

**AMENDMENT NUMBER 54
TO THE
OFFICIAL PLAN
OF THE
TOWNSHIP OF WEST LINCOLN**

DRAFT

AMENDMENT NUMBER 54
TO THE
OFFICIAL PLAN
OF THE
TOWNSHIP OF WEST LINCOLN
AS AMENDED

PART 1 – THE PREAMBLE

1.1 TITLE

This Amendment when adopted by Council shall be known as Amendment Number 54 to the Official Plan of the Township of West Lincoln.

1.2 COMPONENTS

This Amendment consists of the explanatory text and the attached Schedule 'A'. The preamble does not constitute part of the actual amendment, but is included as background information.

1.3 PURPOSE

The purpose of this Amendment is to provide the best and most efficient use for the former College Street School, located at 132 College Street and surrounding parcels.

1.4 BASIS OF THE AMENDMENT

The Township of West Lincoln is proposing to amend the Official Plan to re-designate the subject lands and provide for a site specific policy to require a minimum density of 40 units per hectare for the site.

PART 2 – THE AMENDMENT

2.1 PREAMBLE

All of this part of the document entitled PART 2 – THE AMENDMENT, consisting of the following text changes constitutes Amendment No. 54 to the Official Plan of the Township of West Lincoln.

2.2 DETAILS OF THE AMENDMENT

2.2.1 The text of the Township of West Lincoln Official Plan is hereby amended by adding in Section 6.11 Site Specific Policy Provisions, and renumbering the following sections accordingly, as follows:

6.11 Site Specific Policy Provisions

6.11.1 College Street Redevelopment & Intensification

a) That gross density of the High Density Residential designation shall be more than 40 units per hectare.

2.3 SCHEDULES OF THIS AMENDMENT

Schedule “A” of this amendment illustrates the location of this amendment.

Schedule “B” of this amendment includes the work done for this amendment such as the staff report, consultants reports, consultants power point and the transportation assessment.

2.4 IMPLEMENTATION

This amendment will be required to be adopted by Township Council and forwarded to Regional Council for approval. This amendment will be implemented through notification of the Regional Clerk’s department of decision to approve.

Should the final approval be delegated to the Township, this amendment will be implemented through notification of the Township Clerk’s department of decision to approve.

If no appeals are received within the appeal period, the amendment will be in full force and effect.

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Official Plan Amendment Number 54 was adopted by the Council of the Corporation of the Township of West Lincoln by By-law No. 2020-XX in accordance with the provisions of Section 17 (22) of The Planning Act, R.S.O. 1990, amendments made thereto on the XX day of XX, 2020

Joanne Scime, Clerk

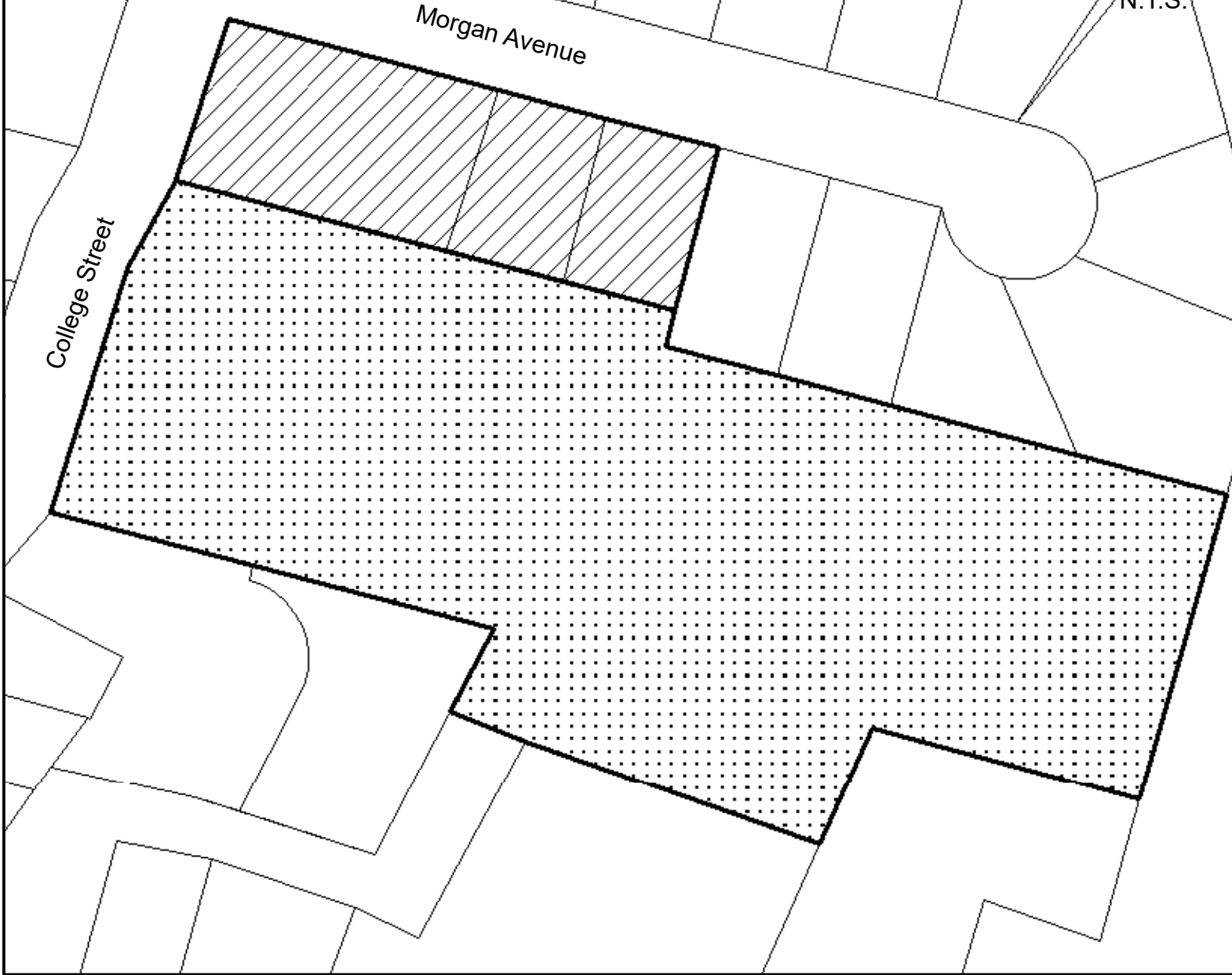
Mayor Dave Bylsma

I, Joanne Scime, the Clerk of the Corporation of the Township of West Lincoln, hereby certify that the requirements for the giving of Notice, and the holding of at least one Public Meeting as set out in Section 17(22) of the Planning Act, R.S.O. 1990 have been complied with for Official Plan Amendment Number 54.

Joanne Scime, Clerk

DRAFT

SCHEDULE "A" OFFICIAL PLAN AMENDMENT NO. 54 TOWNSHIP OF WEST LINCOLN



Legend

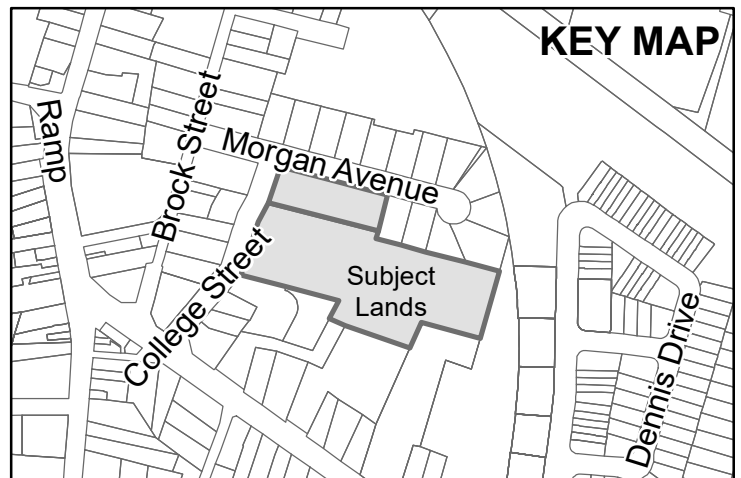
 Property Lines

OP Re-Designations

 Institutional to Residential/Mixed Use Area (Smithville)

 Institutional to Residential/Mixed Use Area (Smithville) with Special Policy 6.11.1

This is Schedule 'A' to OPA #54 (As implemented by By-law 2020-___ passed on this 27th day of July, 2020).



KEY MAP



REPORT
TOWNSHIP
PLANNING/BUILDING/ENVIRONMENTAL
COMMITTEE

DATE: February 10th, 2020

REPORT NO: PD-033-20

SUBJECT: **Information Report**
Consultants Presentation for Two Former School Sites being
186 Margaret Street and 132 College Street, Smithville
Future Redevelopment and Intensification

CONTACT: Brian Treble, Director of Planning and Building

OVERVIEW:

- On September 2nd, 2019, MHBC Planning was hired to commence land use planning work for both former school sites that are situated in proximity to the downtown core.
- On November 12th, 2019 a public information center/design charrette was held for each site at which time approximately 20 members of the public attended the session.
- Infill and Intensification within the core area of Smithville is an important part of land use planning for future growth and development of the Township of West Lincoln, urban area of Smithville.
- Within the Built Boundary, the limit of development as it existed on June 16th 2006 (as shown in the Township Official Plan) infill and intensification of a specific number of units at an appropriate mix and density is important, as our community matures and develops.
- In accordance with policy, growth onto agricultural lands (greenfield development) can only occur as a secondary growth component after infill and intensification. Detailed plans of how this should occur are being fully developed through the Master Community Plan process and these "Secondary" plan processes as well.
- The Master Community Plan process and issues such as infill and intensification and affordability are all being studied by our consultant teams and will be the topic of multiple future reports to Committee and Council.
- The consultants for our two school sites are scheduled to present their findings on February 10th, 2020. Once a supportive transportation component is received in support of these concepts, then a formal public meeting will be scheduled for a future Planning, Building, Environmental Committee Meeting (expected to be April, 2020).

RECOMMENDATION

1. That, report PD-033-20, regarding "Information Report, Consultants Presentation for Two Former School Sites being 186 Margaret Street and 132 College Street, Smithville, Future Redevelopment and Intensification", dated February 10, 2020 be received for INFORMATION PURPOSES.

ALIGNMENT TO STRATEGIC PLAN

- Theme
 - Strategic, Responsible Growth

BACKGROUND

In 2019, Township planning staff along with Committee and Council had previously agreed to lead a planning process for the school site's located at 186 Margaret Street and 123 College Street. The Township is nearing the completion of this land use planning process for each of these sites with the help of a consulting team.

In order to ensure that this occurs, Township Council passed an interim control by-law (By-law 2019-57) on June 24th, 2019. Prior to repeal (or expiry) of the interim control by-law, an official plan amendment and rezoning is required in order to implement new land use plans and permit future development of each site.

CURRENT SITUATION

As outlined above, new land use designations and zonings should be approved to replace the current institutional designation and zoning that exists on both of the subject school sites. Our planning consultants are now nearing the completion of their planning review. We are also currently preparing for a future public meeting process.

A number of principals have to be considered as part of the planning exercise for these properties.

- Infill and Intensification must achieve a minimum number of units per hectare at appropriate densities to suit the community (policy 2.2.2).
- A minimum percent of all new development must occur within the built boundary in order to meet provincial standards. Our target was 15% under the 2031 growth targets. The 2041 target will be set as part of the current Municipal Community Planning process (policy 4.C).
- Growth beyond the current urban boundary can only occur once infill and intensification plans are determined (policy 4.D).
- Development on vacant lots is most likely to be the cheapest development which can generally take advantage of existing sewage, water and transportation services (policy 4.C).

This report includes the consultant's report for each school property for information purposes in advance of a required public meeting.

FINANCIAL IMPLICATIONS

These planning projects are proceeding in accordance with the budget allocation established in the 2019 budget.

The additional work of a transportation study by a transportation consultant is over and above the commissioned work and will be charged to the consultant line of the planning operating budget.

INTER-DEPARTMENTAL/PUBLIC COMMENTS

Not applicable at this time.

CONCLUSION

This report is provided for information purposes and is provided in advance of a presentation of our planning consultants for each school site. A planning report from MHBC for each property is attached.

ATTACHMENTS

1. 186 Margaret Street – Future Redevelopment and Intensification
2. 132 College Street – Future Redevelopment and Intensification

Prepared by:



Brian Treble, RPP, MCIP
Director of Planning and Building



Bev Hendry, CAO

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SMITHVILLE

NIAGARA REGION, ONTARIO

132 COLLEGE STREET

Future Redevelopment & Intensification



February 2020

 PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE

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INTRODUCTION

A former school site located within the downtown area of Smithville with the potential for future redevelopment and intensification opportunities has recently been deemed available by the District School Board of Niagara. The Township of West Lincoln, in advance of any future development applications for the site, has embarked on a project to guide potential developers with the future design of the property. The former school site is located within the Smithville Urban Area and is located at 132 College Street. The site was formerly known as the location of the College Street Public School.

The Township retained MHBC Planning to evaluate the development potential of the former school site and to consult with the Smithville community on their vision for its future use. MHBC Planning prepared a variety of development concepts that were presented and reviewed in consultation with members of the community including the general public and stakeholders. The input received from members of the public in attendance at the consultation event held in late 2019 was taken into consideration and assisted in the preparation of a Demonstration Plan that exhibits the type of development that can and should be achieved on the property.

The purpose of this document is to act as a guide for the future redevelopment of the site. This is achieved through the preparation of a Demonstration Plan for the site that presents an overall vision of the type of development and density that can be accommodated. The Demonstration Plan prepared and included within this document achieves the Regional and Township goals for intensification within the downtown, and demonstrates how the site can be redeveloped while providing a balance between existing and future built form in the area.

The design guidelines detailed in this document provide direction on design considerations such as site layout, building orientation, massing, landscaping, public realm elements, connectivity and site circulation. It is intended that the design guidelines will assist in the evaluation of proposals for redevelopment/intensification of the former school site. This document also recommends planning approvals that should be undertaken for the sites to facilitate their future redevelopment.

The Demonstration Plan provided within this document does not represent a final development option for the site. This document is meant to guide future development in a manner that will help achieve the Township's vision for the property.

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**SITE
CONTEXT**

The former school site located at 132 College Street is situated east of College Street, south of Morgan Avenue, and north of St. Catharines Street. The former school site has a total area of 3.95 acres. The existing two-storey school building, now vacant, is located on the western half of the site, with frontage along College Street. The remainder of the site contains no buildings. An existing natural heritage feature (woodlot) exists on the eastern portion of the property, however, may no longer hold significant natural heritage value.

The former College Street school presents the opportunity for a residential and mixed-use development that can accommodate higher forms of density. The site is located within the Urban Area of Smithville and is immediately adjacent to an identified Intensification Area as shown in the Township Official Plan. The property at 131 St. Catharines Street has been included in the Demonstration Plan for redevelopment of the school site. This property has some development potential that can only be realized as part of the redevelopment of the school site. It is recognized that incorporation of these lands would require the participation of the property owner.

The following describes the surrounding lands:

- North:** The lands located immediately to the north and with frontage along Morgan Avenue consist of single detached residential properties. Morgan Avenue is an east-west road way that ends with a cul-de-sac to the north west of the subject property. Further north, immediately to the rear of the single detached dwellings on the northern side of Morgan Avenue is an industrial property occupied by Galaxy Pallets Ltd.
- East:** The lands located east of the subject property consists of a wooded area, which also forms part of the former College Street site and Union Cemetery. Further east is a new residential subdivision being developed with townhouse and single detached residential units. This proposed residential subdivision, known as Smithville Station, provides access via St. Catharines Street to the south and will consist of 116 townhouse units and 31 single detached dwelling units. The subdivision includes a park and a naturalized area.
- South:** The lands located south of the subject property consist of primarily residential townhouse developments. Single detached dwellings are located along the frontage of College Street and along St. Catharines Street. The Smithville Presbyterian Church is also located south of the subject property, as well as Union Cemetery.
- West:** The lands located immediately to the west of the subject property consist of residential townhomes that front onto Morgan Avenue. To the rear of the townhomes are commercial properties, including a printing company, vehicle repair shop, Bell Canada building, and a pizzeria. Further west, past the commercial developments fronting onto College Street is Griffin Street North, which acts as the main commercial core for the Smithville Urban Area.

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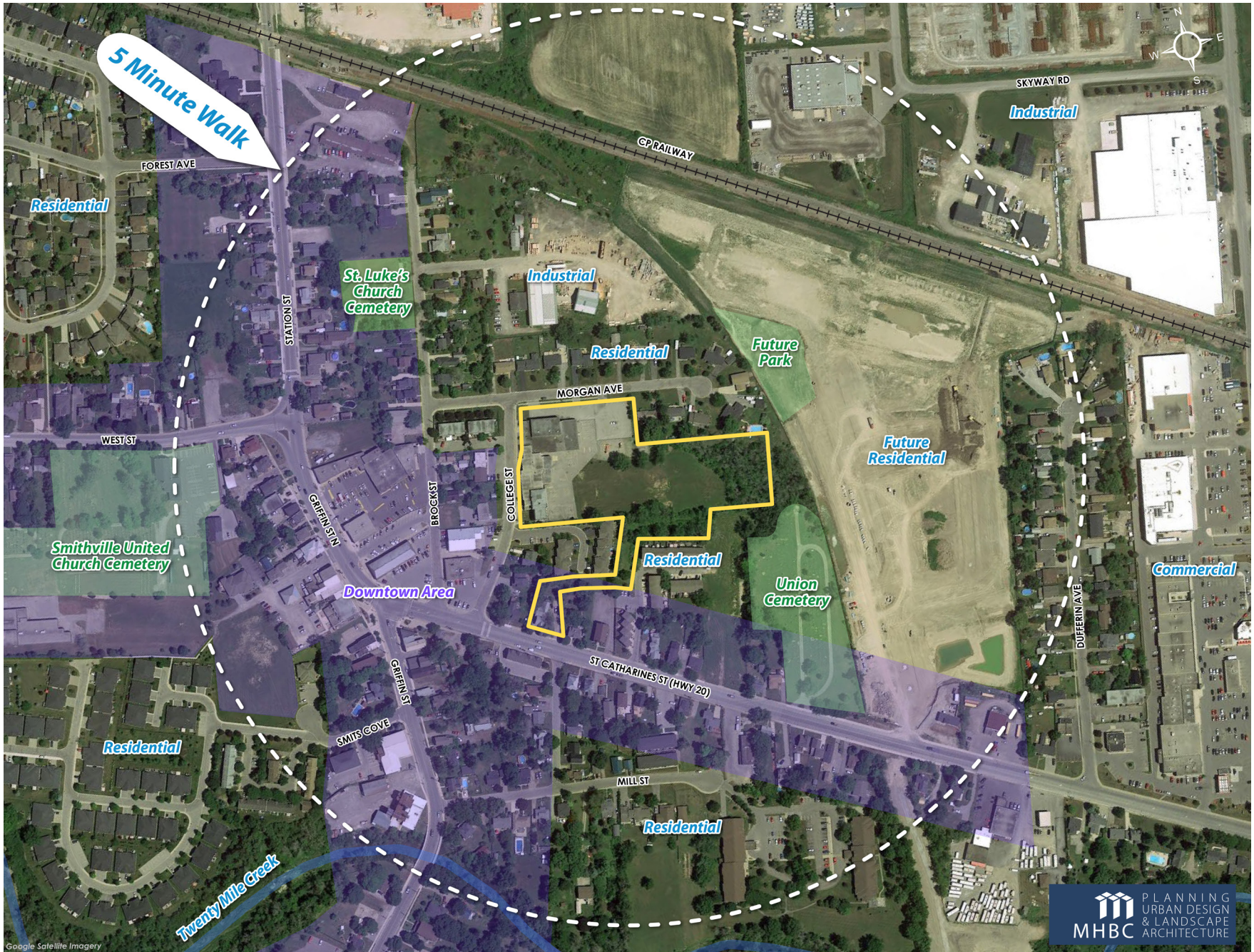


Figure 1 Site Context

VISION & DESIGN GOALS

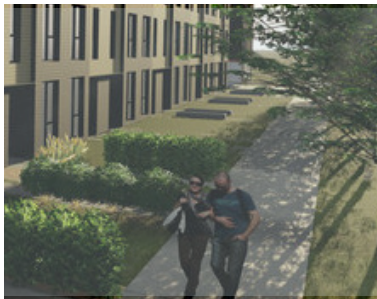
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The design vision for the site is a **high quality contemporary infill residential development**, which will establish a new built form and density within an existing urban community and will be **compatible** with the existing surrounding development to create a **diverse and vibrant downtown**. The property will accommodate new residential development that will allow more people to live in Downtown Smithville, supporting a **growing consumer base** for Downtown businesses and promoting a **pedestrian oriented community**.

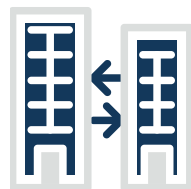
Design Goals

The following design goals provided direction to the proposed Demonstration Plan:

- Introduce **additional residential density** within the downtown in a manner that is compatible with existing adjacent properties;
- Design a site that is **safe and accessible**;
- To achieve **high quality design** in the private and public realm;
- To achieve a built form that contributes to a **mix and range of residential unit types**.
- Design a well-connected site that **promotes walkability and active transportation**;
- Provide an attractive built form with high quality architectural detailing, contemporary design and neighbourhood amenity areas that **enhances the pedestrian experience** for future residents and visitors travelling between the site and the downtown commercial core; and,
- Design a site with consideration for the **pedestrian scale**.



Public Realm



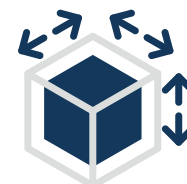
Compatibility



Streetscape



Built Form



Massing



Façade

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SITE
DESIGN

The proposed redevelopment/intensification scenario for the former College Street school site has been prepared based on investigation of the site and surrounding area, input from a public consultation with members of the community and stakeholders, as well as discussions with the Township of West Lincoln.

The proposed Demonstration Plan shown as Figure 2 is a representation of the type of redevelopment project that could and should be achieved on the site. This concept is meant to depict the Township's vision for the redevelopment of the site.

The Demonstration Plan prepared for the former school site has been designed to accommodate residential and commercial intensification given its location, access to transportation corridors, access to municipal services, proximity to community services and commercial uses, and ability to accommodate intensification.



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Figure 2 Demonstration Plan

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The following section provides an overview of the Demonstration Plan included as Figure 2, which represents the type of built form and density that could be achieved on the site:

- Two vehicular access points are proposed. The first access is provided from College Street and the second from Morgan Avenue. A potential third vehicular access point could be provided via the irregularly shaped parcel to the south of the subject property.
- Two blocks of two-storey townhouse buildings providing a total of 12 freehold residential units with frontage along Morgan Avenue are proposed. One block provides 7 total residential units and a second block provides 5 total units. This building form provides direct driveway access to Morgan Avenue.
- A four-storey mixed-use development consisting of approximately 930 square metres of ground floor commercial and 30 residential units is shown along the western property line of the subject property with frontage on to College Street.
- The Demonstration Plan proposes 4 three-storey stacked townhouse blocks consisting of a total of 60 residential units on the eastern portion of the subject property.
- A total of 172 parking spaces are capable of being accommodated on the site in support of the residential and commercial uses. The 2 blocks of two-storey townhouse units fronting Morgan Avenue would provide individual driveways to support the future residents of those specific units.
- An Amenity Area is shown along the eastern property line, immediately adjacent to the existing woodlot and is well integrated via pedestrian sidewalks that provide access to the entirety of the site and proposed multi-use pedestrian paths.

The Demonstration Plan shown as Figure 2 above has been prepared with the ability to be reconfigured. Should it be determined through a future study that the natural heritage feature (woodlot) along the eastern half of the site contains natural significance, future residential development could be shifted westward and the parking rearranged to accommodate the feature.

The Demonstration Plan presents a redevelopment opportunity that incorporates the design principles discussed in this report and represents a site design and built form that is consistent with the policies and goals for infill development within Urban Areas.

DEMONSTRATION PLAN



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Figure 3 View from College Street looking North

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DESIGN
PRINCIPLES

As part of the development of the Demonstration Plan, a number of design principles were established to guide future development on the site and to better focus design guidelines that can be applied to future development applications. Any future development of the site should be consistent with the following design principles:

1 ***Connectivity and Active Transportation***

The site should be redeveloped in a manner that promotes a pedestrian oriented community by providing connections to existing neighbourhoods and local amenities through the careful layout of streets, sidewalks and multi-use pedestrian paths.

2 ***Density and Built Form***

The site should be redeveloped to accommodate a higher density than the existing residential neighbourhoods in the surrounding area, given the limited high density properties within the Smithville Urban Area and the proximity of the site to the downtown core.

3 ***Variety***

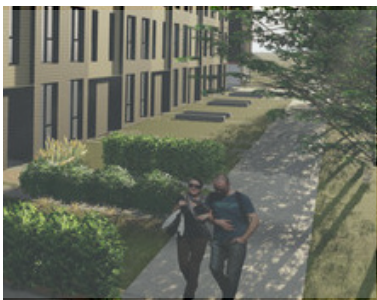
The redevelopment of the site should contribute to a mix and range of housing types within the Smithville Urban Area. They should provide spacious amenity areas and community focal points and a range and variation of building facades.

4 ***Parks and Amenity Spaces***

The site should be planned to accommodate a park or amenity space for residents and/or visitors. Parks and amenity spaces to be designed with active transportation connections to destinations within and outside of the site.

5 ***Safety and Health***

The site should implement design practices that contribute to neighbourhood safety by creating a strong pedestrian oriented site that minimizes conflict between pedestrians and vehicles and incorporates "eyes on the street" and "eyes on open spaces" concepts such as eliminating entrapment and confined areas. The pedestrian environment should be designed to make safe and enjoyable experiences for all pedestrians to ensure convenient access to businesses, activities and services.



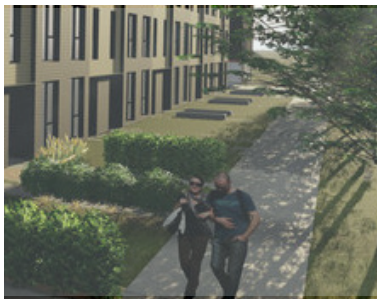
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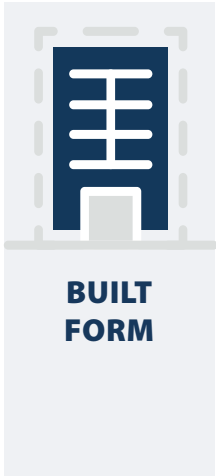
DESIGN
GUIDELINES

The Urban Design Guidelines contained within this document are primarily intended to provide the Township with detailed design direction for the purpose of evaluating proposals for the redevelopment and intensification of the former College Street school site. These guidelines were prepared with consideration of the input received from both the Township and the community who participated at the Open House Event hosted in November, 2019.

The guidelines focus on building design; the public realm (streetscape, landscaping and amenity areas); pedestrian connections and movement; vehicular access and site circulation; and safety.

It is important to note that while this document provides detailed design direction for the evaluation of future development proposals, the Official Plan and Zoning By-law remain the primary planning documents regulating land use within the Township. Therefore, should a conflict arise between these guidelines and the Official Plan policies and/or Zoning By-law provisions, the Official Plan and Zoning By-law will take precedence.





Massing refers to a building's size and shape. It includes building height, scale and depth. The placement of buildings on a site refers to the location of buildings relative to one another, as well as their setbacks from the site's boundaries. New buildings should be designed to reflect the existing and intended character of the surrounding area.

The layout of the site is typically influenced by the characteristics of the site itself including topography, existing pedestrian routes, parks and open spaces, natural features and site access. The goal is to integrate new development with the surrounding built form and public realm.



Site Density

- The density of the College Street school site should be aligned with the permissions of the High Density Residential Area designation of the Township of West Lincoln, given that the site is located in proximity to the downtown commercial core and is situated centrally within the Smithville Urban Area with convenient access to a range of services.
- The overall gross density of the College Street school site should be a minimum of 40 units per hectare to complement the permissions of the High Density Residential Area designation.
- The buildings fronting onto Morgan Avenue should be lower density to be compatible with the existing density along the street.



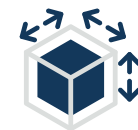
Massing

Building Location

- Buildings should be located close to the street, while allowing adequate room for street trees, landscaping, street furniture, and pedestrian movement.
- New multiple unit residential development should be designed such that adjacent properties maintain sunlight exposure, visual privacy and should reduce potential negative impacts from lighting, noise and traffic.

Building Height

- Building heights should be comparable to surrounding buildings to frame the street and create consistency. A minimum building height of 2 storeys and a maximum building height of 4 storeys should be encouraged, given the site's proximity to the downtown commercial core and identified Intensification Area.
- Ground floors providing commercial or other active uses at grade should provide a minimum height of 4.5 metres.





Outdoor Amenity Areas

- Outdoor amenity areas should be designed for use by all residents and visitors and should be located in an area that is both visually and physically accessible. Amenity areas are encouraged to be located with good natural surveillance from residential units and the street. Landscaping should ensure that sight lines into the public amenity areas are maintained.
- Substantial screening should be provided from the parking area and drive aisles in the form of landscaping and architectural elements.

Public & Private Realm

Landscaping

- Landscaping should be used to provide a buffer between driveways, driving aisles, parking areas and side and rear property lines to improve their visual appearance. Landscaped areas should be designed to complement existing or proposed landscaping on adjacent properties.
- Pedestrian seating and gathering areas should be provided within proposed amenity areas.
- Road side tree planting should be continuous along the length of the street and should generally be comprised of high branching, native deciduous tree varieties that will provide a continuous shade canopy.
- Hard and soft landscaping treatments should be used to provide a distinction between public and private amenity areas.
- Ensure that plant material provides for seasonal variation in form, colour and texture by using a variety of species.



Streetscape

- Human scaled lighting should be provided along the private roadway to minimize light pollution and overflowing onto neighbouring properties.
- Pedestrians and cyclists travelling through the site should be prioritized. Conflict between pedestrians and vehicles should be minimized.
- Sidewalks/walkways should be provided on either side of the street and should be wide enough to accommodate a variety of users. The use of landscaping should be used as a buffer between sidewalks/walkways and the street.
- Avoid site design that results in the creation of entrapment areas and/or confined spaces.
- Appropriate screening and buffering should be provided between multiple unit residential uses and adjacent development.

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The following guidelines apply to pedestrian connections and movement through the former school site and surrounding areas:



- A continuous pedestrian walkway access should be provided between an amenity area and surrounding community features and services.
- Pedestrian connections/walkways that allow for the safe and convenient movement of pedestrians into, within and out of the site shall be provided.
- Sidewalks and/or walkways should be provided on either side of the street and be buffered from the travelled portion of the roadway.



Pedestrian Connections and Movement



- Clearly delineated pedestrian connections should link main building entrances, parking areas, on-site amenity areas and any adjacent trails and/or public sidewalks.
- Sidewalks and walkways will be adequately setback from the public and internal road and driveway network and should be wide enough to allow two persons to walk side by side. Trails and walkways are encouraged to be designed to accommodate multiple forms of active transportation.
- Where the pedestrian system must cross driveways and parking areas, visual priority will be provided to the pedestrian system through the use of cross-walks or the continuation of the walkway material across the driveway or parking areas.
- Pedestrian connections/walkways should be of a different material and appearance than the roadways and should be landscaped and lighted to promote the safety and comfort of pedestrians.



Vehicular Access and Site Circulation



Safety

The following guidelines apply to the safety of residents and visitors while on the site:

- The design of the future site and buildings should take into consideration Crime Prevention Through Environmental Design (CPTED) principles. This can include designing a site and buildings to promote a sense of security and by allowing the natural surveillance of public spaces.
- Provide clear and highly visible pedestrian circulation that connects building entrances, parking areas, and shared spaces.
- Avoid site design that creates the potential for entrapment areas and hidden areas within the site.
- Pedestrian scaled street lighting should be provided to illuminate pedestrian sidewalks and walkways, parking areas, and amenity spaces to ensure a safe, comfortable and attractive experience for pedestrians.
- Traffic calming measures are encouraged where practical. Street features that may assist with traffic calming include narrowed and clearly defined pedestrian crossing points and the creation of a strong, pedestrian oriented streetscape will serve as visual signals that will assist in slowing traffic.

The following guidelines apply to parking areas and circulation through the sites:

- A minimum of two accesses should be encouraged for the site to allow for adequate and safe vehicular circulation and access.
- Minimize the visual presence of parking by ensuring the area is screened with landscaping and architectural elements, and providing the greatest possible buffer between it and surrounding property lines.
- Avoid a site design that creates a potential entrapment area and conflicts between vehicles and pedestrians.
- Long stretches of parking should be interrupted by sidewalk bump outs to provide narrower pedestrian crossing points, to help slow traffic and provide a greater opportunity for street trees, pedestrian amenities and landscaping.



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IMPLEMENTATION

In order to achieve residential development on the former College Street school site that is similar to the built form and site design prepared and shown on the Demonstration Plan included as Figure 2 of this document, the Township will be required to prepare and approve amendments to the existing municipal policy framework applicable to the property.

The future redevelopment and intensification of the subject property for residential and mixed-use development is consistent with the Provincial Policy Statement (2014), and conforms to the policy framework of the Growth Plan for the Greater Golden Horseshoe (2019) by contributing to the intensification targets for the Built-Up Area. Future redevelopment is also consistent with the policies of the Regional and Township Official Plans with respect to infill development.

The following provides a summary of the required planning approvals necessary to achieve residential development on the site:

Former College Street School Site

The former College Street school site is presently designated "Institutional" in the Township of West Lincoln Official Plan and zoned "Institutional" in the Township's Zoning By-law No. 2017-70. The current policy framework applicable to the site does not permit residential uses. In order to achieve a residential and mixed-use development similar to the one shown in the Demonstration Plan, an Official Plan Amendment and a Zoning By-law Amendment would be required.

1. Official Plan Amendment

The "Residential/Mixed Use Area (Smithville)" designation is appropriate for intensified development and/or redevelopment in a mixed use form. Lands that are designated as such are ideal locations for a mixture of residential, convenience retail, service commercial, and prestige employment uses. Given the site's location within the Smithville Urban Area, primarily its proximity to the Commercial Core of the downtown, the former College Street school site is considered an appropriate location to accommodate mixed-use developments.

The "Residential/Mixed Use Area (Smithville)" designation permits an as-of-right gross density of between 20 and 40 units per hectare and a maximum building height of 5 storeys. The Demonstration Plan within this document provides for a density that exceeds the maximum 40 units per hectare allowed by the "Residential/Mixed Use Area" designation. A site specific policy area for the subject property, excluding the lots fronting onto Morgan Avenue, would be required to permit a minimum density of 40 units per hectare.



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Additionally, based on existing Provincial and Regional policies and the designation of Urban Settlement Areas, it is appropriate to seek an increase in the overall permitted density of the site to correspond with the "High Density Residential Area" designation, which allows for a density above 40 units per hectare. The Demonstration Plan prepared for the site achieves a maximum density of 47 units per hectare. The size of the property and its location in proximity to the downtown core are considered attributes that support higher forms of density and should be taken advantage of as sites similar to the former College Street school site are limited, particularly this close to the downtown.

The Demonstration Plan remains in compliance with the "Residential/Mixed Use Area (Smithville)" designation with respect to height. The highest building proposed in the Plan is 4 storeys. The "Residential/Mixed Use Area (Smithville)" designation also permits a range of residential building types, including street and stacked townhouse units, which have been accommodated in the Demonstration Plan.

The irregular shaped parcel to the south of the subject property that is presented on the Demonstration Plan as containing stacked townhouses and a pedestrian walking path connecting the site to St. Catharines Street will require an Official Plan Amendment that redesignates the site from Medium Density Residential to High Density Residential to permit additional building types including the recommended stacked townhouse built form.

2. Zoning By-law Amendment

In order to permit the redevelopment of the former College Street school site to accommodate residential uses similar to the development shown on the Demonstration Plan, a Zoning By-law Amendment would be required.

It is recommended that the portion of the site shown on the Demonstration Plan as being developed for two-storey freehold townhouse units be rezoned from "Institutional (I)" to "Residential Medium Density (RM2)". This zoning category permits residential townhomes and is compatible with the zoning applicable to the surrounding residential uses along Morgan Avenue.

It is recommended that the Township rezone the remaining portion of the site to "Residential Medium Density (RM3)" in order to accommodate a wider range of residential building types. Additionally, the amendment should include site specific provisions to permit mixed-use residential/commercial development. Future proposals may require additional amendments to the site specific performance standards, subject to the proposed design submitted as part of the application.

The table shown on page 30 outlines the development standards of the "Residential Medium Density (RM3)" zone that should be applied to the former College Street school site through a Zoning By-law Amendment application, including the site specific request for mixed-use residential development.

The irregularly shaped parcel of land located to the south of the subject property is currently zoned Residential Medium Density (RM2). In order to accommodate stacked townhomes, a Zoning By-law Amendment would be required to rezone the portion of the parcel to Residential Medium Density (RM3), while the portion of the parcel that is proposed for a pedestrian walking path can remain as Residential Medium Density (RM2).



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Future Development Applications

Future development applications submitted to the Township for the former College Street school site will be reviewed by the Township through a pre-submission consultation meeting. In reviewing applications as part of a pre-consultation meeting for the site, the design principles and design guidelines discussed in this document should be reviewed and applied against future proposals.

Regulations	Residential Medium Density (RM3)	
Permitted Uses	Apartment dwelling; Fourplex dwelling; Semi-detached dwelling; Stacked townhouse dwelling; Street townhouse dwelling; Townhouse dwelling, Triplex dwelling, and mixed-use buildings with small-scale convenience retail, service commercial uses, restaurant and office uses on the ground floor and residential above.	
Minimum Lot Area	Apartment = 160 square metres Fourplex = 180 square metres Semi-Detached = 200 square metres	Stacked Townhouse = 160 square metres Street Townhouse/Townhouse = 180 square metres Triplex = 200 square metres
Minimum Lot Frontage	Apartment = 30 metres Fourplex = 30 metres Semi-Detached = 8 metres/unit	Stacked Townhouse = 30 metres Street Townhouse = 6 metres per unit Triplex = 18 metres
Minimum Front Yard	Dwelling = 4.5 metres Private Garage = 6 metres	
Minimum Exterior Side Yard	3 metres	
Minimum Interior Side Yard	Adjoining a lot in a low density residential zone = 3 metres Adjoining lot in any other zone = 1.2 metres	
Minimum Rear Yard	Adjoining a lot in a low density residential zone = 7.5 metres Adjoining a lot in any other zone = 6 metres	
Maximum Lot Coverage	50 percent	
Minimum Separation Distance between dwellings on the same lot	Between exterior side walks: 3 metres Between exterior front or rear walls: 12 metres Between exterior front or rear walls and side walls: 7.5 metres	
Maximum Height	12 metres	
Minimum Landscaped Open Space	25 percent	
Minimum Amenity Area	Dwelling with 3 or 4 dwelling units on one lot = 20 square metres per dwelling; Dwelling with 5 to 8 dwelling units on one lot = 40 square metres plus 10 square metres per dwelling unit.	





REPORT
TOWNSHIP
PLANNING/BUILDING/ENVIRONMENTAL
COMMITTEE

DATE: February 10th, 2020

REPORT NO: PD-033-20

SUBJECT: **Information Report**
Consultants Presentation for Two Former School Sites being
186 Margaret Street and 132 College Street, Smithville
Future Redevelopment and Intensification

CONTACT: Brian Treble, Director of Planning and Building

OVERVIEW:

- On September 2nd, 2019, MHBC Planning was hired to commence land use planning work for both former school sites that are situated in proximity to the downtown core.
- On November 12th, 2019 a public information center/design charrette was held for each site at which time approximately 20 members of the public attended the session.
- Infill and Intensification within the core area of Smithville is an important part of land use planning for future growth and development of the Township of West Lincoln, urban area of Smithville.
- Within the Built Boundary, the limit of development as it existed on June 16th 2006 (as shown in the Township Official Plan) infill and intensification of a specific number of units at an appropriate mix and density is important, as our community matures and develops.
- In accordance with policy, growth onto agricultural lands (greenfield development) can only occur as a secondary growth component after infill and intensification. Detailed plans of how this should occur are being fully developed through the Master Community Plan process and these "Secondary" plan processes as well.
- The Master Community Plan process and issues such as infill and intensification and affordability are all being studied by our consultant teams and will be the topic of multiple future reports to Committee and Council.
- The consultants for our two school sites are scheduled to present their findings on February 10th, 2020. Once a supportive transportation component is received in support of these concepts, then a formal public meeting will be scheduled for a future Planning, Building, Environmental Committee Meeting (expected to be April, 2020).

RECOMMENDATION

1. That, report PD-033-20, regarding "Information Report, Consultants Presentation for Two Former School Sites being 186 Margaret Street and 132 College Street, Smithville, Future Redevelopment and Intensification", dated February 10, 2020 be received for INFORMATION PURPOSES.

ALIGNMENT TO STRATEGIC PLAN

- Theme
 - Strategic, Responsible Growth

BACKGROUND

In 2019, Township planning staff along with Committee and Council had previously agreed to lead a planning process for the school site's located at 186 Margaret Street and 123 College Street. The Township is nearing the completion of this land use planning process for each of these sites with the help of a consulting team.

In order to ensure that this occurs, Township Council passed an interim control by-law (By-law 2019-57) on June 24th, 2019. Prior to repeal (or expiry) of the interim control by-law, an official plan amendment and rezoning is required in order to implement new land use plans and permit future development of each site.

CURRENT SITUATION

As outlined above, new land use designations and zonings should be approved to replace the current institutional designation and zoning that exists on both of the subject school sites. Our planning consultants are now nearing the completion of their planning review. We are also currently preparing for a future public meeting process.

A number of principals have to be considered as part of the planning exercise for these properties.

- Infill and Intensification must achieve a minimum number of units per hectare at appropriate densities to suit the community (policy 2.2.2).
- A minimum percent of all new development must occur within the built boundary in order to meet provincial standards. Our target was 15% under the 2031 growth targets. The 2041 target will be set as part of the current Municipal Community Planning process (policy 4.C).
- Growth beyond the current urban boundary can only occur once infill and intensification plans are determined (policy 4.D).
- Development on vacant lots is most likely to be the cheapest development which can generally take advantage of existing sewage, water and transportation services (policy 4.C).

This report includes the consultant's report for each school property for information purposes in advance of a required public meeting.

FINANCIAL IMPLICATIONS

These planning projects are proceeding in accordance with the budget allocation established in the 2019 budget.

The additional work of a transportation study by a transportation consultant is over and above the commissioned work and will be charged to the consultant line of the planning operating budget.

INTER-DEPARTMENTAL/PUBLIC COMMENTS

Not applicable at this time.

CONCLUSION

This report is provided for information purposes and is provided in advance of a presentation of our planning consultants for each school site. A planning report from MHBC for each property is attached.

ATTACHMENTS

1. 186 Margaret Street – Future Redevelopment and Intensification
2. 132 College Street – Future Redevelopment and Intensification

Prepared by:



Brian Treble, RPP, MCIP
Director of Planning and Building



Bev Hendry, CAO

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TRANSPORTATION IMPACT BRIEF

132 COLLEGE STREET

**TOWNSHIP OF WEST LINCOLN
NIAGARA REGION**

PREPARED FOR:

TOWNSHIP OF WEST LINCOLN

PREPARED BY:

**C.F. CROZIER & ASSOCIATES INC.
2800 HIGH POINT DRIVE, SUITE 100
MILTON, ON L9T 6P4**

JULY 2020

CFCA FILE NO. 0529-5576

The material in this report reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. C.F. Crozier & Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.



Schedule "B" to
Official Plan Amendment No. 54
Township of West Lincoln

Township of West Lincoln
132 College Street

Transportation Impact Brief
July 2020

Revision Number	Date	Comments
Rev.1	July 2020	Issued for Submission

1.0 Executive Summary

C.F. Crozier & Associates Inc. (Crozier) was retained by The Township of West Lincoln to undertake a Transportation Impact Brief in support of the planning application for the site located at 132 College Street, and adjacent Township owned lands, in the Town of West Lincoln.

The subject lands cover an area of approximately 2.185 ha and currently consists of College Street School. The site envisions two 2-storey freehold townhouses for a total of 12 units, four 3-storey stacked townhouses for a total of 60 units and one 4-storey mixed-use ground floor commercial (930 m²) building with 30 units. There is one full movement access provided on Morgan Avenue and one on College Street.

Under 2020 existing conditions, the study intersection of St Catharines Street & College Street is expected to operate at a Level of Service "B" during the weekday a.m. and p.m. peak hours. The highest average delay of 11.6 seconds during the weekday a.m. peak hour and 14.6 seconds during the p.m. peak hour per vehicle is observed for the intersection of St Catharines Street & College Street. The maximum volume to capacity ratio is 0.03 during the weekday a.m. and weekday p.m. peak hours.

Under future background conditions, the study intersections are projected to operate similarly to existing conditions. The intersections are expected to operate at a Level of Service "C" or better during the weekday a.m. and p.m. peak period.

To forecast the trips generated by the proposed development, the Institute of Transportation Engineers (ITE) 10th edition data was used. The proposed development is expected to generate 58 new vehicular 2-way trips during the morning peak hour (17 trips in / 41 trips out), and 68 new vehicular 2-way trips during the afternoon peak hour (47 trips in / 21 trips out).

Traffic operations at the study intersections after the addition of site traffic is similar when compared to the future background conditions. The study intersections are expected to operate with a level of service D or better with no individual movement operating overcapacity.

The development application can be supported by a traffic operations perspective. The surrounding road network can accommodate the traffic generated from the residential development proposed for 132 College Street.

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Schedule "B" to
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Township of West Lincoln
132 College Street

Transportation Impact Brief
July 2020

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2.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) was retained by The Township of West Lincoln to undertake a Transportation Impact Brief in support of the planning application for the site located at 132 College Street, in the Town of West Lincoln.

3.0 Existing Conditions

3.1 Development Lands

The subject lands cover an area of approximately 2.185 ha and currently consists of College Street School. The subject lands are located in a mixed-use and commercial area. The site is bounded by Morgan Avenue to the north, College Street to the west, vacant lands to the east, and residential units to the south. Figure 1 shows the site location.

3.2 Boundary Road Network

St. Catharines Street is an east-west regional road with a two-lane cross-section. There are sidewalks present along both sides of the roadway. St Catharines Street has a posted speed limit of 50 km/h. College Street is a north-south local road with a two-lane cross-section on the east side.

3.3 Traffic Data

Turning movement counts for the intersection of Griffin Street at Griffin Street N/St Catharines Street (dated June 4, 2019) were received from the Region of Niagara. Given the current COVID-19 crisis, any counts done during the pandemic would not be representative of typical conditions. Therefore, an industry-standard growth rate of 2.0% per annum was applied to through volumes along Catharines Street to grow the volumes to reflect the 2020 traffic volumes. Traffic volumes were then estimated for the intersection of College Street and St Catharines Street. Traffic along College Street was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Detailed calculations and traffic data contained in Appendix A provides a summary of the turning movement counts. Refer to Figure 2 for the existing 2020 traffic volumes.

3.4 Traffic Modeling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 10 modelling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when higher vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized and un-signalized intersections are included in Appendix B.

3.5 Intersection Operations

The traffic operations at the study intersection were analyzed based on the traffic volumes recorded in Figure 2. Detailed capacity analyses are included in Appendix C. Table 1 outlines the existing traffic Levels of Service.

Table 1 Existing Levels of Service

Intersection	Peak Hour	Level of Service (Average Delay per Vehicle(s))	Maximum V/C & V/C Ratio(s) > 0.85 (Approach)
St Catharines St & College St (Stop Control (SB))	Weekday A.M.	B (11.6 s)	0.03 (SB)
	Weekday P.M.	B (14.6 s)	0.03 (SB)

Note1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The level of service of a stop-controlled intersection is based on the minor (stopped) approach control delay per vehicle.

Note2: The critical v/c ratio is considered to be the maximum v/c ratio at the intersection. All v/c ratios greater than 0.90 are outlined and highlighted.

As indicated in Table 1, the study intersection of St Catharines Street & College Street is expected to operate at a Level of Service "B" during the weekday a.m. and p.m. peak hours. The highest average delay of 11.6 seconds during the weekday a.m. peak hour and 14.6 seconds during the p.m. peak hour per vehicle is observed for the intersection of St Catharines Street & College Street. The maximum volume to capacity ratio is 0.03 during the weekday a.m. and weekday p.m. peak hours. These metrics indicate that the study intersections are operating efficiently with acceptable delays and reserve capacity to accommodate future increases in traffic volume.

4.0 Development Proposal

The project proposal is for the development of 132 College Street. The subject lands cover an area of approximately 2.185 ha and currently consists of College Street School. The subject lands are located in a mixed-use and commercial area. The site is bounded by Morgan Avenue to the north, College Street to the west, vacant lands to the east, and residential units to the south.

As per the proposed concept plan dated January 29, 2020 (Figure 1), the site envisions two 2-storey freehold townhouses for a total of 12 units, four 3-storey stacked townhouses for a total of 60 units and one 4-storey mixed-use ground floor commercial (930 m²) building with 30 units. There is one full movement access provided on Morgan Avenue and one on College Street.

5.0 Future Background Conditions

5.1 Study Horizons

As per the Niagara Region guidelines for Traffic Impact Study, horizon years corresponding to the date of the study commission, as well as five years from the full build-out year is required. Considering the opening year of 2025, 2025 and 2030 horizon years were selected to assess the full operations of the boundary road network with and without the proposed development.

5.2 Traffic Growth Rates and Background Developments

Future background traffic volumes for the 2025 and 2030 horizon years consist of the following components:

- Background traffic growth from outside the study area; and,
- Traffic generated within the study area from other proposed developments.

An industry-standard growth rate of two percent was applied to all major movements along the study intersections.

A background development located at 186 Margaret Street has been included as part of the background developments. The development is expected to generate 68 trips in the weekday a.m. peak hour and 85 trips in the weekday p.m. peak hour. 2025 and 2030, background volumes are illustrated in Figures 3 and 4.

5.3 Intersection Operations

The traffic operations at the study intersections were analyzed under future background conditions. Tables 2 outlines the 2025 and 2030 future background Levels of Service. Detailed capacity analyses are included in Appendix C.

Table 2: 2025 and 2030 Future Background Levels of Service

Intersection	Peak Hour	Level of Service (Average Delay per Vehicle(s))		Maximum V/C & V/C Ratio(s) > 0.85 (Approach)	
		2025 Background	2030 Background	2025 Background	2030 Background
St Catharines St & College St (Stop Control (SB))	Weekday A.M.	B (12.2 s)	B (12.9 s)	0.03 (SB)	0.04 (SB)
	Weekday P.M.	C (17.1 s)	C (20.0 s)	0.04 (SB)	0.04 (SB)

Note1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The level of service of a stop-controlled intersection is based on the minor (stopped) approach control delay per vehicle.

Note2: The critical v/c ratio is considered to be the maximum v/c ratio at the intersection. All v/c ratios greater than 0.90 are outlined and highlighted.

The study intersection is expected to operate at a level of service “C” or better during both weekday a.m. and p.m. peak hours, under 2025 and 2030 future background traffic conditions. Compared to existing conditions, the intersection of St Catharines Street & College Street is expected to experience a maximum increase of 5.4 seconds of control delay. The volume to capacity ratio is expected to increase by 0.01 during the weekday p.m. peak hour. These metrics indicate that the intersections are expected to continue to operate at an efficient level of service, with reserve capacity to accommodate future increases in traffic volumes.

6.0 Site Generated Traffic

The proposed daycare center will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also cause additional turning movements at the study intersections.

The trip generation of the residential facility was forecasted using the fitted curve equations provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, under the Land Use Category 220 “Multifamily Housing (Low Rise)” and Land Use Category 820 “Shopping Centre”. Trip generation estimates were based on the Concept Plan dated January 23, 2020, which proposes two 2-storey freehold townhouses for a total of 12 units, four 3-storey stacked townhouses for a total of 60 units and one 4-storey mixed-use ground floor commercial (930 m²) building with 30 units. An internal capture of 17% between the residential and commercial uses has been applied. Additionally, a 34% pass-by reduction is also applied during the p.m. peak period. According to the ITE Trip Generation Manual, the development is forecasted to generate 58 and 68 two-way trips in the weekday a.m. and p.m. peak hours, respectively. The forecasted trips are tabulated in Table 3, and the distributed trips are illustrated in Figure 5.

Table 3: Trip Generation

Land Use	Units/GFA	Parameter	Weekday A.M.			Weekday P.M.		
			In	Out	2-Way	In	Out	2-Way
Residential Multifamily Housing (Low Rise) (220)	102	Gross Trips	11	38	49	38	22	60
		Internal Capture	0	0	0	5	13	18
		Net New Trips	11	38	49	33	9	42
Retail Shopping Centre (820)	10010.40 sq.ft.	Gross Trips	6	3	9	18	20	38
		Internal Capture	0	0	0	2	5	7
		Pass by	0	0	0	2	3	5
		Net New Trips	6	3	9	14	12	26
Total Net Trips			17	41	58	47	21	68

The proposed development is expected to generate 58 new vehicular 2-way trips during the morning peak hour (17 trips in / 41 trips out), and 68 new vehicular 2-way trips during the afternoon peak hour (47 trips in / 21 trips out).

7.0 Total Traffic Conditions

7.1 Intersection Operations

The traffic operations at the study intersections were analyzed under future total conditions. Table 4 outlines 2025 and 2030 future total Levels of Service. Detailed capacity analyses are included in Appendix C. The 2025, and 2030 total traffic volumes are illustrated in Figures 6, and 7.

Table 4: 2025 and 2030 Future Total Levels of Service

Intersection	Peak Hour	Level of Service (Average Delay per Vehicle(s))		Maximum V/C & V/C Ratio(s) > 0.85 (Approach)	
		2025 Total	2030 Total	2025 Total	2030 Total
St Catharines St & College St (Stop Control (SB))	Weekday A.M.	B (12.4 s)	B (13.1 s)	0.04 (SB)	0.04 (SB)
	Weekday P.M.	C (18.4 s)	C (21.9 s)	0.04 (SB)	0.05 (SB)
College St & Site Access (Stop Control (WB))	Weekday A.M.	A (8.8 s)	A (8.8 s)	0.05 (WB)	0.045 (WB)
	Weekday P.M.	A (8.8 s)	A (8.8 s)	0.03 (WB)	0.03 (WB)

Note1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The level of service of a stop-controlled intersection is based on the minor (stopped) approach control delay per vehicle.

Note2: The critical v/c ratio is considered to be the maximum v/c ratio at the intersection. All v/c ratios greater than 0.90 are outlined and highlighted.

The study intersections are expected to operate at an unchanged LOS "C" during both weekday a.m. and p.m. peak hours, under 2025 and 2030 future background traffic conditions. Compared to future background conditions, the intersection of St Catharines Street & College Street is expected to experience a maximum increase of 1.9 seconds of control delay. The volume to capacity ratio is expected to increase by 0.01 during the weekday p.m. peak hour. The site access at College Street is expected to operate with a level of service "A" with minimal delays and well under capacity during both horizon years. These metrics indicate that the intersections are expected to continue to operate at an efficient level of service, with the addition of the site generated traffic.

8.0 Conclusion and Recommendations

Based on the analysis, our conclusions are as follows:

Development Proposal

The proposed site will consist of:

- Two 2-storey freehold townhouses for a total of 12 units;
- Four 3-storey stacked townhouses for a total of 60 units;
- One 4-storey mixed-use ground floor commercial building with 30 units (930 m²)
- Access point of Morgan Avenue and College Street.

Existing Conditions

- Traffic volumes along Catharines Street were estimated using the turning movement counts from the intersections Griffin Street at Griffin Street N/St Catharines Street (received from the Region of Niagara).
- An industry-standard growth rate of two percent was applied to traffic volumes to reflect 2020 volumes.
- All intersections operate under capacity in both peak hours.

Background Conditions

- An industry-standard growth rate of two percent was applied to all movements along boundary roads in the study area that are not directly entering or exiting the site.
- Background developments included the site traffic generated by development located at 186 Margaret Street in the vicinity of the site.
- All intersections operate with a level of service "C" or better under future background conditions with reserve capacity to accommodate future increases in traffic volumes.

Traffic Trip Generation

- An internal capture of 17% between the residential and commercial uses has been applied. Additionally, a 34% pass-by reduction is also applied during the p.m. peak period
- The proposed development is expected to generate 58 new vehicular 2-way trips during the morning peak hour (17 trips in / 41 trips out), and 68 new vehicular 2-way trips during the afternoon peak hour (47 trips in / 21 trips out).

Future Conditions

- The intersection capacity analysis under the future total traffic conditions indicates that all the intersections will operate similarly to the future background conditions during both peak hours.

Accordingly, development can be supported by traffic operations and safety perspectives. We trust that this review satisfies any access and transportation concerns associated with the site plan for this development. Please feel free to contact the undersigned for any further information required.

Respectfully submitted,

CF CROZIER & ASSOCIATES INC.



Aaron Wignall
Associate, Transportation

CF CROZIER & ASSOCIATES INC.



Kavleen Sachdeva
Transportation E.I.T.

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APPENDIX A

Traffic Data and, Signal Timing Plans

Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln



Turning Movements Report - AM Period

Location..... Griffin Street @ RR20/St Catharines Street

GeoID..... 00094

Municipality. WEST LINCOLN

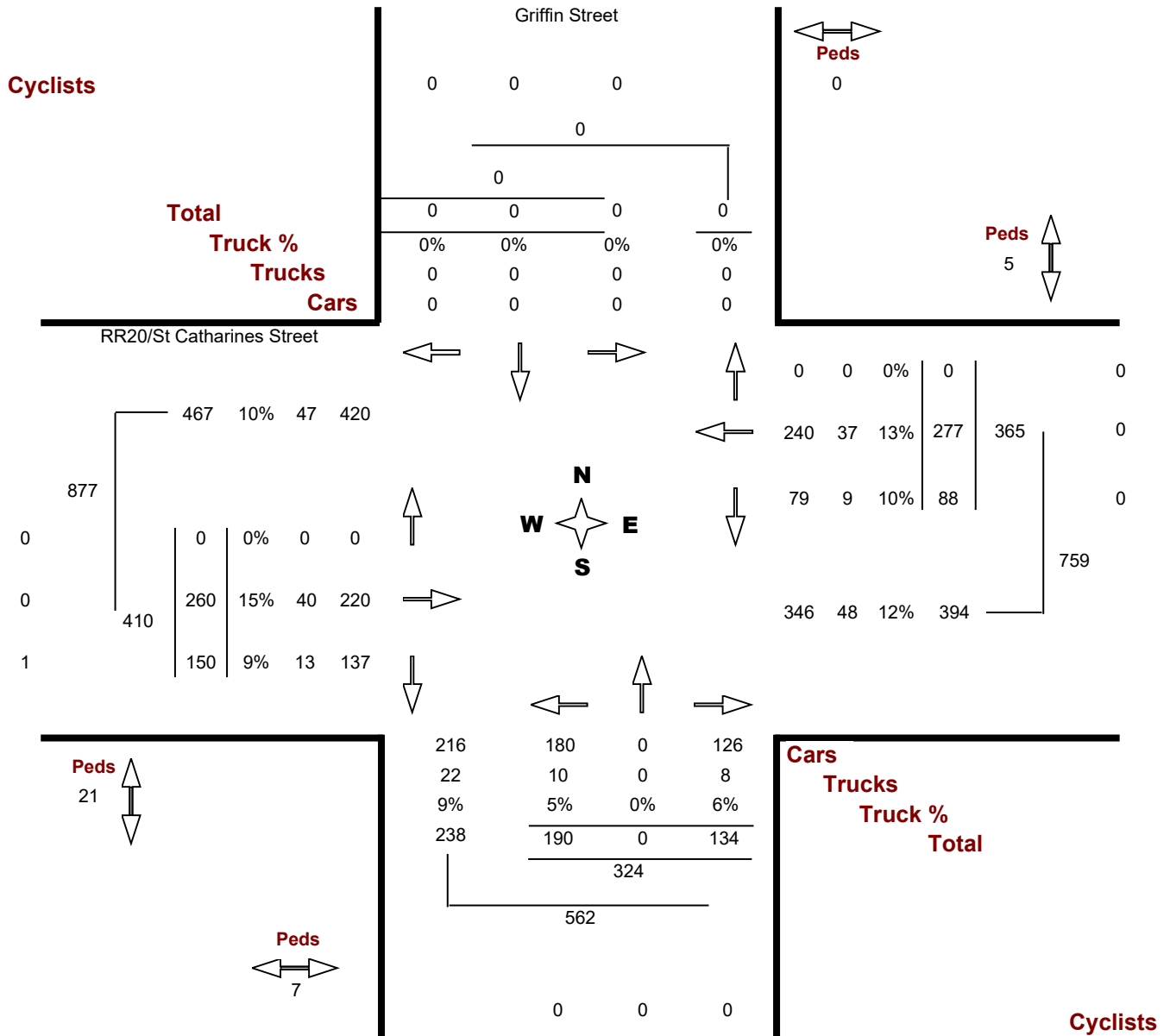
Count Date. Tuesday, 04 June, 2019

Traffic Cont. Traffic signal

Count Time. 07:00 AM — 09:00 AM

Major Dir..... East west

Peak Hour.. 08:00 AM — 09:00 AM



Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln



Turning Movements Report - PM Period

Location..... Griffin Street @ RR20/St Catharines Street

GeoID..... 00094

Municipality. WEST LINCOLN

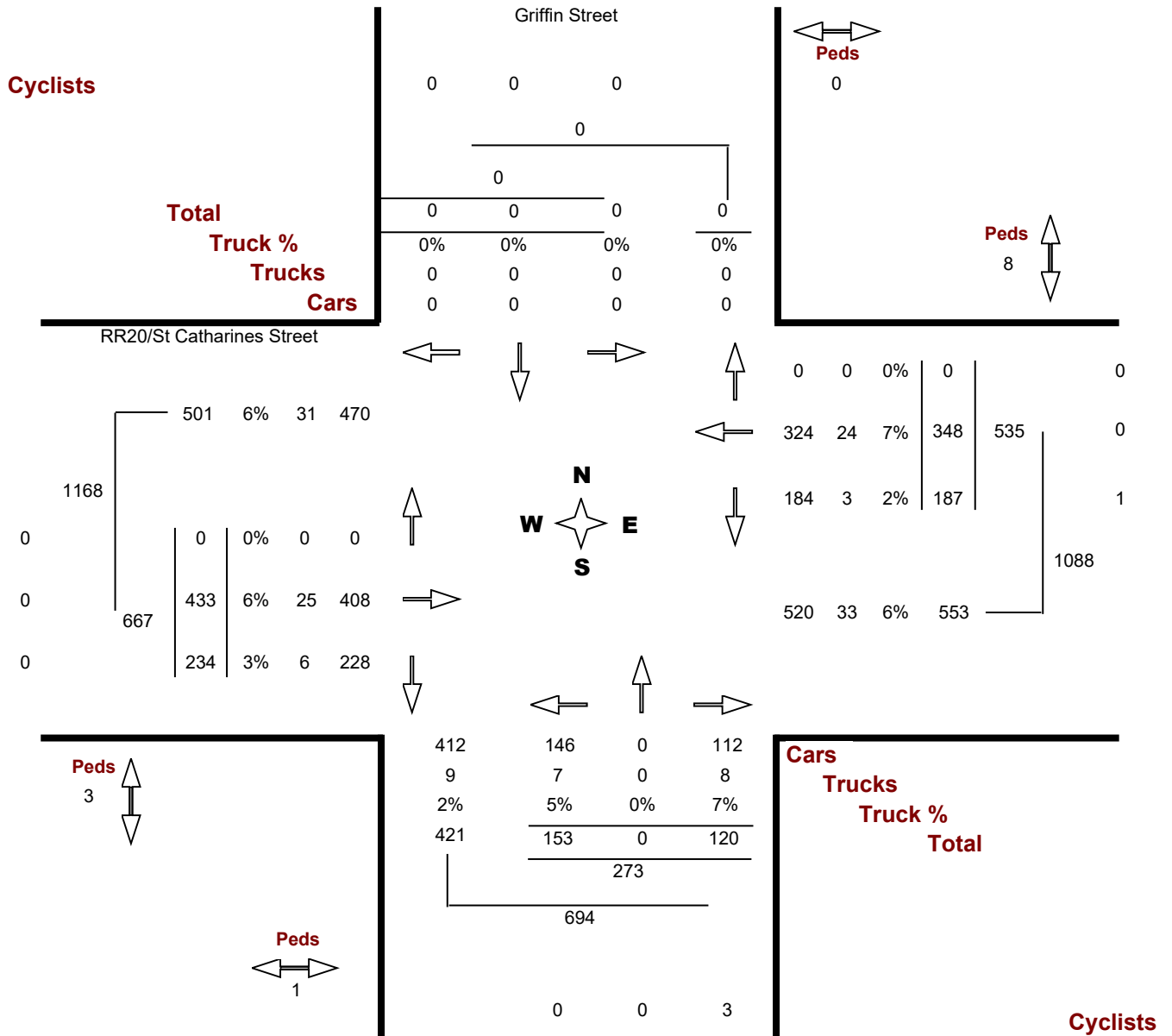
Count Date. Tuesday, 04 June, 2019

Traffic Cont. Traffic signal

Count Time. 03:00 PM — 06:00 PM

Major Dir..... East west

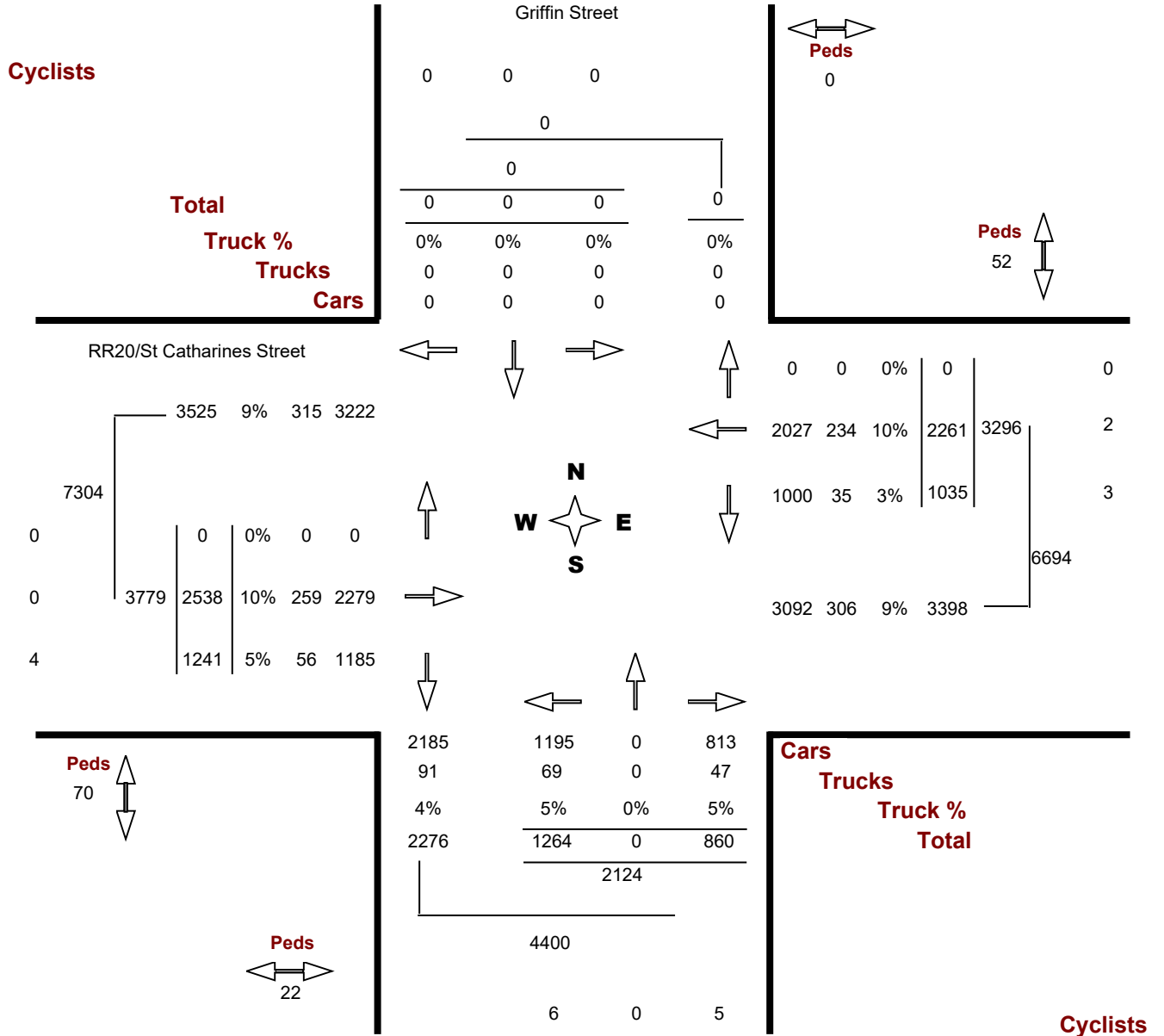
Peak Hour.. 04:15 PM — 05:15 PM





Turning Movement Count Report Full Study

Location..... Griffin Street @ RR20/St Catharines Street
Municipality..... WEST LINCOLN
GeoID..... 00094
Count Date..... Tuesday, 04 June, 2019



Schedule "B" to
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**Turning Movement Count - Details Report
 (15 min)**

Location..... Griffin Street @ RR20/St Catharines Street
Municipality..... WEST LINCOLN
Count Date..... Tuesday, June 04, 2019

Griffin Street

RR20/St Catharines Street

North Approach

South Approach

East Approach

West Approach

Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
07:00 07:15	0	0	0	0	0	44	0	22	0	66	10	52	0	0	62	0	67	21	0	88
07:15 07:30	0	0	0	0	0	40	0	27	0	67	19	71	0	0	90	0	45	18	0	63
07:30 07:45	0	0	0	0	0	48	0	30	0	78	24	83	0	0	107	0	65	21	0	86
07:45 08:00	0	0	0	0	0	54	0	22	0	76	20	87	0	0	107	0	67	30	0	97
Hourly Total	0	0	0	0	0	186	0	101	0	287	73	293	0	0	366	0	244	90	0	334
08:00 08:15	0	0	0	0	0	42	0	27	0	69	21	57	0	0	78	0	60	22	0	82
08:15 08:30	0	0	0	0	0	41	0	21	0	62	16	65	0	0	81	0	65	40	0	105
08:30 08:45	0	0	0	0	0	57	0	40	0	97	21	76	0	0	97	0	57	46	0	103
08:45 09:00	0	0	0	0	0	50	0	46	0	96	30	79	0	0	109	0	78	42	0	120
Hourly Total	0	0	0	0	0	190	0	134	0	324	88	277	0	0	365	0	260	150	0	410
11:00 11:15	0	0	0	0	0	33	0	26	0	59	19	54	0	0	73	0	73	26	0	99
11:15 11:30	0	0	0	0	0	29	0	26	0	55	29	63	0	0	92	0	63	23	0	86
11:30 11:45	0	0	0	0	0	27	0	22	0	49	21	61	0	0	82	0	78	28	0	106
11:45 12:00	0	0	0	0	0	40	0	25	0	65	29	55	0	0	84	0	58	17	0	75
Hourly Total	0	0	0	0	0	129	0	99	0	228	98	233	0	0	331	0	272	94	0	366
12:00 12:15	0	0	0	0	0	33	0	27	0	60	36	53	0	0	89	0	79	32	0	111
12:15 12:30	0	0	0	0	0	28	0	24	0	52	31	69	0	0	100	0	78	34	0	112
12:30 12:45	0	0	0	0	0	30	0	28	0	58	39	79	0	0	118	0	81	30	0	111
12:45 13:00	0	0	0	0	0	49	0	34	0	83	41	74	0	0	115	0	70	26	0	96
Hourly Total	0	0	0	0	0	140	0	113	0	253	147	275	0	0	422	0	308	122	0	430
13:00 13:15	0	0	0	0	0	39	0	29	0	68	36	51	0	0	87	0	61	28	0	89
13:15 13:30	0	0	0	0	0	43	0	25	0	68	30	67	0	0	97	0	59	27	0	86
13:30 13:45	0	0	0	0	0	32	0	23	0	55	28	64	0	0	92	0	64	30	0	94
13:45 14:00	0	0	0	0	0	32	0	18	0	50	28	64	0	0	92	0	74	28	0	102
Hourly Total	0	0	0	0	0	146	0	95	0	241	122	246	0	0	368	0	258	113	0	371
15:00 15:15	0	0	0	0	0	40	0	26	0	66	42	69	0	0	111	0	68	42	0	110
15:15 15:30	0	0	0	0	0	36	0	17	0	53	39	76	0	0	115	0	80	42	0	122
15:30 15:45	0	0	0	0	0	54	0	32	0	86	33	63	0	0	96	0	89	64	0	153
15:45 16:00	0	0	0	0	0	40	0	30	0	70	42	81	0	0	123	0	100	51	0	151
Hourly Total	0	0	0	0	0	170	0	105	0	275	156	289	0	0	445	0	337	199	0	536

Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln

Griffin Street

RR20/St Catharines Street

North Approach

South Approach

East Approach

West Approach

Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
16:00 16:15	0	0	0	0	0	36	0	32	0	68	34	63	0	0	97	0	110	63	0	173
16:15 16:30	0	0	0	0	0	34	0	42	0	76	40	94	0	0	134	0	126	55	0	181
16:30 16:45	0	0	0	0	0	36	0	25	0	61	51	86	0	0	137	0	95	57	0	152
16:45 17:00	0	0	0	0	0	27	0	25	0	52	55	81	0	0	136	0	94	63	0	157
Hourly Total	0	0	0	0	0	133	0	124	0	257	180	324	0	0	504	0	425	238	0	663
17:00 17:15	0	0	0	0	0	56	0	28	0	84	41	87	0	0	128	0	118	59	0	177
17:15 17:30	0	0	0	0	0	38	0	15	0	53	49	75	0	0	124	0	110	59	0	169
17:30 17:45	0	0	0	0	0	43	0	29	0	72	39	74	0	0	113	0	107	65	0	172
17:45 18:00	0	0	0	0	0	33	0	17	0	50	42	88	0	0	130	0	99	52	0	151
Hourly Total	0	0	0	0	0	170	0	89	0	259	171	324	0	0	495	0	434	235	0	669
Grand Total	0	0	0	0	0	1264	0	860	0	2124	1035	2261	0	0	3296	0	2538	1241	0	3779
Truck %	0%	0%	0%	0%	0%	5%	0%	5%	0%	5%	3%	10%	0%	0%	8%	0%	10%	5%	0%	8%

APPENDIX B

Levels of Service Definitions

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

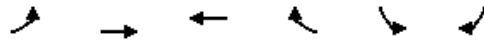
APPENDIX C

Detailed Capacity Analyses

Schedule "B" to
 Official Plan Amendment No. 54

HCM Unsignalized Intersection Capacity Analysis
 Township of West Lincoln
 5: St Catharines St & College St

Existing AM Peak Hour

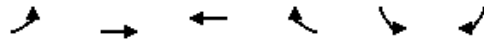


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	397	359	1	3	14
Future Volume (Veh/h)	5	397	359	1	3	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	432	390	1	3	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.85	
vC, conflicting volume	391				832	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391				716	390
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1168				336	658
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	5	432	391	18		
Volume Left	5	0	0	3		
Volume Right	0	0	1	15		
cSH	1168	1700	1700	568		
Volume to Capacity	0.00	0.25	0.23	0.03		
Queue Length 95th (m)	0.1	0.0	0.0	0.7		
Control Delay (s)	8.1	0.0	0.0	11.6		
Lane LOS	A			B		
Approach Delay (s)	0.1	0.0		11.6		
Approach LOS				B		
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			32.7%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
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HCM Unsignalized Intersection Capacity Analysis
Township of West Lincoln
5: St Catharines St & College St

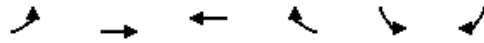
Existing PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	550	538	3	2	8
Future Volume (Veh/h)	14	550	538	3	2	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	598	585	3	2	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.74	
vC, conflicting volume	588			1214	586	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588			1117	586	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	98			99	98	
cM capacity (veh/h)	987			168	510	
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	15	598	588	11		
Volume Left	15	0	0	2		
Volume Right	0	0	3	9		
cSH	987	1700	1700	372		
Volume to Capacity	0.02	0.35	0.35	0.03		
Queue Length 95th (m)	0.4	0.0	0.0	0.7		
Control Delay (s)	8.7	0.0	0.0	15.0		
Lane LOS	A			B		
Approach Delay (s)	0.2	0.0		15.0		
Approach LOS				B		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.4%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
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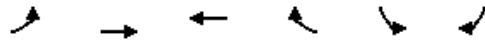
Township of West Linn
2025
HCM Unsignalized Intersection Capacity Analysis - Future Background AM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	453	400	1	3	14
Future Volume (Veh/h)	5	453	400	1	3	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	492	435	1	3	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.83	
vC, conflicting volume	436				938	436
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	436				825	436
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1124				284	621
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	5	492	436	18		
Volume Left	5	0	0	3		
Volume Right	0	0	1	15		
cSH	1124	1700	1700	518		
Volume to Capacity	0.00	0.29	0.26	0.03		
Queue Length 95th (m)	0.1	0.0	0.0	0.8		
Control Delay (s)	8.2	0.0	0.0	12.2		
Lane LOS	A			B		
Approach Delay (s)	0.1	0.0		12.2		
Approach LOS				B		
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			35.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54

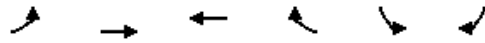
Township of West Linn
HCM Unsignalized Intersection Capacity Analysis - 2025 Future Background PM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↘	
Traffic Volume (veh/h)	14	616	610	3	2	8
Future Volume (Veh/h)	14	616	610	3	2	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	670	663	3	2	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.72	
vC, conflicting volume	666				1364	664
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1311	664
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				98	98
cM capacity (veh/h)	923				124	460
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	15	670	666	11		
Volume Left	15	0	0	2		
Volume Right	0	0	3	9		
cSH	923	1700	1700	308		
Volume to Capacity	0.02	0.39	0.39	0.04		
Queue Length 95th (m)	0.4	0.0	0.0	0.8		
Control Delay (s)	9.0	0.0	0.0	17.1		
Lane LOS	A			C		
Approach Delay (s)	0.2		0.0	17.1		
Approach LOS				C		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54










Township of West Lincoln
2025 Future Total AM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	453	400	7	3	14
Future Volume (Veh/h)	16	453	400	7	3	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	492	435	8	3	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.83	
vC, conflicting volume	443				965	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	443				855	439
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	98
cM capacity (veh/h)	1117				268	618
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	17	492	443	18		
Volume Left	17	0	0	3		
Volume Right	0	0	8	15		
cSH	1117	1700	1700	508		
Volume to Capacity	0.02	0.29	0.26	0.04		
Queue Length 95th (m)	0.4	0.0	0.0	0.8		
Control Delay (s)	8.3	0.0	0.0	12.4		
Lane LOS	A			B		
Approach Delay (s)	0.3	0.0		12.4		
Approach LOS					B	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			35.9%	ICU Level of Service	A	
Analysis Period (min)			15			

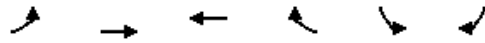
Schedule "B" to
Official Plan Amendment No. 54

Township of West Lincoln
HCM Unsignalized Intersection Capacity Analysis
2025 Future Total AM Peak Hour
6: College St & Site Access

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	41	0	4	17	0	11
Future Volume (Veh/h)	41	0	4	17	0	11
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	4	18	0	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	25	13			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	25	13			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			100	
cM capacity (veh/h)	991	1067			1593	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	45	22	12			
Volume Left	45	0	0			
Volume Right	0	18	0			
cSH	991	1700	1593			
Volume to Capacity	0.05	0.01	0.00			
Queue Length 95th (m)	1.1	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54










Township of West Lincoln
2025 Future Total PM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	615	609	21	2	8
Future Volume (Veh/h)	45	615	609	21	2	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	668	662	23	2	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.71	
vC, conflicting volume	685				1440	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	685				1415	674
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				98	98
cM capacity (veh/h)	908				102	455
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	49	668	685	11		
Volume Left	49	0	0	2		
Volume Right	0	0	23	9		
cSH	908	1700	1700	280		
Volume to Capacity	0.05	0.39	0.40	0.04		
Queue Length 95th (m)	1.3	0.0	0.0	0.9		
Control Delay (s)	9.2	0.0	0.0	18.4		
Lane LOS	A			C		
Approach Delay (s)	0.6		0.0	18.4		
Approach LOS				C		
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			50.6%	ICU Level of Service	A	
Analysis Period (min)			15			

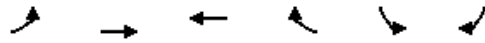
Schedule "B" to
Official Plan Amendment No. 54

Township of West Lincoln
HCM Unsignalized Intersection Capacity Analysis
2025 Future Total PM Peak Hour
6: College St & Site Access

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	0	10	49	0	6
Future Volume (Veh/h)	26	0	10	49	0	6
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	0	11	53	0	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44	38			64	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	38			64	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	966	1035			1538	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	28	64	7			
Volume Left	28	0	0			
Volume Right	0	53	0			
cSH	966	1700	1538			
Volume to Capacity	0.03	0.04	0.00			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			13.9%		ICU Level of Service	A
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54

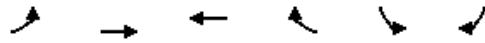
Township of West Linton
HCM Unsignalized Intersection Capacity Analysis 2020 Future Background AM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	500	443	1	3	14
Future Volume (Veh/h)	5	500	443	1	3	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	543	482	1	3	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.81	
vC, conflicting volume	483				1036	482
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	483				930	482
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	97
cM capacity (veh/h)	1080				241	584
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	5	543	483	18		
Volume Left	5	0	0	3		
Volume Right	0	0	1	15		
cSH	1080	1700	1700	472		
Volume to Capacity	0.00	0.32	0.28	0.04		
Queue Length 95th (m)	0.1	0.0	0.0	0.9		
Control Delay (s)	8.3	0.0	0.0	12.9		
Lane LOS	A			B		
Approach Delay (s)	0.1	0.0		12.9		
Approach LOS				B		
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			38.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54

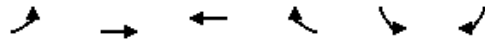
Township of West Lincoln
Future Background PM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	682	674	3	2	8
Future Volume (Veh/h)	14	682	674	3	2	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	741	733	3	2	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.68	
vC, conflicting volume	736				1506	734
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	736				1508	734
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				98	98
cM capacity (veh/h)	870				89	420
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	15	741	736	11		
Volume Left	15	0	0	2		
Volume Right	0	0	3	9		
cSH	870	1700	1700	251		
Volume to Capacity	0.02	0.44	0.43	0.04		
Queue Length 95th (m)	0.4	0.0	0.0	1.0		
Control Delay (s)	9.2	0.0	0.0	20.0		
Lane LOS	A				C	
Approach Delay (s)	0.2	0.0		20.0		
Approach LOS					C	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			49.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54










Township of West Lincoln
2030 Future Total AM Peak Hour
5: St Catharines St & College St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	500	443	7	3	14
Future Volume (Veh/h)	16	500	443	7	3	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	543	482	8	3	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.81	
vC, conflicting volume	490				1063	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	490				961	486
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	97
cM capacity (veh/h)	1073				227	581
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	17	543	490	18		
Volume Left	17	0	0	3		
Volume Right	0	0	8	15		
cSH	1073	1700	1700	461		
Volume to Capacity	0.02	0.32	0.29	0.04		
Queue Length 95th (m)	0.4	0.0	0.0	0.9		
Control Delay (s)	8.4	0.0	0.0	13.1		
Lane LOS	A			B		
Approach Delay (s)	0.3	0.0		13.1		
Approach LOS					B	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			38.6%	ICU Level of Service	A	
Analysis Period (min)			15			

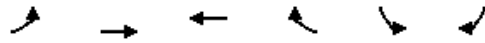
Schedule "B" to
 Official Plan Amendment No. 54

Township of West Lincoln
 HCM Unsignalized Intersection Capacity Analysis
 2030 Future Total AM Peak Hour
 6: College St & Site Access

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	41	0	4	17	0	11
Future Volume (Veh/h)	41	0	4	17	0	11
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	4	18	0	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	25	13			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	25	13			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			100	
cM capacity (veh/h)	991	1067			1593	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	45	22	12			
Volume Left	45	0	0			
Volume Right	0	18	0			
cSH	991	1700	1593			
Volume to Capacity	0.05	0.01	0.00			
Queue Length 95th (m)	1.1	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54










Township of West Lincoln
2030 Future Total PM Peak Hour
5: St Catharines St & College St



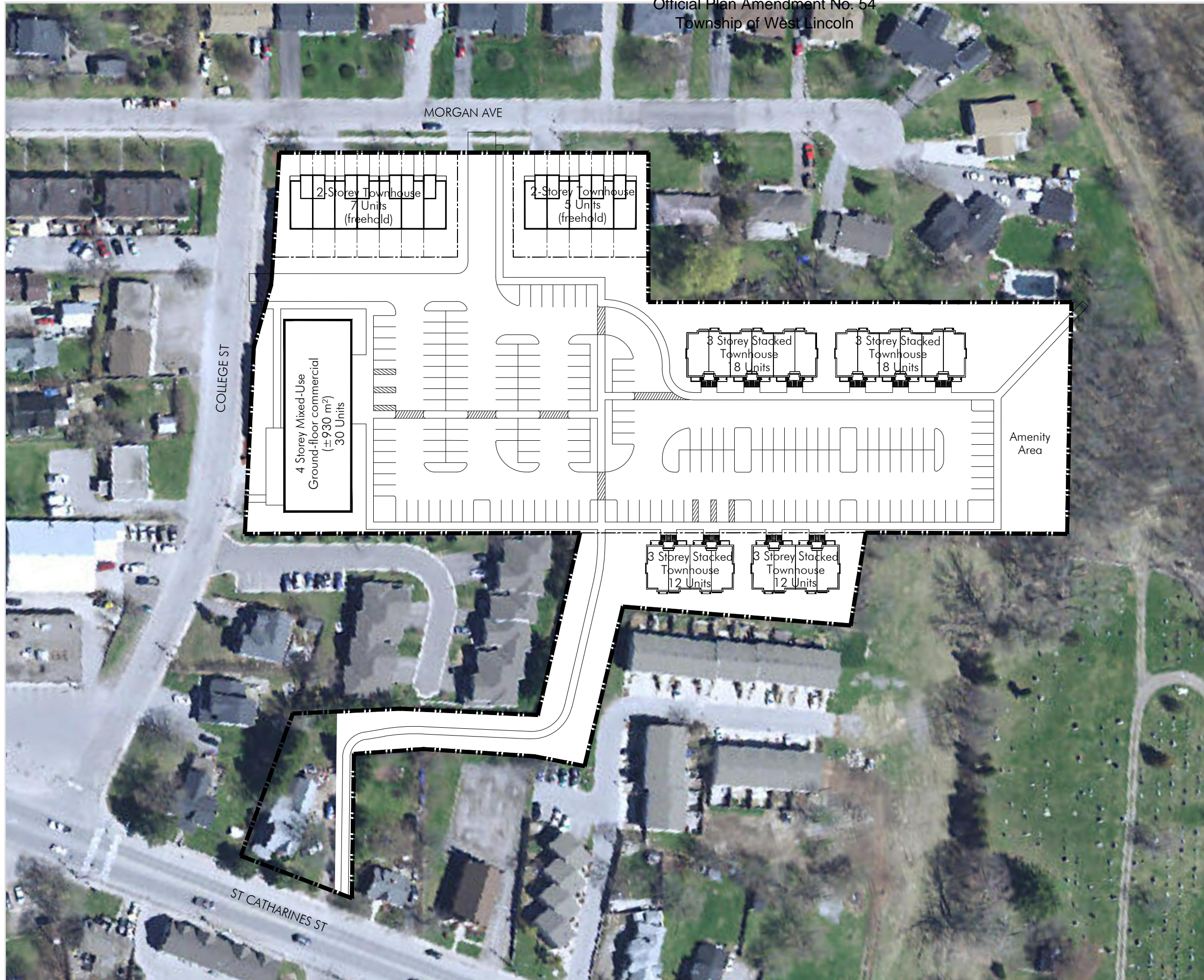
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	681	673	21	2	8
Future Volume (Veh/h)	45	681	673	21	2	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	740	732	23	2	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		69				
pX, platoon unblocked					0.68	
vC, conflicting volume	755				1582	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	755				1620	744
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				97	98
cM capacity (veh/h)	855				73	415
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	49	740	755	11		
Volume Left	49	0	0	2		
Volume Right	0	0	23	9		
cSH	855	1700	1700	223		
Volume to Capacity	0.06	0.44	0.44	0.05		
Queue Length 95th (m)	1.4	0.0	0.0	1.2		
Control Delay (s)	9.5	0.0	0.0	21.9		
Lane LOS	A				C	
Approach Delay (s)	0.6	0.0		21.9		
Approach LOS					C	
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			50.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Schedule "B" to
Official Plan Amendment No. 54

Township of West Lincoln
HCM Unsignalized Intersection Capacity Analysis
2030 Future Total PM Peak Hour
6: College St & Site Access

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	0	10	49	0	6
Future Volume (Veh/h)	26	0	10	49	0	6
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	0	11	53	0	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44	38			64	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	38			64	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	966	1035			1538	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	28	64	7			
Volume Left	28	0	0			
Volume Right	0	53	0			
cSH	966	1700	1538			
Volume to Capacity	0.03	0.04	0.00			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			13.9%		ICU Level of Service	A
Analysis Period (min)			15			

FIGURES



Concept Plan

College Street School
 132 College Street
 Township of West Lincoln

Subject Lands

ZONING: RM3

132 College Street

Area: ±2.185 ha

Units:

- 13 2-Storey Townhouses (Freehold)

- 30 Apartment Units

- 60 Stacked Townhouse Units

Total: 103 Units

Overall Density: 47.1 upha

Commercial: ±930 m²

Parking Required/Provided:

Commercial

1 space/30 m²: 31 spaces

Residential*

1.5 spaces/unit: 135 spaces

Accessible spaces: 6

Notes:

SWOOP 2015 Aerial Imagery

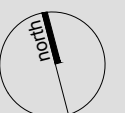
*Parking requirements for non-freehold units only

Date: January 29, 2020

Scale: 1:1,000

File: 08234V

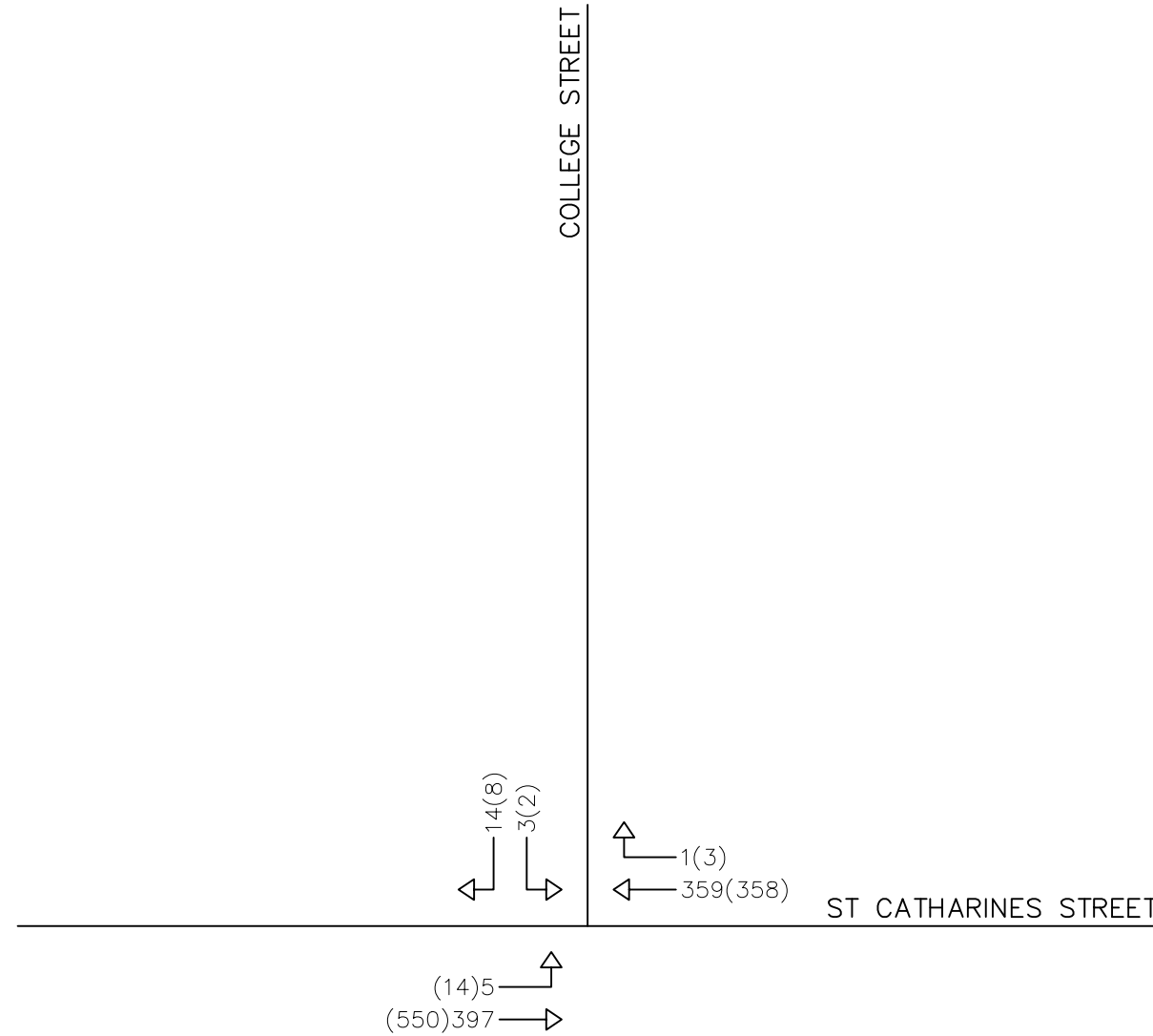
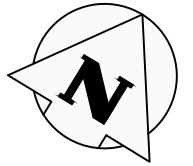
Drawn: JB



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Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln

NOTE:
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LEGEND:
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 TRIP DISTRIBUTION

132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

2020 EXISTING TRAFFIC VOLUMES



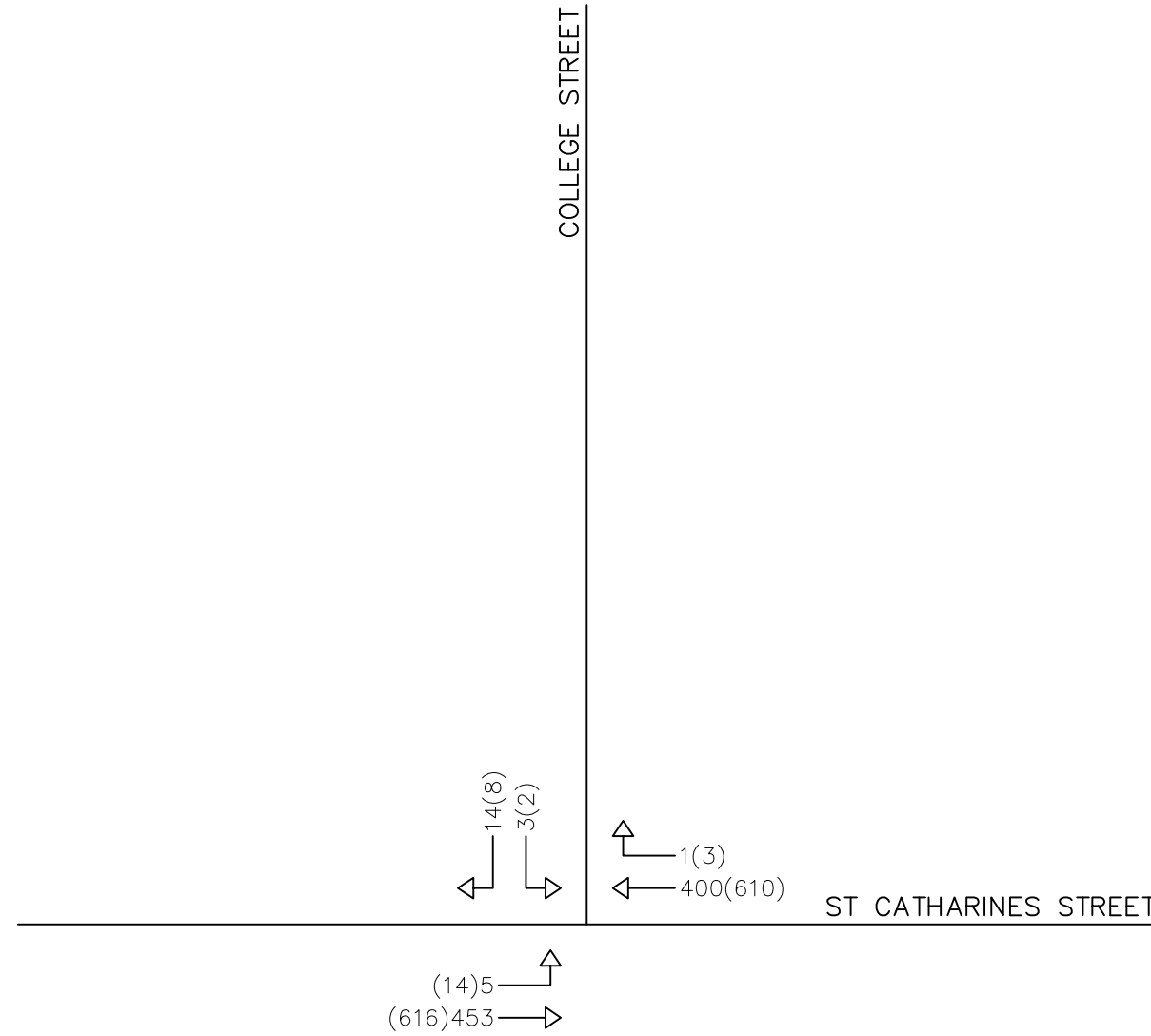
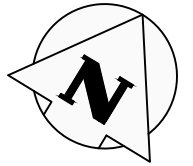
**CROZIER
 & ASSOCIATES**
 Consulting Engineers

2800 HIGH POINT DRIVE
 SUITE 100
 MILTON, ON L9T 6P4
 905 875-0026 T
 905 875-4915 F
 WWW.CFCROZIER.CA

Drawn	A.K.	Design	Project No.	529-5576
Check	K.S.	Check	Scale	N.T.S. Dwg. FIG. 02

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 Township of West Lincoln

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132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

2025 FUTURE BACKGROUND
 TRAFFIC VOLUMES



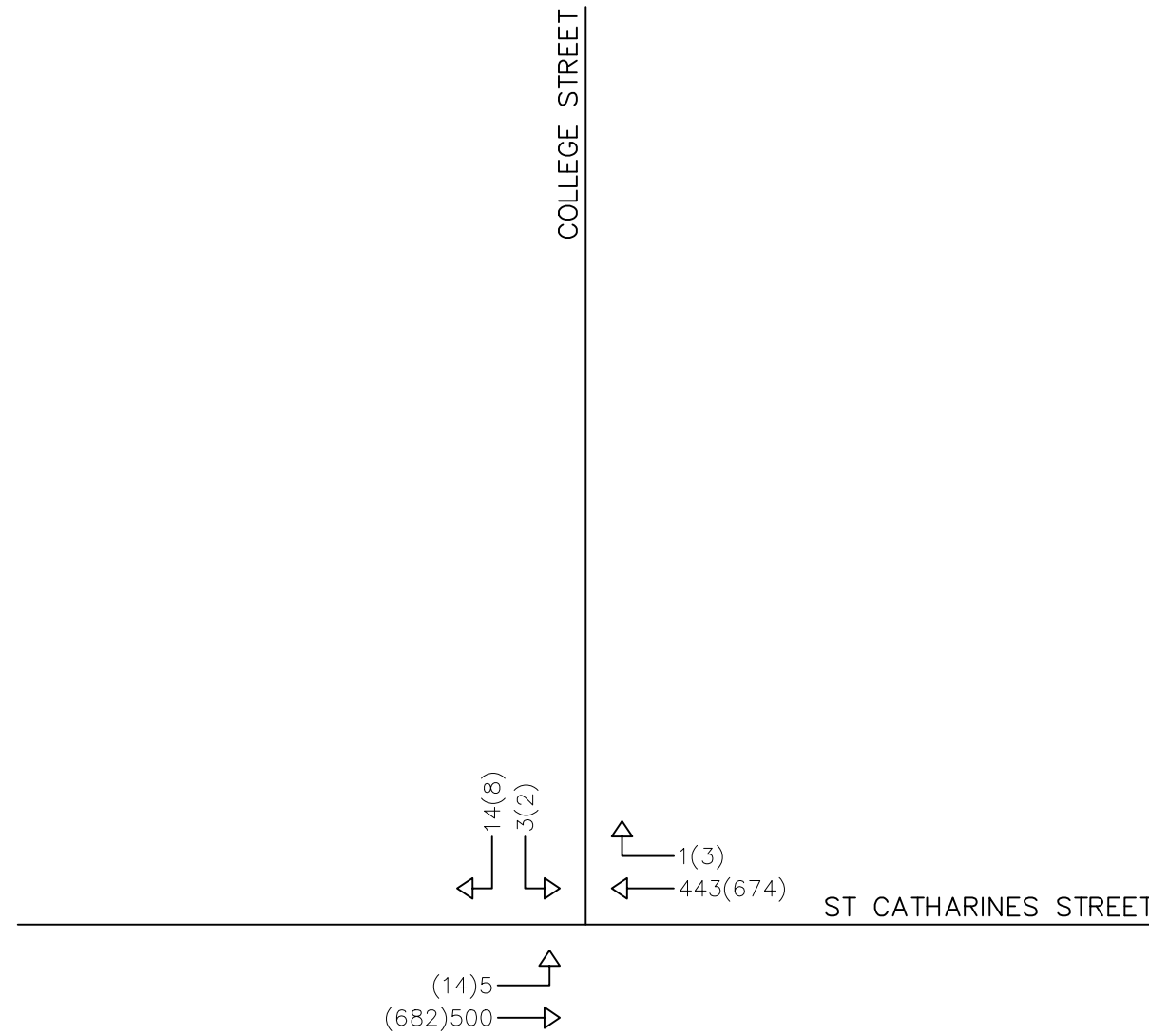
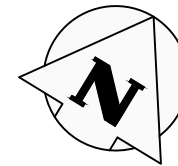
**CROZIER
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2800 HIGH POINT DRIVE
 SUITE 100
 MILTON, ON L9T 6P4
 905 875-0026 T
 905 875-4915 F
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Drawn	A.K.	Design	Project No.	529-5576
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Schedule "B" to
 Official Plan Amendment No. 54
 Township of West Lincoln

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132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

2030 FUTURE BACKGROUND
 TRAFFIC VOLUMES

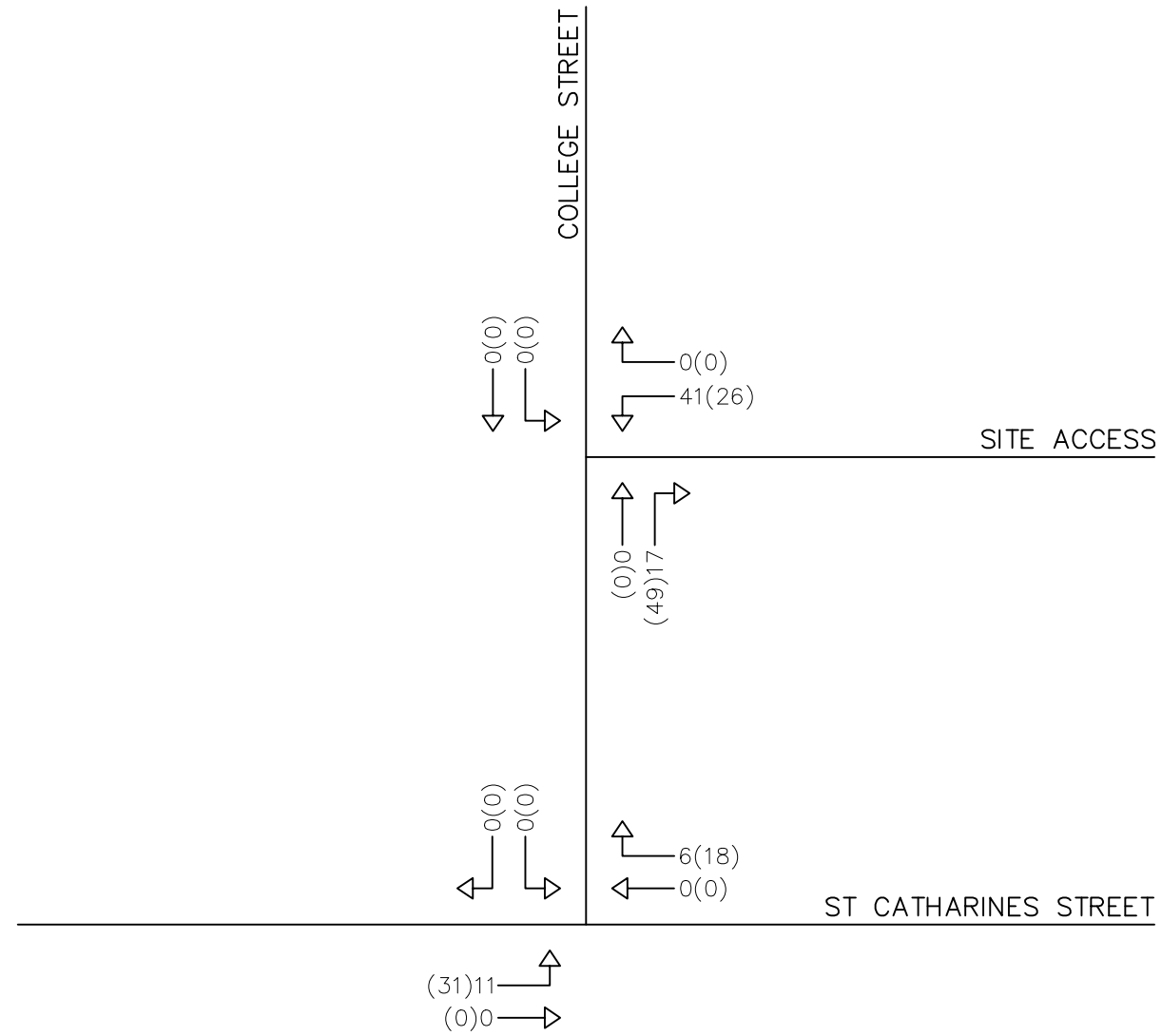
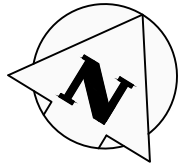


2800 HIGH POINT DRIVE
 SUITE 100
 MILTON, ON L9T 6P4
 905 875-0026 T
 905 875-4915 F
 WWW.CFCROZIER.CA

Drawn	A.K.	Design	Project No.	529-5576
Check	K.S.	Check	Scale	N.T.S. Dwg. FIG. 04

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 Township of West Lincoln

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 TRIP DISTRIBUTION

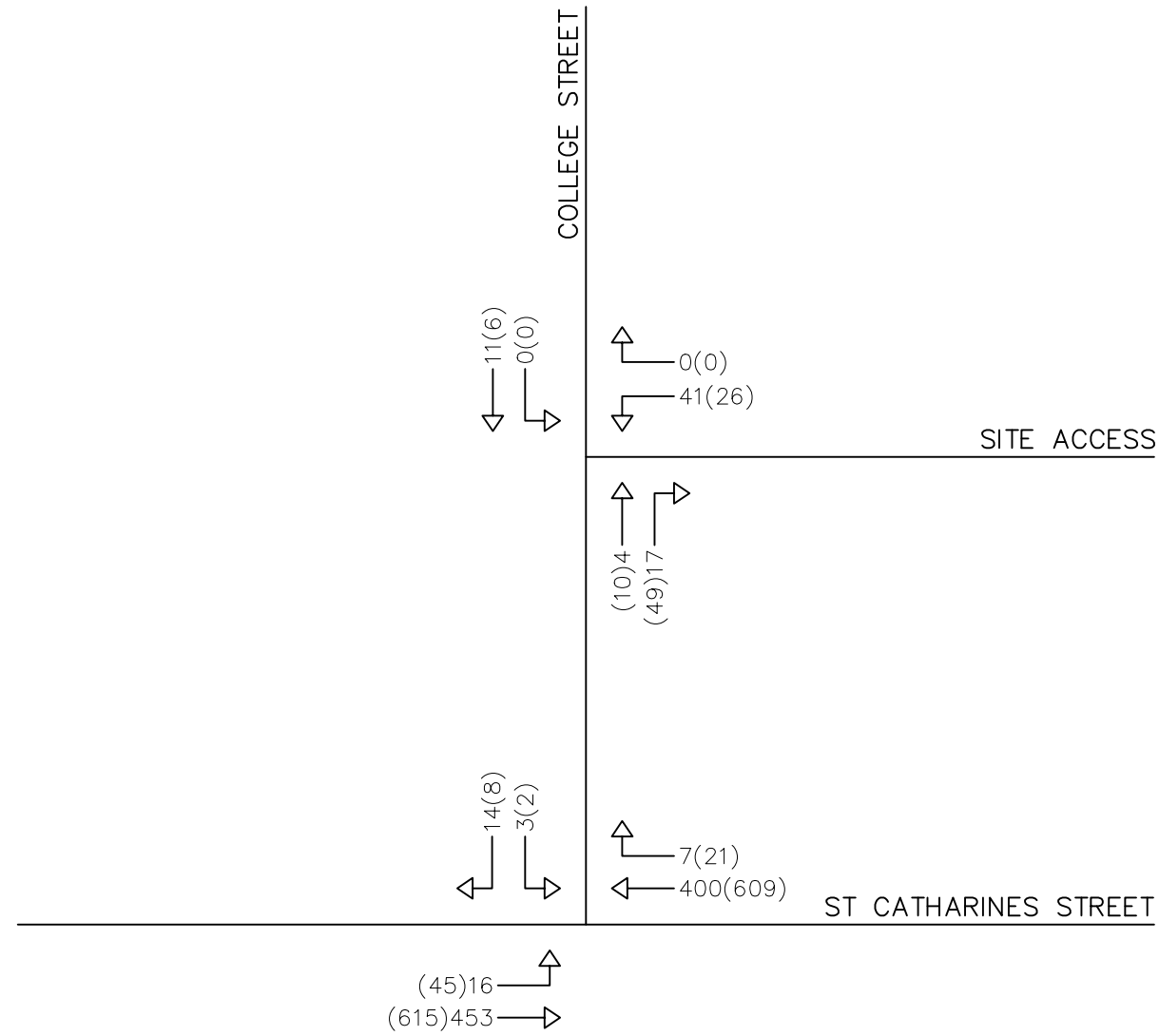
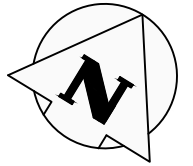
132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

SITE GENERATED TRIPS

	CROZIER & ASSOCIATES Consulting Engineers		2800 HIGH POINT DRIVE SUITE 100 MILTON, ON L9T 6P4 905 875-0026 T 905 875-4915 F WWW.CFCROZIER.CA			
					Drawn	A.K.
Check	K.S.	Check	Scale	N.T.S.	Dwg.	529-5576 FIG. 05

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 Township of West Lincoln

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132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

2025 FUTURE TOTAL
 TRAFFIC VOLUMES



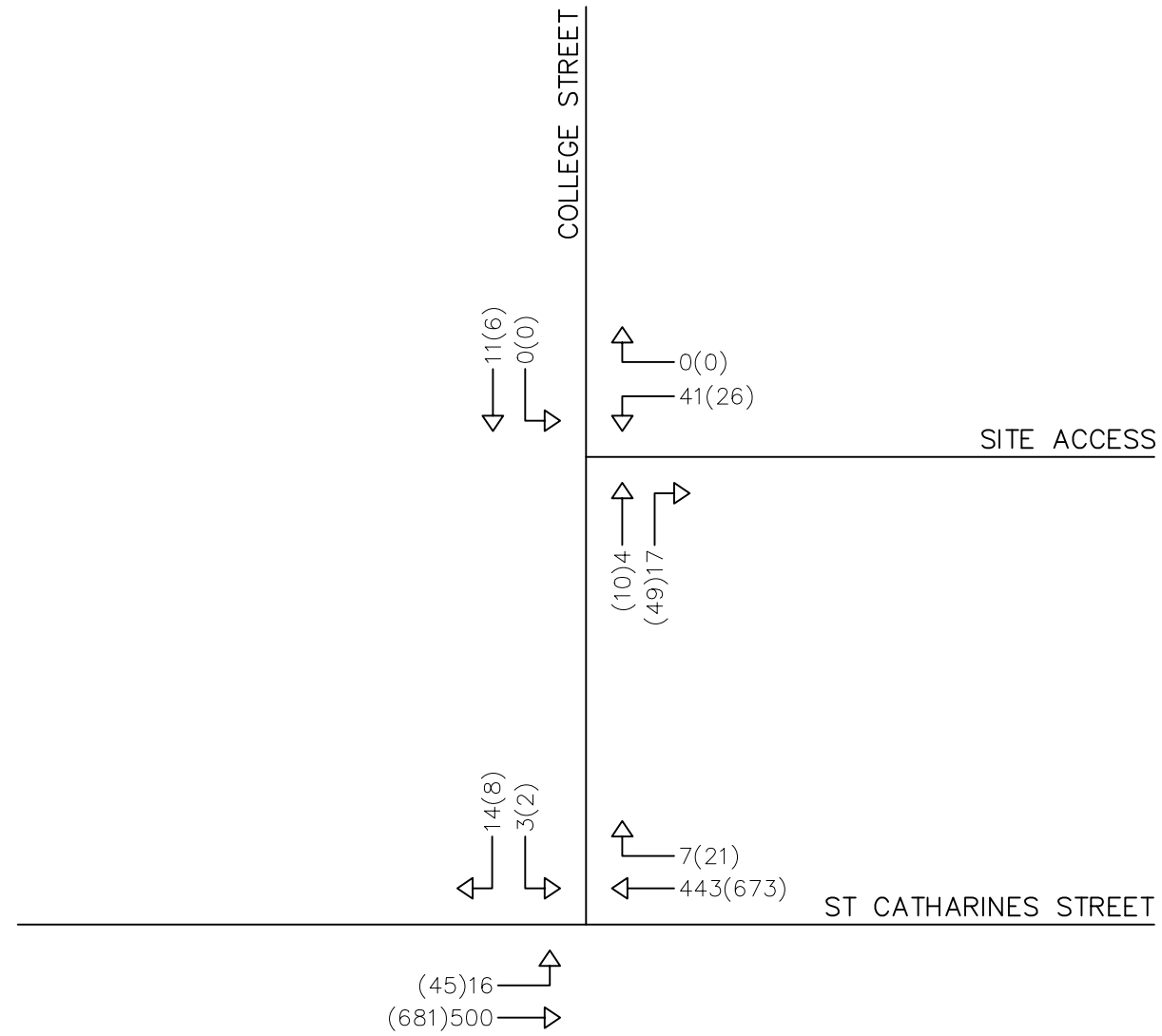
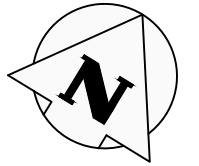
**CROZIER
 & ASSOCIATES**
 Consulting Engineers

2800 HIGH POINT DRIVE
 SUITE 100
 MILTON, ON L9T 6P4
 905 875-0026 T
 905 875-4915 F
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Drawn	A.K.	Design	Project No.	529-5576
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 Township of West Lincoln

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 TRIP DISTRIBUTION

132 COLLEGE STREET
 TOWNSHIP OF WEST LINCOLN

2030 FUTURE TOTAL
 TRAFFIC VOLUMES



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 SUITE 100
 MILTON, ON L9T 6P4
 905 875-0026 T
 905 875-4915 F
 WWW.CFCROZIER.CA

Drawn	A.K.	Design	Project No.	529-5576
Check	K.S.	Check	Scale	N.T.S. Dwg. FIG. 07