



**Report:** TES-DCS-16-12.1

## **Region of Waterloo**

### **Transportation and Environmental Services**

#### **Design and Construction**

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**To:** Chair Tom Galloway and Members of the Planning and Works Committee

**Date:** June 14, 2016      **File Code:** C04-30 / 06510

**Subject:** **Class Environmental Assessment Study**  
**Bridgeport Road/Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street, City of Waterloo**

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#### **Recommendation:**

That the Regional Municipality of Waterloo take the following actions with respect to the Class Environmental Assessment Study for proposed improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street in the City of Waterloo:

- a) Approve the Recommended Design Concept for the proposed improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street as described in Report TES-DCS-16-12.1 dated June 14, 2016;
- b) Direct staff to file a Notice of Completion for this Class Environmental Assessment Study by means of advertisements in local newspapers and mailings to adjacent property owners, tenants and agencies, and place the Project File on the public record for review for a period of 30 days.

#### **Summary:**

The Region of Waterloo is currently undertaking a Class Environmental Assessment Study (Class EA) to consider improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street to King Street in the City of Waterloo. Improvements to Albert Street from Erb Street to Bridgeport Road are also being considered as part of this Class EA Study on behalf of the City of Waterloo. Please refer to Appendix "A" for a Key Plan of the Study Area for

this Class EA.

This Class EA Study has been initiated to identify a recommended design concept to address the deteriorating pavement conditions and aging sewer and watermain on these sections of roadways, as well as to consider opportunities for improvements to pedestrian, cycling and transit facilities.

The Project Team conducted a Public Consultation Centre on January 27, 2016 at the Canadian Clay and Glass Gallery. Based on a review of the technical information gathered for this project, as well as a review of all public and agency comments received, the Project Team is now recommending that Regional Council approve the following improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street to King Street in the City of Waterloo:

Bridgeport Road/Caroline Street from King Street to Erb Street:

- Complete replacement of the pavement structure including new concrete curb and gutter;
- Replacement of the storm sewers;
- Replacement of the City's watermain and sanitary sewer from King Street to 100 metres west of Albert Street;
- Construction of a 4.0 metre wide boulevard multi-use trail on the north side of Bridgeport Road from King Street to Dorset Street;
- Construction of a 3.0 metre wide boulevard multi-use trail on the north side of Bridgeport Road/Caroline Street from Dorset Street to Erb Street;
- Replacement of the existing 1.50 metre wide sidewalk on the south side of Bridgeport Road from King Street to Albert Street with 2.0 metre wide sidewalk;
- Construction of new 2.50 metre wide sidewalk on the south side of Caroline Street from Albert Street to Dupont Street;
- Replacement of the existing 1.50 metre wide sidewalk on the south/ east side of Caroline Street from Dupont Street to Erb Street with 2.0 metre wide sidewalk;
- Removal of the existing westbound curb lane on the north side of Bridgeport Road/Caroline Street from King Street to Erb Street to accommodate the proposed boulevard multi-use trail;
- Construction of a new designated westbound right-turn lane on Bridgeport Road at Albert Street; and
- Enhanced boulevard landscaping where space permits.

Erb Street from King Street to Caroline Street:

- Complete replacement of the pavement structure including new concrete curb and gutter;
- Replacement of the storm sewers;
- Replacement of the City's watermain and sanitary sewer on Erb Street from King Street to Caroline Street;

- Replacement of the existing 1.50 metre wide sidewalk on the north side of Erb Street from 90 metres east of Caroline Street to 30 metres west of King Street with a 2.50 metre wide sidewalk;
- Replacement of the existing 2.0 metre wide sidewalk on the south side of Erb Street from Caroline Street to 100 metres west of King Street with a 2.50 metre wide sidewalk; and
- Removal of the existing designated left-turn lanes on Erb Street at Albert Street.

The Recommended Design Concept for improvements to Albert Street from Erb Street to Bridgeport Road was approved by City of Waterloo Council on May 30, 2016 and is described in Appendix 'E' of this Report TES-DC-16-12.1.

Please refer to Appendix "B" for drawings of the Project Team's Recommended Design Concept for Bridgeport Road/ Caroline Street, Erb Street and Albert Street.

The Region's approved 2016 Ten-Year Transportation Capital Program includes funds of \$3,230,000 in years 2016 to 2019 inclusive for the roadway improvements and a portion of the storm sewer replacement on Erb Street and Bridgeport Road/Caroline Street to be funded from the Roads Rehabilitation Reserve Fund. The City of Waterloo is responsible for the cost of the improvements to Albert Street, the replacement of the City's watermain, sanitary sewer and a portion of the storm sewer replacement costs on Bridgeport Road/Caroline Street and Erb Street.

Construction of this project is currently scheduled to occur in 2018 in the Region's 2016 Transportation Capital Program. In response to requests from Committee members at the May 24, 2016 Planning and Works Committee Meeting to defer construction to 2019, staff have confirmed that construction could be rescheduled to occur in 2019 with no scheduling impacts to other area projects. Staff will request and consider ongoing input from the Uptown Waterloo BIA, the City of Waterloo and other stakeholders regarding the timing of this project. Staff will provide the recommended timing of construction for this project through the development of the annual Transportation Capital Program.

## **Report:**

### **1. Background**

The Region of Waterloo is currently undertaking a Class Environmental Assessment Study (Class EA) to consider improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and Erb Street from King Street to Caroline Street to King Street in the City of Waterloo. Improvements to Albert Street from Erb Street to Bridgeport Road are also being considered as part of this Class EA Study on behalf of the City of Waterloo. Please refer to Appendix "A" for a Key Plan of the Study Area for this Class EA.

This Class EA Study has been initiated to identify a recommended design concept to address the deteriorating pavement conditions and aging sewer and watermain on these sections of roadways, as well as to consider opportunities for improvements to pedestrian, cycling and transit facilities. This project is being planned as a Schedule 'B' project under the Class EA process.

A Project Team consisting of staff from the Region of Waterloo, staff from the City of Waterloo and City of Waterloo Councillor Melissa Durrell was established to direct the planning of these improvements. The planning of these roadway improvements is being undertaken in accordance with the Regional Context Sensitive Corridor Design Guidelines, the Region's Transportation Master Plan (TMP) and Active Transportation Master Plan (ATMP) and other relevant Regional policies and practices.

The sections of roadways within the study area are located within the Urban Core Area of the City of Waterloo and need to support future development intensification through prioritizing walking, cycling and public transit while accommodating significant peak hour traffic volumes.

Within the Study area, Bridgeport Road/Caroline Street is a one-way road (in the westerly direction) with three travel lanes. This section of Bridgeport Road/Caroline Street is classified as a Neighbourhood Connector – Main Street in the Regional Context Sensitive Corridor Guidelines and has a posted speed limit of 50km/hour. The abutting land use is a combination of residential, commercial and institutional properties. Traffic control signals exist at the intersections of Bridgeport Road and King Street, Bridgeport Road and Albert Street and Caroline Street/Erb Street. Sidewalks currently exist on each side of Bridgeport Road/Caroline Street from King Street to Erb Street, with the exception of a missing section on the south side of the road from Albert Street to Dupont Street. There are no designated cycling facilities on this section of Bridgeport Road/Caroline Street.

Erb Street from Caroline Street to King Street is a one-way road (in the easterly direction) with two travel lanes from Caroline Street to west of Albert Street and three travel lanes from west of Albert Street to King Street. There is a designated left-turn lane on Erb Street at Albert Street and vehicles can also turn left onto Albert Street from the adjacent through lane. Erb Street is classified as a Neighbourhood Connector – Main Street in the Regional Context Sensitive Corridor Guidelines and has a posted speed limit of 50km/hour. The abutting land use on Erb Street is a combination of commercial and institutional properties. Traffic control signals exist at the intersections of Erb Street/Caroline Street and Erb Street/King Street. Sidewalks exist on both sides of Erb Street and there are no designated cycling facilities. The existing storm sewer, City watermain and sanitary sewers are approaching the end of their service life and require replacement.

Albert Street from Bridgeport Road to Erb Street is a one-way, two lane roadway under

the jurisdiction of the City of Waterloo. As part of this Class EA Study, the City is considering improvements to Albert Street to enhance parking, pedestrian and cycling facilities.

## **2. Transportation Considerations**

The Region of Waterloo's Transportation Master Plan (TMP), updated in 2010, is a high-level strategic plan that assesses existing and future travel patterns for the Regional transportation system. The goals of the plan are to optimize the transportation system, promote transportation choice, foster a strong economy and support sustainable development. Bridgeport Road/Caroline Street and Erb Street provide important transportation links within the City of Waterloo, bringing travelers to and from Uptown Waterloo as well as east-west across the City. The TMP recommends that, within the project area, priority be given to walking, cycling, and public transit rather than driving alone, and aims to improve the cycling and pedestrian networks in the project area. The TMP does not identify a need to widen these sections of roadways.

The Regional Active Transportation Master Plan (ATMP) identifies Bridgeport Road/Caroline Street as an on-road cycling route with sidewalks on both sides of the roadway. There is insufficient space to maintain three (3) travel lanes for vehicles and include a designated cycling facility on Bridgeport Road from King Street to Albert Street without the removal of one through lane of traffic. The Project Team has confirmed that two through lanes on Bridgeport Road/Caroline Street from King Street to Erb Street, combined with a new designated right-turn lane on Bridgeport Road at Albert Street, is adequate to accommodate long-term forecast traffic volumes without undue delay or congestion.

Through consultation with the City of Waterloo's Advisory Committee on Active Transportation and the Region's Active Transportation Advisory Committee, the installation of a boulevard multi-use trail is being proposed under the Project Team's Recommended Design Concept along the north side of Bridgeport Road/Caroline Street in lieu of on-road cycling lanes in order to allow two-way movement of cyclists along this stretch of roadway. Since Bridgeport Road and Caroline Street are one-way streets within the project area, the Project Team believes that a boulevard multi-use trail providing two-way movement for cyclists is preferred over on-road or segregated cycling lanes, which would provide only one direction of travel. Additionally, the proposed boulevard trail on the north side of Bridgeport Road/Caroline Street would connect to the existing Iron Horse Trail at the intersection of Erb Street and Caroline Street and the two trail connections northwest of Dupont Street to Waterloo Park.

The ATMP also recommends a two-way cycle track on Erb Street within the project limits. Due to the extremely close proximity of the buildings on Erb Street, there is no room to accommodate cycling facilities within the roadway corridor in the project area without removal of an existing travel lane. A separate, broader study to consider

implementation of a two-way cycle track on Erb Street from Caroline Street to Margaret Avenue will be completed by the Region of Waterloo in the future. This study will consider removal of a travel lane on Erb Street from Caroline Street to Margaret Avenue to accommodate an on-road two-way cycle track. Until this study is completed, the transportation implications of removing a travel lane on Erb Street from Caroline Street to Margaret Avenue are unknown. Accordingly, the Project Team's Recommended Design Concept does not include any designated cycling facilities on Erb Street within the project area. However, should the Region's separate study ultimately recommend a two-way cycle track be implemented on Erb Street from Caroline Street to Margaret Avenue, the two-way cycle track on Erb Street from King Street to Caroline Street could, under the Project Team's Recommended Design Concept, be implemented through means of revised roadway line markings and signage without the need for additional construction. Further, this could be incorporated into the planned 2018 construction of Erb Street if approved by that time. The Project Team does not recommend the implementation of a two-way cycle track on Erb Street from King Street to Caroline Street until the traffic implications of removing a through lane on Erb Street from Caroline Street to Margaret Avenue are known.

The ATMP also recommends sidewalks on each side of Bridgeport Road/Caroline Street and Erb Street. Sidewalks currently exist on the each side of these roads with the exception of a missing section on the south side of Bridgeport Road from Albert Street to Dupont Street. Construction of this missing section of Sidewalk is proposed under the Project Team's Recommended Design Concept.

Bridgeport Road/Caroline Street from King Street to Erb Street and Erb Street from Caroline Street to King Street are within the Urban Core Area of the City of Waterloo and need to prioritize walking, cycling and public transit. Accordingly, the Project Team considered pedestrian crossings on Erb Street at the Albert Street intersection and on Caroline Street at the Dupont Street intersection. The Region's current practice regarding mid-block pedestrian crossing facilities precludes the installation of a designated pedestrian crossing within 125m of a signalized intersection on a one-way road (200 metres on a two-way road). The intersection of Albert Street and Erb Street is located approximately 70 metres from the intersection of King Street and the intersection of Caroline Street and Dupont Street is located approximately 100 metres from the intersection of Caroline Street and Erb Street, accordingly these locations do not meet the minimum required distance for a mid-block pedestrian crossing.

### **3. Public Consultation**

Plans for the proposed improvements were presented to area residents, businesses and stakeholders at a Public Consultation Centre (PCC) held at the Waterloo Clay and Glass Gallery on January 27, 2016. Notices for this PCC were mailed out to property and business owners within the project limits. Notices were also placed in the local

newspaper and road-side signs were placed in the vicinity to advise the public of the meeting. Staff from the Region of Waterloo and the City of Waterloo was present at the PCC to meet the public, receive input and respond to questions.

The PCC was attended by approximately sixty (60) people. Comments received by the Project Team were generally supportive of the proposed improvements. The Project Team received seven (7) comment sheets at the PCC and thirteen (13) e-mails following the PCC. All written comments received are included in Appendix 'C' of this Report. The Project Team's responses to the written comments received are included in Appendix 'D' of this report.

The plans presented at the PCC are generally the same as the improvements proposed under the Project Team's Recommended Design Concept. Minor changes to the proposed design based on public comments received have been reflected in the Recommended Design Concept.

#### **4. Recommended Design Concept**

Based on review of the technical studies completed for this project, relevant Regional policies, practices and guidelines and all public and agency comments received for this project, the Project Team is recommending that Regional Council approve the Recommended Design Concept for improvements to Bridgeport Road/ Caroline Street from King Street to Erb Street and to Erb Street from Caroline Street to King Street described as follows:

Bridgeport Road/ Caroline Street from King Street to Erb Street:

- Complete replacement of the pavement structure including new concrete curb and gutter;
- Replacement of the storm sewers;
- Replacement of the City's watermain and sanitary sewer from King Street to 100 metres west of Albert Street;
- Construction of a 4.0 metre wide boulevard multi-use trail on the north side of Bridgeport Road from King Street to Dorset Street;
- Construction of a 3.0 metre wide boulevard multi-use trail on the north side of Bridgeport Road/Caroline Street from Dorset Street to Erb Street;
- Replacement of the existing 1.50 metre wide sidewalk on the south side of Bridgeport Road from King Street to Albert Street with 2.0 metre wide sidewalk;
- Construction of new 2.50 metre wide sidewalk on the south side of Caroline Street from Albert Street to Dupont Street;
- Replacement of the existing 1.50 metre wide sidewalk on the south/ east side of Caroline Street from Dupont Street to Erb Street with 2.0 metre wide sidewalk;
- Removal of the existing westbound curb lane on the north side of Bridgeport Road/Caroline Street from King Street to Erb Street to accommodate the proposed boulevard multi-use trail;
- Construction of a new designated westbound right-turn lane on Bridgeport Road

- at Albert Street; and
- Enhanced boulevard landscaping where space permits.

Erb Street from King Street to Caroline Street:

- Complete replacement of the pavement structure including new concrete curb and gutter;
- Replacement of the storm sewers;
- Replacement of the City's watermain and sanitary sewer on Erb Street from King Street to Caroline Street;
- Replacement of the existing 1.50 metre wide sidewalk on the north side of Erb Street from 90 metres east of Caroline Street to 30 metres west of King Street with a 2.50 metre wide sidewalk;
- Replacement of the existing 2.0 metre wide sidewalk on the south side of Erb Street from Caroline Street to 100 metres west of King Street with a 2.50 metre wide sidewalk; and
- Removal of the existing designated left-turn lanes on Erb Street at Albert Street.

Please refer to Appendix "B" for drawings of the Project Team's Recommended Design Concept for Bridgeport Road/ Caroline Street, Erb Street and Albert Street.

The Recommended Design Concept for improvements to Albert Street from Erb Street to Bridgeport Road was approved by City of Waterloo Council on May 30, 2016 and is described in Appendix 'E' this Report.

This report was previously presented to Planning and Works Committee on May 24, 2016. Letters advising of the recommendations in this Report TES-DCS-16-12 were mailed on May 2, 2016 to abutting property owners and those who registered at the January 27, 2016 Public Consultation Centre and were hand-delivered to tenants of directly abutting properties. At the May 24, 2016 meeting, Committee deferred this report to June 14, 2016 and requested staff to review the construction timing as discussed further in Section 8 of this report.

## **5. Property Requirements**

The Recommended Design Concept does not require the acquisition of any property.

## **6. Heritage Impacts**

Portions of the proposed works occur within the City of Waterloo's MacGregor-Albert Neighbourhood Heritage Conservation District. There are a number of properties either abutting the roadway within the project area or located in close proximity to the project area that are designated under the Ontario Heritage Act, in addition to a number of non-designated properties with cultural heritage value or interest.

Construction of the proposed improvements to Bridgeport Road/Caroline Street, Erb

Street and Albert Street will be confined to the existing rights-of-way and is not expected to adversely impact any heritage properties.

Region and City Heritage Planning staff is being kept apprised of the plans for this project by the Project Team.

## **7. Estimated Project Costs**

The estimated project cost to construct the roadway improvements and a portion of the storm sewer replacement on Erb Street and Bridgeport Road/Caroline Street improvements described the Project Team's Recommended Design Concept for Bridgeport Road/Caroline Street, Erb Street and Albert Street is approximately \$3,200,000. The City of Waterloo is responsible for the cost of the improvements to Albert Street, the replacement of the City's watermain and sanitary sewer and a portion of the storm sewer replacement costs in an estimated amount of \$1,200,000.

## **8. Construction Schedule**

Construction of this project is currently scheduled to occur in 2018 in the Region's 2016 Transportation Capital Program. In response to requests from Committee members at the May 24, 2016 Planning and Works Committee Meeting to defer construction to 2019, staff have confirmed that construction could be rescheduled to occur in 2019 with no scheduling impacts to other area projects. Staff will request and consider ongoing input from the Uptown Waterloo BIA, the City of Waterloo and other stakeholders regarding the timing of this project. Staff will provide the recommended timing of construction for this project through the development of the annual Transportation Capital Program.

## **9. Traffic Management during Construction**

It is anticipated that through traffic will be maintained on Bridgeport Road/Caroline Street during construction with lane restrictions in effect. It will be necessary to fully close Erb Street from King Street to Caroline Street to through traffic in order to complete the construction. Through traffic and transit service will be detoured via Caroline Street and Allen Street. Local and emergency traffic will be maintained during construction on Erb Street.

Pedestrian access will be maintained along each street during construction. Where the sidewalk is close to deep excavations, the sidewalk will be separated from the work area by temporary fencing. Signage will be erected in order to direct pedestrians through the project area.

Emergency Medical Services will be advised of the traffic restrictions during the construction period. Grand River Transit (Route 5) and ION service will be maintained during construction through the intersection of Caroline Street and Erb Street.

## 10. Next Steps

Subject to approval of the Recommended Design Concept by Council, a Notice of Completion will be filed for this Class Environmental Assessment Study by means of advertisements in local newspapers and mailings to adjacent property owners, tenants and agencies, and the Project File will be placed on the public record for review for a period of 30 days. If no unresolved concerns are brought forward within the 30 day review period, preparation of the detailed design for the proposed works will be initiated.

### Corporate Strategic Plan:

The recommended improvements to Bridgeport Road/Caroline Street and Erb Street support Focus Strategic Plan Objective 2.3 to build infrastructure for, and increase participation in, active forms of transportation (cycling and walking).

### Financial Implications:

The Region's approved 2016 Ten-Year Transportation Capital Program includes funds of \$3,230,000 in years 2016 to 2019 inclusive for the roadway improvements and a portion of the storm sewer replacement on Erb Street and Bridgeport Road/Caroline Street to be funded from the Roads Rehabilitation Reserve Fund. The project budget will be reviewed as part of the development of the 2017 Transportation Capital Program and 10-year Capital Forecast to reflect the scheduled timing of construction.

### Other Department Consultations/Concurrence:

Nil

### Attachments

Appendix A – Study Area Key Plan

Appendix B – Drawings of the Recommended Design Concept

Appendix C – Written Comments Received at the January 27, 2016 Public Consultation Centre

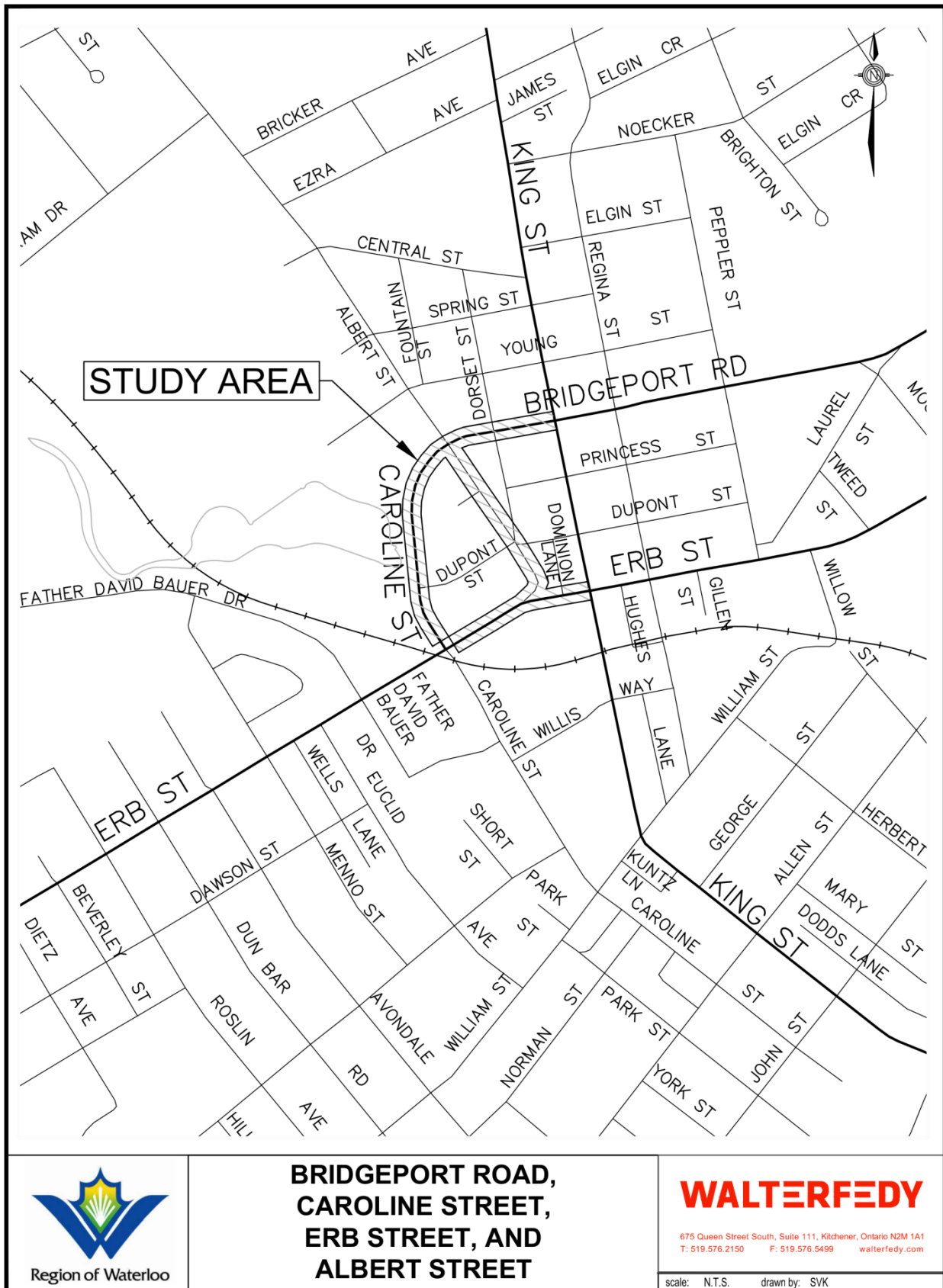
Appendix D – Project Team Response to Public Comments Received

Appendix E – Recommended Design Concept for Improvements to Albert Street

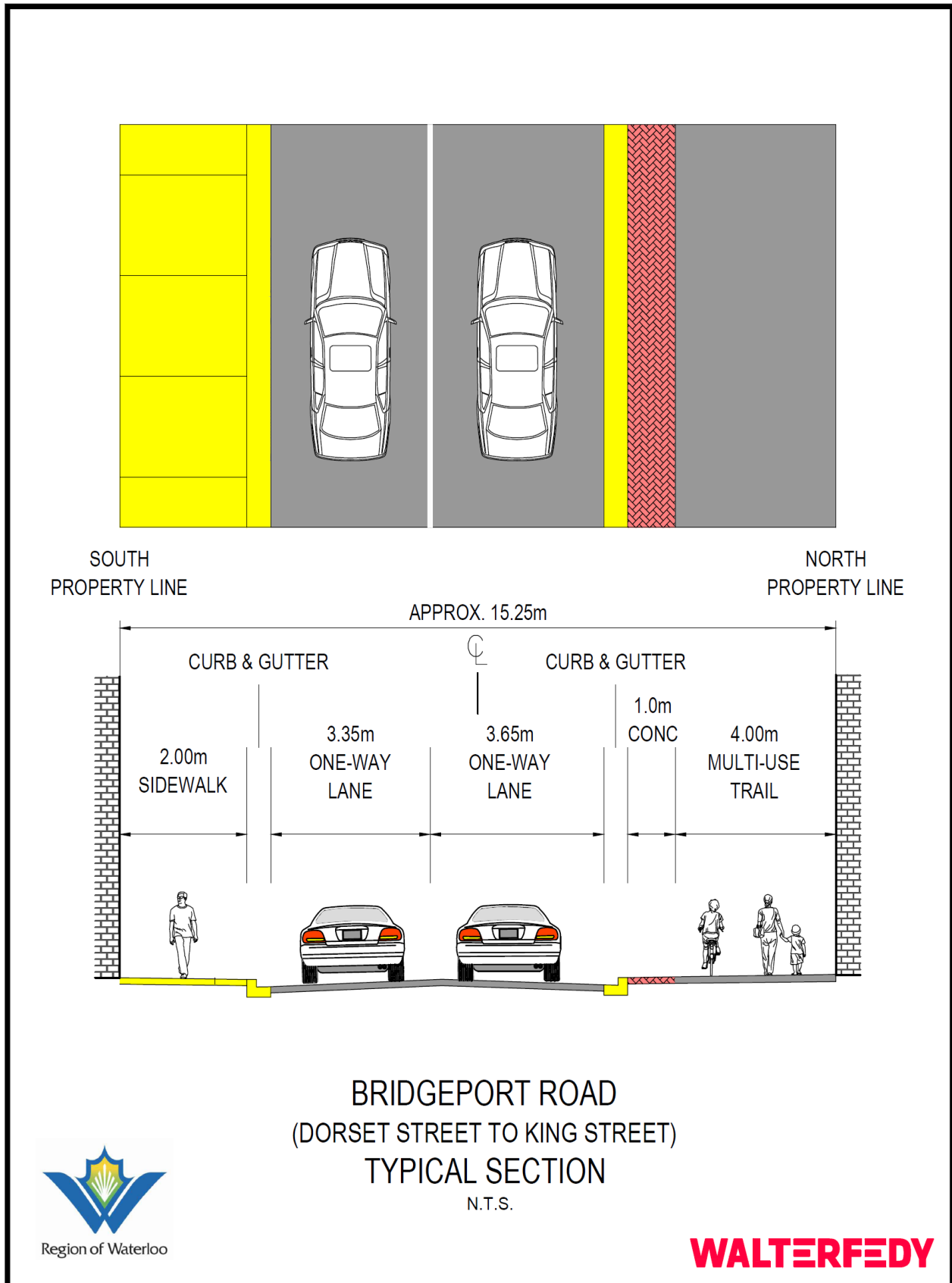
**Prepared By:** Jim Ellerman, Project Manager

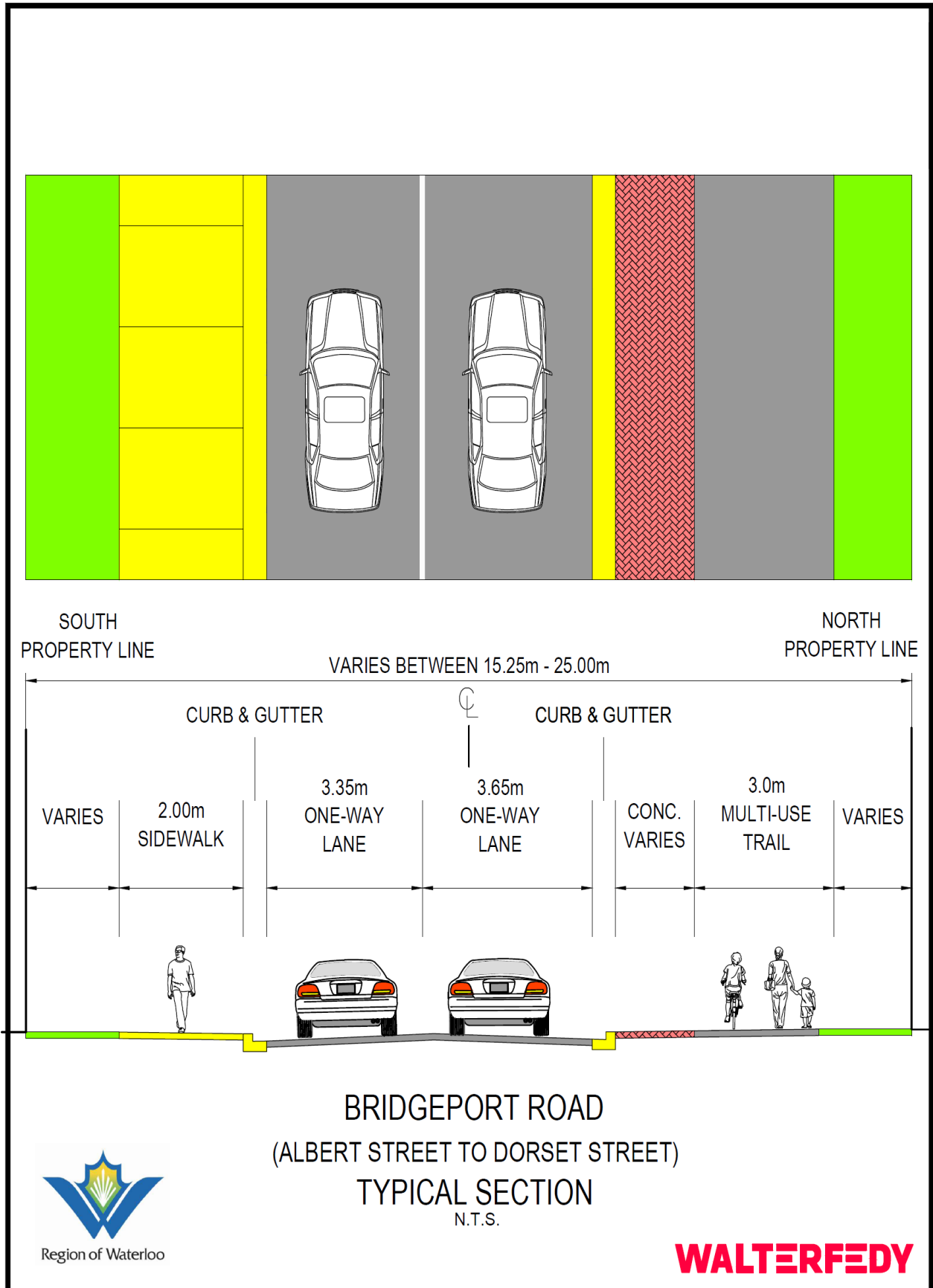
**Approved By:** Thomas Schmidt, Commissioner, Transportation & Environmental Services

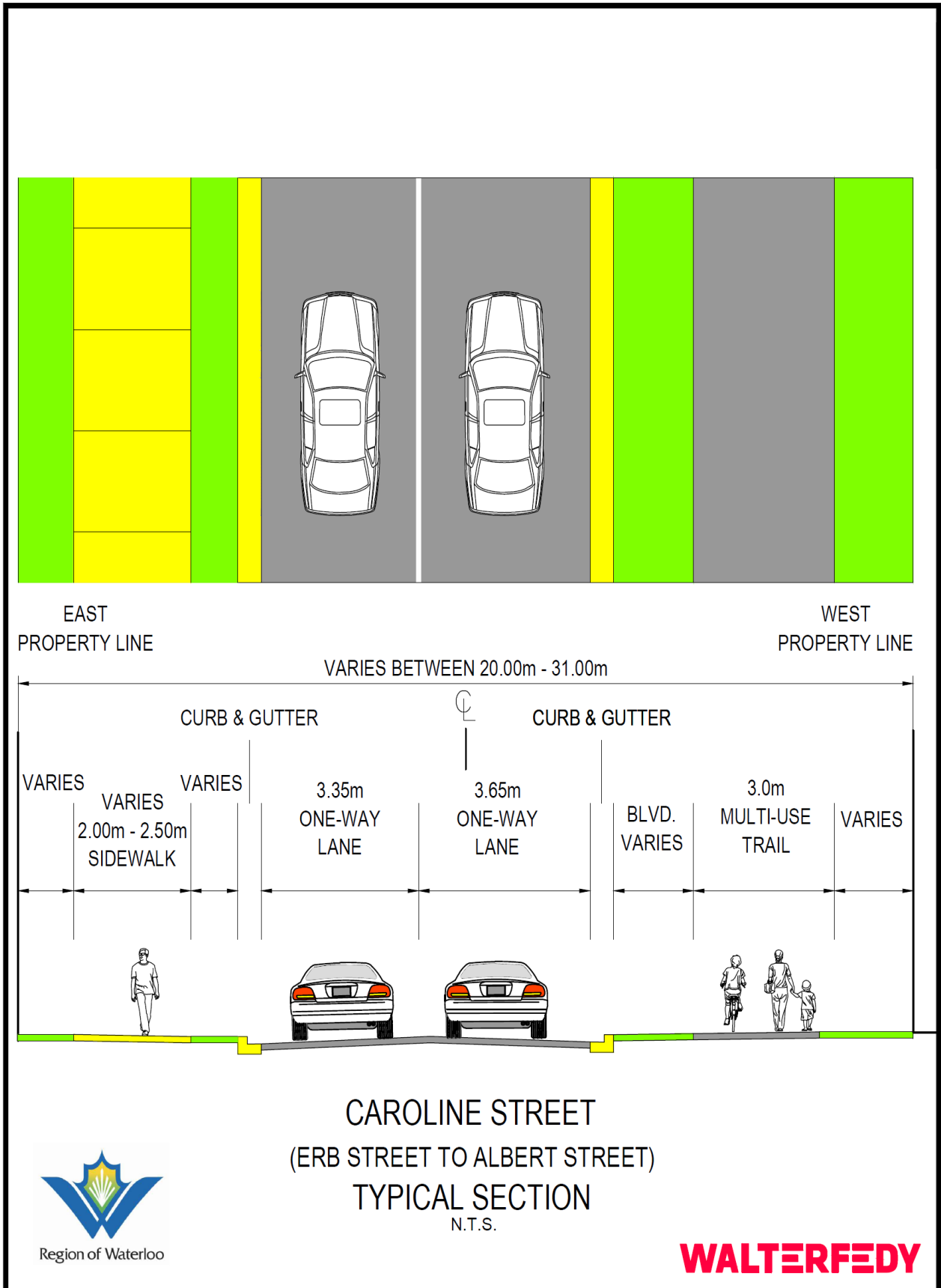
### Appendix "A"

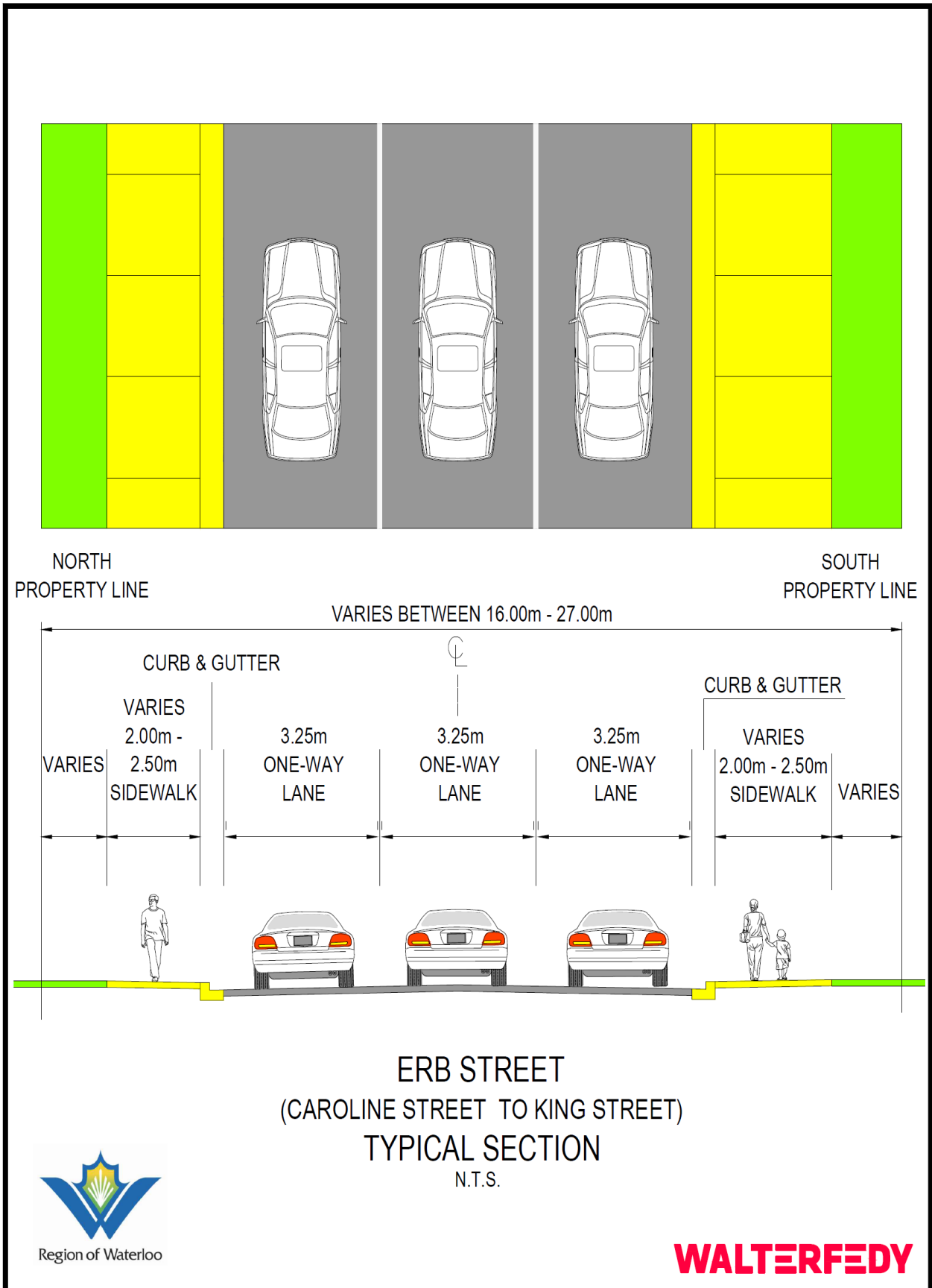


### Appendix "B" – Recommended Design Concept



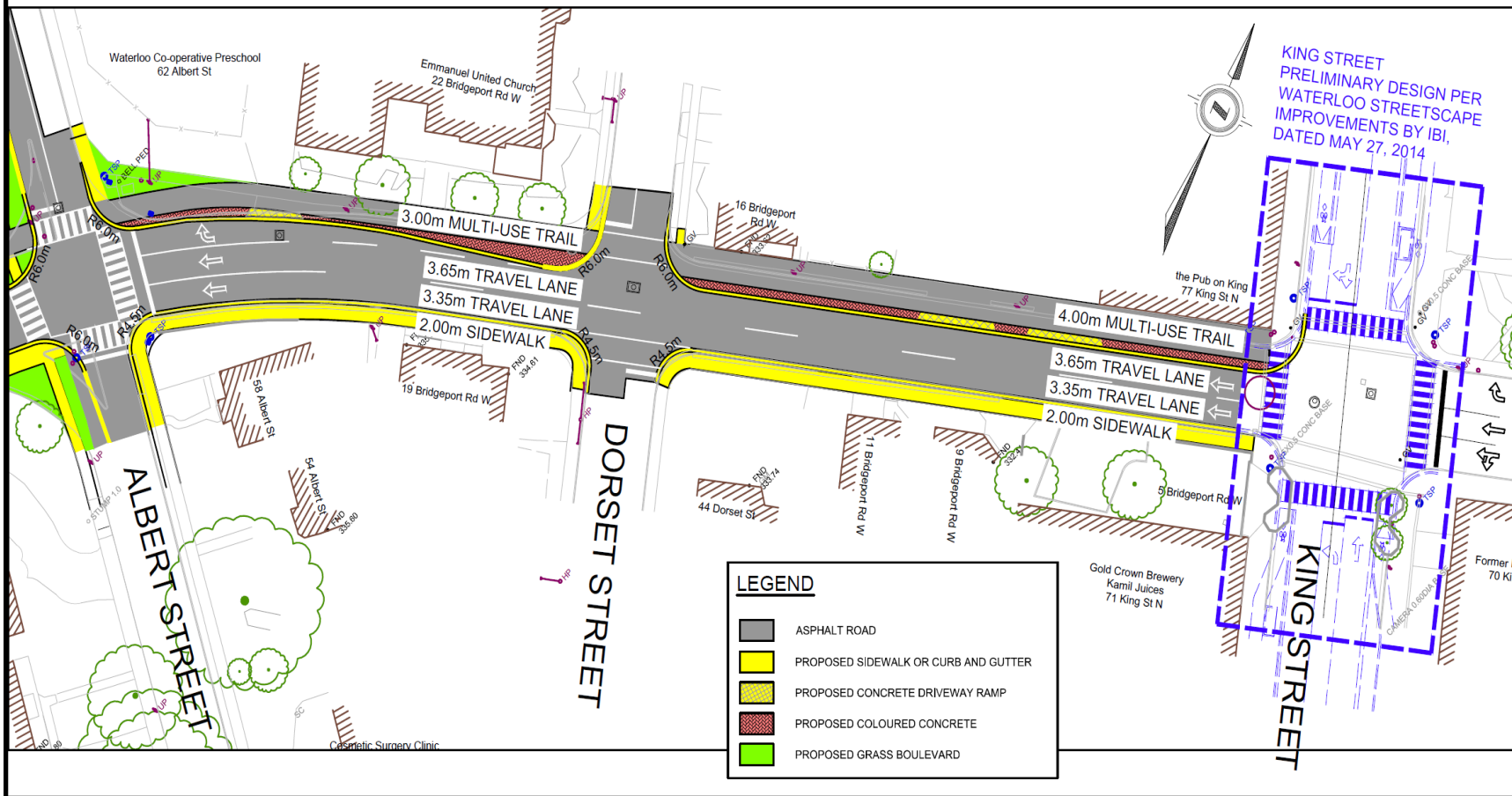






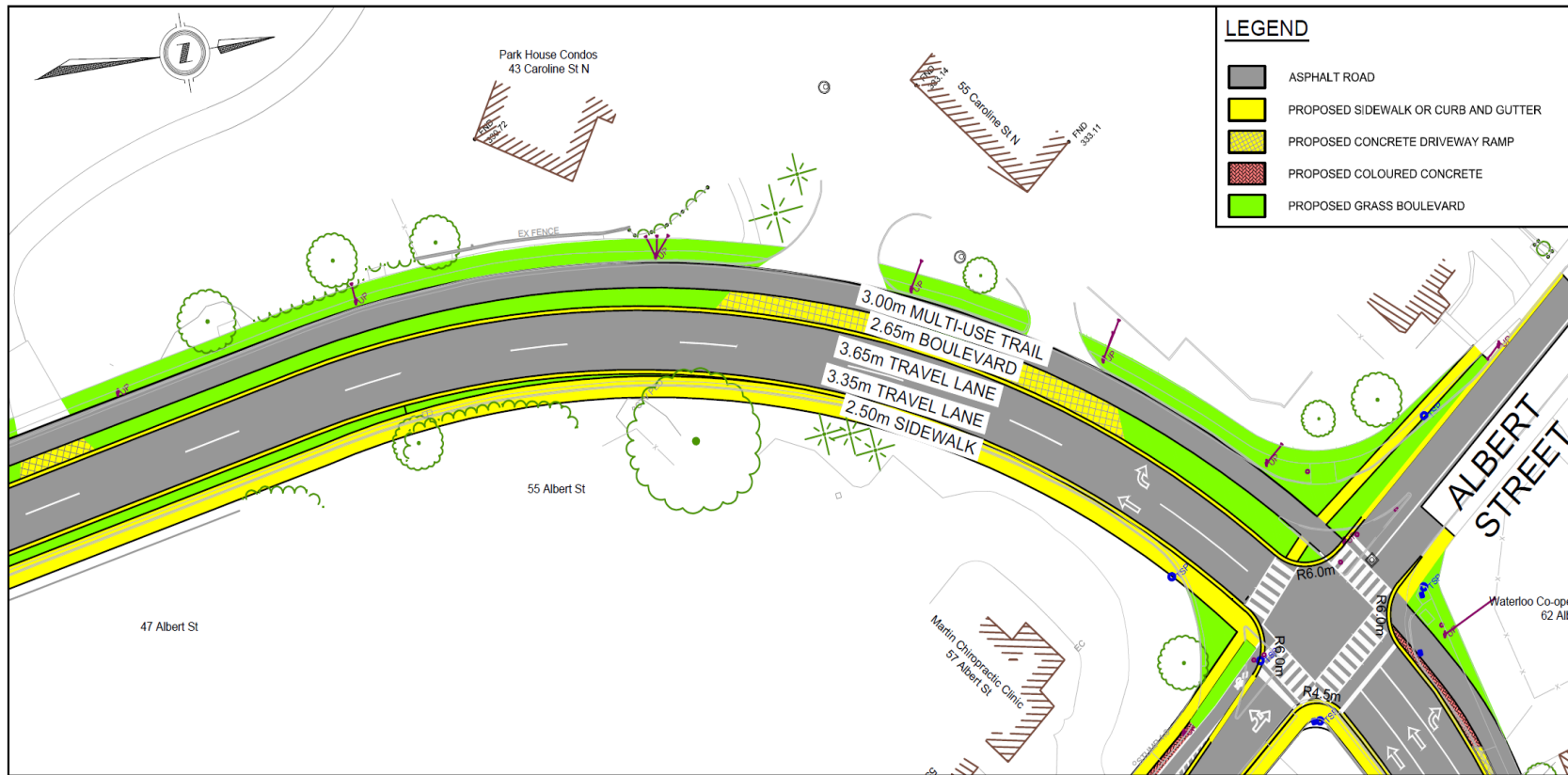


# CAROLINE STREET AND BRIDGEPORT ROAD (ERB STREET TO KING STREET) PREFERRED DESIGN CONCEPT (3 OF 3)



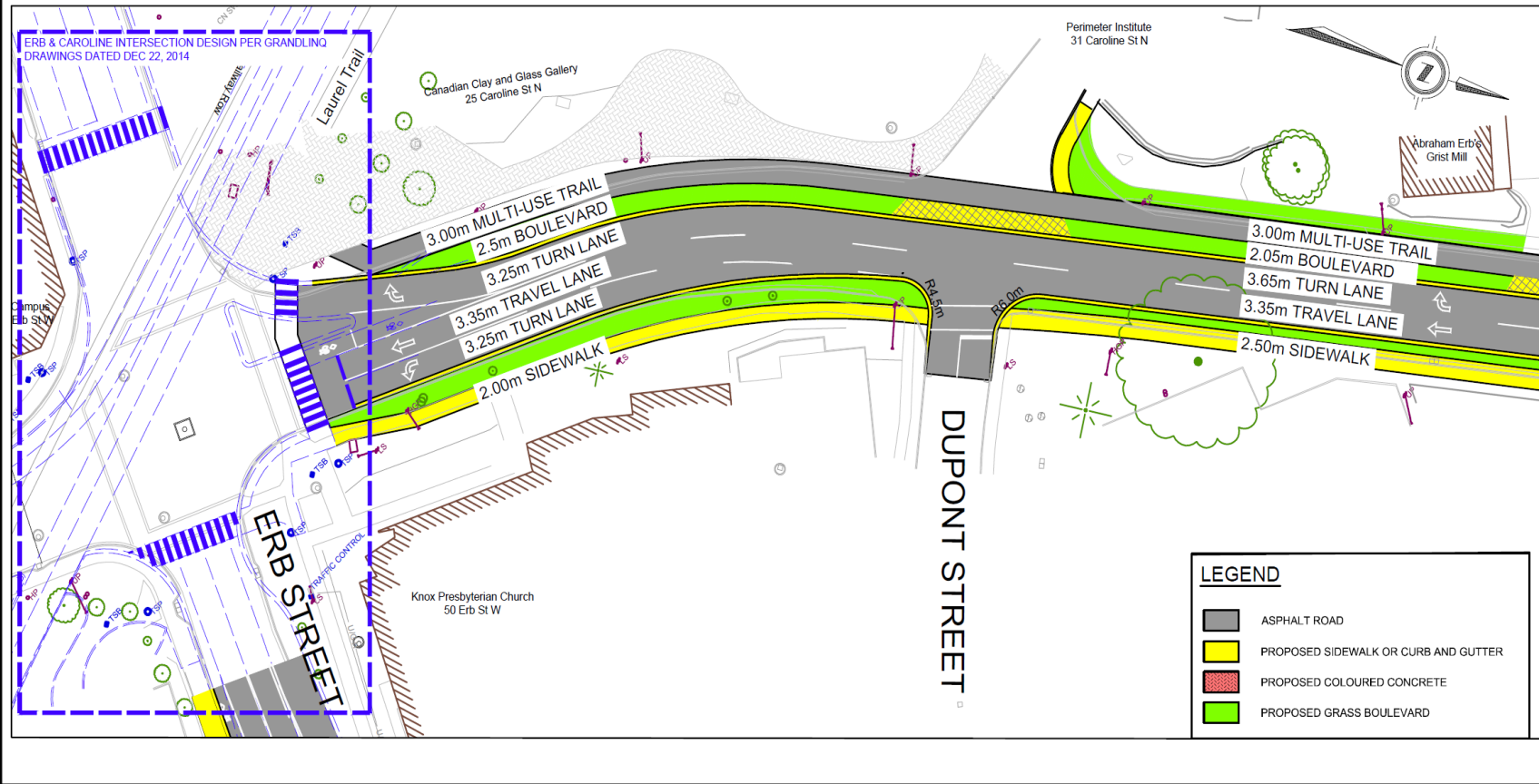


# CAROLINE STREET AND BRIDGEPORT ROAD (ERB STREET TO KING STREET) PREFERRED DESIGN CONCEPT (2 OF 3)



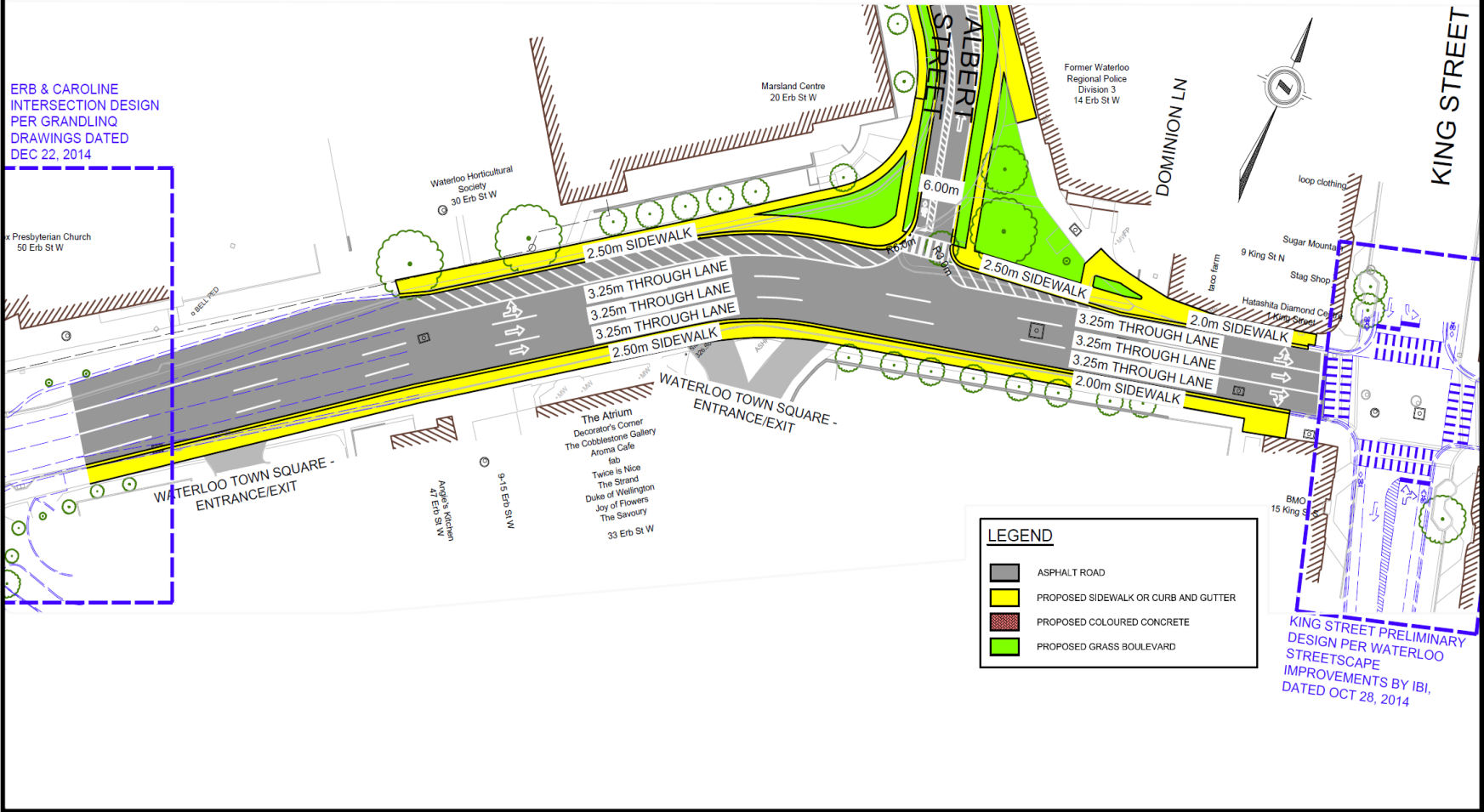


# CAROLINE STREET AND BRIDGEPORT ROAD (ERB STREET TO KING STREET) PREFERRED DESIGN CONCEPT (1 OF 3)





# ERB STREET (CAROLINE STREET TO KING STREET) PREFERRED DESIGN CONCEPT



## Appendix "C"

### Public Comments Received from the January 27, 2016

#### Bridgeport Road/Caroline Street, Erb Street and Albert Street Reconstruction

#### Public Consultation Centre

##### Comments:

Proposed car lane widths are 3.65 meters on Bridgeport Road, and 3.35 meters on Albert Street. Wide lanes encourage motorists to speed, and increase the probability of collisions, as well as the severity of injuries when collisions occur. Since all of Streets are intended to carry motor vehicle traffic with a speed limit of 50 kilometres per hour, suggests that lane widths on Bridgeport/Caroline and Albert Street be no wider than 3.25 meters (which is the width allowed for each vehicle lane in the plan for Erb Street).

Erb should not be made three lanes with a sharrow lane, as planned; Some other way to maintain options in case a two-way cycle track on Erb between Caroline and Margaret is approved should be pursued.

A boulevard should be provided on Erb Street (perhaps if it turns out that Erb will have a cycle track). Having to walk directly adjacent to vehicle traffic lanes make for an extremely hostile experience, and not including a boulevard along Erb will mean foot traffic will be diminished.

A crosswalk should be provided – the report noted that counts of people crossing Erb at that location were insufficient to justify a crosswalk, but the count is lower than if a safe crossing were provided: currently, crossing at Albert Street is dangerous and most people would naturally be hesitant to undertake it.

##### Comments:

Intersections: Use crossrides, cycling must be accommodated on crossings for the Multiuse trails. Also, intersections with King should be protected. Finally, the intersection with Caroline is the most important intersection to get right, hopefully there will be some flexibility after Grandlinq is finished.

Albert: The bike lane is too narrow, 1.5 m minimum please (not including gutter). As well, the bike lane should be contraflow, with sharrows in the through lane, parking should be moved to the right for the contraflow bike lane on the left. Also, the bike lane should continue all the way to Erb St. Sewers should be moved out of the bike lane if possible.

Caroline: The multiuse trail should be 4 m wide because of the grade, and it should connect with adjacent trails on either side of the creek/lake.

Erb St: Needs improvement, sharrows are inappropriate here. The shoulder is unnecessary. TriTAG's proposed design is a big improvement and I recommend using it. Removing the shoulder, adding a crossing, and making the right lane a turning only lane I believe are substantial improvements. My modifications would be to move the crossing back so that it occurs at the dividing island, and thus only requires pedestrians to cross 2 lanes, and to narrow the lane with sharrows to only 3 m wide.

**Comments:**

My understanding is that there will no longer be a "no right on red" sign for right turns at Albert turning onto Caroline. Please make sure that this actually happens. We are sick of having an unnecessary traffic jam outside our driveway.

Please consider placing pedestrian crossings away from some intersections, preferably with a "safe refuge" allowing pedestrians to cross one lane at a time.

Please consider "lines of sight". The control box at Bridgeport/Albert hides adults. Children and those in wheelchairs are almost invisible here. It would be nice if cars were no required to stop here, and pedestrian crossing displaced up Albert to allow pedestrians to be visible to cars, and vice-versa.

Most of our traffic problems are caused by the Caroline/Erb intersection. I am amazed that there is no plan for this! My suggestion is to take the pedestrians off two sides of this intersection, and turn CIGI into a large one-way system.

Pedestrian crossings on the exits of two-lane intersections are dangerous. That is why they don't exist in Europe.

**Comments:**

I think the painted shoulder on Erb between Caroline and Erb should be removed along with what looks to be seven or so proposed parallel parking spots in front of the Knox church and the curb brought out to where the painted shoulder would have ended.

a) this will reduce the distance people need to travel to cross Erb safely at Albert

b) for most people parallel parking on the right is challenging enough, attempting it on the un-natural and un-practiced left on a very busy street with fast moving traffic will be much harder. This will result in reduced safety and traffic flow for all road users.

The parallel parking on the left side of Albert seems unnatural; would it be better on the right?

The information sheet speaks of a lack of pedestrian crossings as evidence that safer crossing measures are not needed at Erb at Albert, but perhaps people do not cross because it is not safe; absence of evidence is not evidence of absence.

What about adding a diagonal crossing/scramble from north-west (Clay and Glass) to south-east (Waterloo Town Square) parallel to the LRT track that is activated whenever

the Ion comes through? The intersection will be at full stop every few minutes anyway, why not let the activate transportation users take full advantage of the stoppage?

I feel like this project, if implemented as is, would kill any future chance to make both Erb and Bridgeport bi-directional though which I think is the ideal solution. I would hope that the region and city would consider this potential implication prior to finalizing on this design. I would prefer to see Erb and Bridgeport both made in to two-way roads (one lane each direction) with a centre turn lane. Don't two-way left turn lane (TWLTL) roads have as much capacity as a multi-lane road without a left turn lane? If that is the case, and since Erb and Bridgeport are not near reaching those capacities along the majority of their stretches, according to 2014 regional AADT data, it would make sense to make them more liveable, safer, and efficient/connected while not reducing the capacity. The two directional travel is also adding to the connectivity (more ways to get to the same place) of the street network and so if there is a crash or construction there are alternatives.

The crossing of Albert at Erb is vastly improved. The current multi-lane nature of Albert St is dangerous and T-intersection design reduces crossing distance, and turning speeds.

**Comments:**

Albert:

Lane width seems high for a non-arterial road, especially at the south end before bike Lane begins.

I would consider reverting Albert to two-way traffic rather than adding parking if not, possibly contra-flow bike lane

radius of left turn from Erb to Albert is much improved from ex., but the radius still seems high which will encourage turns at high speeds. Pedestrians will not have right-of-way (no stop sign or light), it will still be a difficult crossing.

Erb:

Sharrows are totally inappropriate in this application

Bridgeport/Caroline:

like the multi-use trail

like the lane configuration

**Comments:**

Adding a multi-use trail along Caroline provides a great bicycle link between King St and multiple trail entrances for Waterloo Park, and finally allows northbound cycle traffic up Caroline.

Crossing Albert on the north side of Erb will be made much easier. The current multi-lane off-ramp nature of Albert St is dangerous, making walking around the old Police Station unpleasant. The new T-intersection design reduces crossing distance, turning speeds, and even introduces new green space.

Reducing Caroline to two lanes helps solve the problem of traffic backing up in the right hand lane of Bridgeport east of King. Now traffic intending to go beyond King will use the centre lane, while those turning onto King and Regina Streets will be on the left and right hand lanes, distributing traffic better across the three lanes

Albert St still needs a legal way to cycle southbound. By moving the parking to the east side of the road, there could be a contra-flow southbound bikelane on the west side, with the northbound lane shared between cars and bicycles, with a more appropriate use of sharrows. This also puts the parking on the traditional right-hand side, which will be easier for drivers to use. Parallel parking is tricky enough, and even more so when it's on the opposite side of the car.

If the bicycle route along Bridgeport/Caroline is a multi-use trail, then why is there a southbound on-street bike lane and bike box approaching Erb? There is no way for bicycles to access the on-road bike lane from the trail, and if they could, it would be unsafe to merge cross the constant stream of right turning traffic. The intersection design assumes that cyclists are on the road instead of the multi-use trail, when the reverse should be true. We can't keep ending trails at crosswalks, asking cyclists to dismount to continue. With the first cross-ride in Waterloo now in service at Erb/Peppler, there is now precedent for a two-way crossing on the west side of Caroline, which will finally allow the connection of the Laurel and Iron Horse trails.

The sharrows proposed for Erb St are inappropriate. Sharrows work on low speed roads, not major high-speed multi-lane arteries. Sharrows are not a replacement for dedicated cycling infrastructure, and 2016 should be the year we stop pretending they are.

The width of Erb St is drastically wider than the planned use. There is no need for 3 through lanes and a painted shoulder lane. Staff mention a potential possibility for on-road cycle tracks, "without the need for additional construction," but it would require waiting for "a separate, broader study to consider implementation of a two-way cycle track on Erb Street from Caroline Street to Margaret Avenue [which] will be completed by the Region of Waterloo in the future." In the meantime, Erb will remain gratuitously wide. A pedestrian crossing at Erb/Albert is dismissed, because there are fewer than

250 people crossing day, a number that is unlikely to change if Erb remains wide and hostile. Bridges are not built by counting the number of people swimming across a river; crosswalks should not be dismissed because few are willing to unsafely cross a high-speed 4-lane arterial.

Here is a potential way to correct some of these issues. The right hand lane of Erb is used as a turn lane for the WTS entrance, and for King St. To prevent the speeding, cars cannot use it to drive from Caroline to King, only allowing cyclists to continue through, in what will now be a much lower-speed lane. The painted shoulder on the north of Erb is now removed, with the sidewalk moved south where it was. A pedestrian crossover is installed at Albert, allowing direct access from Albert to The Shops at Waterloo Town Square.

**Comments:**

In general, I am strongly in support of the preferred alternative. In particular, I support the multi-use trail along Bridgeport. As someone who bikes frequently, I think this is more appropriate than on-road bike lanes here and will connect well with the planned uptown streetscape. I also support the replacement of the existing wide off-ramp to Albert with a safer and slower left-turn with better ability to cross Albert on foot.

I am not in support of implementing sharrows on Erb. While this was explained as a temporary measure until another study can be complete, I believe that this would be a misapplication of sharrows on a high volume road.

However, I do believe that creating a contiguous two-way cycling corridor on Erb through uptown is an important goal, so I look forward to what can be achieved with a two-way bike lane or multi-use trail segment.

I would ask the project team to look for ways to improve the ability for pedestrians to cross Erb between Caroline and King, near Albert.

**Comments:**

I feel that cyclists should travel in the same direction as cars do therefore only one bike lane if the street is one way.

**Comments:**

Generally in agreement with the proposed design. Do not think proposed reduction in lanes will have much of an impact. I support the addition of the multi-use trail.

Concerns are elimination of the channelized left turns on and off of Albert. I understand the marked pedestrian crossing at Erb and Albert, but why not use space for a left turn lane with yield to pedestrians. Left turn from Albert to Caroline looks tight with elimination of island.

**Comments:**

While I applaud the direction of more bike lanes and a more walkable core, a number of the changes proposed are going to have a very significant negative impact on my office building and cause extreme frustration – much like what we are currently seeing with the ION construction. Marsland Centre has approximately 350 people working in it plus the visiting clientele. Most people arrive and depart en masse at the start & end of regular business days. I agree that Albert Street traffic flow can be supported by narrowing to one lane. However, eliminating the dedicated left from Erb Street onto Albert is an error. There isn't enough vehicle stacking room from King to your proposed T-intersection on Albert. Traffic will be significantly hindered in getting to 20 Erb. Trucks – deliveries, garbage, moving, shredding service, mail, couriers etc will also find the one lane 90 degree left very problematic. I realize that Albert is not a truck thoroughfare but deliveries to us and the library happen daily. Leaving the dedicated left but narrowing it down to one lane will both slow traffic and will provide a much shorter and safer pedestrian crossing than currently exists with the wide two lane racetrack.

Similarly, your drawing showing the elimination of the dedicated left turn lane from Albert onto Bridgeport/Caroline and choking it down to one northbound Albert lane at that intersection is going to be a nightmare. Vehicles leaving Marsland Centre presently looking to head up Erb towards Westmount cannot exit from Dupont onto Caroline unless very aggressive moves are taken as no one will let you in. The approach many tenants take is to head north on Albert and loop around onto Caroline at the back of the line. By narrowing Caroline down, you are going to aggravate the increasingly congested traffic. If Caroline gets backed up from Erb to Albert, which we currently see very often happening, and there is a car waiting to turn left from the chokepoint lane on Albert with nowhere to go and blocking all cars behind on Albert you have essentially created a full gridlock scenario. My suggestion – narrow Albert to one lane but keep the dedicated turn lane from Erb to Albert and widen the Albert to Bridgeport end to two lanes to allow a dedicated left as it is now.

The comment about removing the channelized island on Albert and Caroline is also an error. The island provides a pedestrian safety zone while still allowing unimpeded traffic flow.

What the changes have not addressed is the mid-block pedestrian crossing of Erb Street. This is where I see the most pedestrian issues currently. Marsland Centre has three main pedestrian entrances. See attached for clarification. Location A is the set of steps exiting mid-block beside the horticultural park and is far more heavily used than location B. This crossing of Erb is also heavily used for pedestrian traffic by Knox /Library/Perimeter and the trail through the Horticultural park across Erb to Waterloo Square / Atrium/ Angies etc. I would suggest a mid-block pedestrian activated crosswalk – it will only slow traffic when actually being used and the midblock location

provides ample car stacking space from the cross walk to Caroline St. People are inherently lazy and will not walk all the way to King to turn around and walk back the other side. This is a safety issue.

The other dangerous pedestrian hotspot that I see regularly and heavily used is crossing Caroline at Dupont to pick up the trail beside Perimeter – again people will not walk to the corner and Dupont is a natural entry to the trails around Silver Lake and entry to the Park

Final comments – the proposed sidewalk on Caroline between Albert and Dupont on the library side where none exists now is an absolute waste of money. With a new separated multi use trail on the other side of the road, the sidewalk on the library side will never be used and no properties front on it.

Bridgeport Road is a main one way entry from the expressway into and through the Uptown Waterloo core and then carries up Erb Street towards Westmount. Erb Street acts as the major thoroughfare from Waterloo's core back out to the expressway. To keep Uptown core business strong and vibrant, we actually want traffic flow through the core and we don't want traffic diverted elsewhere. Every street in the City doesn't have to have bike lanes or become a walking trail. Some streets still have to function to get people from A to B in an efficient and stress free manner.

**Comments:**

I'm pleased to see improved pedestrian and cyclist facilities in the preferred concepts. I like the way that the Erb/Albert intersection has been normalized, with improved pedestrian crossing.

It isn't clear how cyclists will move from multi-use trail on Caroline to the protected stop line at the corner of Erb & Caroline. Perhaps once Grandlinq finalizes their plans?

**Comments:**

Overall I think the proposed changes are a big improvement. I just have concerns about a few mismatches in capacity between different parts of the project and some other relatively minor points.

First, you have Bridgeport Rd. Westbound at two through lanes, and Erb St. Eastbound at three through lanes. This makes no sense; Erb St. and Bridgeport Rd. together form a single arterial running through town. How many two-way roads in town have a different number of lanes in the two directions? I would suggest making both streets have two through lanes. This frees up lots of space on Erb St. for bicycle lanes and better sidewalks or multi-use trails, and matches the capacity of the two roads together to Erb St. West of Caroline.

On a similar note, you still have the right turn from Bridgeport onto Erb at one lane. This again makes no sense. The turn lane is part of the Westbound flow along Bridgeport and Erb all the way across the city, which as noted above form a single arterial. How many other four-lane roads in the Region have a single intersection at which one of the directions is constricted to a single lane? Note: please don't respond that the intersection itself is the responsibility of the LRT project. It's the responsibility of every project to work together with related projects.

Albert St. should have contra-flow bicycle lanes. With eliminating the redundant vehicle lanes as you are already planning, there should be space for this.

There should be a pedestrian crossing of Erb St. at Albert, and Caroline at Dupont. The justification for not doing so (low pedestrian counts) is utterly bogus on major wide streets such as these (it's fine for narrower streets where people will cross in the absence of a signal). If the same decision-making was used for bridges, none would ever get built because how many people swim across, using a winch to pull their cars behind them, before the bridge is built? No, what must be done is an evaluation of how many people *would* use a crossing if it were built. These signals could be synchronized with the other signals in the area in such a way that they impose essentially no additional burden on through traffic.

Finishing on a positive note, I'm very happy to see a substantial pedestrian island at Bridgeport and Erb. If the right-turn lane could move further from the intersection, making the island bigger, that would be even better. The multi-use trail on Bridgeport is another big positive. I'm looking forward to seeing construction of an improved version of this plan.

**Comments:**

The intersection at Erb and Albert is much improved for the safety of pedestrians.

It is too bad that there is no discussion about changing Erb and Bridgeport to two-way streets.

It would be good to see more traffic calming measures in the Erb St section of your project. If the speed limit is maintained at 50km/h, you can be sure traffic will be going 60 km/h.

**Comments:**

Pleased that there will be no property requirement on 22 Bridgeport Rd. Suggest that prior to construction building inspections be undertaken. Church is historic building with pipe organ. The Church Sanctuary building is a key component of the heritage district in which it is located.

Concerned with the placement of a multi-use trail across the church's property. The trail, as proposed, will pass in front of the church's main entrance and are concerned that the intermixing of cyclists and pedestrians, specifically congregation members, many of whom are elderly could result in an unsafe condition for the pedestrians. Requests the Region reconsider the placement of the trail - suggests the following alternatives: (1) the trail be located on the opposite side of the road and sidewalk be placed on the church side of Bridgeport Road (2) Sidewalk be placed on the church side and a short stretch of either on-road bicycle lane or off-road segregated bicycle lane be provided from Dorset Street to Albert Street. Based on the drawings and suggested cross-section at this location it would appear that there is sufficient room to provide this alternative and we are wondering why it doesn't appear to have been explored.

As per subsequent discussions with church staff, the region is willing to explore alternative solutions for the addition of private sidewalk facilities for access to the church entrance.

**Comments:**

This is a welcome improvement. More biking facilities are always good to see, especially segregated ones. The reconfiguration of the Erb/Albert intersection is especially important, as it currently renders walking on the north side of Erb very unpleasant

**Comments:**

Though the plan has many highlights there are also significant shortcomings that keep the proposal from providing an equitable complete streets design in what is the most walkable area in our Region.

Firstly, the width of the proposed lanes falls outside the realm of best practices for safety of drivers, pedestrians and people on bikes. Multiple studies ([link](#)) have indicated that lanes wider than 3.25 m widths encourage speeding, which in turn increases the likelihood of accident and fatality in the case of pedestrian or cyclist impact. I understand the Regional standard calls for wider lanes but Uptown sees significantly higher pedestrian and cyclist traffic than most of the Region and should be held to a higher standard. Small changes in this respect can have a massive impact in saving lives ([link](#)) and all efforts should be made to mandate narrower lane widths in this high active-use area to improve safety.

Another major way in which safety can be improved is by moving the curb along Erb Street, where the proposal calls for it to abut the sidewalk and bringing it against the travel lane. This has the potential to improve walkability along the street by provide a grass median along the north side of the street to enhance the perceived and actual safety along the road for pedestrians. If this were to happen, the lane markings could also be adjusted to provide a smaller buffer along the North of Erb and a buffer between

the through lane and the sidewalk on the South side of Erb. Today, this road sees little pedestrian traffic on account of feeling highly hostile to those street users. A likely increase in foot traffic will arise as a result of the significant volume of residents that are starting to call the Barrel Yards home and making their way to the businesses along King Street. All efforts should therefore be made here to enhance the pedestrian experience and encourage active use.

Additionally, a crosswalk should be provided at Albert Street to facilitate a better pedestrian connection. A vision of 0 pedestrian deaths ([link](#)) has been embraced by many municipalities around the world and should be a goal for our Region too. Personally, I have worked at the Marsland Centre for nearly a decade and know of co-workers who pick driving to businesses on the South side of Erb over walking because of the lack of a crossing here and others who are discouraged from patronizing the business they look out across the street because it would take too long to get there by walking to one of the crossings at King or Caroline. As stated above, this is a highly walkable area of our Region and should be held to a higher standard in that regard as a result.

The Albert street changes that have been proposed are great but could be improved by moving the parallel parking lane to the opposite side of the street. Without relocating the bike lane, the parked vehicles could serve as the Region's first protected bike lane ([link](#)) by creating a safety buffer between moving traffic and the people on bikes. Many find it difficult to parallel in the traditional manner and will find it even harder to do so on the "wrong" side of the street.. This could also address the issue of eliminating the left turn off Albert and onto Caroline by maintaining the short crosswalk distance at the intersection and while allowing for safe left turns off Albert with the travel lane on the left of the road.

Though the proposed EA for a trail on the North end of Erb Street is not completed in time for this project, a justification for suddenly widening Erb Street from a two lane road to a three lane road at this particular point must also be questioned. Vehicular left turns off the Bridgeport side of Caroline are minimal and likely to remain so. Vehicular right turns off Caroline onto Erb from the opposite direction are also going to remain limited given the ION related narrowing of the street. Traffic increases at this point will therefore be negligible. Without the need to widen Erb today it would be much easier to implement a bike trail along the North end of Erb street, should the EA indicate it is warranted. This would further enhance active use of the street by provide a measure of safety acceptable to those 8 to 80 years old ([link](#)). As proposed though, sharrows are completely inappropriate ([link](#)) on all but very minor roads.

Though again outside of the scope of this project, a consideration must be made to how the Erb and Caroline streets intersection is handled. Anything that can be done to alter the design of this intersection should be considered and pursued because this

intersection is a very important juncture for trail users in the city of Waterloo. It is for this reason, that the Erb/Caroline intersection is more than likely to become the busiest active transportation juncture in the Region over the coming years. Safety to all active users must therefore be benchmark setting and a bike box that forces trail users around right turning vehicles onto Caroline street, as proposed today is unsafe. A Dutch style junction along the north end of the intersection that connects to the trail on the South side of Caroline and the potential trail along Erb would significantly improve safety at this intersection and encourage use. There are many applied examples around the world of how to implement such an intersection with this video ([link](#)) serving as a great jumping off point.

I am excited to see attention is being given and changes are proposed to improve active use, safety and usability of this important area in the city of Waterloo and believe that with some of the above changes, this area of our Region can not only improve but become a hallmark of city planning that will be used as a benchmark throughout the Region and beyond.

## Appendix “D”

### Project Team Response to Public Comments Received from the January 27, 2016

#### Public Consultation Centre

The main comments received from the public followed by the Project Team’s response are noted below.

#### **Comment - Support for the proposed improvements (7 comments)**

The Project Team believes that the proposed improvements are generally well supported by the public.

#### **Comment - Request for a pedestrian crossing on Erb Street at Albert Street (7 comments)**

The Region’s current practice regarding mid-block pedestrian crossing facilities precludes the installation of a designated pedestrian crossing within 125m of a signalized intersection on a one-way road (200 metres on a two-way road) to avoid traffic queuing into the adjacent intersection. The intersection of Albert Street and Erb Street is located approximately 70 metres from the intersection of King Street and Erb Street and accordingly does not meet the minimum required distance for a mid-block pedestrian crossing.

#### **Comment - Request to remove the proposed sharrows on Erb Street (6 comments)**

Sharrows are green, on-road paint markings advising motorists that a travel lane is to be shared between vehicles and cyclists. The sharrows identified on the plans presented at the January 26, 2016 PCC on Erb Street from Caroline Street to King Street were proposed as an interim solution to provide a shared-use lane for vehicles and cyclists. However, upon further review of the comments received from the public and Advisory Committees, the Project Team has eliminated the sharrows on Erb Street from Caroline Street to King Street in the Recommended Design Concept.

#### **Comment - Request for southbound cycling facilities on Albert Street (5 comments)**

The preliminary plans for the proposed improvements presented at the January 26, 2016 Public Consultation Centre included only a one-way cycling lane in the northbound direction on Albert Street, in line with the direction of vehicular travel. Upon review of the comments received, the Project Team is now recommending a raised 1.5 metre southbound contra-flow cycling facility on Albert Street from Bridgeport Road to Erb Street and a shared-use lane for vehicles and cyclists in the northbound direction. This contra-flow cycling lane is separated from vehicular traffic by a raised

curb and gutter.

While contra-flow cycling facilities are not common in Waterloo Region, they have been installed successfully throughout a number of cities within Ontario and the rest of North America.

**Comment - Provide cycling ‘cross-rides’ at intersections (3 comments)**

A cross-ride is essentially a modified crosswalk that designates a specific area alongside a crosswalk for cyclists to cross without having to dismount their bicycle. There are 3 standard cross-ride applications summarized in Ontario Traffic Manual Book 18 – Cycling Facilities. Pavement markings indicating either separate spaces for cyclists and pedestrians, or mixed crossings, can be provided. Currently, the Region has implemented one cross-ride as a pilot project and will be monitoring how it functions over the next several months. If the pilot project is successful, a policy or practice will be developed to set out the specific design guidelines and applications for implementing cross-rides. The Project Team will review the application of cross-rides within the project limits during the detailed design stage of the project based on the Regional policy/practice established over the next months.

**Comment - The painted asphalt area approaching Albert Street is unnecessary (3 comments)**

The painted asphalt area on the north side of Erb Street approaching Albert Street has been provided to accommodate a future left-turn lane to ease traffic congestion if the two-way cycle track on Erb Street from Caroline Street to Margaret Avenue as recommended in the ATMP is ultimately approved and implemented. As the painted asphalt area can easily be converted to a dedicated left-turn lane by means of pavement markings, this will avoid the need for any future construction works to accommodate a future two-way cycle track on Erb Street.

**Comment - Albert Street cycling facility is too narrow (3 Comments)**

From the comments received, the Project Team has further reviewed the proposed design concept and is now recommending a raised 1.5 metre southbound contra-flow cycling facility on Albert Street from Bridgeport Road to Erb Street.

While contra-flow cycling facilities are not a common occurrence in Waterloo Region, they have been installed successfully throughout a number of cities within Ontario and the rest of North America. The proposed contra-flow cycling lane on Albert Street will be raised and separated from traffic by curb and gutter.

**Comment - Need to address congestion at the Erb Street and Caroline Street Intersection (3 Comments)**

Based on forecast 2028 traffic volumes, the intersection of Caroline Street and Erb Street will operate acceptably under the Recommended Design Concept. The

narrowing of Bridgeport Road/Caroline Street from three (3) to two (2) lanes may improve traffic flow by better channelizing traffic and reducing weaving between lanes. The intersection will continue to be monitored for possible improvements in the future following the ION construction.

**Comment - Suggestion to Revert Erb Street and Caroline Street from one-way to two-way Roadways (2 comments)**

Converting these roads from one-way travel to two-way travel would affect the broader road network and is beyond the scope of this Class EA Study.

**Comment - Convert the Third Lane on Erb Street to a right-turn lane for Waterloo Town Square (2 Comments)**

The future implementation of a two-way cycle track on Erb Street, if approved, will require the removal of a travel lane to accommodate the cycle track. Under this condition, Erb Street would be reduced to two lanes of travel and both lanes would be required in order to accommodate through traffic volumes.

**Comment - Maintain a dedicated left-turn lane on Erb Street at Albert Street (2 comments)**

With 3 through lanes on Erb Street as proposed under the Recommended Design Concept, a dedicated left-turn lane from Erb Street to Albert is not required based on the traffic warrants. However, should the 2-way cycle track be implemented on Erb Street in the future, thereby reducing the number of through lanes on Erb Street from three to two, a dedicated left-turn from Erb Street to Albert would be provided. The “painted shoulder” on Erb Street identified in the Recommended Design Concept has been provided in order to accommodate this future left-turn lane without the need for further construction. The Project Team notes that it also received four comments indicating support for the proposed change to the intersection of Erb Street and Albert Street.

**Comment - Provide a dedicated left-turn lane on Albert Street at Caroline Street (2 comments)**

Under the Recommended Design Concept, there is a single lane of through traffic on Albert Street and no dedicated left-turn lane from Albert Street to Caroline Street. Based on existing and forecast traffic projections, the intersection of Albert Street and Caroline Street will operate acceptably with no dedicated left-turn lane. By narrowing the width of the intersection on Albert Street at Caroline Street, a shorter crossing distance is achieved for pedestrians.

**Comment - Lanes are too wide, promoting higher speeds (2 Comments)**

The preferred lane width for Regional arterial roadways is 3.35 metres except for curb

lanes on four-lane roadways with no bike lanes where the preferred lane width is 3.65 metres. Curb lane widths are designed to accommodate larger vehicles such as buses and to provide some snow storage in winter. The Recommended Design Concept proposes lane widths ranging from 3.35 metres to 3.65 metres for the curb lanes on Bridgeport Road/Caroline Street and 3.25 metres for the curb lanes on Erb Street. The lane widths on Erb Street are less than desirable but match the existing lanes widths.

**Comment - Parallel parking should be located on the east side of Albert Street rather than the west side the roadway (2 Comments)**

From the comments received, the Project Team has further reviewed the proposed design concept and is now recommending a raised 1.5 metre southbound contra-flow cycling facility on Albert Street from Bridgeport Road to Erb Street with the on road parallel parking on the east side of Albert Street.

**Comment - Consider pedestrian crossing on Caroline Street near Dupont Street (1 comment)**

The Region's current policy regarding mid-block pedestrian crossing facilities precludes the installation of a crosswalk within 125m of a signalized intersection on a one-way roadway to avoid traffic queuing into the adjacent intersection.. The intersection of Caroline Street and Dupont Street is located approximately 100 metres from the intersection of Caroline Street and Erb Street and accordingly does not meet the minimum required distance for a mid-block pedestrian crossing.

**Comment - No need for the proposed sidewalk on the east side of Caroline Street from Dupont Street to Albert Street (1 Comment)**

The ATMP recommends sidewalks on each side of Bridgeport Road/Caroline Street and Erb Street. Sidewalks currently exist on the each side of Bridgeport Road/Caroline Street from King Street to Erb Street, with the exception of a missing section on the south side of the road from Albert Street to Dupont Street. Also, the Region's approved Pedestrian Charter recommends sidewalks on both sides of Regional roadways where feasible. The addition of the missing section of sidewalk on Bridgeport Road/Caroline Street from Albert Street to Dupont Street will provide greater opportunity for pedestrians to access the Urban Core Area and public transit.

**Comment - Provide traffic calming measures on Erb Street (1 Comment)**

Regional practice does not allow for the use of hard "on-road" traffic calming measures on Regional arterial roadways due to adverse effects on emergency service vehicle response times, noise from vehicles passing over the speed humps and general delays to traffic.

**Comment - Sewers should be kept out of cycling lanes (1 Comment)**

The Recommended Design Concept includes on-road cycling lanes only on Albert Street. The location of sewers will be reviewed during the detailed design phase of the project. Sewer grates and lids will be kept out of cycling facilities to the greatest extent possible. Also, side-inlet catch basins will be used where possible where on-road cycling facilities are present.

**Comment - Extend the bike lane on Albert Street to Erb Street (1 Comment)**

The plans presented at the January 27, 2016 PCC proposed terminating the on-road cycling on Albert Street lane north of Erb Street. From the comments received, the Project Team reviewed the proposed design concept following the PCC and is now recommending a raised 1.5 metre southbound contra-flow cycling facility on Albert Street from Bridgeport Road to Erb Street and a shared-use lane for vehicles and cyclists in the northbound direction, thus extending cycling facilities on Albert to Erb Street, which is reflected in the Recommended Design Concept.

**Comment - Provide a boulevard between sidewalk and the road on Erb Street (1 comment)**

Due to the constrained corridor of Erb Street from Caroline Street to King Street, there is limited space for a boulevard. In lieu of the addition of boulevards, the Recommended Design Concept includes wider sidewalks on Erb Street where possible.

**Comment - Allow a diagonal or “scramble” crossing at Caroline Street and Erb Street during the ION crossing phase (since vehicle traffic will be fully closed during this phase anyway) (1 Comment)**

A pedestrian scramble, also known as scramble intersection, is a pedestrian crossing system that stops all vehicular traffic and allows pedestrians to cross an intersection in every direction, including diagonally, at the same time.

The design and construction of the Erb Street and Caroline Street intersection is being completed under the Region’s ION project. Once the operational details of the LRT trains at the intersection of Erb Street and Caroline Street are established, options for pedestrian/cycling crossing opportunities could be investigated.

## Appendix “E”

### Recommended Design Concept for Albert Street from Bridgeport Road/Caroline Street to Erb Street

- Complete replacement of the pavement structure including new concrete curbs;
- Replacement of the City’s watermain, sanitary sewer and storm sewer;
- Conversion of the existing westerly curb lane on Albert Street from Erb Street to Bridgeport Road/Caroline Street from a through lane to a shared use lane for vehicles and cyclists heading in the northbound direction;
- Conversion of the existing easterly curb lane on Albert Street from Erb Street to Bridgeport Road/Caroline Street from a through lane a through lane to an on-road parallel parking lane;
- Construction of a southbound raised cycling lane on the west side of Albert Street from Erb Street to Bridgeport Road/Caroline Street;
- Replacement of the existing 2.0 metre wide sidewalk on the west side of Albert Street from Erb Street to Bridgeport Road/Caroline Street with a 1.50 metre wide sidewalk, to accommodate the proposed raised cycling lane;
- Replacement of the existing 1.50-2.50 metre wide sidewalk on the east side of Albert Street from Erb Street to Bridgeport Road/Caroline Street with a 2.0 metre wide sidewalk;
- Removal of the existing channelized islands at the intersection of Bridgeport Road/Caroline Street and Albert Street.