewed and it was found that none is recommended.

Through the utilization of similar studies for correctional centres in Ontario, a blended peak parking demand rate predicated on the number of inmate beds was developed for the proposed facility. The analysis found that peak parking demand is anticipated to be 113 spaces for staff and 19 spaces for visitors. With the addition of a 10% contingency, it is estimated that a total of 145 parking spaces would be required to service the proposed development, of which 124 parking spaces are reserved for staff, and 21 parking spaces for visitors.

A speed limit review of a segment on Prescott Street in the vicinity of the proposed development found that based on the existing roadway conditions and characteristics, an appropriate posted speed limit is 80 km/h.

A direct connection between College Road and Highway 416 was considered, and as per MTO's Access Management Guidelines, it was found that access cannot be provided except via grade separated crossings. As such, a direct connection is not feasible.

Overall, it was determined that the existing transportation network can satisfactorily accommodate the proposed development without requiring improvements.



**KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT**

**AUGUST 31, 2021**

**Appendices**

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**KEMPTVILLE CORRECTIONAL CENTRE – TRAFFIC IMPACT STUDY AND PARKING NEEDS ASSESSMENT**

**AUGUST 31, 2021**

**Appendix A TRAFFIC DATA**

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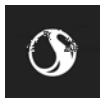
Leg Direction Start Time	Prescott Northbound					Prescott Southbound					Concession Eastbound					Concession Westbound					App Total	Peds CW	Peds CCW	Int Total					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total					Peds CW	Peds CCW			
2021-02-10 07:45:00	30	32	1	0	63	0	0	0	31	100	0	131	0	2	39	1	12	0	52	0	0	1	4	1	0	6	0	0	252
2021-02-10 08:00:00	23	25	0	0	48	0	0	1	43	37	0	81	1	2	62	4	14	0	80	0	1	1	2	2	0	5	0	0	214
2021-02-10 08:15:00	11	60	0	0	71	4	0	0	32	31	0	63	3	1	37	0	19	0	56	4	7	1	0	1	0	2	0	0	192
2021-02-10 08:30:00	7	31	0	0	38	0	2	0	23	29	0	52	1	0	26	2	2	0	30	2	0	1	1	2	0	4	0	0	124
<b>Grand Total</b>	71	148	1	0	220	4	2	1	129	197	0	327	5	5	164	7	47	0	218	6	8	4	7	6	0	17	0	0	782
<b>% Approach</b>	32.3%	67.3%	0.5%	0.0%				0.3%	39.4%	60.2%	0.0%				75.2%	3.2%	21.6%	0.0%				23.5%	41.2%	35.3%	0.0%				
<b>% Total</b>	9.1%	18.9%	0.1%	0.0%	28.1%			0.1%	16.5%	25.2%	0.0%	41.8%			21.0%	0.9%	6.0%	0.0%	27.9%			0.5%	0.9%	0.8%	0.0%	2.2%			
<b>PHF (Feb 10 2021 7:45AM - 8:45 AM)</b>	0.592	0.617	0.25	0	0.775			0.25	0.75	0.493	0	0.624			0.661	0.438	0.618	0	0.681			1	0.438	0.75	0	0.708			0.776
<b>Lights</b>	63	140	0	0	203			1	116	193	0	310			149	7	38	0	194			2	7	6	0	15			722
<b>% Lights</b>	88.7%	94.6%	0.0%	0.0%	92.3%			100.0%	89.9%	98.0%	0.0%	94.8%			90.9%	100.0%	80.9%	0.0%	89.0%			50.0%	100.0%	100.0%	0.0%	88.2%			92.3%
<b>Single-Unit Trucks</b>	2	3	1	0	6			0	2	1	0	3			3	0	0	0	3			2	0	0	0	2			14
<b>% Single-Unit Trucks</b>	2.8%	2.0%	100.0%	0.0%	2.7%			0.0%	1.6%	0.5%	0.0%	0.9%			1.8%	0.0%	0.0%	0.0%	1.4%			50.0%	0.0%	0.0%	0.0%	11.8%			1.8%
<b>Articulated Trucks</b>	1	0	0	0	1			0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			1
<b>% Articulated Trucks</b>	1.4%	0.0%	0.0%	0.0%	0.5%			0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%			0.1%
<b>Buses</b>	5	5	0	0	10			0	11	3	0	14			12	0	9	0	21			0	0	0	0	0			45
<b>% Buses</b>	7.0%	3.4%	0.0%	0.0%	4.5%			0.0%	8.5%	1.5%	0.0%	4.3%			7.3%	0.0%	19.1%	0.0%	9.6%			0.0%	0.0%	0.0%	0.0%	0.0%			5.8%
<b>Bicycles on Road</b>	0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0
<b>% Bicycles on Road</b>	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%			0.0%
<b>Pedestrians</b>						4	2						5	5							6	8				0	0		
<b>% Pedestrians</b>						100.0%	100.0%						100.0%	100.0%							100.0%	100.0%				0.0%	0.0%		

Leg Direction Start Time	Prescott Northbound					Prescott Southbound					Concession Eastbound					Concession Westbound					Int Total							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW		Peds CCW						
2021-02-09 15:00:00	12	40	0	0	52	1	2	0	29	26	0	55	0	2	53	0	14	0	67	8	0	0	0	0	0	0	0	174
2021-02-09 15:15:00	10	43	0	0	53	0	0	0	27	28	0	55	0	0	31	0	14	0	45	0	0	0	0	3	0	3	0	156
2021-02-09 15:30:00	15	40	1	0	56	0	1	0	38	41	0	79	0	0	26	0	5	0	31	1	0	0	0	3	0	3	0	169
2021-02-09 15:45:00	6	36	0	0	42	0	0	0	53	36	0	89	0	0	67	1	25	0	93	0	0	0	0	0	0	0	0	224
<b>Grand Total</b>	43	159	1	0	203	1	3	0	147	131	0	278	0	2	177	1	58	0	236	9	0	0	0	6	0	6	0	723
% Approach	21.2%	78.3%	0.5%	0.0%	28.1%	0.0%	52.9%	47.1%	0.0%	38.5%	75.0%	0.4%	24.6%	0.0%	32.6%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.5	0.806
% Total	5.9%	22.0%	0.1%	0.0%	28.1%	0.0%	20.3%	18.1%	0.0%	38.5%	24.5%	0.1%	8.0%	0.0%	32.6%	0.0%	0.0%	0.8%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF (Feb 09 2021 3PM - 4 PM)	0.717	0.924	0.25	0	0.906	0	0.693	0.793	0	0.778	0.66	0.25	0.58	0	0.634	0	0	0.5	0	0.5	0	0	0	0	0	0	0	0.806
Lights	34	146	1	0	181	0	143	124	0	267	171	1	56	0	228	0	0	6	0	6	0	0	0	6	0	6	0	682
% Lights	79.1%	91.8%	100.0%	0.0%	89.2%	0.0%	97.3%	94.7%	0.0%	96.0%	96.6%	100.0%	96.6%	0.0%	96.6%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	94.3%
Single-Unit Trucks	1	2	0	0	3	0	3	2	0	5	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	10
% Single-Unit Trucks	2.3%	1.3%	0.0%	0.0%	1.5%	0.0%	2.0%	1.5%	0.0%	1.8%	0.6%	0.0%	1.7%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Buses	8	11	0	0	19	0	1	4	0	5	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	29
% Buses	18.6%	6.9%	0.0%	0.0%	9.4%	0.0%	0.7%	3.1%	0.0%	1.8%	2.3%	0.0%	1.7%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%
Bicycles on Road	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Pedestrians						1	3				0	2			9	0				9	0			0	1			
% Pedestrians						100.0%	100.0%				0.0%	100.0%			100.0%	0.0%				100.0%	0.0%			0.0%	100.0%			

AUGUST 31, 2021

## Appendix B INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection											
Intersection Delay, s/veh		16.6									
Intersection LOS		C									
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↕		↕				↕		↕	
Traffic Vol, veh/h	1	143	219	79	164	1	182	8	52	4	8
Future Vol, veh/h	1	143	219	79	164	1	182	8	52	4	8
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	10	2	11	5	100	9	0	19	50	0
Mvmt Flow	1	183	281	101	210	1	233	10	67	5	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	18.1	15.3	16.1	11							
HCM LOS	C	C	C	B							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	75%	32%	0%	21%
Vol Thru, %	3%	67%	39%	42%
Vol Right, %	21%	0%	60%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	244	363	19
LT Vol	182	79	1	4
Through Vol	8	164	143	8
RT Vol	52	1	219	7
Lane Flow Rate	310	313	465	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.532	0.517	0.668	0.051
Departure Headway (Hd)	6.177	5.947	5.165	7.568
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	580	604	693	476
Service Time	4.248	4.022	3.232	5.568
HCM Lane V/C Ratio	0.534	0.518	0.671	0.05
HCM Control Delay	16.1	15.3	18.1	11
HCM Lane LOS	C	C	C	B
HCM 95th-tile Q	3.1	3	5.1	0.2

Intersection												
Int Delay, s/veh		0.7										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕		↕				↕		↕		
Traffic Vol, veh/h	5	0	5	5	0	5	5	189	5	5	234	5
Future Vol, veh/h	5	0	5	5	0	5	5	189	5	5	234	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	13	2	2	2	7	2
Mvmt Flow	6	0	6	6	0	6	6	242	6	6	300	6

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	575	575	245	575
Stage 1	257	257	315	315
Stage 2	318	318	260	260
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	429	429	794	429
Stage 1	748	695	-	696
Stage 2	693	654	-	745
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	422	424	794	422
Mov Cap-2 Maneuver	422	424	-	422
Stage 1	744	691	-	692
Stage 2	684	651	-	735

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.7	11.9	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1318	-	-	551	537	1255	-	-
HCM Lane V/C Ratio	0.005	-	-	0.023	0.024	0.005	-	-
HCM Control Delay (s)	7.7	0	-	11.7	11.9	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection							
Int Delay, s/veh		7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↕	↕		↕		
Traffic Vol, veh/h	10	0	0	0	0	10	
Future Vol, veh/h	10	0	0	0	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	78	78	78	78	78	78	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	13	0	0	0	0	13	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.008	-	-	-	0.012
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection												
Intersection Delay, s/veh											14.1	
Intersection LOS												B
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔		↔				↔			↔	
Traffic Vol, veh/h	0	163	145	48	176	1	196	1	64	0	0	7
Future Vol, veh/h	0	163	145	48	176	1	196	1	64	0	0	7
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	3	5	21	8	0	3	0	3	0	0	0
Mvmt Flow	0	201	179	59	217	1	242	1	79	0	0	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	SE	NW	NE	SW								
Opposing Approach	NW	SE	SW	NE								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SW	NE	SE	NW								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NE	SW	NW	SE								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	14.1	13.7	14.6	8.9								
HCM LOS	B	B	B	A								

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	75%	21%	0%	0%
Vol Thru, %	0%	78%	53%	0%
Vol Right, %	25%	0%	47%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	261	225	308	7
LT Vol	196	48	0	0
Through Vol	1	176	163	0
RT Vol	64	1	145	7
Lane Flow Rate	322	278	380	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.511	0.452	0.542	0.014
Departure Headway (Hd)	5.709	5.858	5.128	5.755
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	632	614	703	617
Service Time	3.755	3.907	3.172	3.832
HCM Lane V/C Ratio	0.509	0.453	0.541	0.015
HCM Control Delay	14.6	13.7	14.1	8.9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.9	2.3	3.3	0

Intersection												
Int Delay, s/veh											0.7	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔		↔				↔			↔	
Traffic Vol, veh/h	5	0	5	5	0	5	5	217	5	5	215	5
Future Vol, veh/h	5	0	5	5	0	5	5	217	5	5	215	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	3	2	2	2	11	2
Mvmt Flow	6	0	6	6	0	6	6	268	6	6	265	6

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	566	566	271	566
Stage 1	283	283	-	280
Stage 2	283	283	-	286
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	435	434	768	435
Stage 1	724	677	-	727
Stage 2	724	677	-	721
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	428	430	768	428
Mov Cap-2 Maneuver	428	430	-	428
Stage 1	720	674	-	723
Stage 2	715	674	-	712

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.7	11.7	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1289	-	-	550	550	1292	-	-
HCM Lane V/C Ratio	0.005	-	-	0.022	0.022	0.005	-	-
HCM Control Delay (s)	7.8	0	-	11.7	11.7	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection							
Int Delay, s/veh							7.4
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	
Traffic Vol, veh/h	10	0	0	0	0	10	
Future Vol, veh/h	10	0	0	0	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	81	81	81	81	81	81	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	12	0	0	0	0	12	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.008	-	-	-	0.011
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection											
Intersection Delay, s/veh 17.3											
Intersection LOS C											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↕		↕				↕		↕	
Traffic Vol, veh/h	1	146	223	81	167	1	186	8	53	4	8
Future Vol, veh/h	1	146	223	81	167	1	186	8	53	4	8
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	10	2	11	5	100	9	0	19	50	0
Mvmt Flow	1	187	286	104	214	1	238	10	68	5	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	19.1	15.8	16.7	11.1							
HCM LOS	C	C	C	B							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	75%	33%	0%	21%
Vol Thru, %	3%	67%	39%	42%
Vol Right, %	21%	0%	60%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	249	370	19
LT Vol	186	81	1	4
Through Vol	8	167	146	8
RT Vol	53	1	223	7
Lane Flow Rate	317	319	474	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.548	0.532	0.687	0.052
Departure Headway (Hd)	6.231	6.001	5.213	7.667
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	576	597	688	470
Service Time	4.305	4.082	3.286	5.667
HCM Lane V/C Ratio	0.55	0.534	0.689	0.051
HCM Control Delay	16.7	15.8	19.1	11.1
HCM Lane LOS	C	C	C	B
HCM 95th tile Q	3.3	3.1	5.5	0.2

Intersection												
Int Delay, s/veh 0.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕		↕				↕		↕		
Traffic Vol, veh/h	5	0	5	5	0	5	5	193	5	5	239	5
Future Vol, veh/h	5	0	5	5	0	5	5	193	5	5	239	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	13	2	2	7	2	2
Mvmt Flow	6	0	6	6	0	6	6	247	6	6	306	6

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	586	586	250	586
Stage 1	262	262	-	321
Stage 2	324	324	-	265
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	422	422	789	422
Stage 1	743	691	-	691
Stage 2	688	650	-	740
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	414	417	789	415
Mov Cap-2 Maneuver	414	417	-	415
Stage 1	739	687	-	687
Stage 2	678	646	-	730

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.8	12	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1312	-	-	543	529	1248	-	-
HCM Lane V/C Ratio	0.005	-	-	0.024	0.024	0.005	-	-
HCM Control Delay (s)	7.8	0	-	11.8	12	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection							
Int Delay, s/veh 7.4							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	10	0	0	0	0	10	
Future Vol, veh/h	10	0	0	0	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	78	78	78	78	78	78	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	13	0	0	0	0	13	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.008	-	-	-	0.012
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th tile Q(veh)	0	-	-	-	0

Intersection											
Intersection Delay, s/veh 14.5											
Intersection LOS B											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↕			↕			↕			↕
Traffic Vol, veh/h	0	166	148	49	180	1	200	1	65	0	0
Future Vol, veh/h	0	166	148	49	180	1	200	1	65	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	3	5	21	8	0	3	0	3	0	0
Mvmt Flow	0	205	183	60	222	1	247	1	80	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	14.5	14	15	9							
HCM LOS	B	B	B	A							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	75%	21%	0%	0%
Vol Thru, %	0%	78%	53%	0%
Vol Right, %	24%	0%	47%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	266	230	314	7
LT Vol	200	49	0	0
Through Vol	1	180	166	0
RT Vol	65	1	148	7
Lane Flow Rate	328	284	388	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.525	0.465	0.556	0.014
Departure Headway (Hd)	5.753	5.901	5.168	5.828
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	627	608	698	609
Service Time	3.8	3.953	3.216	3.909
HCM Lane V/C Ratio	0.523	0.467	0.556	0.015
HCM Control Delay	15	14	14.5	9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	3.1	2.5	3.4	0

Intersection												
Int Delay, s/veh 0.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	5	0	5	5	221	5	5	220	5
Future Vol, veh/h	5	0	5	5	0	5	5	221	5	5	220	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	3	2	2	2	11	2
Mvmt Flow	6	0	6	6	0	6	6	273	6	6	272	6

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	578	578	276	578
Stage 1	288	288	287	287
Stage 2	290	290	291	291
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	427	427	763	427
Stage 1	720	674	-	720
Stage 2	718	672	-	717
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	420	422	763	420
Mov Cap-2 Maneuver	420	422	-	420
Stage 1	716	670	-	716
Stage 2	708	668	-	707

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.8	11.8	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1284	-	-	542	542	1285	-	-
HCM Lane V/C Ratio	0.005	-	-	0.023	0.023	0.005	-	-
HCM Control Delay (s)	7.8	0	-	11.8	11.8	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection							
Int Delay, s/veh 7.4							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	10	0	0	0	0	10	
Future Vol, veh/h	10	0	0	0	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	81	81	81	81	81	81	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	12	0	0	0	0	12	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.008	-	-	-	0.011
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Intersection											
Intersection Delay, s/veh 19.7											
Intersection LOS C											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↔		↔				↔		↔	
Traffic Vol, veh/h	1	166	223	86	174	1	186	8	68	4	8
Future Vol, veh/h	1	166	223	86	174	1	186	8	68	4	8
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	9	2	11	5	100	9	0	17	50	0
Mvmt Flow	1	213	286	110	223	1	238	10	87	5	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	22.6	17.3	18.3	11.4							
HCM LOS	C	C	C	B							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	71%	33%	0%	21%
Vol Thru, %	3%	67%	43%	42%
Vol Right, %	26%	0%	57%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	261	390	19
LT Vol	186	86	1	4
Through Vol	8	174	166	8
RT Vol	68	1	223	7
Lane Flow Rate	336	335	500	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.591	0.572	0.744	0.054
Departure Headway (Hd)	6.335	6.151	5.358	7.949
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	564	582	670	453
Service Time	4.426	4.25	3.448	5.949
HCM Lane V/C Ratio	0.596	0.576	0.746	0.053
HCM Control Delay	18.3	17.3	22.6	11.4
HCM Lane LOS	C	C	C	B
HCM 95th-tile Q	3.8	3.6	6.6	0.2

Intersection												
Int Delay, s/veh 1.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔		↔				↔		↔		
Traffic Vol, veh/h	5	0	5	10	0	17	40	193	5	5	239	20
Future Vol, veh/h	5	0	5	10	0	17	40	193	5	5	239	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	13	0	2	7	2	2
Mvmt Flow	6	0	6	13	0	22	51	247	6	6	306	26

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	694	696	250	686
Stage 1	352	352	-	331
Stage 2	342	344	-	355
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	357	365	789	362
Stage 1	665	632	-	682
Stage 2	673	637	-	662
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	332	345	789	344
Mov Cap-2 Maneuver	332	345	-	344
Stage 1	633	602	-	649
Stage 2	649	633	-	625

Approach	EB	WB	SE	NW
HCM Control Delay, s	12.9	12.5	1.4	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1312	-	-	467	513	1227	-	-
HCM Lane V/C Ratio	0.005	-	-	0.027	0.067	0.042	-	-
HCM Control Delay (s)	7.8	0	-	12.9	12.5	8.1	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection							
Int Delay, s/veh 7.6							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	
Traffic Vol, veh/h	60	0	0	0	0	27	
Future Vol, veh/h	60	0	0	0	0	27	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	78	78	78	78	78	78	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	77	0	0	0	0	35	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1647	-	-	-	1084
HCM Lane V/C Ratio	0.047	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection												
Intersection Delay, s/veh 15.2												
Intersection LOS C												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	173	148	54	194	1	200	1	70	0	0	7
Future Vol, veh/h	0	173	148	54	194	1	200	1	70	0	0	7
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	3	5	19	7	0	3	0	3	0	0	0
Mvmt Flow	0	214	183	67	240	1	247	1	86	0	0	9
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0
Approach	SE	NW	NE	SW								
Opposing Approach	NW	SE	SW	NE								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SW	NE	SE	NW								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NE	SW	NW	SE								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	15.3	14.9	15.6	9.2								
HCM LOS	C	B	C	A								

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	74%	22%	0%	0%
Vol Thru, %	0%	78%	54%	0%
Vol Right, %	26%	0%	46%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	249	321	7
LT Vol	200	54	0	0
Through Vol	1	194	173	0
RT Vol	70	1	148	7
Lane Flow Rate	335	307	396	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.542	0.506	0.578	0.014
Departure Headway (Hd)	5.835	5.926	5.251	5.971
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	606	686	594
Service Time	3.889	3.981	3.303	4.067
HCM Lane V/C Ratio	0.544	0.507	0.577	0.015
HCM Control Delay	15.6	14.9	15.3	9.2
HCM Lane LOS	C	B	C	A
HCM 95th-tile Q	3.2	2.9	3.7	0

Intersection												
Int Delay, s/veh 1.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	15	0	29	17	221	5	5	220	10
Future Vol, veh/h	5	0	5	15	0	29	17	221	5	5	220	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	3	2	2	2	11	2
Mvmt Flow	6	0	6	19	0	36	21	273	6	6	272	12

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	626	614	276	611
Stage 1	318	318	290	290
Stage 2	308	296	321	321
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	397	407	763	406
Stage 1	693	654	-	718
Stage 2	702	668	-	691
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	371	397	763	395
Mov Cap-2 Maneuver	371	397	-	395
Stage 1	680	642	-	704
Stage 2	665	664	-	672

Approach	EB	WB	SE	NW
HCM Control Delay, s	12.4	11.9	0.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1284	-	-	499	578	1278	-	-
HCM Lane V/C Ratio	0.005	-	-	0.025	0.094	0.016	-	-
HCM Control Delay (s)	7.8	0	-	12.4	11.9	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection							
Int Delay, s/veh 7.5							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	27	0	5	0	0	44	
Future Vol, veh/h	27	0	5	0	0	44	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	81	81	81	81	81	81	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	33	0	6	0	0	54	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	6
Stage 2	-	-	66
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1615	-	932
Stage 1	-	-	1017
Stage 2	-	-	957
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1615	-	913
Mov Cap-2 Maneuver	-	-	913
Stage 1	-	-	997
Stage 2	-	-	957

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.021	-	-	-	0.05
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection											
Intersection Delay, s/veh 14.2											
Intersection LOS B											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↔			↔			↔			↔
Traffic Vol, veh/h	1	180	245	93	191	1	204	9	73	4	9
Future Vol, veh/h	1	180	245	93	191	1	204	9	73	4	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	9	2	11	5	100	9	0	17	50	0
Mvmt Flow	1	180	245	93	191	1	204	9	73	4	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	15	13.5	14.1	10.5							
HCM LOS	B	B	B	B							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	71%	33%	0%	19%
Vol Thru, %	3%	67%	42%	43%
Vol Right, %	26%	0%	58%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	286	285	426	21
LT Vol	204	93	1	4
Through Vol	9	191	180	9
RT Vol	73	1	245	8
Lane Flow Rate	286	285	426	21
Geometry Grp	1	1	1	1
Degree of Util (X)	0.47	0.453	0.589	0.041
Departure Headway (Hd)	5.917	5.725	4.98	7.078
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	606	627	724	503
Service Time	3.967	3.775	3.025	5.159
HCM Lane V/C Ratio	0.472	0.455	0.588	0.042
HCM Control Delay	14.1	13.5	15	10.5
HCM Lane LOS	B	B	B	B
HCM 95th tile Q	2.5	2.4	3.9	0.1

Intersection												
Int Delay, s/veh 1.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	5	0	5	10	0	17	40	212	5	5	262	20
Future Vol, veh/h	5	0	5	10	0	17	40	212	5	5	262	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	13	0	2	7	2	2
Mvmt Flow	5	0	5	10	0	17	40	212	5	5	262	20

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	586	587	215	579
Stage 1	295	295	282	282
Stage 2	291	292	297	297
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	422	422	825	426
Stage 1	713	669	725	678
Stage 2	717	671	712	668
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	400	405	825	411
Mov Cap-2 Maneuver	400	405	-	411
Stage 1	687	645	-	699
Stage 2	698	668	-	682

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.8	11.5	1.2	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1353	-	-	539	581	1280	-	-
HCM Lane V/C Ratio	0.004	-	-	0.019	0.046	0.031	-	-
HCM Control Delay (s)	7.7	0	-	11.8	11.5	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection							
Int Delay, s/veh 7.1							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↔	↔		↔	↔	
Traffic Vol, veh/h	60	0	6	0	0	27	
Future Vol, veh/h	60	0	6	0	0	27	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	60	0	6	0	0	27	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	6
Stage 2	-	-	120
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1615	-	869
Stage 1	-	-	1017
Stage 2	-	-	905
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1615	-	837
Mov Cap-2 Maneuver	-	-	837
Stage 1	-	-	979
Stage 2	-	-	905

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.037	-	-	-	0.025
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th tile Q(veh)	0.1	-	-	-	0.1

Intersection											
Intersection Delay, s/veh	13										
Intersection LOS	B										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↕			↕			↕			↕
Traffic Vol, veh/h	0	190	162	64	211	1	220	1	77	0	0
Future Vol, veh/h	0	190	162	64	211	1	220	1	77	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	3	5	19	7	0	3	0	3	0	0
Mvmt Flow	0	190	162	64	211	1	220	1	77	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	12.8	13	13.4	8.7							
HCM LOS	B	B	B	A							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	74%	23%	0%	0%
Vol Thru, %	0%	76%	54%	0%
Vol Right, %	26%	0%	46%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	298	276	352	8
LT Vol	220	64	0	0
Through Vol	1	211	190	0
RT Vol	77	1	162	8
Lane Flow Rate	298	276	352	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.463	0.435	0.491	0.012
Departure Headway (Hd)	5.593	5.676	5.02	5.561
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	644	635	718	640
Service Time	3.629	3.713	3.054	3.622
HCM Lane V/C Ratio	0.463	0.435	0.49	0.013
HCM Control Delay	13.4	13	12.8	8.7
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.4	2.2	2.7	0

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	15	0	29	17	245	5	5	242	10
Future Vol, veh/h	5	0	5	15	0	29	17	245	5	5	242	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	3	2	2	2	11	2
Mvmt Flow	5	0	5	15	0	29	17	245	5	5	242	10

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	554	544	248	541
Stage 1	282	282	257	257
Stage 2	272	262	284	284
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	443	446	791	452
Stage 1	725	678	-	748
Stage 2	734	691	-	723
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	420	438	791	443
Mov Cap-2 Maneuver	420	438	-	443
Stage 1	714	668	-	737
Stage 2	704	688	-	708

Approach	EB	WB	SE	NW
HCM Control Delay, s	11.7	11.2	0.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1316	-	-	549	624	1313	-	-
HCM Lane V/C Ratio	0.004	-	-	0.018	0.071	0.013	-	-
HCM Control Delay (s)	7.7	0	-	11.7	11.2	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th-tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	27	0	0	0	0	44
Future Vol, veh/h	27	0	0	0	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	0	0	0	0	44

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	55
Stage 1	-	-	1
Stage 2	-	-	54
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	953
Stage 1	-	-	1022
Stage 2	-	-	969
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	937
Mov Cap-2 Maneuver	-	-	937
Stage 1	-	-	1005
Stage 2	-	-	969

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.017	-	-	-	0.041
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th-tile Q(veh)	0.1	-	-	-	0.1



Intersection											
Int Delay, s/veh 16.4											
Intersection LOS C											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations		↕		↕				↕		↕	
Traffic Vol, veh/h	1	196	267	101	208	1	222	10	78	5	10
Future Vol, veh/h	1	196	267	101	208	1	222	10	78	5	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	9	2	11	5	100	9	0	17	50	0
Mvmt Flow	1	196	267	101	208	1	222	10	78	5	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	18	15.1	15.9	10.9							
HCM LOS	C	C	C	B							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	72%	33%	0%	21%
Vol Thru, %	3%	67%	42%	42%
Vol Right, %	25%	0%	58%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	310	310	464	24
LT Vol	222	101	1	5
Through Vol	10	208	196	10
RT Vol	78	1	267	9
Lane Flow Rate	310	310	464	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.528	0.511	0.666	0.05
Departure Headway (Hd)	6.133	5.934	5.165	7.54
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	586	605	696	478
Service Time	4.204	4.009	3.232	5.54
HCM Lane V/C Ratio	0.529	0.512	0.667	0.05
HCM Control Delay	15.9	15.1	18	10.9
HCM Lane LOS	C	C	C	B
HCM 95th-tile Q	3.1	2.9	5.1	0.2

Intersection												
Int Delay, s/veh 1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕		↕				↕		↕		
Traffic Vol, veh/h	5	0	5	10	0	17	40	232	5	5	286	20
Future Vol, veh/h	5	0	5	10	0	17	40	232	5	5	286	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	13	0	2	7	2	2
Mvmt Flow	5	0	5	10	0	17	40	232	5	5	286	20

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	630	631	235	623
Stage 1	315	315	-	306
Stage 2	315	316	-	317
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	394	398	804	398
Stage 1	696	656	-	704
Stage 2	696	655	-	694
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	373	381	804	383
Mov Cap-2 Maneuver	373	381	-	383
Stage 1	670	682	-	678
Stage 2	677	652	-	664

Approach	EB	WB	SE	NW
HCM Control Delay, s	12.2	11.9	1.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1330	-	-	510	551	1255	-	-
HCM Lane V/C Ratio	0.004	-	-	0.02	0.049	0.032	-	-
HCM Control Delay (s)	7.7	0	-	12.2	11.9	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection							
Int Delay, s/veh 7.1							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↕	↕		↕		
Traffic Vol, veh/h	60	0	6	0	0	27	
Future Vol, veh/h	60	0	6	0	0	27	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	60	0	6	0	0	27	

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	6
Stage 2	-	-	120
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1615	-	869
Stage 1	-	-	1017
Stage 2	-	-	905
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1615	-	837
Mov Cap-2 Maneuver	-	-	837
Stage 1	-	-	979
Stage 2	-	-	905

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.037	-	-	-	0.025
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection											
Intersection Delay, s/veh		14.6									
Intersection LOS		B									
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWR
Lane Configurations											
Traffic Vol, veh/h	0	206	177	69	231	1	239	1	83	0	0
Future Vol, veh/h	0	206	177	69	231	1	239	1	83	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	3	5	20	7	0	3	0	3	0	0
Mvmt Flow	0	206	177	69	231	1	239	1	83	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1
Approach	SE	NW	NE	SW							
Opposing Approach	NW	SE	SW	NE							
Opposing Lanes	1	1	1	1							
Conflicting Approach Left	SW	NE	SE	NW							
Conflicting Lanes Left	1	1	1	1							
Conflicting Approach Right	NE	SW	NW	SE							
Conflicting Lanes Right	1	1	1	1							
HCM Control Delay	14.5	14.5	14.9	9							
HCM LOS	B	B	B	A							

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	74%	23%	0%	0%
Vol Thru, %	0%	77%	54%	0%
Vol Right, %	26%	0%	46%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	323	301	383	9
LT Vol	239	69	0	0
Through Vol	1	231	206	0
RT Vol	83	1	177	9
Lane Flow Rate	323	301	383	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.518	0.491	0.552	0.015
Departure Headway (Hd)	5.776	5.869	5.187	5.859
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	623	611	693	606
Service Time	3.826	3.922	3.236	3.944
HCM Lane V/C Ratio	0.518	0.493	0.553	0.015
HCM Control Delay	14.9	14.5	14.5	9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	3	2.7	3.4	0

Intersection												
Int Delay, s/veh		1.3										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	15	0	29	17	265	5	5	265	10
Future Vol, veh/h	5	0	5	15	0	29	17	265	5	5	265	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	3	2	2	2	11	2
Mvmt Flow	5	0	5	15	0	29	17	265	5	5	265	10

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	597	587	268	584
Stage 1	302	302	280	280
Stage 2	295	285	304	304
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	415	422	771	423
Stage 1	707	664	-	727
Stage 2	713	676	-	705
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	393	413	771	414
Mov Cap-2 Maneuver	393	413	-	414
Stage 1	696	653	-	715
Stage 2	683	673	-	689

Approach	EB	WB	SE	NW
HCM Control Delay, s	12	11.5	0.5	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1293	-	-	521	595	1288	-	-
HCM Lane V/C Ratio	0.004	-	-	0.019	0.074	0.013	-	-
HCM Control Delay (s)	7.8	0	-	12	11.5	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection							
Int Delay, s/veh		7.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Vol, veh/h	27	0	0	0	0	44	
Future Vol, veh/h	27	0	0	0	0	44	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	27	0	0	0	0	44	

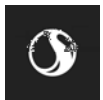
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	55
Stage 1	-	-	1
Stage 2	-	-	54
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	953
Stage 1	-	-	1022
Stage 2	-	-	969
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	937
Mov Cap-2 Maneuver	-	-	937
Stage 1	-	-	1005
Stage 2	-	-	969

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.017	-	-	-	0.041
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

## Appendix C SIGNAL WARRANTS

DRAFT



**Justification 1: Minimum Vehicle Volumes**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
1A	480	720	600	900	228	885	715	590	726	817	633	485		
	COMPLIANCE %				32	100	99	82	100	100	88	67	668	84
1B	120	170	120	170	46	266	226	188	272	273	184	115		
	COMPLIANCE %				27	100	100	100	100	100	100	68	695	87
<b>Restricted Flow Signal Justification 1:</b>					Both 1A and 1B 100% Fulfilled each of 8 hours Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
													Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

**Justification 2: Delay to Cross Traffic**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
2A	480	720	600	900	182	619	489	402	454	544	449	370		
	COMPLIANCE %				25	86	68	56	63	76	62	51	487	61
2B	50	75	50	75	42	203	177	161	207	206	149	100		
	COMPLIANCE %				56	100	100	100	100	100	100	100	756	95
<b>Restricted Flow Signal Justification 2:</b>					Both 2A and 2B 100% fulfilled each of 8 hours Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
													Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

**Justification 3: Combination**

**Combination Justification 1 and 2**

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		

**Justification 4: Four Hour Volume**

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	619	247	213	100 %	94 %
	9:00	489	212	267	79 %	
	15:00	454	272	283	96 %	
	16:00	544	266	243	100 %	

**Justification 5: Collision Experience**

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

**Justification 6: Pedestrian Volume**

**Pedestrian Volume Analysis**

	8 Hour Vehicular Volume $V_8$	Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

**Pedestrian Delay Analysis**

	Net Total 8 Hour Volume of Total Pedestrians	Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			



# Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Prescott Street and Concession Road

What is the direction of the Main Road street?

North-South

When was the data collected?

2022 FBG 2022 FBG

## Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	18	82	0	35	1	7	4	40	38	1	1	1	5
8:00	81	167	1	186	8	53	1	146	223	4	8	7	5
9:00	65	164	0	161	7	44	1	124	135	4	4	6	5
10:00	53	104	3	151	3	28	1	101	140	2	3	1	5
15:00	52	117	2	199	3	70	0	112	171	0	0	0	5
16:00	49	180	1	200	1	65	0	166	148	0	0	7	5
17:00	25	131	1	141	3	39	0	199	93	0	0	1	5
18:00	20	102	2	90	0	23	0	167	79	0	0	2	10
<b>Total</b>	<b>363</b>	<b>1,047</b>	<b>10</b>	<b>1,163</b>	<b>26</b>	<b>329</b>	<b>7</b>	<b>1,055</b>	<b>1,027</b>	<b>11</b>	<b>16</b>	<b>25</b>	<b>45</b>

## Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

\* Include only collisions that are susceptible to correction through the installation of traffic signal control

## Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Factored 8 hour pedestrian volume</b>	120		15		7		0		
<b>% Assigned to crossing rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Pedestrian Volume at Crossing</b>									128
<b>Net 8 Hour Vehicular Volume on Street Being Crossed</b>									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Total 8 hour pedestrians delayed greater than 10 seconds</b>	10	10	1	6	2	4	0	0	
<b>Factored volume of total pedestrians</b>	120		15		7		0		
<b>Factored volume of delayed pedestrians</b>	30		8		8		0		
<b>% Assigned to Crossing Rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Volume of Total Pedestrians</b>									128
<b>Net 8 Hour Volume of Delayed Pedestrians</b>									34

Intersection: Prescott Street and Confession Road

Count Date: 2022 FBG

**Summary Results**

Justification	Compliance	Signal Justified?	
		YES	NO
1. Minimum Vehicular Volume	A Total Volume 84 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume 87 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road 61 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road 95 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1 84 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2 61 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume	94 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. Collision Experience	0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------	-----	--------------------------	-------------------------------------

6. Pedestrians	A Volume Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Prospect Street and Concession Road

What is the direction of the Main Road street?

North-South

When was the data collected?

2022 Total Future

## Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	20	86	0	35	1	9	4	45	38	1	1	1	5
8:00	86	174	1	186	8	68	1	166	223	4	8	7	5
9:00	69	171	0	161	7	56	1	140	135	4	4	6	5
10:00	57	108	3	151	3	35	1	115	140	2	3	1	5
15:00	63	126	2	199	3	75	0	117	171	0	0	0	5
16:00	59	194	1	200	1	70	0	173	148	0	0	7	5
17:00	30	141	1	141	3	42	0	207	93	0	0	1	5
18:00	25	110	2	90	0	25	0	174	79	0	0	2	10
<b>Total</b>	<b>409</b>	<b>1,110</b>	<b>10</b>	<b>1,163</b>	<b>26</b>	<b>380</b>	<b>7</b>	<b>1,137</b>	<b>1,027</b>	<b>11</b>	<b>16</b>	<b>25</b>	<b>45</b>

## Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

\* Include only collisions that are susceptible to correction through the installation of traffic signal control

## Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Factored 8 hour pedestrian volume</b>	120		15		7		0		
<b>% Assigned to crossing rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Pedestrian Volume at Crossing</b>									128
<b>Net 8 Hour Vehicular Volume on Street Being Crossed</b>									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Total 8 hour pedestrians delayed greater than 10 seconds</b>	10	10	1	6	2	4	0	0	
<b>Factored volume of total pedestrians</b>	120		15		7		0		
<b>Factored volume of delayed pedestrians</b>	30		8		8		0		
<b>% Assigned to Crossing Rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Volume of Total Pedestrians</b>									128
<b>Net 8 Hour Volume of Delayed Pedestrians</b>									34

# Analysis Sheet

[Input Sheet](#)

[Results Sheet](#)

[Proposed Collision](#)

GO TO Justification:

Intersection: Prescott Street and Confession Road

Count Date: 2022 Total Future

## Justification 1: Minimum Vehicle Volumes

### Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
1A	480	720	600	900	241	932	754	619	756	853	659	507		
	COMPLIANCE %				33	100	100	86	100	100	92	70	681	85
1B	120	170	120	170	48	281	238	195	277	278	187	117		
	COMPLIANCE %				28	100	100	100	100	100	100	69	697	87
<b>Restricted Flow Signal Justification 1:</b>					Both 1A and 1B 100% Fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

## Justification 2: Delay to Cross Traffic

### Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
2A	480	720	600	900	193	651	516	424	479	575	472	390		
	COMPLIANCE %				27	90	72	59	67	80	66	54	514	64
2B	50	75	50	75	42	203	177	161	207	206	149	100		
	COMPLIANCE %				56	100	100	100	100	100	100	100	756	95
<b>Restricted Flow Signal Justification 2:</b>					Both 2A and 2B 100% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

## Justification 3: Combination

### Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	NOT JUSTIFIED	

## Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	651	262	201	100 %	97 %
	9:00	516	224	255	88 %	
	15:00	479	277	271	100 %	
	16:00	575	271	230	100 %	

## Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	

# Analysis Sheet

[Input Sheet](#)

[Results Sheet](#)

[Proposed Collision](#)

GO TO Justification:

Intersection: Prescott Street and Confession Road

Count Date: 2022 Total Future

	25-36	0 %	
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## Justification 6: Pedestrian Volume

### Pedestrian Volume Analysis

8 Hour Vehicular Volume $V_8$		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

### Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			



Intersection: Prescott Street and Confession Road

Count Date: 2022 Total Future

Summary Results

Justification	Compliance	Signal Justified?	
		YES	NO
1. Minimum Vehicular Volume	A Total Volume 85 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume 87 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road 64 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road 95 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1 85 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2 64 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume	97 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. Collision Experience	0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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6. Pedestrians	A Volume Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Prospect Street and Concession Road

What is the direction of the Main Road street?

North-South

When was the data collected?

2027 Total Future

## Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	21	94	0	38	1	10	4	49	41	1	1	1	5
8:00	93	191	1	204	9	73	1	180	245	4	9	8	5
9:00	74	188	0	177	8	60	1	152	149	4	5	7	5
10:00	61	119	3	166	3	38	1	125	153	2	3	1	5
15:00	68	137	2	219	3	83	0	128	188	0	0	0	5
16:00	64	211	1	220	1	77	0	190	162	0	0	8	5
17:00	32	153	1	155	3	46	0	227	102	0	0	1	5
18:00	27	120	2	99	0	28	0	191	86	0	0	2	10
<b>Total</b>	<b>440</b>	<b>1,213</b>	<b>10</b>	<b>1,278</b>	<b>28</b>	<b>415</b>	<b>7</b>	<b>1,242</b>	<b>1,126</b>	<b>11</b>	<b>18</b>	<b>28</b>	<b>45</b>

## Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

\* Include only collisions that are susceptible to correction through the installation of traffic signal control

## Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Factored 8 hour pedestrian volume</b>	120		15		7		0		
<b>% Assigned to crossing rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Pedestrian Volume at Crossing</b>									128
<b>Net 8 Hour Vehicular Volume on Street Being Crossed</b>									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	
<b>Total 8 hour pedestrians delayed greater than 10 seconds</b>	10	10	1	6	2	4	0	0	
<b>Factored volume of total pedestrians</b>	120		15		7		0		
<b>Factored volume of delayed pedestrians</b>	30		8		8		0		
<b>% Assigned to Crossing Rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Volume of Total Pedestrians</b>									128
<b>Net 8 Hour Volume of Delayed Pedestrians</b>									34

**Justification 1: Minimum Vehicle Volumes**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
1A	480	720	600	900	261	1,018	825	675	828	934	720	555		
	COMPLIANCE %				36	100	100	94	100	100	100	77	707	88
1B	120	170	120	170	52	307	261	213	305	306	205	129		
	COMPLIANCE %				31	100	100	100	100	100	100	76	706	88
<b>Restricted Flow</b>					Both 1A and 1B 100% Fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Signal Justification 1:</b>					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

**Justification 2: Delay to Cross Traffic**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
2A	480	720	600	900	209	711	564	462	523	628	515	426		
	COMPLIANCE %				29	99	78	64	73	87	72	59	561	70
2B	50	75	50	75	45	222	194	176	227	226	163	109		
	COMPLIANCE %				60	100	100	100	100	100	100	100	760	95
<b>Restricted Flow</b>					Both 2A and 2B 100% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Signal Justification 2:</b>					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

**Justification 3: Combination**

**Combination Justification 1 and 2**

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		

**Justification 4: Four Hour Volume**

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	711	286	180	100 %	100 %
	9:00	564	245	235	100 %	
	15:00	523	305	252	100 %	
	16:00	628	298	210	100 %	

**Justification 5: Collision Experience**

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

**Justification 6: Pedestrian Volume**

**Pedestrian Volume Analysis**

	8 Hour Vehicular Volume $V_8$	Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

**Pedestrian Delay Analysis**

	Net Total 8 Hour Volume of Total Pedestrians	Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Intersection: Prescott Street and Confession Road

Count Date: 2027 Total Future

**Summary Results**

Justification	Compliance	Signal Justified?	
		YES	NO
1. Minimum Vehicular Volume	A Total Volume 88 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume 88 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road 70 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road 95 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1 88 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2 70 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume	100 %	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5. Collision Experience	0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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6. Pedestrians	A Volume Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>



# Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Prospect Street and Concession Road

What is the direction of the Main Road street?

North-South

When was the data collected?

2032 Ultimate

## Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	23	103	0	41	1	11	4	53	45	1	1	1	5
8:00	101	208	1	222	10	78	1	196	267	5	10	9	5
9:00	81	204	0	193	9	65	1	166	162	5	5	8	5
10:00	66	129	3	181	4	41	1	136	167	3	4	1	5
15:00	73	150	2	238	3	89	0	139	205	0	0	0	5
16:00	69	231	1	239	1	83	0	206	177	0	0	9	5
17:00	35	168	1	168	3	49	0	246	111	0	0	1	5
18:00	29	131	2	107	0	30	0	207	94	0	0	3	10
<b>Total</b>	<b>477</b>	<b>1,324</b>	<b>10</b>	<b>1,389</b>	<b>31</b>	<b>446</b>	<b>7</b>	<b>1,349</b>	<b>1,228</b>	<b>14</b>	<b>20</b>	<b>32</b>	<b>45</b>

## Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

\* Include only collisions that are susceptible to correction through the installation of traffic signal control

## Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	128
<b>Factored 8 hour pedestrian volume</b>	120		15		7		0		
<b>% Assigned to crossing rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Pedestrian Volume at Crossing</b>									128
<b>Net 8 Hour Vehicular Volume on Street Being Crossed</b>									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
<b>Total 8 hour pedestrian volume</b>	20	80	0	15	1	5	0	0	128
<b>Total 8 hour pedestrians delayed greater than 10 seconds</b>	10	10	1	6	2	4	0	0	
<b>Factored volume of total pedestrians</b>	120		15		7		0		
<b>Factored volume of delayed pedestrians</b>	30		8		8		0		
<b>% Assigned to Crossing Rate</b>	100%		50%		0%		0%		
<b>Net 8 Hour Volume of Total Pedestrians</b>									128
<b>Net 8 Hour Volume of Delayed Pedestrians</b>									34

**Justification 1: Minimum Vehicle Volumes**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
1A	480	720	600	900	284	1,108	899	736	899	1,016	782	603		
	COMPLIANCE %				39	100	100	100	100	100	100	84	723	90
1B	120	170	120	170	56	334	285	234	330	332	221	140		
	COMPLIANCE %				33	100	100	100	100	100	100	82	715	89
<b>Restricted Flow Signal Justification 1:</b>					Both 1A and 1B 100% Fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

**Justification 2: Delay to Cross Traffic**

**Restricted Flow Urban Conditions**

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
2A	480	720	600	900	228	774	614	502	569	684	561	463		
	COMPLIANCE %				32	100	85	70	79	95	78	64	603	75
2B	50	75	50	75	48	242	212	193	246	245	176	117		
	COMPLIANCE %				64	100	100	100	100	100	100	100	764	96
<b>Restricted Flow Signal Justification 2:</b>					Both 2A and 2B 100% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

**Justification 3: Combination**

**Combination Justification 1 and 2**

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		

**Justification 4: Four Hour Volume**

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	774	310	159	100 %	100 %
	9:00	614	267	215	100 %	
	15:00	569	330	233	100 %	
	16:00	684	323	189	100 %	

**Justification 5: Collision Experience**

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

**Justification 6: Pedestrian Volume**

**Pedestrian Volume Analysis**

	8 Hour Vehicular Volume $V_8$	Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

**Pedestrian Delay Analysis**

	Net Total 8 Hour Volume of Total Pedestrians	Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Intersection: Prescott Street and Confession Road

Count Date: 2032 Ultimate

Summary Results

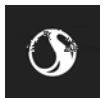
Justification	Compliance	Signal Justified?	
		YES	NO
1. Minimum Vehicular Volume	A Total Volume 90 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume 89 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road 75 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road 96 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1 89 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2 75 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume	100 %	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5. Collision Experience	0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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6. Pedestrians	A Volume Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Appendix D SPEED LIMIT REVIEW

DRAFT







# Automated Speed Limit Guidelines

## FORM A - Automated Speed Limit Guidelines Spreadsheet

Version:  
10-Apr-09

Name of Corridor:	College Road		
Segment Evaluated:	Prescott Street	to	Eastern Terminus
Geographic Region:	North Greenville		
Road Agency:			
Road Classification:	Local	Length of Corridor:	500 m
Urban / Rural:	Rural	Design Speed: (Required for Freeway, Expressway, Highway)	60 km/h
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	km/h
Major / Minor:	Minor	Prevailing Speed: (85th Percentile - for information only)	km/h
# Through Lanes Per Direction:	2+ lanes	Policy: (Maximum Posted Speed)	10 km/h less than design speed

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

**Total Risk Score:**

26
----

**Recommended Posted Speed Limit (km/h):**

As determined by road characteristics

60
----

As determined by policy

50
----

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

**Comments:**



# Automated Speed Limit Guidelines

## FORM A - Automated Speed Limit Guidelines Spreadsheet

Version:  
10-Apr-09

Name of Corridor:	Prescott Street		
Segment Evaluated:	100m South of College Road	to	Concession Road
Geographic Region:	North Grenville		
Road Agency:			
Road Classification:	Arterial	Length of Corridor:	900 m
Urban / Rural:	Rural	Design Speed: (Required for Freeway, Expressway, Highway)	80 km/h
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	60 km/h
Major / Minor:	Major	Prevailing Speed: (85th Percentile - for information only)	km/h
# Through Lanes Per Direction:	2+ lanes	Policy: (Maximum Posted Speed)	10 km/h less than design speed

		RISK	Score
<b>A1</b>	<b>GEOMETRY (Horizontal)</b>	Lower	3
<b>A2</b>	<b>GEOMETRY (Vertical)</b>	Lower	3
<b>A3</b>	<b>AVERAGE LANE WIDTH</b>	Medium	6
<b>B</b>	<b>ROADSIDE HAZARDS</b>	Lower	3
<b>C1</b>	<b>PEDESTRIAN EXPOSURE</b>	Lower	2
<b>C2</b>	<b>CYCLIST EXPOSURE</b>	Lower	3
<b>D</b>	<b>PAVEMENT SURFACE</b>	Medium	6
<b>E1</b>	<b>NUMBER OF INTERSECTIONS WITH PUBLIC ROADS</b>	<i>Number of Occurrences</i>	13
	STOP controlled intersection	1	
	Signalized intersection	0	
	Roundabout or traffic circle	0	
	Crosswalk	0	
	Active, at-grade railroad crossing	0	
	Sidestreet STOP-controlled or lane	4	
<b>E2</b>	<b>NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS</b>	<i>Number of Occurrences</i>	6
	Left turn movements permitted	9	
	Right-in / Right-out only	0	
<b>E3</b>	<b>NUMBER OF INTERCHANGES</b>	<i>Number of Occurrences</i>	0
	Number of interchanges along corridor	0	
<b>F</b>	<b>ON-STREET PARKING</b>	N/A	0

**Total Risk Score:**

45

**Recommended Posted Speed Limit (km/h):**

As determined by road characteristics

80

As determined by policy

70

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

**Comments:**

Appendix E CORRESPONDENCE

DRAFT



## Al Hasoo, Mohammed

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**From:** Hearson, Mark  
**Sent:** Friday, June 25, 2021 10:24 AM  
**To:** Al Hasoo, Mohammed  
**Subject:** FW: Kemptville Correctional Centre - Revised Plans

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**From:** Abdelnaby, Ahmed <Ahmed.Abdelnaby@stantec.com>  
**Sent:** Tuesday, March 23, 2021 2:48 PM  
**To:** Taglieri, John (IO) <John.Taglieri@infrastructureontario.ca>; Jaime Posen <posen@fotenn.com>; Kelly, Tate <Tate.Kelly@infrastructureontario.ca>  
**Cc:** Kilborn, Kris <kris.kilborn@stantec.com>; Leticia Chapa <chapa@fotenn.com>; Hearson, Mark <Mark.Hearson@stantec.com>  
**Subject:** RE: Kemptville Correctional Centre - Revised Plans

Good Afternoon John / Team,

We had a call with MTO and by this email I am confirming that accessing the facility from the highway is not acceptable. "on-route" is an exception as they access to 400s highways through a provincial agreement.

Now that this has been confirmed, I will have our team resume the traffic analyses later this week.

Please let me know if you have any questions or comments.

Thank you!

---

**From:** Abdelnaby, Ahmed  
**Sent:** Friday, March 19, 2021 12:09 PM  
**To:** Taglieri, John (IO) <John.Taglieri@infrastructureontario.ca>; Jaime Posen <posen@fotenn.com>; Kelly, Tate <Tate.Kelly@infrastructureontario.ca>  
**Cc:** Kilborn, Kris <kris.kilborn@stantec.com>; Leticia Chapa <chapa@fotenn.com>  
**Subject:** RE: Kemptville Correctional Centre - Revised Plans

Hi John,

Thanks for the direction!

Sounds good; will provide an update as soon as possible.

Have a wonderful weekend!

**Ahmed Abdelnaby** M.Sc., P.Eng, RSP1.

Project Engineer, Transportation

Direct: ~~613-724-4405~~

Cell: 343-999-9252

[ahmed.abdelnaby@stantec.com](mailto:ahmed.abdelnaby@stantec.com)

Stantec

400 - 1331 Clyde Avenue

Ottawa ON K2C 3G4



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**From:** Taglieri, John (IO) <[John.Taglieri@infrastructureontario.ca](mailto:John.Taglieri@infrastructureontario.ca)>  
**Sent:** Friday, March 19, 2021 12:03 PM  
**To:** Abdelnaby, Ahmed <[Ahmed.Abdelnaby@stantec.com](mailto:Ahmed.Abdelnaby@stantec.com)>; Jaime Posen <[posen@fotenn.com](mailto:posen@fotenn.com)>; Kelly, Tate <[Tate.Kelly@infrastructureontario.ca](mailto:Tate.Kelly@infrastructureontario.ca)>  
**Cc:** Kilborn, Kris <[kris.kilborn@stantec.com](mailto:kris.kilborn@stantec.com)>; Leticia Chapa <[chapa@fotenn.com](mailto:chapa@fotenn.com)>  
**Subject:** RE: Kemptville Correctional Centre - Revised Plans

Hi Ahmed. Thank you for the update.

Please continue as you have indicated below to try to get confirmation from a different MTO branch. If the ultimate advice from MTO is that it will not be permitted for the reasons you have outlined below, I agree that we could outline the reasoning in your DD report and not take it any further.

The request to consider highway access was from the Township as a means of getting SolGen vehicles to and from the site without driving through the Town. I don't believe there were any other technical reasons for the highway access.

Much appreciated.



**John Taglieri, MCIP, RPP**  
**Senior Project Manager**

**416-276-8762**

---

**From:** Abdelnaby, Ahmed <[Ahmed.Abdelnaby@stantec.com](mailto:Ahmed.Abdelnaby@stantec.com)>  
**Sent:** March 19, 2021 11:55 AM  
**To:** Jaime Posen <[posen@fotenn.com](mailto:posen@fotenn.com)>; Taglieri, John (IO) <[John.Taglieri@infrastructureontario.ca](mailto:John.Taglieri@infrastructureontario.ca)>; Kelly, Tate <[Tate.Kelly@infrastructureontario.ca](mailto:Tate.Kelly@infrastructureontario.ca)>  
**Cc:** Kilborn, Kris <[kris.kilborn@stantec.com](mailto:kris.kilborn@stantec.com)>; Leticia Chapa <[chapa@fotenn.com](mailto:chapa@fotenn.com)>  
**Subject:** RE: Kemptville Correctional Centre - Revised Plans

Hello John, Tate, and team,

Happy Friday; hope you get to have a relaxing upcoming weekend!

As a follow up to our call a couple of days ago. We have reviewed MTO's access management guidelines and have confirmed that:

1. Highway 416 (a freeway with fully controlled access) is the strictest in terms of at grade accesses. Accesses can not be provided except via grade separated intersections (i.e. an interchange)
2. Private accesses are not allowed at this class of highways.

**The short answer is at grade accesses are prohibited in 400series highways. The only exception is a case of "On-route stations" at Hwy 401.**

Unfortunately, I have not been successful to reach an MTO contact, will be trying to reach a different office and hope to be directed to the right staff responsible for the Leeds and Grenville area. Will keep the team posted.



The expectation is that MTO will reject this proposal and will ask for using the existing municipal network; the purpose of reaching MTO would be to simply complete the due diligence and report back.

Hypothetically, if we treat this as a case similar to an "On route" at grade accesses, I don't see arguments to present since for "on route" stations, there is only one way of access. In our case, the facility can be accessed through the municipal roadways along Prescott street north and south of the site. I doubt this would be the case, but If we want to pursue access from the highway, while expecting a strong push back from MTO; are there any important or critical needs to have access off the highway to present for discussion?

Thanks!

**Ahmed Abdelnaby** M.Sc., P.Eng, RSP1.  
Project Engineer, Transportation

Direct: ~~613-724-4405~~  
Cell: 343-999-9252  
[ahmed.abdelnaby@stantec.com](mailto:ahmed.abdelnaby@stantec.com)  
Stantec  
400 - 1331 Clyde Avenue  
Ottawa ON K2C 3G4



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**From:** Jaime Posen <[posen@fotenn.com](mailto:posen@fotenn.com)>  
**Sent:** Wednesday, March 17, 2021 5:03 PM  
**To:** Taglieri, John (IO) <[John.Taglieri@infrastructureontario.ca](mailto:John.Taglieri@infrastructureontario.ca)>; Kelly, Tate <[Tate.Kelly@infrastructureontario.ca](mailto:Tate.Kelly@infrastructureontario.ca)>  
**Cc:** Kilborn, Kris <[kris.kilborn@stantec.com](mailto:kris.kilborn@stantec.com)>; Abdelnaby, Ahmed <[Ahmed.Abdelnaby@stantec.com](mailto:Ahmed.Abdelnaby@stantec.com)>; Leticia Chapa <[chapa@fotenn.com](mailto:chapa@fotenn.com)>  
**Subject:** Kemptville Correctional Centre - Revised Plans

Hi everyone,

Further to our call this morning, we've prepared revised versions of the two plans for the Kemptville Correctional Centre. The plans have removed the proposed highway access, relocated the Staff Parking adjacent to the entrance (P2 only), and labelled all of the buildings inside and outside the blue hatching.

 [Infrastructure Ontario](#)

I hope this captures the proposed changes, feel free to let us know if any further modifications are required.

Thanks,

**Jaime Posen, MCIP RPP** (*he/him*)  
Senior Planner

**FOTENN**  
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Ottawa, ON K2P 2H7  
T 613.730.5709 ext. 236  
fotenn.com

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# TAB 20

**From:** [Amy Martin](#)  
**To:** [Jaime Posen](#)  
**Subject:** RE: Parking Requirements and Institutional Zoning Requirements  
**Date:** October 29, 2021 9:24:32 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

**CAUTION: This email is from an external sender. Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Hello Jaime,

I have reviewed our Public Use provisions within the Zoning By-law and I have come to the same conclusion. Lot coverage, setbacks and yard requirements for the underlying zone are still relevant, but the parking provisions would not be applicable.

Please let me know if this suffices.

Amy

---

**From:** Jaime Posen <posen@fotenn.com>  
**Sent:** Friday, October 15, 2021 4:55 PM  
**To:** Amy Martin <amartin@northgrenville.on.ca>  
**Subject:** RE: Parking Requirements and Institutional Zoning Requirements

Hi Amy,

Hope you're well – it's been a long time since we've spoken about this file!

After reviewing the requirements in more detail, and after reviewing your email from November below, we (Fotenn, Stantec, and Infrastructure Ontario) have come to the realization that the required parking rate results in an extremely inefficient outcome. Specifically, since Correctional Centres (or public uses) are not specifically mentioned in the parking section of the Zoning By-law, the resulting parking requirement is ~800 spaces for the development. In addition to this being a gross over-supply of parking considering that inmates will not be driving, it will also create unnecessary paving and hard surfaces, drainage infrastructure, lighting, etc.

In that light, I re-examined the Public Use provisions in the Zoning By-law to clarify the exact wording. I noticed that Section 6.39 states that "The provisions of this By-law shall not apply to the use of any lot or the location or use of any building or structure for the purpose of public use..." The provision goes on to qualify that public uses remain subject to lot coverage, setback and yard requirements prescribed in the underlying zone.

Given this wording, my interpretation is that public uses are exempt from parking requirements (which may help explain why public uses are not specified in the parking section). If that's the case, then zoning relief would not be needed to provide a more manageable and appropriate rate of parking.

I'm hoping you can provide an opinion on this interpretation, notwithstanding your previous email below? I'd also be happy to discuss further, as needed.

Thanks a lot in advance, and have a great weekend.

**Jaime Posen, MCIP RPP**

Associate

T 613.730.5709 ext. 236

---

**From:** Amy Martin <[amartin@northgrenville.on.ca](mailto:amartin@northgrenville.on.ca)>

**Sent:** November 24, 2020 8:24 AM

**To:** Jaime Posen <[posen@fotenn.com](mailto:posen@fotenn.com)>

**Subject:** Parking Requirements and Institutional Zoning Requirements

Hey Jamie,

I've attached the relevant sections from the zoning by-law that speak to the parking requirements and zoning setbacks. The Zoning By-law does not specify parking requirements for a public use, so it would fall under all uses not otherwise specified, which is 1 space for every 20 square metres.

I'm finalizing my list for site plan submission and will provide that in a separate e-mail shortly. Many of the studies that were discussed during the meeting last week will be required on our end – so it's fantastic to hear that plans are underway.

If there's anything else you require regarding Zoning information please let me know.

Kindest Regards,

Amy



**Amy Martin**

*Acting Director of Planning and  
Development*

Municipality of North Grenville

Phone: 613-258-9569 ext.118

[www.northgrenville.ca](http://www.northgrenville.ca)



# TAB 21

October 12, 2021

**BRIEFING NOTE | Proposed Eastern Ontario Correctional Complex  
- Site Acquisition**

**SUBJECT:** Briefing Note –  
Eastern Ontario Correctional Complex (EOCC)  
Kemptville ARIO Property

**PREPARED BY:** John Taglieri, Senior Project Manager, Development Planning

---

**Background:**

- In April 2019 the site selection process for a new Correctional Complex site identified a property under the ownership of the Agricultural Research Institute of Ontario (ARIO). ARIO is a corporate body which reports directly to the Minister of Agriculture, Food and Rural Affairs (OMAFRA).
- An internal desktop review was undertaken of the ARIO property.
- In October 2019, the Ministry of the Solicitor General (SolGen) put a formal hold on the ARIO Kemptville site.
- After the lands were formally put on hold, ARIO provided some due diligence material on the site. Additional due diligence work to Infrastructure Ontario (IO) P3 standards was commissioned and is well underway.
- Upon completion of the Due Diligence program including the Class EA and Duty to Consult (DTC) if required, and receipt of a Minister's Consent to Acquire the site, the property will be transferred from ARIO to the Ministry of Government and Consumer Services (MGCS). This is currently contemplated to take place by the end of Fiscal Q4 2021/22 (March 2022).

ARIO Property (Site labelled 'Subject Property' is under consideration for the new Correctional Complex. ARIO lands to the west of the County Road 44 were previously sold):



**Site and Context:**

- The subject property is located in the municipality of North Grenville, just south of the community of Kemptville, within the United Counties of Leeds and Grenville. It has frontage on Highway 416 however the site is currently accessed off of Prescott St. to the west via College Road. It is approximately 67 km from the existing Ottawa Correctional Centre.
- ARIO ceased operations on the site in May 2021 and both the lands and buildings contained thereon remain vacant and unused.
- On behalf of ARIO, IO sold the ARIO lands west of the subject property to the Town of North Grenville in 2017. As a result of its role in the sale of the lands, IO has a good understanding of the condition of the site overall so it is expected that an expedited due diligence process could be undertaken.

**Official Plan and Zoning:**

- The majority of the subject property is within the 'Kemptville Urban Settlement Area' in the United Counties Official Plan and it is designated 'Agriculture' in the North Grenville Official Plan (which was updated in 2018) – see map below.
- The subject property is zoned 'I - Institutional' which permits various community, educational and public uses. On January 20, 2021 the municipality confirmed to Infrastructure Ontario in writing that a Correctional Complex is permitted under the current zoning for the property.

**Due Diligence Materials Provided by ARIO:**

- ARIO has provided IO with the following materials:
  - Phase 1 Environmental Site Assessment (ESA)  
*Because of the past agricultural activities on the property, the Phase 1 ESA report identified specific areas requiring Phase 2 investigation.*
  - Stage 1 Archaeological Survey  
*The preliminary findings of the provided Stage 1 report indicates a low likelihood for artifacts to be found on-site.*
  - Plans for a watermain project to extend water services to the site
  - Draft Land Use Study

*Based on the Planning analysis done to date (above) it appears as though Official Plan and Zoning By-law amendment applications would be required. This is to be confirmed with municipal staff when our Planning consultants are given the go-ahead.*

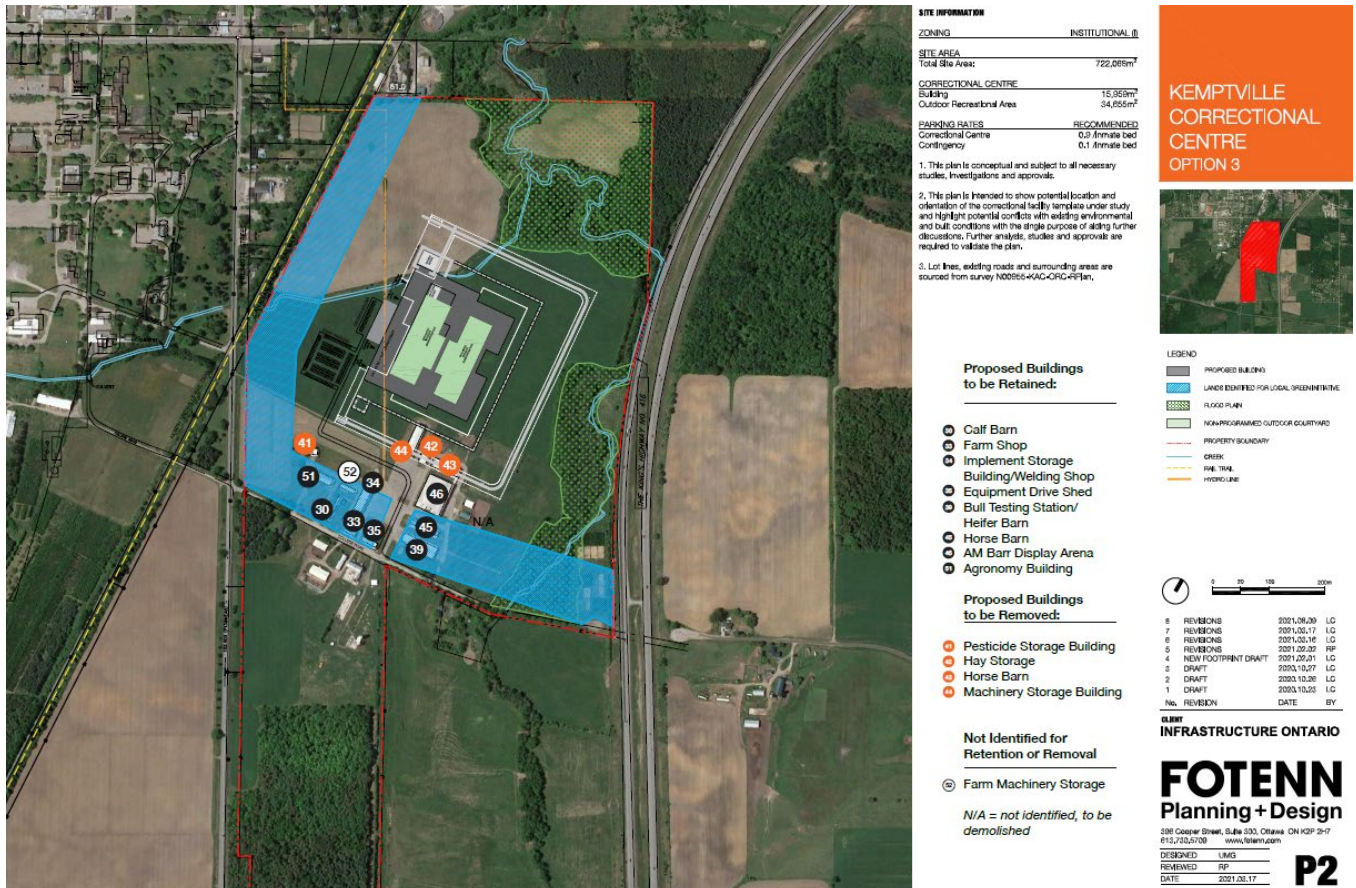
- Reference Plan (Survey)

#### **Infrastructure Ontario Due Diligence Program:**

- Phase 1 and 2 Environmental Site Assessment (ESA) – Fieldwork has been completed and reports are now being drafted. Some minor exceedances/contamination has been found. Options for addressing the findings will be presented.
- Hazardous Materials investigation for the buildings to be demolished – All of the buildings on-site have been sampled/tested. Report is now being drafted.
- Geotechnical/Hydrogeological/Geophysical Report – All fieldwork has now been completed and first round of sampling from the monitoring wells has been undertaken. Reports are now being drafted.
- Stage 1 and 2 Archaeological Surveys
  - The Stage 1 + 2 Archaeological Fieldwork is complete and the reports are now being drafted.
  - Two sites requiring Stage 3 Investigation have been found. One of the sites is Indigenous (a diagnostic projectile point was found). The Stage 3 work was undertaken and the Indigenous site was cleared the week of October 4<sup>th</sup>. There were two representatives from the Algonquins of Pikwakangan First Nation in attendance. A member of the Algonquins of Ontario participated virtually.
  - The second site requiring Stage 3 Investigation is historic (non-Indigenous) in nature. The site contained pottery, dishware, glassware, etc. The Stage 3 field work is expected to commence the week of October 11<sup>th</sup>, 2021 and could take 2-3 weeks to complete. The First Nations declined to participate in this Stage 3 work but asked to receive a copy of the final report.
- Boundary Survey/Topographic Survey/Utility Locate Report – Fieldwork is complete and plans are currently being drafted.
- Planning Site/Site Servicing/Transportation Investigation/Natural Heritage – Draft Reports have been received and are currently being reviewed. The site servicing cost estimate has been provided to the Cost Consultant and was included in the Class D Cost Estimate prepared in September 2021.



- Class EA – The Stakeholder Consultation letters are being draft and should be available for review the week of October 11<sup>th</sup>, 2021. Based on current timelines, the Class EA is expected to be complete in early to mid-February 2022.
- Duty to Consult – A request has been made to MGCS whether or not DTC is required. A response from MGCS is expected the week of October 18<sup>th</sup>, 2021. If DTC is required, MGCS will also advise which First Nation Communities are to be consulted.
- The materials provided by ARIO are being used as background materials to the above-noted IO-commissioned Due Diligence studies.
- The following conceptual plan has been used to inform the Due Diligence work being undertaken:





**Transfer of the ARIO Lands into MGCS Ownership:**

- ARIO is a corporation created by statute. As a result, with written consent from the Director of Research (an Associate Deputy Minister), ARIO can dispose of a property by sale, lease or otherwise. Treasury Board approval is not required and the Ministry (OMAFRA) has already consented to the hold and subsequent transfer to SolGen.
- IO will require a Minister's Consent (Minister of MGCS approval) to bring the property into MGCS control. A title confirmation and a Minister's Consent package (an information sheet for the lands) were submitted to MGCS for review and approval on September 30, 2021.
- Due to ARIO's status as an agency and the need for a Minister's Consent rather than full Treasury Board approval, the transfer can be completed within approximately six months from the time of submission of the transfer documents are submitted to MGCS. However, the timing will also depend on how much priority MGCS gives this transfer.
- ARIO's status as an agency requires that the transfer of ownership be completed with a transfer of funds at market value. The estimated market value of the site is \$2.7 million however a new appraisal will be undertaken by IO within 3 months of the transfer per MGCS requirements.

**International Plow Match – Fall 2022:**

- The International Plowmen's Association approached the Municipality of North Grenville and enquired about using the site to host the 2022 International Plowing Match. It is a prestigious farming festival that is held in different rural municipalities each year.
- The municipality introduced the International Plowmen's Association to SolGen and IO.
- Several meetings between the municipality, the Plowmen, SolGen and IO have been held to discuss the requirements for hosting the match on the site.
- The due diligence program will have been completed by the time of the Plow Match (fall 2022) and the site will be in MGCS ownership. It is anticipated that at the time of the Plow Match the site will be sitting vacant. Therefore, in a gesture of partnership and good will, SolGen and IO have agreed to allow the Plow Match to take place on the site.
- SolGen and IO have been working with the municipality and the Plowmen to begin preparing the site for the festival. Preparation work to-date has included re-grading the site and applying a prescribed seed mixture in order to minimize erosion of the lands and to provide stability for the erection of tents and other temporary facilities on the site for the duration of the festival.
- Semi-regular meetings take place between the municipality, the Plowmen, SolGen and IO to monitor progress of the site works.

- At the conclusion of the festival, the site will be returned to its pre-festival condition and focus will then shift to maintaining the site for the Project Co. RFP open period (currently anticipated for Summer 2023).

# TAB 22

November 16, 2021

**BRIEFING NOTE | Proposed Eastern Ontario Correctional Complex  
- Site Acquisition**

**SUBJECT:** Briefing Note –  
Eastern Ontario Correctional Complex (EOCC)  
Kemptville ARIO Property

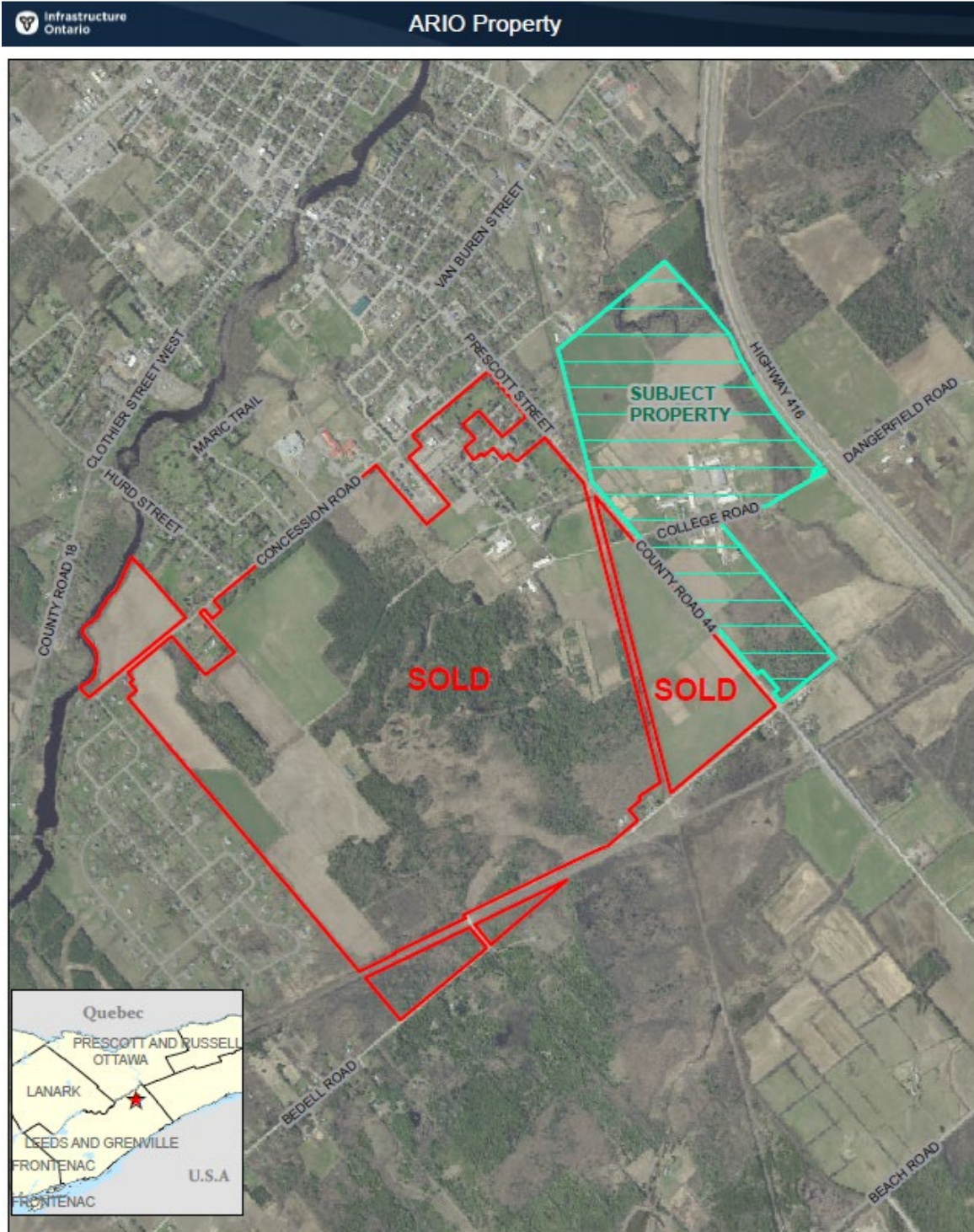
**PREPARED BY:** John Taglieri, Senior Project Manager, Development Planning

---

**Background:**

- In April 2019 the site selection process for a new Correctional Complex site identified a property under the ownership of the Agricultural Research Institute of Ontario (ARIO). ARIO is a corporate body which reports directly to the Minister of Agriculture, Food and Rural Affairs (OMAFRA).
- An internal desktop review was undertaken of the ARIO property.
- In October 2019, the Ministry of the Solicitor General (SolGen) put a formal hold on the ARIO Kemptville site.
- After the lands were formally put on hold, ARIO provided some due diligence material on the site. Additional due diligence work to Infrastructure Ontario (IO) P3 standards was commissioned and is well underway.
- Upon completion of the Due Diligence program including the Class EA and Duty to Consult (DTC) if required, and receipt of a Minister's Consent to Acquire the site, the property will be transferred from ARIO to the Ministry of Government and Consumer Services (MGCS). This is currently contemplated to take place by the end of Fiscal Q4 2021/22 (March 2022).

ARIO Property (Site labelled 'Subject Property' is under consideration for the new Correctional Complex. ARIO lands to the west of the County Road 44 were previously sold):





**Site and Context:**

- The subject property is located in the municipality of North Grenville, just south of the community of Kemptville, within the United Counties of Leeds and Grenville. It has frontage on Highway 416 however the site is currently accessed off of Prescott St. to the west via College Road. It is approximately 67 km from the existing Ottawa Correctional Centre.
- ARIO ceased operations on the site in May 2021 and both the lands and buildings contained thereon remain vacant and unused.
- On behalf of ARIO, IO sold the ARIO lands west of the subject property to the Town of North Grenville in 2017. As a result of its role in the sale of the lands, IO has a good understanding of the condition of the site overall so it is expected that an expedited due diligence process could be undertaken.

**Official Plan and Zoning:**

- The majority of the subject property is within the 'Kemptville Urban Settlement Area' in the United Counties Official Plan and it is designated 'Agriculture' in the North Grenville Official Plan (which was updated in 2018) – see map below.
- The subject property is zoned 'I - Institutional' which permits various community, educational and public uses. On January 20, 2021 the municipality confirmed to Infrastructure Ontario in writing that a Correctional Complex is permitted under the current zoning for the property.

**Due Diligence Materials Provided by ARIO:**

- ARIO has provided IO with the following materials:
  - Phase 1 Environmental Site Assessment (ESA)  
*Because of the past agricultural activities on the property, the Phase 1 ESA report identified specific areas requiring Phase 2 investigation.*
  - Stage 1 Archaeological Survey  
*The preliminary findings of the provided Stage 1 report indicates a low likelihood for artifacts to be found on-site.*
  - Plans for a watermain project to extend water services to the site
  - Draft Land Use Study

*Based on the Planning analysis done to date (above) it appears as though Official Plan and Zoning By-law amendment applications would be required. This is to be confirmed with municipal staff when our Planning consultants are given the go-ahead.*

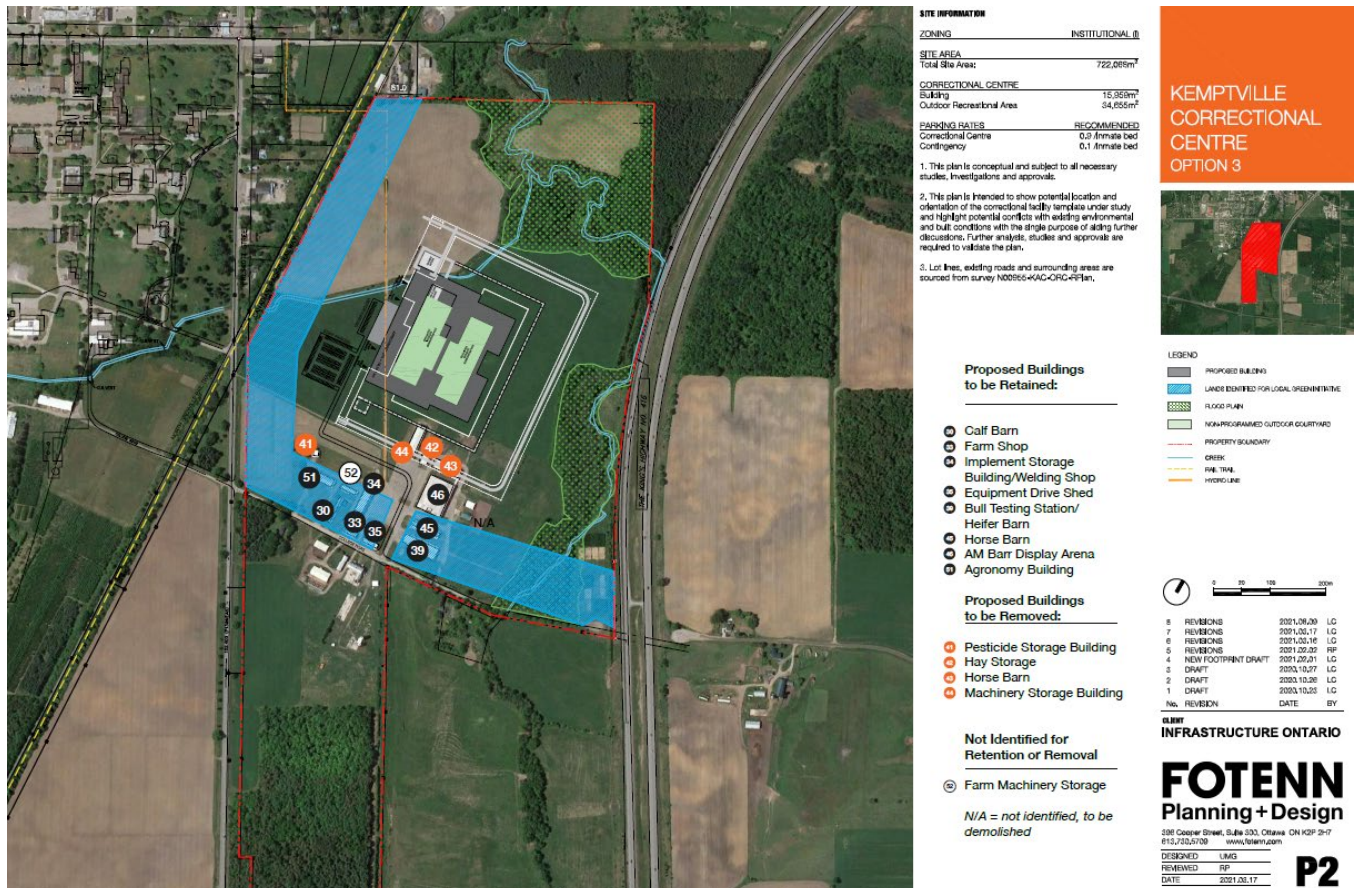
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- Hazardous Materials investigation for the buildings to be demolished – All of the buildings on-site have been sampled/tested. Draft report has been provided and is now being reviewed by IO Subject Matter Expert.
- Geotechnical/Hydrogeological/Geophysical Report – All fieldwork has now been completed and first round of sampling from the monitoring wells has been undertaken. Reports have been drafted and have been shared with IO Project Delivery and the PDC teams for review.
- Stage 1 and 2 Archaeological Surveys
  - The Stage 1 + 2 Archaeological Fieldwork is complete and the reports are now being drafted.
  - Two sites requiring Stage 3 Investigation have been found. One of the sites is Indigenous (a diagnostic projectile point was found). The Stage 3 work was undertaken and the Indigenous site was cleared the week of October 4<sup>th</sup>. There were two representatives from the Algonquins of Pikwakangan First Nation in attendance. A member of the Algonquins of Ontario participated virtually.
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- Planning Site/Site Servicing/Transportation Investigation/Natural Heritage – Draft Reports have been received and are currently being reviewed. The site servicing cost

estimate has been provided to the Cost Consultant and was included in the Class D Cost Estimate prepared in September 2021.

- Class EA – The Stakeholder Consultation letters have been drafted and are being reviewed by IO Subject Matter Experts. Based on current timelines, the Class EA is expected to be complete in early to mid-February 2022.
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- Several meetings between the municipality, the Plowmen, SolGen and IO have been held to discuss the requirements for hosting the match on the site.
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- SolGen and IO have been working with the municipality and the Plowmen to begin preparing the site for the festival. Preparation work to-date has included re-grading the site and applying a prescribed seed mixture in order to minimize erosion of the lands and to provide stability for the erection of tents and other temporary facilities on the site for the duration of the festival.
- Semi-regular meetings take place between the municipality, the Plowmen, SolGen and IO to monitor progress of the site works.

- At the conclusion of the festival, the site will be returned to its pre-festival condition and focus will then shift to maintaining the site for the Project Co. RFP open period (currently anticipated for Summer 2023).

**Municipality of North Grenville Request for Surplus Lands:**

- Through discussions at the Executive level, the Municipality of North Grenville has requested use of surplus lands (shown in blue hatching on the above plan) and buildings on the site (indicated by black dots on the above plan).
- The Municipality has also asked for the southern portion of the property not required for the new Correctional Centre to be transferred to it.
- The above items are subject to negotiation with the Municipality, however neither can occur until after the property has been transferred from ARIO to MGCS.



# TAB 23

Ministry of the Solicitor General

# Eastern Ontario Correctional Complex Public Engagement

Date: November 17, 2021

Time: 6:30 p.m.



# Land Acknowledgement

# Protocols and Technology

Zoom	Expected Conduct	French Translation
<ul style="list-style-type: none"><li>• All participants have been muted and will be unmuted by the host for the Q&amp;A period.</li><li>• By hovering your mouse over the top of your screen you will see ‘View options’. Click this button to change your view (e.g., exit full screen, side-by-side mode).</li><li>• Please try to resolve any IT issues you may be having on your own using Zoom FAQ (see ‘Chat’ for link).</li><li>• SolGen has made available technical support that can be reached at +1 343 805 0457 <b>OR</b> +1 343 312 8598</li></ul>	<ul style="list-style-type: none"><li>• Everyone is expected to conduct themselves in a respectful and appropriate manner.</li><li>• Participants who conduct themselves in a disruptive or inappropriate manner (e.g., coarse language, disrespectful comments) will be muted by the facilitator and will receive one warning.</li><li>• Continued inappropriate behaviour could result in the facilitator muting the individual and moving on to other participants and, in a worst-case scenario, expulsion from the engagement session.</li></ul>	<ul style="list-style-type: none"><li>• The session and related material will be presented in English.</li><li>• Session participants can ask questions and provide feedback in French. The facilitator will translate questions, comments and feedback.</li></ul>

# Protocols and Technology

## Questions by Phone

- ‘Raise your hand’ on the phone by pressing \*9 to indicate you have a question/comment.
- Individuals on the phone will be identified by the last four digits of their phone number.
- There is a limit of 1 question per person.

## Questions by PC/Mobile Device

- The ‘Chat’ function will be enabled at the start of the Q&A period.
- Send your questions/comments to the individual identified in the Chat as ‘Questions (host)’. This individual can be selected using the drop-down menu above the chat box.
- Type your question/comment in the chat box and hit “enter” to send to the host.
- Or ‘Raise your hand’ on zoom to ask a question /provide a comment verbally.
- There will be a limit of 1 question per person.



# Purpose of this Engagement Session

- Summarize what we heard at the last engagement session
- Provide an overview of the current vision for the new Eastern Ontario Correctional Complex
- Review project timelines
- Allow for a Q&A session
- Continue the engagement journey



# Agenda

Item	Presenter(s)	Time
1. Opening Remarks	I7 Facilitator, Ali Veshkini	5 minutes
2. Project Update: What We Heard and Progress to Date	Daryl Pitfield, Maria Duran-Schneider, Ali Veshkini	20 minutes
3. Community Impact / Economic Benefits	Daryl Pitfield, Angelo Gismondi	5 minutes
4. Project Timelines	Angelo Gismondi	5 minutes
5. Qs and As	All	60 minutes

# Introductions

Name	Title
Ali Veshkini	Associate Deputy Minister, SOLGEN
Maria Duran-Schneider	Chief Administrative Officer / Assistant Deputy Minister, SOLGEN
Daryl Pitfield	Assistant Deputy Minister Institutional Services, SOLGEN
Angelo Gismondi	Senior Vice President, Infrastructure Ontario

# Collaboration Across Sectors

Ontario is adopting an integrated approach to help prevent vulnerable individuals from coming into contact with the justice system and improving outcomes for those who do.



# Project Vision

The new Eastern Ontario Correctional Complex will have a positive impact on offenders, staff and the region.



## Increased Capacity

Help address capacity pressures throughout the Eastern region



## Modernized Facility

Ensure that frontline staff have the modern facilities to do their jobs safely and effectively



## Expanded Supports

Expand our supports for inmates with mental health issues and create additional space for programming and rehabilitation



# Project Updates





- What is the government doing to ensure community safety?
- What are the security elements within the building?
- What is the plan for reintegration and release into the community?
- How will the government get key partners who don't currently operate in Kemptville?

## Safety and Security

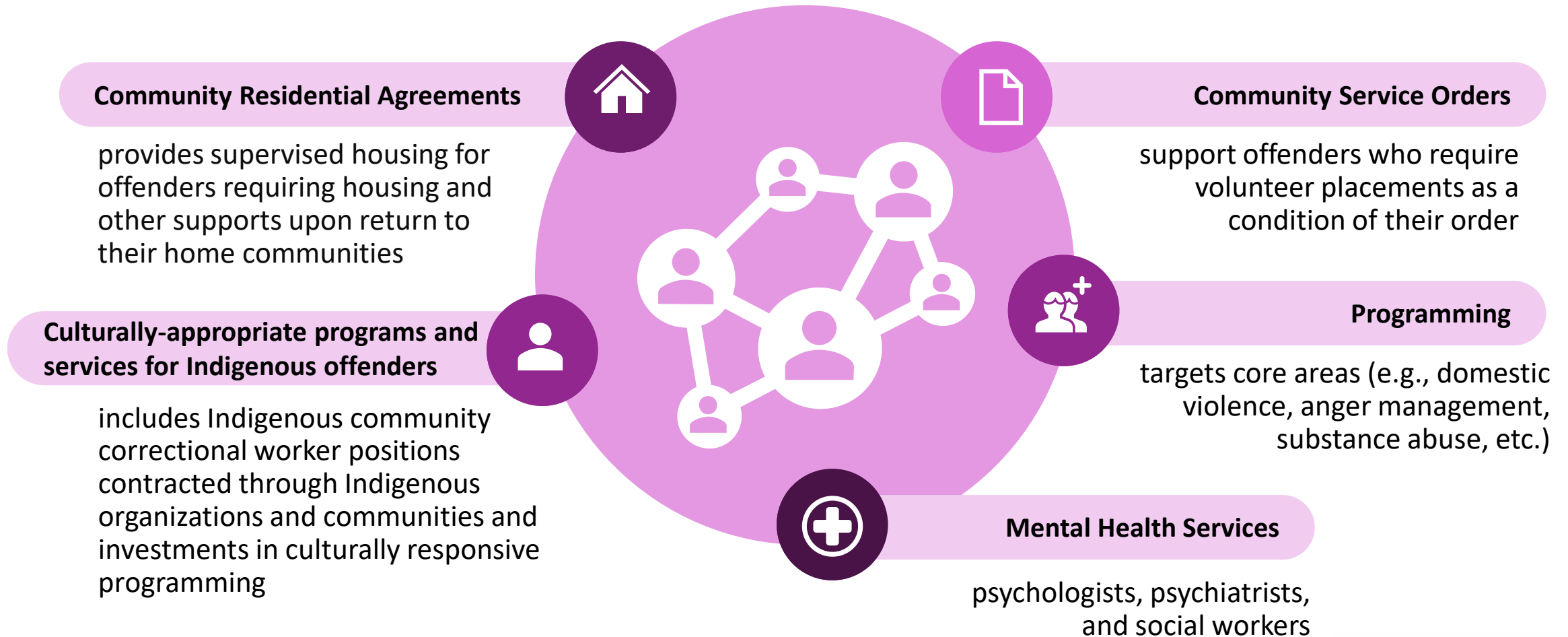
The Eastern Ontario Correctional Complex will be safe and secure with a focus on rehabilitation and programming for sentenced and remanded inmates.

- The institution will be built to the highest security standards, including a secure-perimeter fence, monitored using the most advanced electronic-security technology.
- Cells will primarily be single cells accommodation to promote a normative and safer environment.
- When outside of the institutional perimeter (e.g., for medical reasons or court appearances), inmates will be in a correctional vehicle and supervised by multiple correctional officers, specially trained in community escorting.
- With the implementation of a provincial security risk assessment tool, the ministry will be focusing efforts on rehabilitation and programming.



# Community Reintegration Supports

The ministry works with community rehabilitation services providers across Ontario to support the reintegration of inmates and offenders and provides funding for the following community-based programs and services:



# Programming to Support Reintegration

## Action Plan

Provide programming support for incarcerated individuals five days a week.

**Elizabeth Fry Society** and **John Howard Society** are examples of community-based service agencies who offer programming and supports to those who have been involved with the criminal justice system.

The new EOCC will have dedicated spaces for service providers to run their programs and there will also be opportunities for video technology to run online programs.

## Next Steps

SolGen will be hosting **focused engagements** with organizations such as Elizabeth Fry Society and John Howard Society and other local organizations to identify opportunities for ongoing support at the new facility.

**Elizabeth Fry Society** offers practical, effective programs and services for women including:

- Residential programs and housing support services;
- Court and Prison In-reach; and
- Individual programming and case management.

**John Howard Society** offers services, programs and education to all those who have come into contact with the criminal justice system. This work includes:

- Building bridges between people leaving incarceration and helping them build productive lives within their community;
- Advocating fair treatment for all incarcerated people in accordance with international human rights standards; and
- Developing policies, programs and educational material for incarcerated individuals.

- What will visibility be like from outside and within the institution?
- Can the community utilize the excess land on site?
- Will the lands be used for the International Plowing Match in 2022?



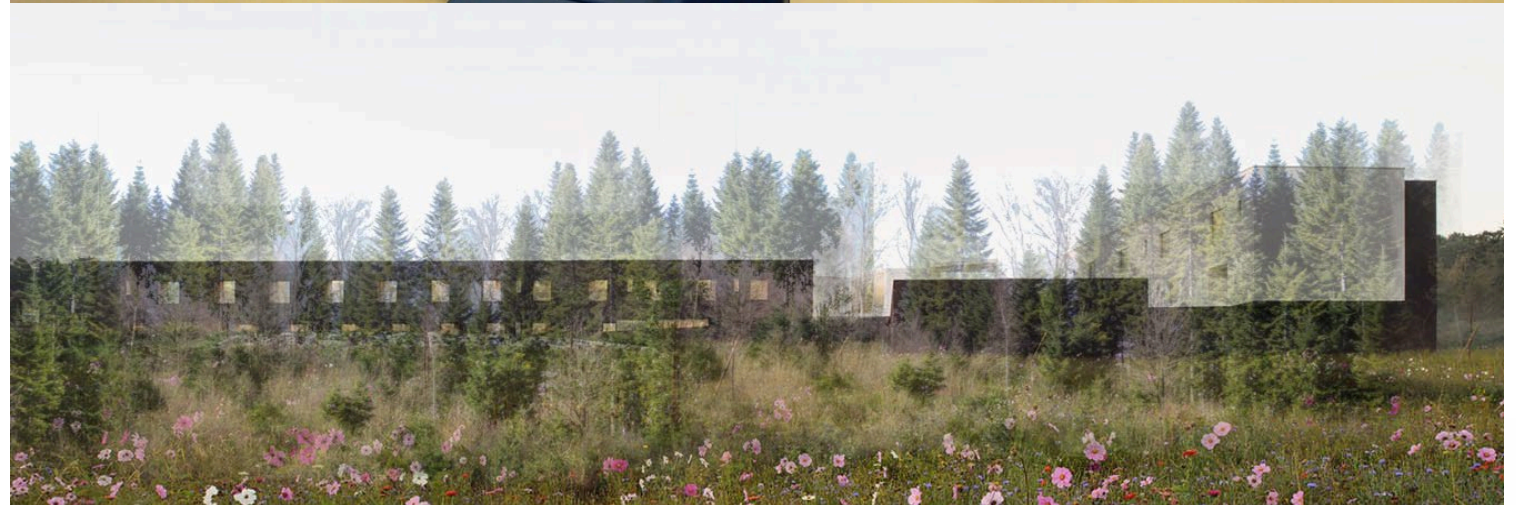
# VISUAL SCREENING AND SIGHTLINES IN/OUT OF FACILITY

Concerns were raised at the last engagement session on views from within the facility into the community as well as sightlines from the outside into the correctional facility.

Our design approach is to strategically screen views from within facility. This can be achieved with landscaping design and courtyards placed internally.

Inmates will be provided with carefully selected views.

The building exterior and massing will be integrated with the community.





# Facility Placement

The municipality has expressed an interest in retaining some existing buildings on the site (e.g., AM Barr display arena and a few outdoor barns).

Our design will include a minimum setback and existing buildings will be retained where possible.

In addition, the ministry is committed to working with the municipality on access to the excess property for local community initiatives.



## Notes:

- Plan is conceptual and subject to further studies, investigations and approvals prior to final placement on property.

## Legend

	BUILDING MASSING IS CONCEPTUAL
	FLOODPLAIN
	PROPERTY BOUNDARY
	CREEK
	PROPERTY UNDER CONSIDERATION FOR SEVERANCE

## Land Access for Local Initiatives

SolGen is committed to working with the Municipality of North Grenville on projects that highlight and promote agriculture and innovative agricultural programs to ensure the inclusion of green space on the new Eastern Ontario Correctional Centre site for a variety of uses.

The ministry is expected to enter into discussions with the municipality to formalize the use and access of the land in 2022.



## International Plowing Match

SolGen has reached an agreement with the Ontario Plowmen's Association (OPA) to allow for the International Plowing Match and Rural Expo to take place in the fall 2022 on this property.

SolGen has worked with OPA to ensure the land is leveled, re-seeded and suitable for the International Plowing Match.



- How will the new facility impact municipal services?

## **Municipal Services (e.g., sewage, water treatment, etc.)**

SolGen will continue to work collaboratively with the Municipality of North Grenville to provide the necessary funding to support the servicing requirements for the facility.

We have been sharing information on these requirements with the municipality to ensure that we can appropriately plan for additional sewage capacity and mitigate any impacts to municipal infrastructure.



How will the new facility impact capacity within existing medical institutions?

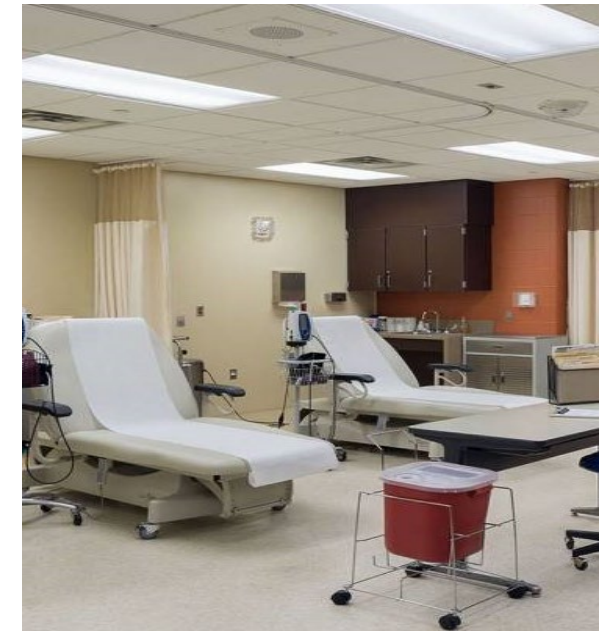
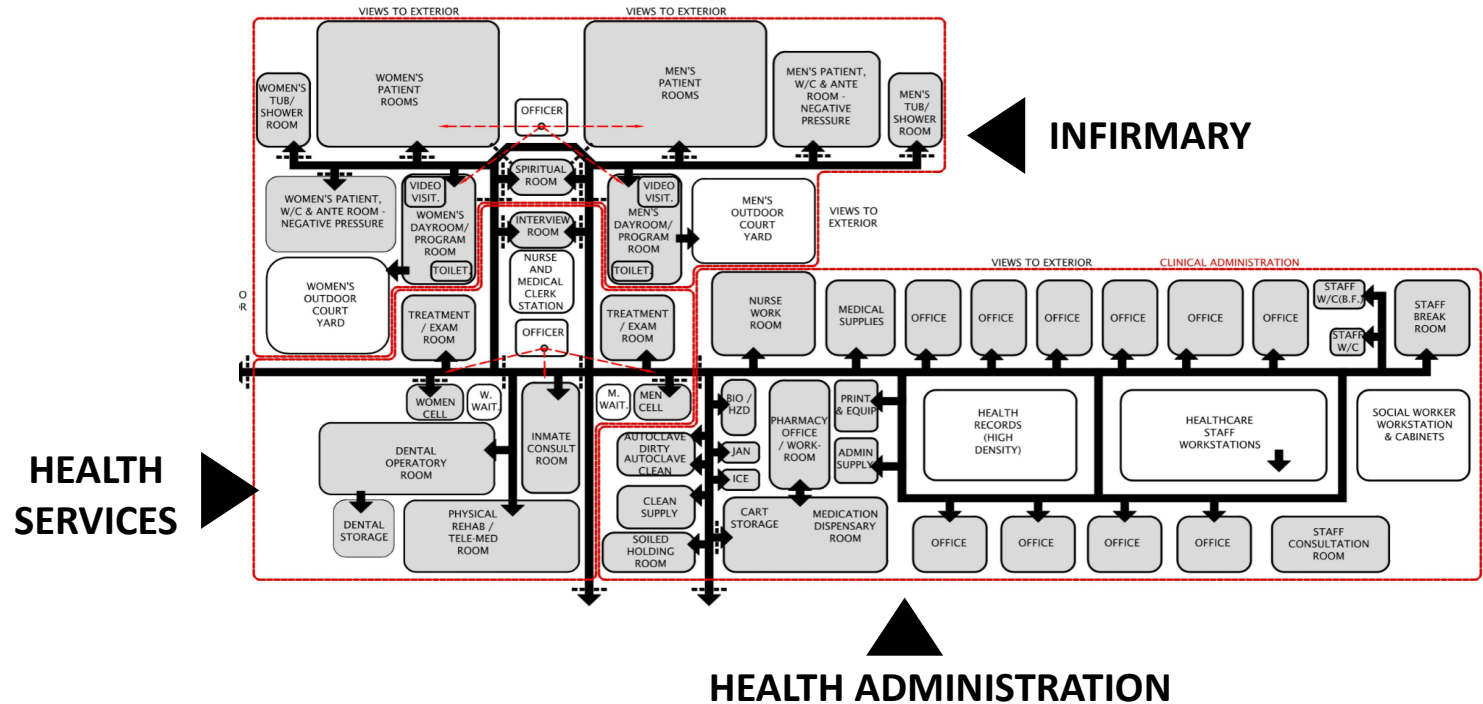




# Increased Demand on Hospital Infrastructure

We understand concerns were raised at the last engagement session with regards to increased demand on local hospital infrastructure.

Essential services will be provided on site to reduce impact or reliance on surrounding community. Our health care program includes infirmary beds, dental suite, exam rooms, pharmacy, telemedicine program and administrative space for health care workers and practitioners.



Note: This is not a design. It is simply a functional diagram showing all the different program areas and adjacencies. This will change as the design and planning evolves.

Will any economic benefits be realized at the local level?

# Local and Economic Benefits

## BENEFITS DURING CONSTRUCTION

1

Hundreds of direct/indirect local jobs created during the construction of the new facility

2

Buying local (e.g., coffee shops, hospitality, etc.)

3

Subcontracting of local trades (e.g., gravel, etc.)

## ONGOING BENEFITS

4

Additional staff to operate new facility

5

Buying local (e.g., meals, hospitality, etc.)

6

Other subcontracting opportunities

7

Potential positive real estate impact

## EXAMPLES FROM MODULAR EXPANSION FACILITIES IN THUNDER BAY AND KENORA



In Thunder Bay, approximately **80%** of subcontracts awarded to date have been subcontractors located in Thunder Bay.

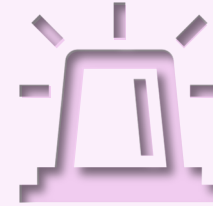
In Kenora, approximately **18%** of subcontracts awarded to date for the site were local to Kenora. In addition, approximately **14%** of subcontracts awarded to date were local to Thunder Bay, further supporting the trades in northern Ontario.

What about other impacts to  
the community?

# Police Calls for Service



- In 2019 and 2020, the Quinte Detention Centre (Napanee) received 98 and 58 calls respectively for service to the facility.
- These call were mainly related to:
  - Threat
  - Assault
  - Damage to property



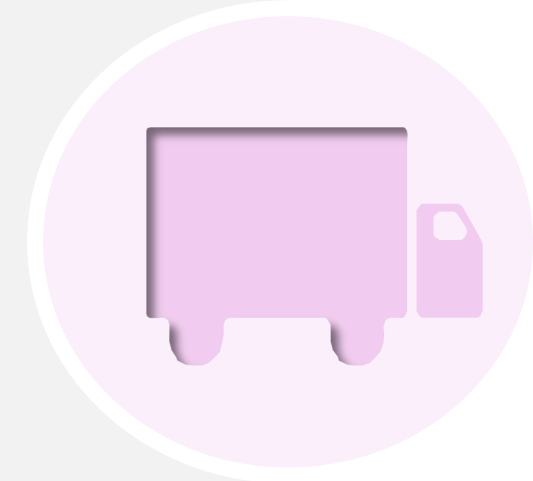
## Mitigation Strategy

1. Design of new facility will prioritize safety, normalization and rehabilitation.
2. Single cell accommodation.
3. Multiple levels of security.
4. Implementation of a classification tool to classify inmates based on their risk factors.
5. Review is underway on the implementation of the risk-based triage service model.
6. Policy review of funding model for calls for service.

# Transportation Strategy

As these projects move through the design process, the ministry will consult with stakeholders, including affected police services.

- Police services are responsible for court security and for transporting inmates to and from court appearances.
- Under the Court Security and Prisoner Transportation Program, the ministry allocates funding to municipalities to offset costs associated with both court security and inmate transportation to and from courts.
- As part of ongoing work to modernize the criminal justice system, the increased use of remote video technology for court appearances will continue to reduce the need to physically move in-custody individuals between the institution and the courthouse.

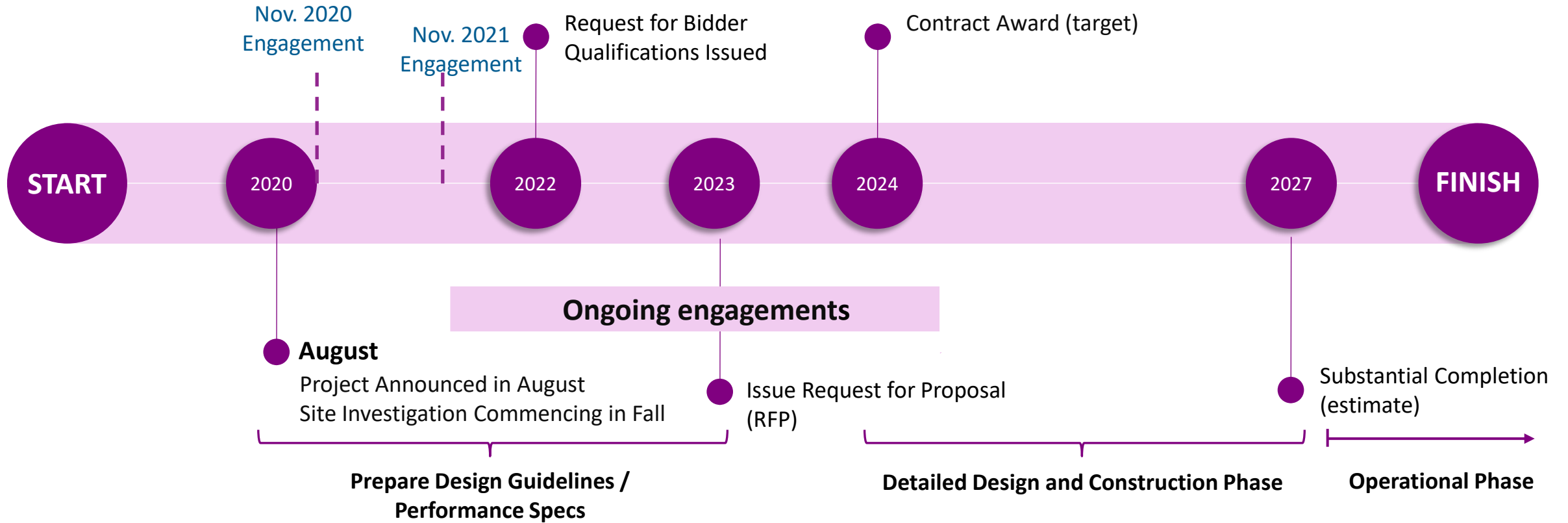




# Project Timelines



# Project Timelines



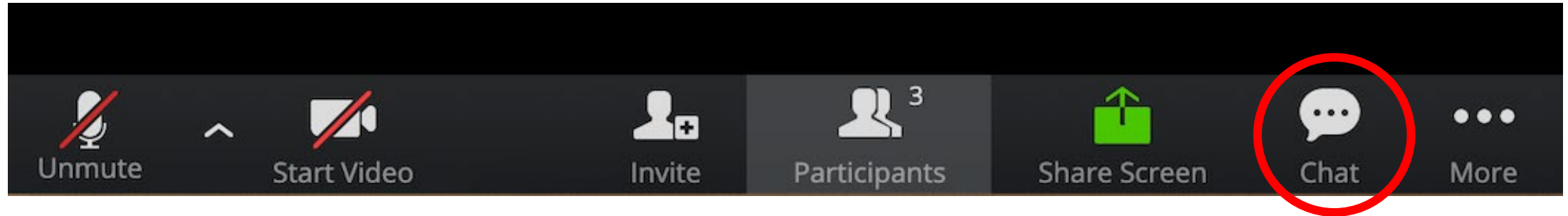
# Due Diligence Activity Timelines

The following site works are required to inform the design of the facility on the property

Discipline	Start Date	Status of Task
<ul style="list-style-type: none"> <li>• Planning / Site Servicing / Transportation Reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Fall 2020</li> </ul>	<ul style="list-style-type: none"> <li>• Field Investigations are complete</li> </ul>
<ul style="list-style-type: none"> <li>• Land Survey / Topographic Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Fall 2020</li> </ul>	<ul style="list-style-type: none"> <li>• Plans complete</li> </ul>
<ul style="list-style-type: none"> <li>• Planning Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Winter 2021</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Geotechnical / Environmental Drilling</li> </ul>	<ul style="list-style-type: none"> <li>• Winter 2021</li> </ul>	<ul style="list-style-type: none"> <li>• Fieldwork is complete</li> </ul>
<ul style="list-style-type: none"> <li>• Designated Substance Surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Winter 2021</li> </ul>	<ul style="list-style-type: none"> <li>• Fieldwork is complete</li> </ul>
<ul style="list-style-type: none"> <li>• Archaeological Investigation</li> </ul>	<ul style="list-style-type: none"> <li>• Spring 2021</li> </ul>	<ul style="list-style-type: none"> <li>• Stage 3 Investigation is ongoing</li> </ul>
<ul style="list-style-type: none"> <li>• Natural Heritage Survey</li> </ul>	<ul style="list-style-type: none"> <li>• Spring 2021</li> </ul>	<ul style="list-style-type: none"> <li>• Fieldwork is complete</li> </ul>
<ul style="list-style-type: none"> <li>• Class Environmental Assessment (EA)</li> </ul>	<ul style="list-style-type: none"> <li>• Fall 2021</li> </ul>	<ul style="list-style-type: none"> <li>• 6 months</li> </ul>

**Questions?**

# Zoom Tips



- To ask questions, please use the chat function and type your question.
- Hover your mouse over your screen and click the chat button on the bottom toolbar.
- Type your question directly into the chat box or 'Raise your hand' and someone will unmute you when we are ready for you to speak.
- You will receive a notification prompting you to unmute yourself. Click the 'Unmute' button.

**The host would like you to unmute**



# Thank you

Thank you for taking the time to learn more about the project.

We will continue to engage with you throughout the project.

If you have any questions or comments please reach out to us by email.



The province will continue to engage with the public throughout the journey to make this new facility a reality



Opportunities to tour the facility will be available prior to operationalization (i.e., open house)



Stay in touch by contacting us at [Solgen.correspondence@ontario.ca](mailto:Solgen.correspondence@ontario.ca)



# TAB 24

Ontario Infrastructure & Lands Corp.  
1 Dundas Street West, 20<sup>th</sup> Floor  
Toronto, Ontario M5G 2L5  
Tel.: 416 327-3937  
Fax: 416 327-1906

Ontario Infrastructure & Lands Corp.  
1, rue Dundas Ouest, 20e étage  
Toronto, Ontario M5G 2L5  
Tél. : 416 327-3937  
Télééc. : 416 327-1906



Date: March 4, 2022

Invoice # 2021-239

# INVOICE

HST Number: 124668666 RT0044

Bill To: **Mr. Robert Greene, Director**  
Facilities and Capital Planning Branch  
Corporate Services Division  
**Ministry of the Solicitor General**  
25 Grosvenor Street, 13th Floor  
Toronto ON M7A 1Y6

Mr. Greene,

This invoice is for expenditures provided by Infrastructure Ontario pertaining to the Eastern Ontario Correctional Complex for a land purchase/transfer.

A detailed breakdown of costs is provided below.

Total amount due: **\$2,463,910.02**

Land Capital	Description	Amount
Parcel 5, Building	LAND CAPTIAL	\$2,445,623.34
Parcel 5, Land	LAND CAPTIAL	\$18,286.68
	<b>Subtotal</b>	\$2,463,910.02
	<b>TOTAL</b>	<b>\$2,463,910.02</b>

Please remit payment to the EFT instructions below or issue all cheques payable to **ONTARIO INFRASTRUCTURE AND LANDS CORPORATION** at the above noted address with the attention to Accounts Receivable. If you have any questions concerning this invoice, please contact **Madeleine Sousa** (647)-264-5438.

Thank you,

Mar. 08, 2022

**Angelo Gismondi**

SVP, Project Delivery

March 7, 2022

March 07, 2022

**Remit Payment To:**

Ontario Infrastructure and Lands Corp.  
2000 IO CORP - 1 DUNDAS ST W

**Electronic Funds Transfer To:**

Name of Bank: **CIBC**  
Branch Number: **00002**  
Institution Number: **010**  
Bank Account Number: **9008314**

**Remittance Email:**

[accounts.receivable@infrastructureontario.ca](mailto:accounts.receivable@infrastructureontario.ca)



Agricultural Research Institute  
of Ontario  
Institutde recherche agricole  
de l'Ontario

2nd Floor  
1 Stone Road West  
Guelph, Ontario N1G 4Y2  
Tel: (519) 831-3496  
Fax: (519) 826-4211

2° étage  
1, rue Stone ouest  
Guelph (Ontario) N1G 4Y2  
Tél.: (519) 831-3496  
Télec.: (519) 826-4211

## INVOICE - ARIO Kemptville, Ontario Parcel 5 Transfer

**TO:**

Mr. Santhosh Mathew  
Vice President, Real Estate Finance, Finance  
Infrastructure Ontario  
PH: (647) 264-2456

Mr. Debmalya Joardar  
Manager, Tangible Capital Assets, Finance  
Infrastructure Ontario  
(647) 264-2368

2022-INV-Kemptville- Parcel 5

**INVOICE DATE:** March 3, 2022

**LOCATION:** Kemptville Campus

### Re: Payment of this Invoice to Agricultural Research Institute of Ontario (ARIO) for the Transfer of Parcel 5 in Kemptville, Ontario

ARIO Book Value transfer amount of \$2,463,910.02

Cost breakdown (buildings and land) shown in Appendix 1

Site map delineating subject lands measuring 178.4 acres shown in Appendix 2.

Jen Liptrot, Director of Research  
Agricultural Research Institute of Ontario

Please make cheque payable to: **Agricultural Research Institute of Ontario**

**EFT Payment to:** Agricultural Research Institute of Ontario (ARIO)  
1 Stone Road West, 2<sup>nd</sup> Floor, NW Guelph,  
Ontario N1G 4Y2

## Appendix 1 – Cost Breakdown

Building Number	Name / Description	Current RSF	Condition	Original Value	Accum Dep	Net Book Value	Monthly Dep	Remaining Years
<b>Parcel 5</b>								
B12537	Beef Barn	3,272	F	23,059.04	(18,208.77)	4,850.27	100.70	5.01
B12541	Heifer Barn	2,306	F	-	-	-	-	-
B12542	Farm Shop	1,799	F	7,226.75	(7,226.75)	-	63.96	-
B12543	Calf Barn	3,034	F	23,148.03	(18,854.30)	4,293.73	104.27	4.43
B12544	Granary	306	F	-	-	-	-	-
B12545	Dairy Barn	5,309	F	68,414.31	(29,685.53)	38,728.78	164.17	20.66
B12547	Farm Machinery Storage	2,290	F	-	-	-	-	-
B12562	Residence - Herdsman	-	F	14,045.11	(10,283.34)	3,761.77	56.87	6.51
B12564	Agronomy Building	5,764	F	175,287.33	(131,519.01)	43,768.32	727.34	6.01
B20793	Silo & Unloader	258	F	-	-	-	-	-
B23952	New Beef Barn	3,162	F	29,853.96	(19,143.62)	10,710.34	105.87	9.43
B24083	Bull Test Station (aka Barn 16)	14,790	F	997,500.01	(611,424.00)	386,076.01	3,381.36	10.51
B24481	Educational Display Arena	27,944	F	327,849.85	(196,300.27)	131,549.58	1,085.60	11.10
B24512	Ram Test Station	4,450	F	525,235.76	(306,368.38)	218,867.38	1,694.31	11.76
B25126	Horse Barn	9,499	F	217,202.85	(109,097.10)	108,105.75	603.34	15.93
B25127	Pesticide Storage Building	799	F	-	-	-	-	-
B25128	Agronomy Machine Storage	9,654	F	43,732.33	(43,732.33)	-	590.98	-
B25129	Hay Storage Building	2,198	F	25,174.23	(12,644.88)	12,529.35	69.93	15.93
<b>Total</b>		<b>18</b>		<b>2,477,729.56</b>	<b>(1,514,488.29)</b>	<b>963,241.27</b>	<b>8,748.70</b>	<b>117.30</b>
<b>Major Renovations/Capital Repairs</b>								
B24083	Bull Test Station (aka Barn 16)	commissioned Q3 2011-12		943,662.85	(489,431.39)	454,231.46	3,980.30	
<b>Watermain Installation</b>				<b>1,082,263.89</b>	<b>(54,113.28)</b>	<b>1,028,150.61</b>	<b>2,254.72</b>	<b>39.00</b>
<b>Total</b>				<b>2,025,926.74</b>	<b>(543,544.67)</b>	<b>1,482,382.07</b>	<b>6,235.02</b>	<b>39.00</b>
<b>Total Parcel 5</b>				<b>4,503,656.30</b>	<b>(2,058,032.96)</b>	<b>2,445,623.34</b>	<b>14,983.72</b>	<b>156.30</b>

Fiscal 2020-21 Transactions							
SOLGEN		ARIO		GREP		IO-P3	
		DR. TCA - Building	1,082,264				
		CR. Cash		1,082,264			
		to record watermain investment					
DR. TP expense*	1,082,264	DR. Cash	1,082,264				
CR. Cash	1,082,264	CR. Revenue recovery*	1,082,264				
		to record reimbursement of watermain investment					
		DR. Amortization Expense	54,113				
		CR. Acc. Amortization		54,113			
		to record watermain amortization					
*On consolidation, both transactions highlighted in green were eliminated in fiscal 2020-21.							
Fiscal 2021-22 Transactions							
Scenario 1 (SOLGEN): SOLGEN is reimbursed (credit invoice) and Transfer Kemptville parcel at NBV							
SOLGEN		ARIO		GREP		IO-P3	
DR. Capital Expense - P3 Land Capital	18,287	DR. Cash (from GREP)	2,463,910	DR. TCA - Building	2,445,823	DR. Cash (from SOLGEN)	2,463,910
DR. Capital Expense - P3 Building Capital	2,445,823	CR. TCA - Land		DR. TCA - Land	18,287	CR. Revenue	2,463,910
CR. Cash	2,463,910	CR. TCA - Building	2,445,823	CR. Cash (to ARIO)	2,463,910		
		to record kemptville transfer					
DR. Cash (from ARIO)	1,028,151	DR. Expense/Loss	1,028,151				
CR. Revenue - PY recovery	1,028,151	CR. Cash (to SOLGEN)	1,028,151				
		to offset Watermain					
*On consolidation, highlighted blue cells would be eliminated in fiscal 2021-22.							

# Appendix 2 – Site Map

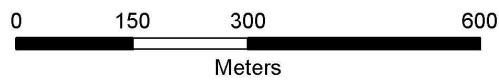


Infrastructure Ontario

## A1089013: Kemptville - Eastern Ontario Correctional Centre



N00955\_Kemptville ARIO\_OIC Map.mxd  
July 23, 2021 © Queen's Printer for Ontario 2021  
For illustrative purposes only!  
\*Areas and Limits to be confirmed by survey.



# TAB 25



**COMPENSATION AGREEMENT**

**BETWEEN:**

**HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO**  
**as represented by**  
**THE MINISTER OF GOVERNMENT AND CONSUMER SERVICES**

- and -

**AGRICULTURAL RESEARCH INSTITUTE OF ONTARIO**

**WHEREAS:**

- A. The Agricultural Research Institute of Ontario (“**ARIO**”) is the registered owner of certain lands, comprising approximately 178.31 acres located in the Town of Kemptville, Province of Ontario and as legally described in Schedule “A” of this Agreement (the “**Lands**”) and as illustrated in Schedule “B” of this Agreement.
- B. ARIO is transferring the ownership of the Lands to Her Majesty the Queen in right of Ontario, as represented by the Minister of Government and Consumer Services (“**MGCS**”). MGCS is acquiring the Lands on behalf of the Minister of the Solicitor General (“**SOLGEN**”). SOLGEN seeks the Lands, to house the forthcoming Eastern Ontario Correctional Centre, a 235 bed, multi-purpose correctional facility to support SOLGEN’s strategy of replacing aging institutions to address their health, safety and security concerns. (the “**MGCS Request**”).
- C. Ontario Infrastructure and Lands Corporation (“**OILC**”) confirms that it is the statutorily designated agent of MGCS.
- D. In accordance with section 3.59.2 of the Tangible Capital Assets Accounting Policy, transfers to a Government entity between a Consolidated Revenue Fund organization and a non-Consolidated Revenue Fund organization are to be at fair market value.

**NOW THEREFORE THIS AGREEMENT WITNESSES** that in consideration of the mutual promises hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties, the parties hereto agree as follows:

1. **Definitions:**

- (a) “**Acceptance Date**” means the date of acknowledgment and acceptance of the terms and conditions of this Agreement by OILC.
- (b) “**Adjustments**” means the adjustments to the Purchase Price provided for and determined pursuant to this Agreement.

- (c) “**Agreement**” means collectively, this compensation agreement, all Schedules attached hereto and every properly executed instrument which, by its terms, amends, modifies or supplements this.
- (d) “**Applicable Laws**” means, collectively, all statutes, laws, by-laws, regulations, ordinances and orders of any governmental Authority, including without limitation all Land Use Regulations that are binding on MGCS.
- (e) “**Authority**” means any governmental or quasi-governmental authority, regulatory authority, government department, agency, commission, board, tribunal, body or department, or any court, whether federal, provincial or municipal, having jurisdiction over the Lands, or the use thereof.
- (f) “**Closing**” means the closing of the transaction, including without limitation the payment of the Purchase Price and the delivery of the closing documents in accordance with the provisions of this Agreement on the Closing Date.
- (g) “**Closing Date**” means March 11, 2022.
- (h) “**Director’s Consent**” has the meaning ascribed to it in Section 3 of this Agreement.
- (i) “**HST**” has the meaning ascribed to it in Section 6 of this Agreement.
- (j) “**Land Use Regulations**” means collectively, any land use policies, regulations, by-laws, or plans of any Authority that apply to the use of the Lands, including the existing official plans, zoning by-laws and zoning orders.
- (k) “**MGCS Request**” has the meaning ascribed to it in Recital B of this Agreement
- (l) “**Minister’s Consent**” has the meaning ascribed to it in Section 3 of this Agreement.
- (m) “**OILC**” means Ontario Infrastructure and Lands Corporation.
- (n) “**Open Data**” means data that is required to be released to the public pursuant to the Open Data Directive.
- (o) “**Open Data Directive**” means the Management Board of Cabinets Open Data Directive, updated on April 29, 2016, as amended from time to time.
- (p) “**Purchase Price**” has the meaning ascribed to it in Section 4 of this Agreement.

## 2. Confirmation of recitals

The parties hereto confirm that the foregoing recitals are true in substance and in fact.

## 3. Transfer of the Lands from ARIO to MGCS

In order to facilitate the MGCS Request:

- a. ARIO agrees to seek all necessary governmental approvals, including the written consent of the Director of Research, to transfer control of the Lands from ARIO to MGCS (the “**Director’s Consent**”); and
- b. OILC on behalf of MGCS, agrees to seek all necessary governmental approvals, including a Minister’s Consent authorizing it to acquire control of the Lands from ARIO (the “**Minister’s Consent**”).

#### 4. **Purchase Price**

In consideration of the Director’s Consent transferring control of the Lands from ARIO to MGCS and MGCS’ Minister’s Consent authorizing the acquisition of the control of the Lands from ARIO to MGCS, MGCS agrees to purchase, acquire and assume the Lands from ARIO for the purchase price of Two Million, Four Hundred and Sixty-Three Thousand, Nine Hundred and Ten Canadian Dollars and Two Cents (\$2,463,910.02) (the “**Purchase Price**”), exclusive of HST and subject to the Adjustments on the Closing Date.

#### 5. **Payment of Purchase Price**

On or before the Closing Date, MGCS shall pay the Purchase Price to ARIO by way of wire transfer made payable to “Agricultural Research Institute of Ontario, in trust”. Such payment shall be deemed to have been made when ARIO’s financial institution confirms receipt of such wire transfer.

ARIO shall hold all funds and shall not release or otherwise deal with same until OILC registers the Application General and informs ARIO of same.

#### 6. **Harmonized Sales Taxes**

The Purchase Price of the Lands does not include the Harmonized Sales Tax (“**HST**”) payable by MGCS in respect of the purchase of the Lands pursuant to the *Excise Tax Act*, R.S.C. 1985, c. E.15 (Canada) (in this section, the “**Act**”). Subject to the following paragraph, MGCS agrees to pay to ARIO, on the Closing Date, as a condition of completion of this transaction by wire transfer, all HST payable as a result of this transaction in accordance with the Act.

Notwithstanding the above, ARIO shall not collect HST from MGCS in this transaction if, on the Closing Date, MGCS is registered under the Act and in that event, MGCS shall:

- a. file returns and remit such HST to the Receiver General for Canada when and to the extent required by the Act; and
- b. provide to ARIO, on the Closing Date, a certificate confirming that MGCS is registered under the Act for the purposes of collecting and remitting HST, and confirming its HST registration number under the Act, together with an indemnity in favour of ARIO for any and all HST, fines, penalties, actions, costs, losses, claims, damages or expenses and/or interest which may become payable by, or assessed against, ARIO as a result of ARIO’s failure to collect HST from MGCS on the Closing Date, such certificate and indemnity to be in a form prepared by OILC.

MGCS’ obligations under this Section 6 shall survive and not merge on Closing.

7. **Taxes**

If applicable, ARIO shall be responsible for paying to any Authority any and all applicable taxes pursuant to any and all Applicable Laws, as same may fall due pursuant to or associated in any way with the transaction contemplated in this Agreement.

8. **Project Representatives**

The representatives assigned to the project as contemplated in this Agreement are as follows:

1. **OILC Project Lead:** William Plexman
2. **ARIO Representative:** Kelli Rice

9. **Adjustments**

Adjustments between MGCS and ARIO shall be made on the Closing Date for taxes, local improvement rates, utility costs, rents and other matters or items which are ordinarily the subject of adjustment for the purchase and sale of a property similar to the Lands. Such adjustments shall be made on the basis that, except as may be otherwise expressly provided for in this Agreement:

- (a) ARIO shall be responsible for all expenses and entitled to all income from the Lands up to the Closing Date; and
- (b) MGCS shall be responsible for all expenses and entitled to all income from the Lands from and including the Closing Date.

**Closing Deliverables**

10. Subject to the provisions of this Agreement, ARIO covenants that it shall execute or cause to be executed and shall deliver or cause to be delivered to OILC or OILC's solicitors on or before the Closing Date, each of the following:

- (a) vacant possession of the Lands;
- (b) Director's Consent for the Lands transferring control of the Lands from ARIO to MGCS;
- (c) an undertaking to re-adjust the statement of adjustments, if necessary, upon written demand;
- (d) a direction regarding the payment of funds;
- (e) statement of adjustments to be delivered no later than three (3) business days prior to Closing; and
- (f) such other deeds, conveyances and other documents as MGCS or its solicitors may reasonably require in order to implement the intent of this Agreement.

11. Subject to the provisions of this Agreement, MGCS covenants that it shall execute or cause to be executed and shall deliver or cause to be delivered to ARIO or ARIO's solicitors on or before the Closing Date:

- (a) a wire transfer of the Purchase Price due on the Closing Date;
- (b) a direction as to title, if necessary;
- (c) an undertaking to re-adjust the statement of adjustments, if necessary, upon written demand;
- (d) HST declaration and indemnity, as contemplated in Section 6, if applicable;
- (e) Minister's Consent for the Lands authorizing the acquisition of the Lands from ARIO to MGCS;
- (f) Confirmation that the Application has been registered on the Closing Date and a copy of the registered instrument to be provided to ARIO on the Closing Date; and
- (g) such other deeds, conveyances, resolutions and other documents as ARIO or its solicitors may reasonably require in order to implement the intent of this Agreement.

12. **Term and Termination**

This Agreement is effective from the Acceptance Date. With the exception of Section 6, this Agreement shall expire upon the completion of the parties' obligations set forth herein, unless otherwise terminated by mutual agreement of the parties.

13. **Entire Agreement**

This Agreement constitutes the entire agreement between the parties relating to the subject matter hereof, and supersedes any previous agreements or understandings.

14. **Notices**

All notices and other communications required or permitted to be given hereunder shall be in writing and shall be delivered personally or sent by recognized overnight courier or mailed by registered mail with postage prepaid or be sent by email at the address shown below.

**If to MGCS/OILC:** Vice President, Real Estate Transactions  
Infrastructure Ontario  
1 Dundas Street, 20<sup>th</sup> Floor  
Toronto, Ontario M5G 1Z3  
Email: [adam.carr@infrastructureontario.ca](mailto:adam.carr@infrastructureontario.ca)

**If to ARIO:**

Director of Research  
Agricultural Research Institute of Ontario  
1 Stone Road West  
Guelph, Ontario N1G 4Y2  
Email: ario.infrastructure@ontario.ca

Any party may, by giving written notice to the other party, designate a different address or other contact details for the purposes of this section.

**15. Governing Laws**

The laws of Ontario and the applicable laws of Canada will govern this Agreement. All references to a statute or a regulation includes all amendments, re-enactments or replacements of the statute or regulation.

**16. Confidentiality**

MGCS and ARIO agree to take all necessary precautions to maintain the confidentiality of the terms and conditions contained herein. MGCS and ARIO acknowledge that this Agreement and any information or documents that are provided to ARIO may be released pursuant to the provisions of the *Freedom of Information and Protection of Privacy Act* (Ontario) and Open Data may be released pursuant to the Open Data Directive, as each may be amended or replaced from time to time. This acknowledgment shall not be construed as a waiver of any right to object to the release of this Agreement or of any information or documents.

**17. Irrevocable Period**

Signature of this Agreement by ARIO and the submission thereof to OILC constitutes an offer under seal, which is irrevocable for three (3) business days from the date it is submitted to OILC and open for acceptance by OILC during said three (3) business day period. This offer, once accepted on the Acceptance Date, constitutes a binding agreement.

**18. Counterparts and Electronic Delivery**

This Agreement may be executed in counterparts, each of which shall be deemed an original, and which, taken together, shall constitute one and the same instrument. This Agreement may be delivered by facsimile or electronic (PDF) transmission, including facsimile or electronic (PDF) signature.

**19. Amendments**

This Agreement may only be amended by agreement of the parties in writing.

**[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK.]**



IN WITNESS WHEREOF ARIO hereby acknowledges and agrees to the terms and conditions set out in this Agreement this 3rd day of March, 2022.

**AGRICULTURAL RESEARCH  
INSTITUTE OF ONTARIO**

Per: 

Name: Jen Liptrot  
Title: Director of Research

Per: \_\_\_\_\_

Name:  
Title:

I/We have authority to bind the corporation.

---

IN WITNESS WHEREOF OILC hereby acknowledge and agree to the terms and conditions set out in this Agreement as of this 7th day of March, 2022 (the “**Acceptance Date**”).

**HER MAJESTY THE QUEEN IN  
RIGHT OF ONTARIO  
as represented by  
THE MINISTER OF GOVERNMENT  
AND CONSUMER SERVICES  
as represented by  
ONTARIO INFRASTRUCTURE AND  
LANDS CORPORATION**

Per: 

Name: Toni Rossi  
Title: President, Real Estate  
Authorized Signing Officer

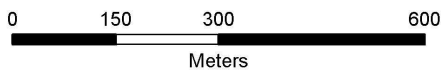
**SCHEDULE "A"**  
**LEGAL DESCRIPTION OF LANDS**

PIN 68126-0206 (LT) being Part of Lot 27-28 Concession 4 Oxford designated as Part 5 on Reference Plan 15R-10707 except Part 11 on Reference Plan 15R-11; North Grenville

**SCHEDULE "B"**  
**REFERENCE PLAN/SKETCH OF LANDS**



N00955\_Kemptville\_ARIO\_OIC Map.mxd  
July 23, 2021 © Queen's Printer for Ontario 2021  
For illustrative purposes only!  
\*Areas and Limits to be confirmed by survey.



VICTOR LACHANCE AND ALBERT KIRK

v.

SOLICITOR GENERAL OF ONTARIO AND ATTORNEY  
GENERAL OF ONTARIO

Applicants

Respondents

**ONTARIO  
SUPERIOR COURT OF JUSTICE  
(DIVISIONAL COURT)**

PROCEEDING COMMENCED AT TORONTO

**RECORD OF PROCEEDING  
VOLUME 2 OF 2**

**MINISTRY OF THE ATTORNEY GENERAL**

Crown Law Office – Civil  
720 Bay Street – 8th Floor  
Toronto, ON M7A 2S9

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**Shayna Levine-Poch, LSO #815150**

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Tel: 416 895 9333

Fax: 416 326 4181

Counsel for the Respondents

The Solicitor General of Ontario and

The Attorney General of Ontario