

Kamloops Street Extension – Marentette Avenue to 107m West of Calderwood Avenue Municipal Class Environmental Assessment



February 2017

TRU LAND DEVELOPMENTS INC.



EXECUTIVE SUMMARY

Introduction:

The City of Windsor in conjunction with Tru Land Developments initiated a Schedule B Class Environmental Assessment Study [Kamloops EA] for the extension of Kamloops Street in accordance with the Municipal Class Environmental Assessment requirements October 2000, as amended in 2007, 2011, & 2015. The need to extend Kamloops Street to Marentette Avenue as a Class II Collector, resulted from the approval of the Southwind Plan of Subdivision. The development is proposed to be comprised of 119 townhome units to be constructed south of existing Woodlawn and Parkwood Streets, and west of Phase 4 of the Devonshire Heights Subdivision.

The study area considered during the completion of the Kamloops EA is generally bound by Marentette Avenue to the west, Calderwood Avenue to the east, the north and south property limits of the development which consist of the south property limits of the homes along the existing Woodlawn and Parkwood Avenues to the north, and the Windsor Grove Cemetery lands to the south. In accordance with CR53/2017, the study area was modified to exclude the existing dead-end section of Kamloops Street from Calderwood Avenue to the east limits of the planned development. The overall revised study area is depicted in **Figure 3** under Section 1 in the main body of the report.

Residential development on the Southwind Subdivision lands and the westerly connection of Kamloops Street to Marentette Avenue has been planned since the area to the east was first developed in the 1990's (Devonshire Heights Phase 4). The right-of-way for the portion of the extension west of the subdivision limits was designated by the City of Windsor in 1997 with the understanding that the road would be built when development proceeded on the Southwind Subdivision lands. The Kamloops Street extension is designated as a Class II Collector road by the City of Windsor; consistent with its existing stub west of Calderwood Ave.

The purpose of the Kamloops EA is to establish the preferred design, alignment, and cross-section for the Kamloops Street extension within the revised study area from Marentette Avenue easterly through the Southwind Subdivision to its easterly limits.

Problems and Opportunities:

The study area is surrounded by a mature residential area to the north [Woodlawn and Parkwood Streets], and a more recent residential subdivision to the east [Devonshire Heights]. Approximately 550 single family homes are located east of the study area

south of Foster Avenue and west of Woodward Boulevard. A draft plan of subdivision for the Southwind Subdivision consisting of 119 Townhome Units and a 300m buffer of light industrial lands backing onto the industrial properties fronting Marentette was approved under the Planning Act in August of 2015.

Currently, the transportation network servicing these areas is isolated from travel westerly resulting in considerable out of way travel and increasing travel times for some area trips based on origin/destination. Some existing intersections servicing this study area are currently operating at or near capacity during peak periods. Opportunities exist to reduce resulting negative impacts to area residents and, emergency responders, as well as to improve access to transit services and the connectivity of active transportation networks.

Urbanization of the subdivision lands will also allow for the elimination of open ditches within the area.

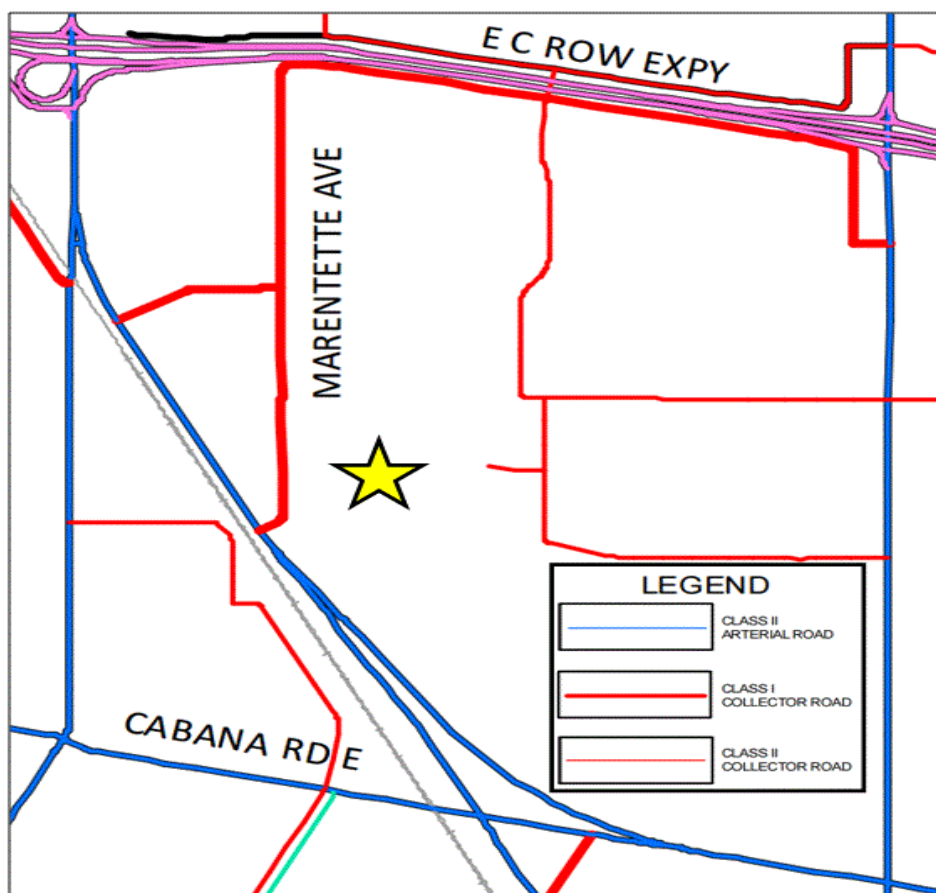


Figure 1: Existing Transportation Network

Consultation:

In accordance with the Class Environmental Assessment process consultation with various stakeholders including the public, agencies, utilities and first nations was undertaken during the study.

Three primary methods for consulting the public were used throughout the study:

- City of Windsor Project Website (www.WindsorEAs.ca).
- Notices published in the Windsor Star and mailed to the property owners in the Study Area, agencies, utility companies and to First Nations
- Two Public Meetings.

Public Meeting #1 was held on October 5, 2016 in order to present the preferred road design to the public, highlight anticipated traffic operations following implementation of the planned upgrades, and to consult with and receive feedback from the public, agencies and stakeholders.

Public Meeting #2 was held on October 24, 2016 in order to provide a second opportunity to review the information presented during Public Meeting #1. Additional information regarding future traffic volumes was presented at the second public meeting based on feedback received during and following the October 5th meeting.

Alternative Solutions:

Based on the history of the surrounding area and the needs of the community two alternatives were considered:

- Alternative 1: Do Nothing
- Alternative 2: Extension of Kamloops Street

The assessment of alternative solutions is summarized in **Section 3** of the report.

Preferred Design Alternative:

The extension of Kamloops Street was the alternative carried forward and the preferred design includes:

1. Extension of Kamloops Street from Marentette Avenue easterly through the limits of the Southwind Subdivision.
2. The preferred cross section for the Kamloops Street extension comprises the following and is discussed in detail in **Section 4** of the report:
 - 10.4m pavement width
 - 3.3m travel lanes
 - 1.5m bike lanes with 0.4m painted buffers
 - 1.5m sidewalks on both sides of the road
3. Construction of a new, northbound right turn lane on Marentette Avenue
4. Installation of all-way stop control at the intersection of Kamloops Street and Calderwood Avenue
5. Connection of the proposed buffered bike lanes to the cycling network east of the study area via a combination of sharrows and bike lanes (1.5m bike lane and 3.3m travel lane east bound/3.8m sharrow westbound along the existing Kamloops Street to Calderwood Avenue.

Potential Environmental Impacts and Proposed Mitigation:

Socio-Economic Environment

Potential property acquisitions have been identified at the Kamloops Street/Marentette Avenue intersection. Corner cut-offs have been identified at this location in order to meet city standards at intersections. Due to the curvature in the road a future sightline easement has been identified for the light industrial property on the north side of the Kamloops Street extension.

Natural Environment – Species at Risk

As part of the Subdivision approval process, Tru-land Developments is required to complete the Ministry of Natural Resources and Forestry (MNRF) Species at Risk screening process and provide the resulting MNRF clearance to the Municipality, prior to registration of the Plan of Subdivision.

Construction Implementation, Costs and Phasing

Construction is scheduled to take place in 2017 and will consist of 2 separate phases:

Phase 1 – Completed by Tru Land Developments – Entirety of works located within the Southwind Subdivision lands from the western boundary easterly to existing Kamloops Street.

Phase 2 – Completed by the City of Windsor – Construction of the extension of Kamloops Street from the west limit of the plan of subdivision westerly to Marentette. This phase will also include the reconstruction of Marentette Avenue from Kamloops Street north to Foster Avenue, as well as the extension of the new trunk storm sewer in the same location.

It is anticipated that construction of all phases will be substantially completed by the end of 2017.

Anticipated costs for the entire scope of the EA are presented below:

Kamloops Street Extension Construction Cost Estimate (\$2016 excluding HST)	
1 Kamloops Street Extension - Existing Cul-de-Sac West to Marentette Avenue	\$665,218.40
2 Trunk Storm Sewer - Existing Cul-de-Sac West to Marentette Avenue	\$1,149,500.00
3 Marentette Avenue/Kamloops Street Intersection - Right Hand Taper Lane	\$18,000.00
TOTAL	\$1,832,718.40

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1. **BACKGROUND INFORMATION**

1.1. **Purpose of the Study**

A draft plan of subdivision was approved for the Southwind Subdivision under the Planning Act in August of 2015 for the land generally located south of existing Woodlawn and Parkwood Streets, west of Calderwood Avenue, and east of the industrial properties fronting Marentette Avenue between Foster Avenue and Division Road. This area has been designated for residential development for several decades. As part of the subdivision approval Kamloops Street will be extended in order to provide a transportation connection to the west for Devonshire Heights and emergency access connection north for Woodlawn/Parkwood Avenues.

The City of Windsor and Tru Land Developments initiated a Municipal Class Environmental Assessment (EA) study to establish the preferred design, alignment, and cross-section for the Kamloops Street extension from Marentette Avenue easterly through the Southwind Subdivision to the existing intersection at Calderwood Avenue.

1.2. **Study Area**

The limits of the original study area are shown in **Figure 2**, with boundaries consisting of Marentette Avenue to the west, Calderwood Avenue to the east, the north and south property limits of the development which consist of the south property limits of the homes along the existing Woodlawn and Parkwood Avenues to the north, and the Windsor Grove Cemetery lands to the south. The existing Devonshire Heights neighbourhood to the east was also included in the traffic analysis for the Kamloops Extension.

In accordance with Council Resolution CR53/2017, the study area was subsequently modified to exclude the existing dead-end section of Kamloops Street from Calderwood Avenue to the east limits of the planned development. The revised study area is depicted in **Figure 3**.



Figure 2 – Study Area

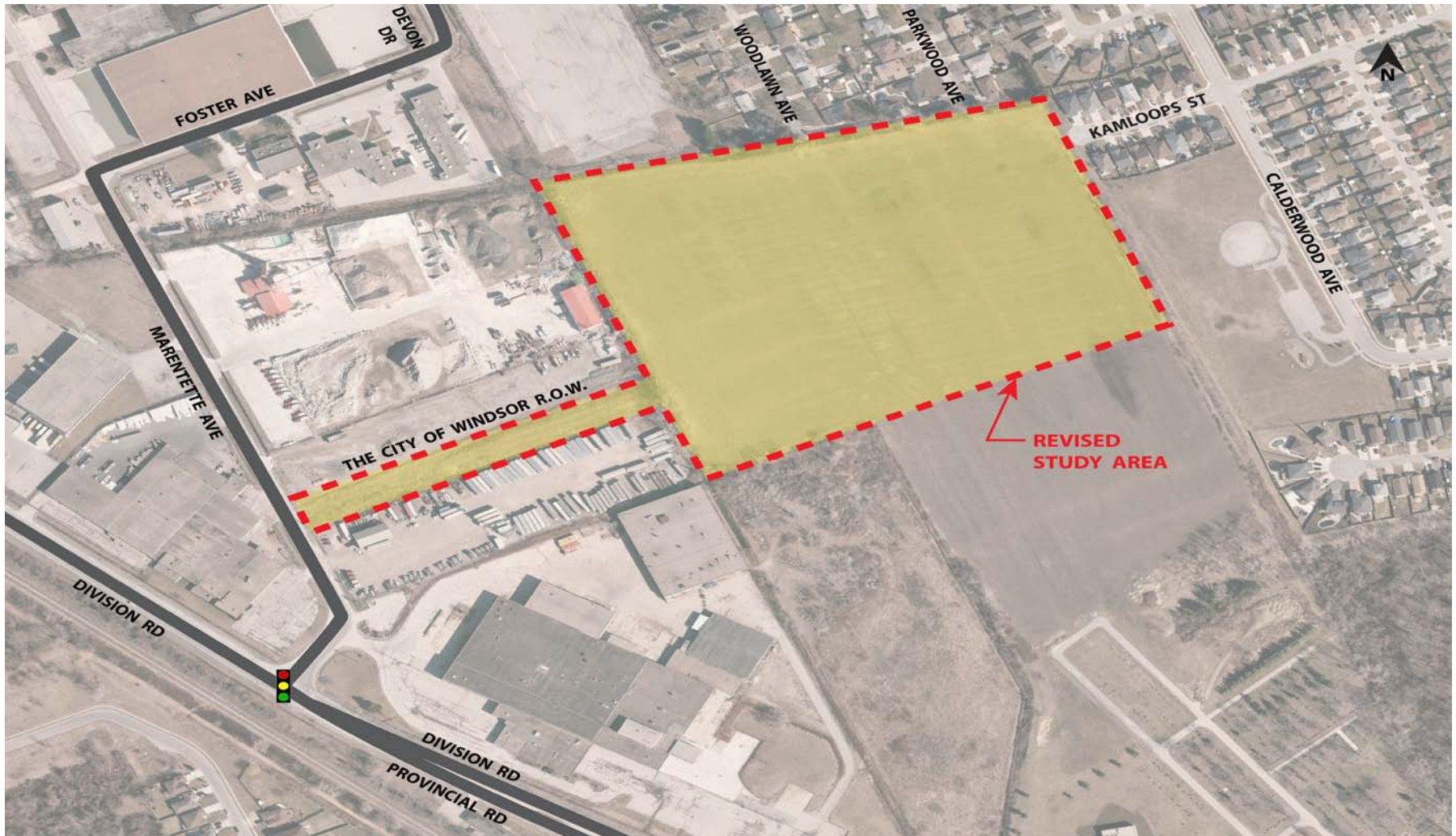


Figure 3 - Revised Study Area

1.3. Municipal Class Environmental Assessment Process

This project was undertaken in accordance with Municipal Class EA document requirements (October 2000, as amended in 2007, 2011, and 2015). The document defines 4 schedules (Schedules A, A+, B & C) under which projects may be planned and describes the process required for each. The complexity of the project, defined by the level of community interest, technical considerations and environmental impacts help to determine which schedule is followed.

Since the extension of a Class II Collector beyond the limits of the Plan of Subdivision was necessary to provide appropriate access to the proposed development and the existing neighbourhoods, ***the Kamloops Street extension was identified as a Schedule B undertaking by the project team, and as such the study completed the 2 phases as outlined in the EA document.***

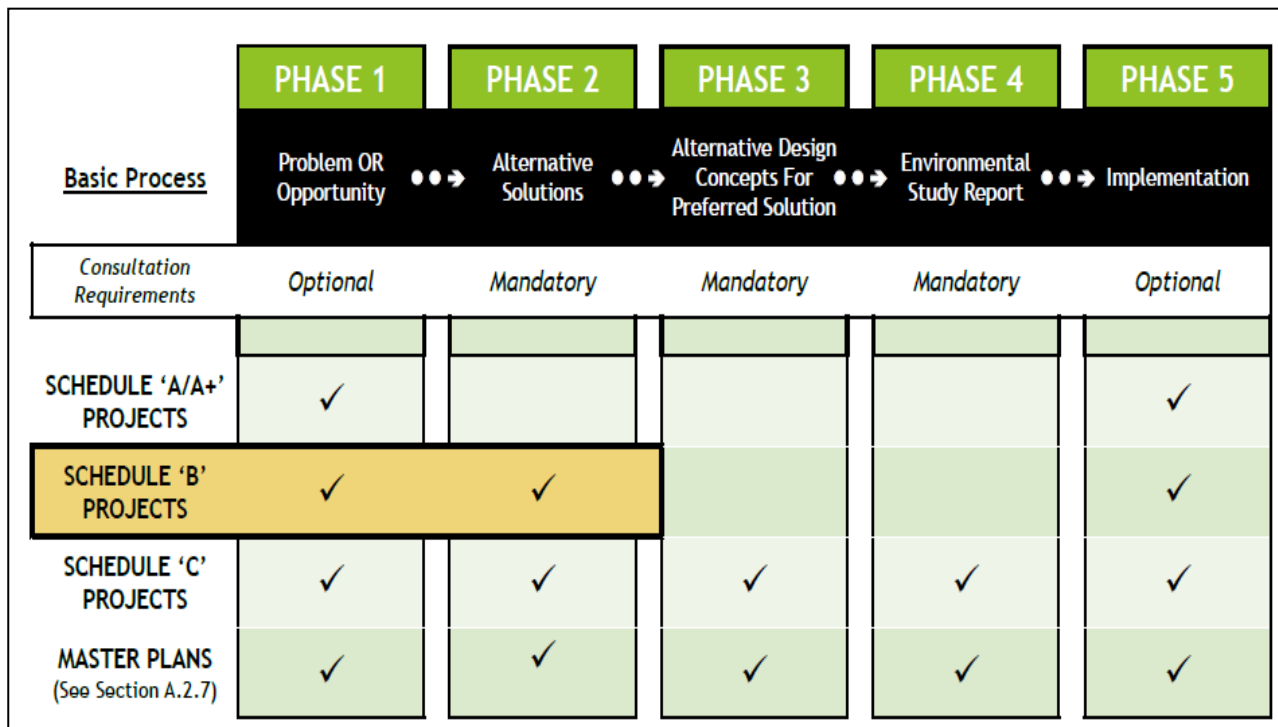


Figure 4 – Municipal Class EA Process

If concerns regarding this project cannot be resolved in discussions with the City of Windsor, a person or party may request the Minister of the Environment and Climate Change to make an order for the project to comply with Part II of the Environmental Assessment Act which addresses individual environmental assessments. In the event an objection is filed, the Minister of the Environment will undertake a review and render a decision which may deny the request with or without conditions, refer the matter to mediation, or require the proponent to comply with Part II of the EA Act. Requests for a Part II order must be submitted within the mandatory 30 day review period to the Minister of the Environment and Climate Change with a copy provided to the City of Windsor as specified in the notice of study completion.

1.4. Public and Agency Consultation

Public and agency consultation during the completion of the study was carried out in accordance with the Municipal Class EA document as characterized by the requirements for a Schedule B undertaking. Five formal points of contact were included as specified below:

1. Notice of Study Commencement and Notification of Public Meeting #1 – Advertisement in the Windsor Star, Saturday October 1, 2016.
2. Public Meeting #1 – Wednesday October 5, 2016 - Advance notification to property owners via mail and door-to-door delivery, email notification to interested agencies, stakeholders and First Nations.
3. Public Meeting #2 – Monday October 24, 2016. – Advance notification to surrounding property owners via mail and door-to-door delivery. Note a second meeting was scheduled to provide additional details regarding forecasted traffic conditions.
4. Progress report to the Council of the City of Windsor (February 6, 2017) with a recommendation from Environment, Transportation & Public Safety Standing Committee based on their consideration of the same report (meeting date January 25, 2017)
5. Notice of Study Completion – upon finalizing the Study, the Notice will be published in the Windsor Star and mailed to those identified on the project Contact List. The document will be made available for the mandatory 30-day review period.

Please see **Appendix A** for a record of the notifications described above. During each of the Public Meetings attendees and interested parties were invited to submit comments for consideration based on the preferred alternatives presented. A consolidated record of the comments received can be viewed in **Appendix B** including the Report to the Environment Transportation & Public Safety Standing Committee and to Council and the resulting decision.

As part of Public Consultation, Provincial Agencies, the Essex Region Conservation Authority, and local Utilities were also contacted prior to Public Meeting #1 and given the opportunity to comment on the alternative solutions presented. Correspondence received from all agencies can be reviewed in **Appendix C**.

1.5. Project Team

This study has been prepared as a collaborative effort between the City of Windsor and Tru Land Developments. The project team includes:

- Josette Eugeni – City of Windsor Transportation Planning Department
- Jeff Hagan – City of Windsor Transportation Planning Department
- Jelena Muegge – City of Windsor Drafting Department
- Jim Abbs – City of Windsor Planning Department
- Patrick Winters – City of Windsor Development Engineering
- Murray Troup – President Tru Land Developments

Consultants were retained to prepare the following required background studies:

- Akoustik Engineering Limited - Noise Assessment
- Golder Associates - Stage 1-2 Archaeological Assessment
- RC Spencer Associates – Traffic Analysis Study

1.6. Problem/Opportunity Statement

Based on the planned westerly connection of Kamloops Street from Calderwood Avenue to Marentette Avenue, the problems for the Study Area include:

- A need to improve traffic operations and allow for improved access for First Responders in the event of an emergency.
- Pedestrian and Cyclist Safety – there is a need to improve facilities within the Study Area and provide system connections including transit connections.

- Concerns expressed from the residents in the Parkwood Avenue and Woodlawn Avenue opposing the connection of those streets to the extension of Kamloops Street.
- Public perception that character and neighborhood north would change and the value of the property in the area would diminish.

The full connection of Kamloops Street will present the following opportunities for the Study Area:

- Enhanced traffic safety and efficiency.
- A road outlet to the west for the existing Devonshire Heights Subdivision.
- Potential increase in the level of service operation for Conservation Drive to the north during peak travel periods.
- A connection to Marentette Avenue establishes a second access to the Southwind Subdivision to provide appropriate emergency response and connection to surrounding transit routes.
- A connection to Marentette Avenue and Calderwood Avenue allows for the extension of existing cycling and pedestrian facilities to the new subdivision.
- A connection to Marentette Avenue with the enclosure of the 3rd Concession Drain under the roadway allows for the elimination of open ditches and full urbanization of the area.

2. EXISTING AND FUTURE CONDITIONS

2.1. Socio-Economic Environment- Devonshire Planning District

The Devonshire Planning District (PD) is the only PD in Windsor that experienced positive population growth through all 6 of the inter-census periods. Growth in the Devonshire PD is observed to be slow and steady whereas growth in the other PDs has been intermittent and has occurred in bursts with large new residential low-density developments. The Devonshire and South Cameron PDs were the only PDs to experience an increased in occupied dwellings during all 6 of the inter-census periods reviewed by the Planning Department. 2011 Planning District details are available on the City website at www.citywindsor.ca.

2.2. Official Plan & Municipal Transportation Policies

The area subject to the EA is designated Residential District (RD2.3) with site specific regulations and Industrial (HMD1.1) permitting light industrial uses.

Schedule F of the City of Windsor Official Plan (OP) designates the existing section of Kamloops Street west of Calderwood Avenue as a Class II Collector Road. Section 7.2.6.7 of the OP identifies the requirements of this road class as follows:

7.2.6.7 CLASS II COLLECTOR ROADS

Council shall provide for Class II Collector Roads as follows:

- (a) Class II Collector Roads shall be designated on Schedule 'F' and in any secondary plan or master plan where appropriate;
- (b) Operational and design characteristics:
 - (i) Class II Collector Roads shall be designed to carry moderate volumes of traffic and shall have a minimum right-of-way width of 26 metres;
 - (ii) New intersections shall not be permitted with Provincial Highways, Expressways and Class I Arterial Roads;
 - (iii) Direct property access may be permitted with some controls;
 - (iv) Cycling facilities may be permitted; and
 - (v) On street parking may be permitted.

A 22m right-of-way for the Kamloops Street extension west of the subdivision has been previously designated by the City of Windsor. The existing section of Kamloops Street west of Calderwood Avenue has a 20m right-of-way. The plan of subdivision confirmed a 22m right-of-way between these two existing segments.

2.3. Existing Land Use

The study area and surrounding lands contain various types of land uses. The subdivision site is currently vacant and has most recently been used for agricultural purposes.

A mature residential area is located to the north, and to the east Devonshire Heights is a more recent residential subdivision which has developed. Devonshire Park was developed in conjunction with the Devonshire Heights Subdivision and is located to the east of the subject lands. A cemetery is located to the south of the subject site. The

lands to the west of the development are designated industrial and are currently occupied.

2.4. Future Development Activity

A draft plan of subdivision for the Southwind Subdivision consisting of 119 Townhome Units and a 300m buffer of light industrial lands backing onto the industrial properties fronting Marentette was approved under the Planning Act in August of 2015 as per **Figure 5** below.

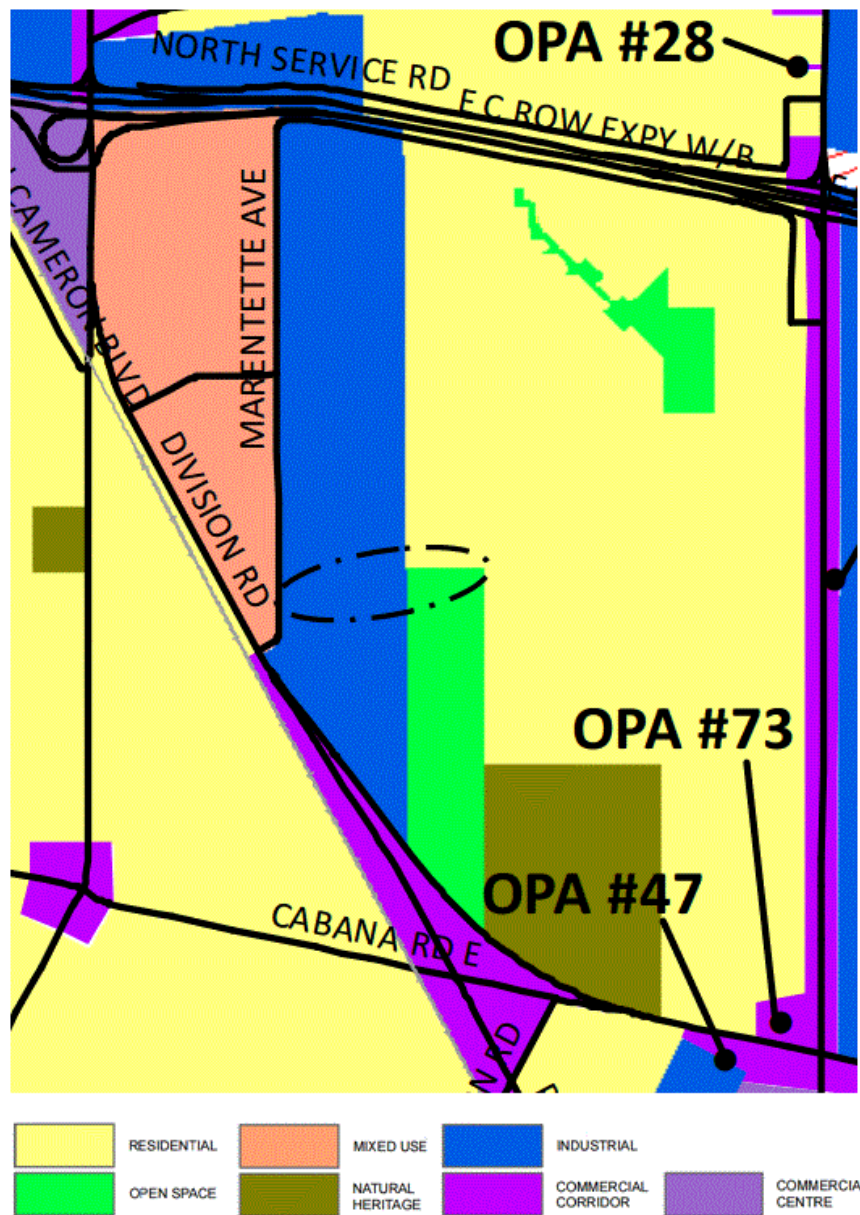


Figure 5: Existing Land Uses

2.5. Natural Environment

The Provincial Policy Statement (PPS2014) speaks to consideration which must be given for the protection of Natural Heritage Features. There are no Natural Heritage features identified in the City of Windsor Official Plan on or adjacent to the subject property that would trigger the requirement for an Environmental Evaluation Report.

2.6. Species at Risk

As part of the Subdivision approval process, the Ministry of Natural Resources and Forestry (MNR) Species at Risk screening process is required to be completed. The resulting MNR clearance will be provided to the Municipality, prior to registration of the Plan of Subdivision.

2.7. Cultural Environment

A stage 1 and 2 archaeological assessment has been prepared by an Ontario-licensed archaeologist (Please refer to Appendix F for further details). The Ministry of Tourism, Culture & Sport (Ontario) has indicated that given the combined results of the Stage 1-2 archaeological assessment, it is concluded that there are no archaeological resources within the limits of the study area and as such no further archaeological assessment is recommended for the study area.

2.8. Technical Environment

2.8.1. Existing Transportation Infrastructure

Street	Characteristics (within the study area)				Notes
	Classification (City of Windsor Official Plan)	Existing Right-of-way width	Travel Lanes	Cycling Facilities	
Kamloops Street	Class 2 Collector	20 m	2	None (see note)	Identified for future cycling facilities in Bicycle Use Master Plan
Calderwood Avenue	Class 2 Collector	22 m	2	Signed Route	
Marentette Avenue	Class 1 Collector	20.1 m	2	None (see note)	Identified for future cycling facilities in Bicycle Use Master Plan

Table 1: Existing Study Area Roadway Infrastructure

Fourteen existing houses are located on the 1200 block of Kamloops Street between the current dead-end barricade east of the Southwind Subdivision Lands and Calderwood Avenue. The existing section of roadway is 8.6m wide, with sidewalks on both sides of the street and was constructed in 1998 under Phase 4 of the Devonshire Heights Subdivision.

Within and immediately surrounding the study area, the existing transportation network has poor connectivity. Existing barriers to east-west travel are shown in **Figure 6** for motor vehicle traffic and emergency access and in **Figure 7** for pedestrian and cyclist movement.

For motor vehicles, including emergency vehicles, the neighbourhood east of the study area has no connections to or from the west between E.C. Row Avenue and Cabana Road East/Division Road.

The streets immediately north of the study area (Parkwood Avenue, Woodlawn Avenue, and short cross streets) are isolated from the surrounding road network except for a connection at E.C. Row Avenue.

For active transportation modes, existing multi-use trail connections are provided between Parkwood Avenue and Conservation Drive at Malcolm Street (Leaffield Park) and at Foster Avenue. An existing multi-use trail is also provided along E. C. Row Avenue from Bliss Road to Marentette Avenue. An active transportation connection to Division Road is provided via a loose-surface multi-use trail through Devonwood Conservation Area (Essex Region Conservation Authority). No pedestrian connection is provided to Marentette Avenue south of Kamloops Street.



Figure 6: Transportation Barriers - Motor Vehicle Traffic and Emergency Access

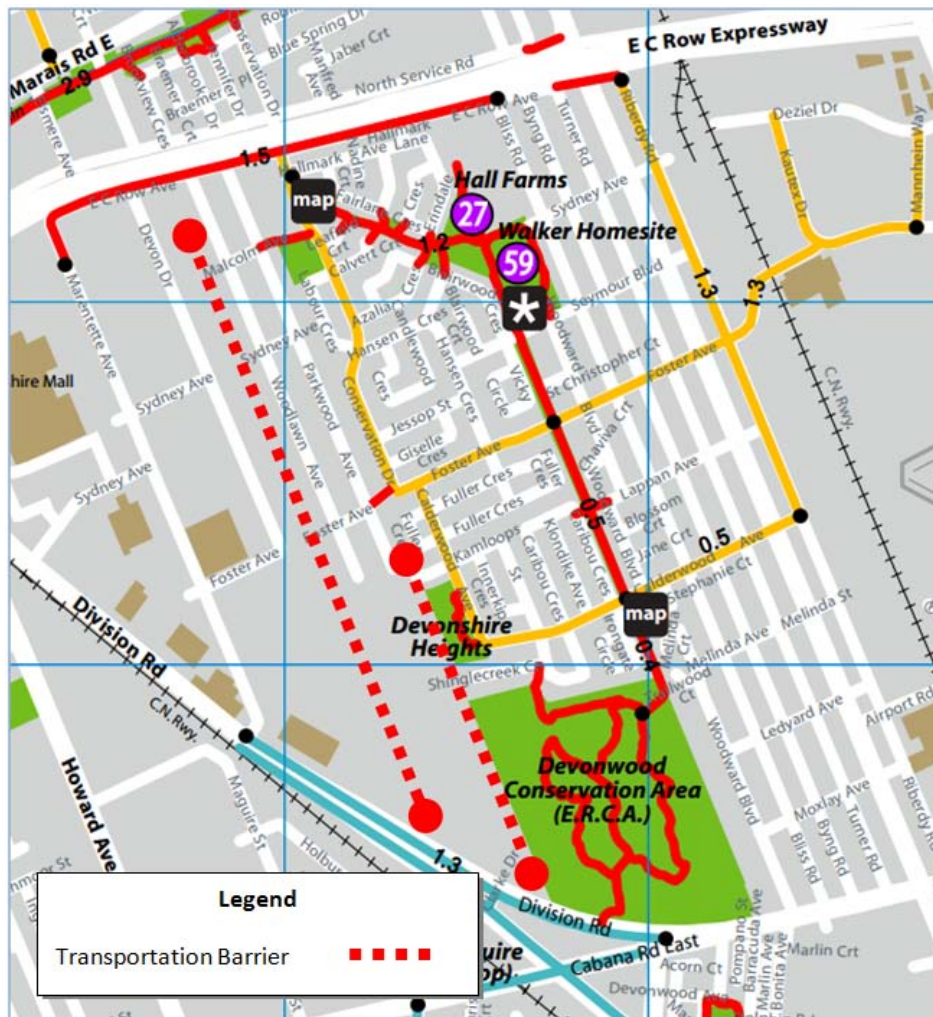


Figure 7: Transportation Barriers - Active Transportation

2.8.2. Traffic Operations – Existing and Future

A review of the most recent five years of cycling collision data (2011 through 2015) found no reported motor vehicle/cyclist collisions in the study area.

The Traffic Analysis Study reviewed existing (2009) and future (2009+ growth) in the study area, as detailed in Appendix D. This traffic analysis found that under existing and future background conditions, study area intersections operated at an overall level of service ‘B’ or better (with level of service ‘C’ or better for individual movements) in the weekday AM and PM peak hours, with all movements operating below capacity.

As part of the traffic analysis volume forecasts were prepared for future conditions; these traffic forecasts took into account new traffic from the proposed Southwind Subdivision as well as redistributed background traffic. **Figure 8** depicts future traffic volumes on Kamloops Street [weekday PM peak hour], including current and proposed traffic for the existing dead-end section east of the proposed subdivision. The predicted volumes indicate a relatively significant increase to both eastbound [162 vehicles per hour v. 4 vehicles per hour] and westbound [86 vehicles per hour v. 9 vehicles per hour] traffic following connection of the roadway. However, the projected volumes are appropriate for the road classification.

The key findings and implications of the traffic analysis are as follows:

- i) The connection of the roadway provides a valuable link for the residents of the existing community to the east;
- ii) Traffic volumes on the existing section of Kamloops Street west of Calderwood Avenue will increase once the connection is provided; and
- iii) Forecast traffic volumes can be accommodated on the study area road network with the following mitigating measures:
 - a. A northbound right turn lane at the new Kamloops Street / Marentette Avenue intersection; and
 - b. An all-way stop at the Calderwood Avenue/Kamloops Street intersection.

**KAMLOOPS STREET EXTENSION
 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

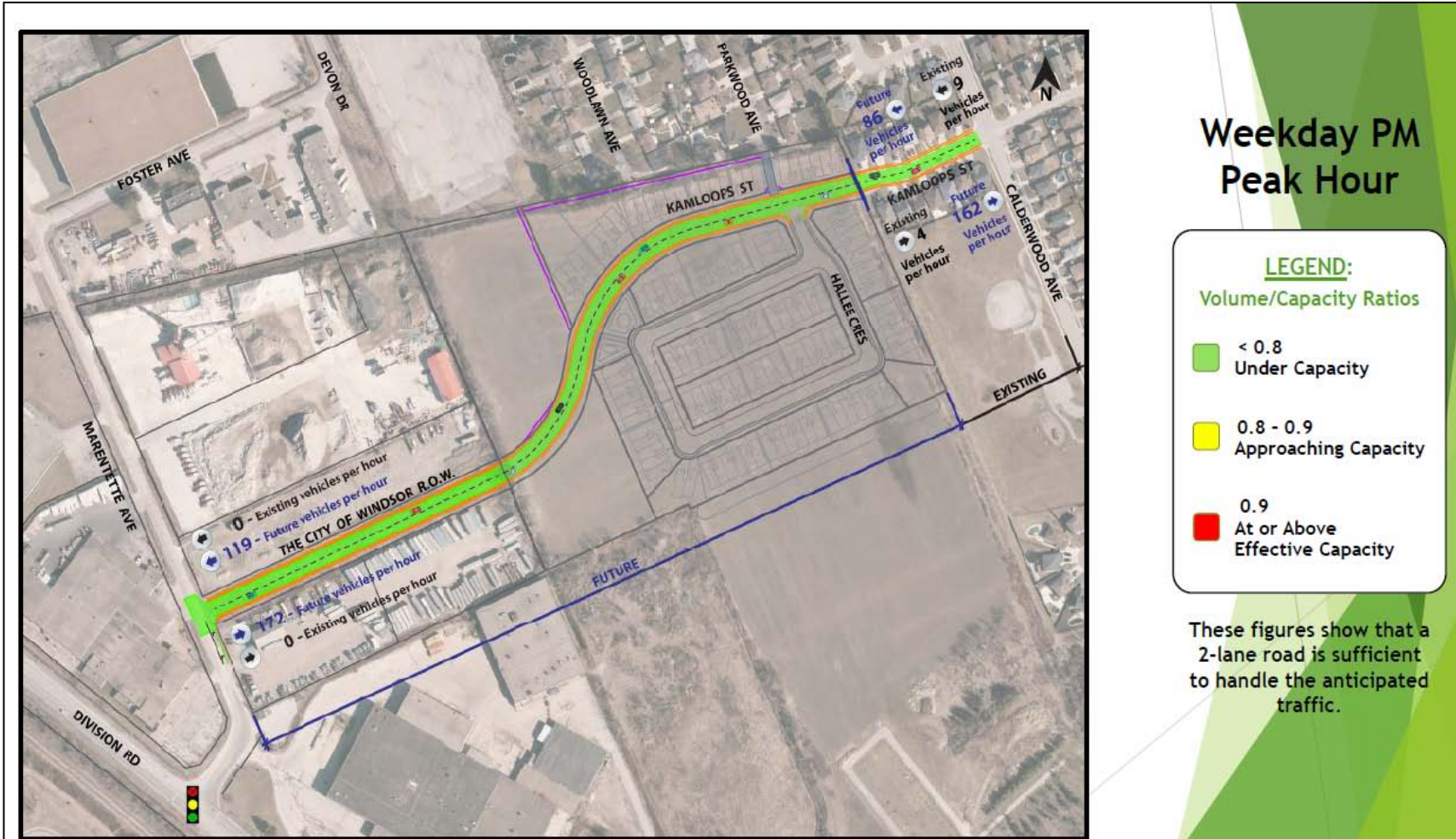


Figure 8: Future Traffic Volume with Kamloops Connection

3. ALTERNATIVE SOLUTIONS

3.1. Description and Evaluation of Alternative Solutions

Phase 2 of the Municipal Class EA process consists of taking into consideration the existing environment in order to evaluate alternative solutions to address the problems/opportunities identified during Phase 1. Part of the existing environment for the Kamloops Street extension that had to be acknowledged by the project team at this stage were the conditions of the approved draft plan of subdivision for the Southwind Subdivision lands.

During Planning Act approvals (as well as during a previous subdivision application in 2005) there was considerable concern expressed from the residents in the Parkwood Avenue and Woodlawn Avenue area regarding opposition for the connection of those streets to the extension of Kamloops Street. The primary concerns revolved around the residents perception that safety of the streets would be compromised, the character of the neighbourhood would change and the value of the property in the area would diminish. City Administration was of the opinion that potential benefits of the connections far outweighed the concerns brought forward and that connections should be provided to both Woodlawn and Parkwood Avenue in order to improve traffic operations and active transportation connections and allow for improved access for First Responders in the event of emergencies. During draft plan of subdivision approval the connection to one or both existing streets (Parkwood and Woodlawn Avenues) was heavily debated at Windsor City Council with the final decision being that a 6m wide emergency and active transportation access would be provided at Parkwood Avenue as the only connection.

Taking into consideration the above proceedings and the existing environment the project team identified two main alternatives existed for the study area;

- i) Do Nothing, or
- ii) The Extension of Kamloops Street.

3.1.1. Alternative 1: Do Nothing

Within the context of the approved plan of subdivision the do nothing alternative is interpreted as either the extension of Kamloops Street easterly from Marentette Avenue or as a connection westerly from Calderwood Avenue. After further evaluation this alternative was not carried forward because it fails to solve many of the existing problems identified, such as:

- Alternative fails to provide connectivity to/from the west for the Devonshire Heights Community;
- Alternative does not provide a second emergency access for either the Devonshire Heights Subdivision or Woodlawn/Parkwood Avenues;
- Alternative fails to connect existing neighbourhoods to Transit Routes on Marentette Avenue and/or to provide an opportunity to expand the Transit route to include Kamloops;
- Alternative fails to connect the community to existing networks for active transportation, and
- Alternative doesn't alleviate existing congestion issues.

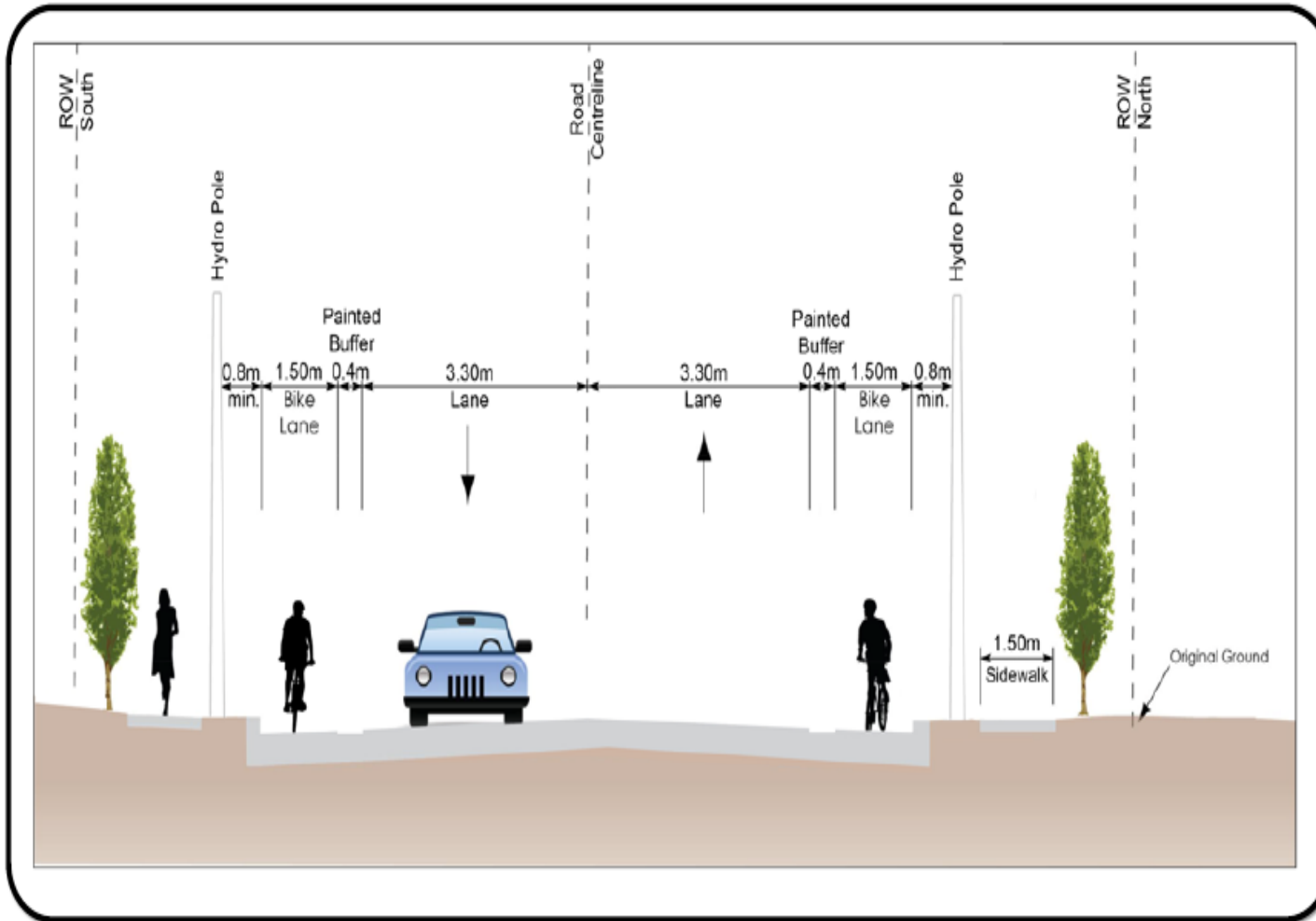
3.1.2. Alternative 2: Extension of Kamloops Street

As mentioned previously the westerly connection of Kamloops Street to Marentette Avenue has been planned since the area to the east was first developed in the 1990's (Devonshire Heights Phase 4). The right-of-way for the portion of the extension west of the subdivision limits was designated by the City of Windsor in 1997 with the understanding that the road would be built when development proceeded on the Southwind Subdivision lands. Further, the extension of the road and associated connection to both existing Marentette Avenue to the west and Calderwood Avenue to the east was confirmed as it provides logical solutions to many of the problems identified within the existing community. To be more specific, the full connection of Kamloops Street will provide the following:

- Road inlet/outlet to the west for the existing Devonshire Heights Subdivision;
- Reduction in out of way travel and reduced travel times for some area trips based on origin/destination;
- Potential improvement in the level of service for Conservation Drive to the north during peak travel periods;

- Connection to Marentette Avenue establishes a second access to the Southwind Subdivision to provide improved emergency response and connection to surrounding transit routes;
- Potential to expand the Transit route to include Kamloops Street;
- Connection to Marentette Avenue with the enclosure of the 3rd Concession Drain under the roadway allows for the elimination of open ditches and full urbanization of the area; and,
- Connection to Marentette Avenue and Calderwood Avenue allows for the extension of existing cycling and pedestrian facilities to the new subdivision.

Based on the above the extension of Kamloops Street from Marentette Avenue east through the limits of the Southwind Subdivision was carried forward. Further, based on the classification of the roadway, active transportation network connections, and connection to the existing transit route on Marentette Avenue, it was determined that the cross section for the extension should include a pavement width of 10.4m, consistent with a collector road. Two alternative cross-sections were considered.

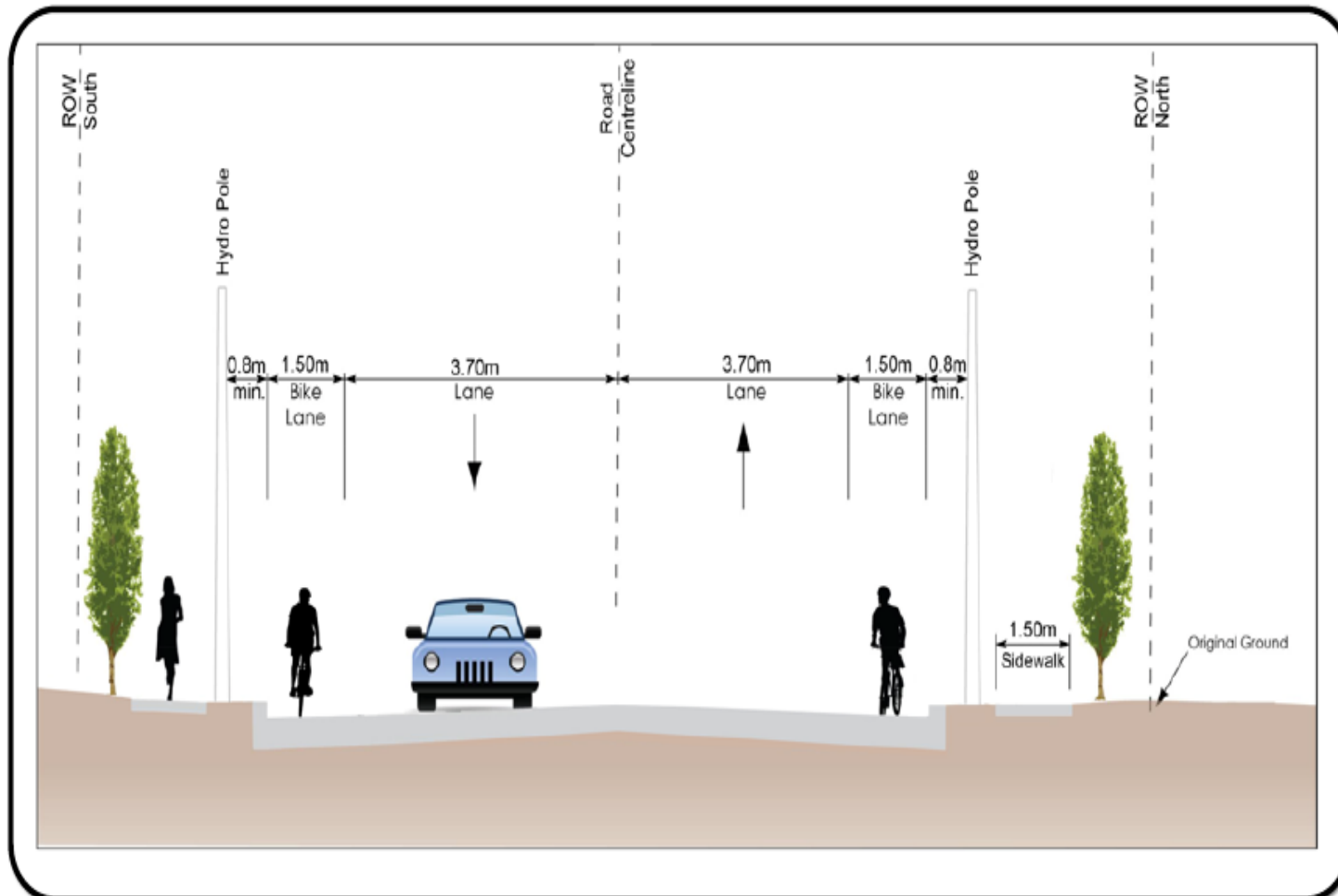


ALTERNATIVE 1

Cross-Section with Buffered Bike Lanes, as shown in Figure 8:

- Two 3.3m travel lanes
- 1.5m bike lanes with 0.4m painted buffers on both sides of road
- 1.5m sidewalks on both sides of the road

Figure 9 – Cross-Section with Buffered Bike Lanes



ALTERNATIVE 2

Cross-Section with Conventional Bike Lanes, as shown in Figure 9:

- Two 3.7m travel lanes
- 1.5m conventional bike lanes on both sides of road
- 1.5m sidewalks on both sides of the road

Figure 10 – Cross-Section with Conventional Bike Lanes

Both cross sections are similar, each with 10.4m wide pavement width and sidewalks on both sides of the street. The main difference between the two cross sections is represented by the bike facilities and whether or not to include a painted buffer.

3.1.2.1. Active Transportation

The City of Windsor's Bicycle Use Master Plan (BUMP, May 2001) aims to expand the City's existing cycling network, promote awareness, improve the cycling-transit link and provided end-of-trip facilities. According to the recommendations of the report, BUMP identified cycling facilities to be installed on the Kamloops Street extension and on Marentette Avenue. Facilities already exist on Calderwood Avenue.

Ontario Traffic Manual Book 18: Cycling Facilities (OTM Book 18) provides guidance on the planning, design and operation of cycling facilities in Ontario. This document includes a bicycle facility type selection process and was utilized for this EA Study to confirm the appropriate cycling facility to include in the Kamloops Street extension.

The three step process as outlined in OTM Book 18 was followed, and the results are summarized below:

Step 1: Facility pre-selection based on vehicle speeds and average daily traffic volumes:

- Vehicle speeds within the Study Area are 50 km/hr to 60 km/hr.
- Average daily traffic volumes within the Study Area are approximately 1,500 vehicles to 2,000 vehicles.

As illustrated on **Figure 11**, the Kamloops Street Extension is within the higher threshold of the "Consider Shared Roadway" (blue) designation, bordering the "Consider Designated Cycling Operating Space" (white) area on the nomograph. The nomograph does not contain precisely defined lines between the three operating environment categories since there are no absolute thresholds where one particular facility type is preferred over another.

Step 2 below examines other relevant Study Area factors to assist in determining the most appropriate cycling facility.

- Step 2: Examine other relevant Study Area factors:
 - The Study Area is a residential neighbourhood and multiple driveways will exist along Kamloops Street
 - It is expected that there will be variable skill levels of bicycle facility users.
 - The planned road geometry is curvilinear

In Step 3 of the bicycle facility type selection process buffered bike lanes were confirmed as the appropriate cycling facility.

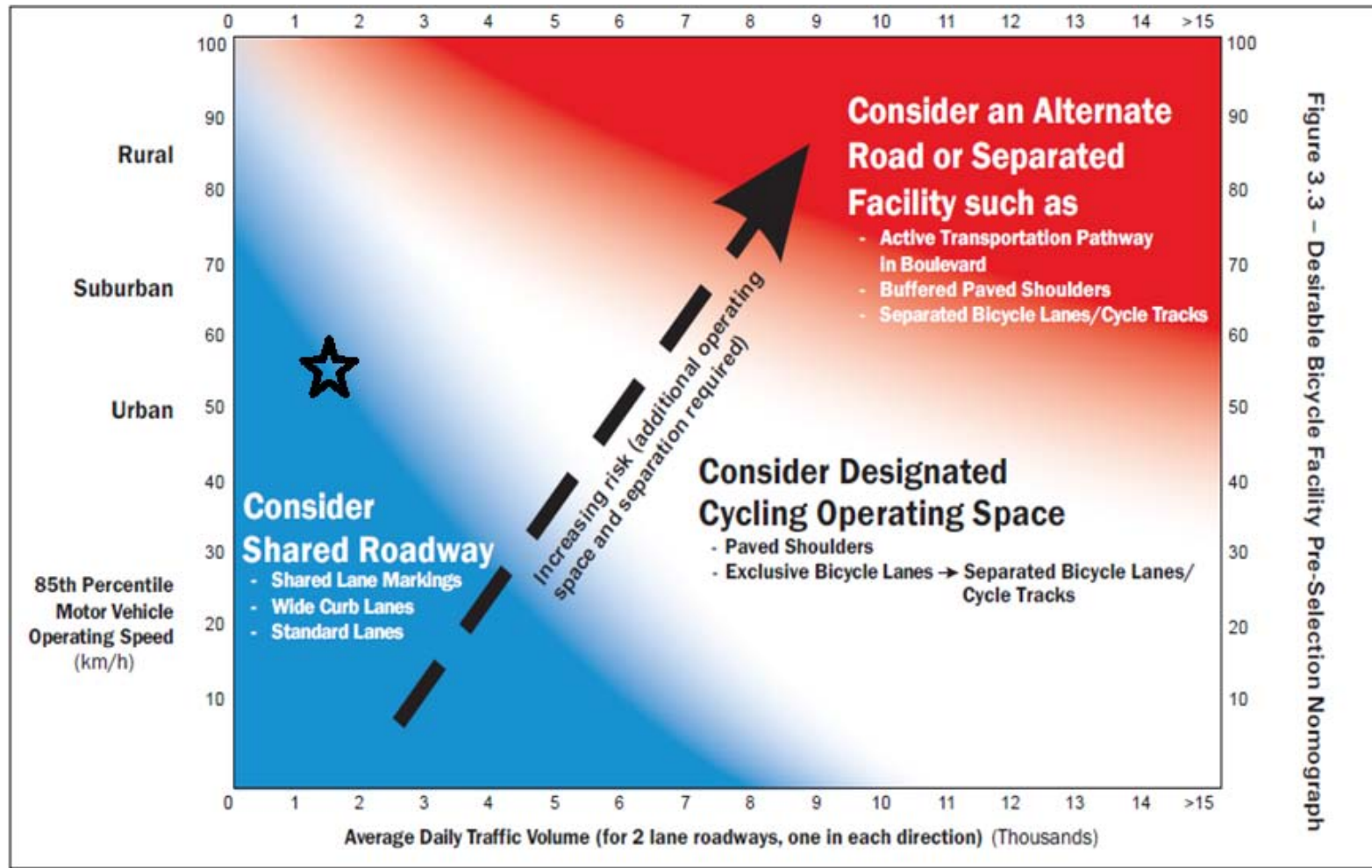


Figure 11: Desirable Cycling Facility STEP 1 of 3 Pre-Selection Nomograph

4. PREFERRED DESIGN & PROJECT DESCRIPTION

The following table summarizes the overall evaluation of planning alternatives considered.

Planning Alternatives	Description	Potential to Address Problem and/or Opportunity Statement Alone or in Combination with other Alternatives	Recommendation
DO NOTHING	Maintain Status Quo./ Connect Southwinds Subdivision to existing Kamloops Street stub to the east	<ul style="list-style-type: none"> ▶ Not Realistic ▶ Does not address the Emergency Access ▶ Does not connect the community to existing networks for Active Transportation ▶ All traffic from new subdivision passes through existing neighbourhoods 	NOT Carried Forward for Further Consideration
EXTENSION OF KAMLOOPS STREET	Extension to Marentette Street	<ul style="list-style-type: none"> ▶ Realistic ▶ Constructing the connection to Marentette Street establishes a second access to provide appropriate emergency response and connection to surrounding road network and Transit Routes ▶ Connection to Marentette with the enclosure of the 3rd Concession Drain under the roadway allows for the elimination of open ditches and full urbanization of the area 	Carried Forward for Further Consideration
	Extension to Calderwood Ave.	<ul style="list-style-type: none"> ▶ Realistic ▶ Constructing the extension to Calderwood Ave. with a consistent cross-section extends the existing cycling and pedestrian network to the new subdivision, connects existing neighbourhoods to Transit Routes on Marentette Street as well as an alternate route to destinations to the west ▶ Cross-section will be consistent with road classification (Class 2 Collector) 	Carried Forward for Further Consideration
	Cross Section - Buffered Bike Lanes	<ul style="list-style-type: none"> ▶ Realistic ▶ Provides additional space to vulnerable road users ▶ Provides buffer-zone through curvilinear road geometry for added comfort ▶ Narrowed lane translate in reduced operating speeds 	Carried Forward for Further Consideration
	Cross Section - Conventional Bike Lanes	<ul style="list-style-type: none"> ▶ Realistic ▶ Meets current standards and guidelines ▶ Wide travel lanes negatively impact operating speeds ▶ Does not address vulnerable road users through curvilinear road geometry 	NOT Carried Forward for Further Consideration

Table 2 – Planning Alternatives Evaluation

4.1. Description of the Preferred Design

Ultimately the cross section with the buffered bike lanes was determined to be the preferred cross section as the painted buffer provides additional protection for cyclists using the roadway especially through the curvilinear portion of the road geometry and additionally has narrower travel lanes, which traditionally translates to reduced operating speeds for motorists.

The preferred design for the Kamloops Street extension is comprised of a 10.4m wide pavement with 3.3m travel lanes, 1.5m bike lanes with a 0.4m painted buffer and 1.5m wide sidewalks on both sides of the street. The preferred design plans for the Kamloops Street Extension is shown on plates 1 and 2 in the drawing section at the end of this report.

Residents from the existing Kamloops Street road segment [1200 Block] representing 2 of the properties attended one or both of the Public Meetings. One resident submitted comments expressing concerns over the proposed widening of the existing road in front of their home from 8.6m (28 feet) to 10.4m (34 feet).

Based on this feedback the following alternatives were considered:

- Widening the road off of the existing centerline; or
- Widening the road to the south

After careful consideration the design for widening this existing segment within the existing right-of-way was selected to be undertaken to the south, to minimize direct impacts to the majority of existing residents as illustrated in **Figure 12**. The right-of-way for the road extension is offset to the south of the existing right-of-way. Additionally, widening to the south eliminates the replacement of infrastructure on the north side of the street including existing curbing, streetlights and sidewalk. Placement of the south sidewalk at the back of curb during reconstruction facilitates its replacement near its current location, minimizing affects on these property owners.

**KAMLOOPS STREET EXTENSION
 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

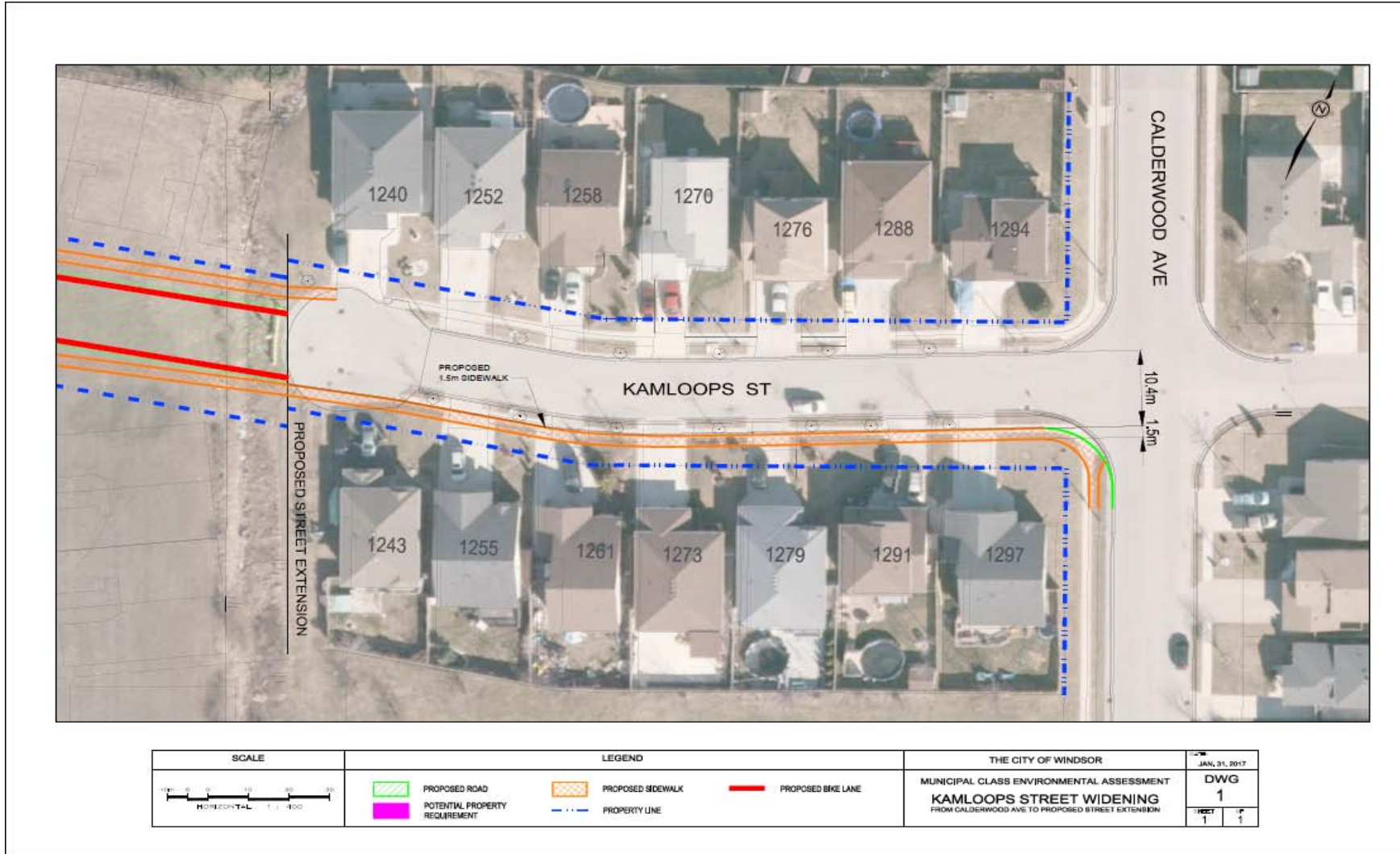


Figure 12: Proposed Widening of Existing 1200 Block of Kamloops Street

During the City of Windsor Council Meeting of February 6, 2017, an administrative report was provided for consideration regarding the proposed preferred alternative. This report had been previously vetted through the Environment, Transportation and Public Safety Standing Committee on January 25, 2017. The final decision from Council is as follows:

*Decision Number: **CR53/2017 ETPS 470***

*THAT the report of the City Engineer dated January 5, 2017 entitled "Kamloops Street Environment Assessment – Filing the Notice of Study Completion" **BE RECEIVED** for information; and further;*

*THAT Administration **BE DIRECTED** to issue the Notice of Study Completion for the Kamloops Street Extension Assessment (EA), with the exception that the existing section of Kamloops westerly from Calderwood Avenue **BE REMOVED** from that EA.*

Based on this direction, the limits of the study area have been amended to remove the 107m section of Kamloops Street between the east limits of the planned development and Calderwood Avenue.

A review of the options to transition between the planned 10.4m cross section and the existing 8.6m roadway was conducted. The following cross section is recommended for the existing roadway as illustrated in **Figure 13**.

- The roadway pavement will gradually transition from 10.4m cross section to the existing 8.6m cross section with the following elements:
 - 1.5m bike lane eastbound
 - 3.3m travel lane eastbound
 - 3.8m sharrow lane westbound
- The planned 1.5m sidewalks within the Kamloops Street extension will transition to meet the existing 1.2m sidewalks.

**KAMLOOPS STREET EXTENSION
 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

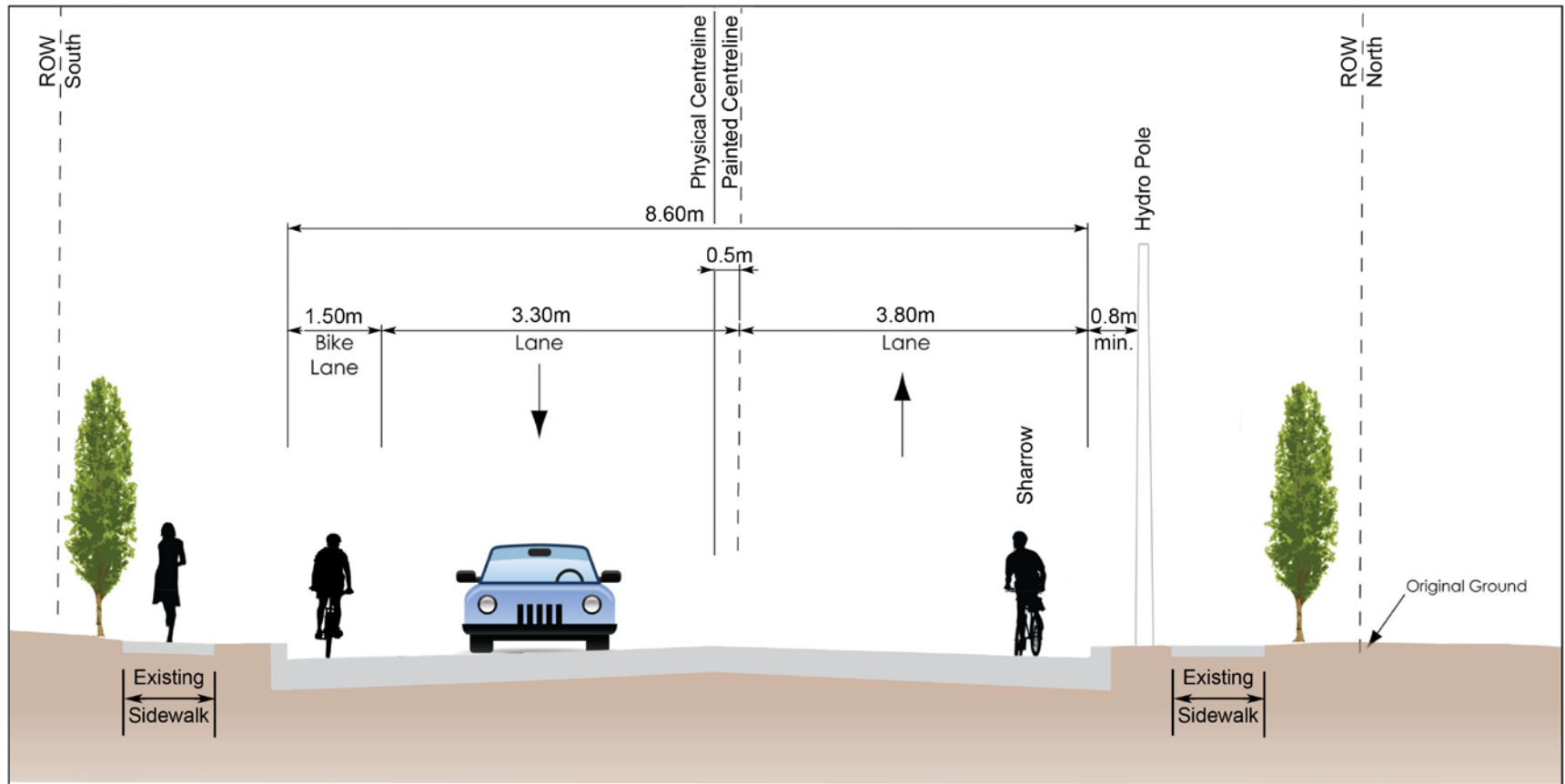


Figure 13 – Revised Road Cross Section – Existing Kamloops Street

4.2. Intersections

The preferred design includes the construction of a new intersection at the junction between Kamloops Street and Marentette Avenue, including a dedicated northbound right turn lane on Marentette. As per the recommendations of the Traffic Analysis Study prepared by RC Spencer Associates no upgrades are proposed to the existing signalized intersection at Division/Marentette.

In accordance with the supplementary traffic control analysis the preferred design also includes the addition of an all way stop at the corner of Kamloops Street and Calderwood Avenue.

4.3. Pedestrian & Cyclist Facilities

The preferred design includes 1.5 m bike lane with a 0.4m painted buffer and 1.5 m sidewalks on both sides of the Kamloops Street from Marentette Ave. to the east limits of the revised Study Area. An eastbound 1.5m bike lane and 3.8m westbound sharrow lane will connect the planned cycling facilities to the existing facilities on Calderwood Avenue.

4.4. Drainage and Stormwater Management Requirements

Implementation of the recommended alternative requires the urbanization of currently rural areas. Under pre-development conditions open ditches border approximately 80% of the Southwind Subdivision lands. As such, construction of the subdivision and the associated extension of Kamloops Street will understandably require significant modifications to the existing site drainage. Recommendations for overall drainage modifications are specified in Appendix G [Southwind Subdivision by Tru Land Developments Inc. Stormwater Management Plan] and consist of the following:

- Enclosure of the 3rd Concession Drain and construction of a new trunk storm sewer from existing Kamloops Street i)west to Marentette, ii)north to a new outlet on Foster Avenue;
- Enclosure of the east branch of the O'Neil Drain between the Southwind Subdivision lands and City owned parkland to the east.;
- Enclosure of the west branch of the O'Neil Drain between the Southwind Subdivision and the industrial properties to the west; and,
- Construction of a stormwater management facility, with a restricted outlet to the new trunk storm sewer on Kamloops servicing the Southwind Subdivision.

Implementation of the noted measures maintains existing drain conveyances while at the same time restricts post development runoff to pre development levels for the Southwind Subdivision. The stormwater management facility, oversized sewers, and surface storage on the roadways will provide required storage resulting from the intensification of development.

4.5. Utilities and Services

Minimum conflicts with existing utilities are anticipated resulting from the implementation of the preferred alternative. There is an existing 200mm diameter watermain on the Southwind Subdivision lands which will be relocated and replaced during site servicing. No other known conflicts exist. During site servicing all lots will be fully serviced.

4.6. Cost Estimate

Kamloops Street Extension Construction Cost Estimate (\$2016 excluding HST)	
1 Kamloops Street Extension - Existing Cul-de-Sac West to Marentette Avenue	\$665,218.40
2 Trunk Storm Sewer - Existing Cul-de-Sac West to Marentette Avenue	\$1,149,500.00
3 Marentette Avenue/Kamloops Street Intersection - Right Hand Taper Lane	\$18,000.00
TOTAL	\$1,832,718.40

Table 3 – Construction Cost Estimates

4.7. Construction Implementation and Phasing

Construction is scheduled to take place in 2017 and will consist of 2 separate phases:

Phase 1 – Completed by Tru Land Developments – Entirety of works located within the Southwind Subdivision lands from the western boundary easterly to existing Kamloops Street.

Phase 2 – Completed by the City of Windsor – Construction of the extension of Kamloops Street from the west limit of the plan of subdivision westerly to Marentette. This phase will also include the reconstruction of Marentette Avenue from Kamloops Street north to Foster Avenue, as well as the extension of the new trunk storm sewer in the same location.

It is anticipated that construction of all phases will be substantially completed by the end of 2017.

4.8. Property Impacts

The preferred alternative requires minimal property impacts consisting of 4.5m corner cut-offs for the two properties at the intersection of new Kamloops Street and Marentette Avenue (Roll #'s 070-170-00900 & 070-170-00810) as well as a 75m² sightline easement from the northern light industrial property.

The required property is identified on design plate 1.