



City of
Peterborough

To: Members of the General Committee

From: W. H. Jackson, Commissioner of Infrastructure and Planning Services

Meeting Date: May 7, 2018

Subject: Report IPSPD18-010
Charlotte Street East and Downtown Gateway Project

Purpose

A report to recommend the approval of the Charlotte Street East streetscape design concept and associated cost estimate and to retain AECOM to complete the detailed design and prepare contract documents for both the Charlotte Street East Project and the Downtown Gateway Project at the Park Street and Charlotte Street intersection.

Recommendations

That Council approve the recommendations outlined in Report IPSPD18-010 dated May 7, 2018, of the Commissioner of Infrastructure and Planning Services, as follows:

- a) That the presentation by AECOM regarding the proposed Charlotte Street Concept Design between Aylmer Street and Water Street be received for information;
- b) That the conceptual design and cost estimate for the Charlotte Street East Project as set out in Exhibit "B" attached to Report IPSPD18-010 be approved;
- c) That the Charlotte Street East Project and the Downtown Gateway Project at the Park Street and Charlotte Street intersection be included in the Bethune Street Project and that the Charlotte Street Renewal and Louis Street Urban Park Project be renamed the Louis Street Urban Park Project;

- d) That the Bethune Street Project budget be increased by \$490,000.00 from \$29,187,300 to \$29,677,300 and the additional \$490,000 requirement be financed from:
 - i) A \$465,000 transfer from the Charlotte Street Renewal and Louis Street Urban Park Project identified as Project 7-1.04 in the 2018 Approved Capital Budget; and
 - ii) A \$25,000 transfer from the Central Area Master Plan Project – Detailed Design Gateways identified as Project 7-1.07 in the 2015 approved Capital Budget.
- e) That the contract awarded under P-14-15 for the Detailed Design and Contract Administration for the Bethune Street Project to AECOM, in the amount of \$3,234,360 plus HST of \$420,466.80 for a total cost of \$3,654,826.80, be increased by \$482,813.41, excluding taxes, to a new contract amount of \$3,717,173.41, plus HST of \$483,232.54, for a total cost of \$4,200,405.95 to complete the detailed design and prepare contract documents for the Charlotte Street East Project and the Downtown Gateway Project at the Park Street and Charlotte Street intersection.

Budget and Financial Implications

After transferring the budgets as outlined in Recommendation (c), the projected cost of \$491,310.93, net of HST rebate, to complete the detailed design and prepare contract documents for the Charlotte Street East Project and the Downtown Gateway Project at the Park Street and Charlotte Street intersection project (Downtown Gateway Project), can be accommodated within the Bethune Street Project budget. The construction of the Charlotte Street East Project will be budgeted in a future year and will be coordinated based on the construction phasing for the Bethune Street Project. The construction cost estimate for the Charlotte Street East Project is \$4,578,134.12.

The project budget in the Louis Street Urban Park Project (“Urban Park”) after the recommended \$465,000 transfer will decrease from \$5,990,000 to \$5,525,000. The construction cost estimate for the Urban Park is \$3,725,000, which includes a 10% contingency. Other incidentals relating to the Urban Park Project are projected to cost \$170,000 including the transport of the portable at the Museum and Archives to the Urban Park site, including utility connections, as well as the purchase of a tractor zamboni to maintain the refrigerated skating rink ice surface. In the event an agreement cannot be reached with a private developer to construct a Public-Private Partnership (P3) building, \$660,000 of the budget is being reserved, which would go toward the construction of a building to provide all that is needed in support of the Park. This amount is expected to be supplemented through the corporate sponsorship.

A summary of the budget and cost breakdown for the Charlotte Street East Project and the Louis Street Urban Park Project is as follows:

Charlotte Street Renewal and Louis Street Urban Park Project Council approved budget (2017 Capital Budget Project Reference 7-1.02)	\$5,990,000
Recommendation c) transfer to Bethune Street Project	(\$465,000)
Total budget for the Louis Street Urban Park Project	\$5,525,000
Commitments to date (including Detailed Design, Demolition of Shish-Kabob Hut, etc.)	(\$970,000)
Available budget for the Construction of the Louis Street Urban Park Project	\$4,555,000
Urban Park Construction Cost estimate (including 10% contingency)	(\$3,725,000)
Miscellaneous Costs	(\$170,000)
Remaining Budget to fund a Park Building if a P3 Agreement is not reached	\$660,000

The recommended transfer of \$25,000 to the Bethune Street project from the Central Area Master Plan (CAMP) will allow AECOM to complete the final conceptual and detailed design for the Downtown Gateway Project at the intersection of Park Street and Charlotte Street. The Central Area Master Plan – CAMP (2018 Capital Budget Reference Project 7-1) has an available budget of \$130,000 to prepare the final conceptual and detailed design of the Downtown Gateway Project, including its construction. The first \$25,000 is being transferred from the CAMP budget now and the budget to construct will be transferred once the detailed cost estimate is delivered by AECOM.

Background

The construction of the Urban Park and the reconstruction of Charlotte Street East were originally conceived as one project, where the Urban Park design and its construction would be rolled out first, followed by the detailed design and construction of Charlotte Street East. Charlotte Street East's west limit began on the west side of Aylmer Street, stretching east to Water Street and included an uncompleted section of George Street streetscape on its east side, stretching from Charlotte Street to Simcoe Street.

The original intent was to include Charlotte Street East with the Urban Park Project, mostly because many of the surface treatments were similar. As the extent of below-ground infrastructure works became known it became clear that the phasing of Charlotte Street East is more dependent on the timing of the Bethune Street Project, which includes Charlotte Street, west of Aylmer Street to Park Street.

The time at which Charlotte Street East will be constructed depends on the timing of the section west of Aylmer Street and the Bethune Street Project phasing. The impacts on area residents, businesses and traffic will have to be carefully considered.

AECOM was retained to develop conceptual streetscape designs for Charlotte Street East and a short section of George Street. In addition to the two streetscape concepts, AECOM was also retained by the City to develop the conceptual design of the Urban Park, together with its detailed design, construction documents and contract administration services.

Council, at its meeting of September 21, 2015, in considering Report USDIR15-004, awarded the preparation concepts, detailed design and construction documents for the entire Bethune Street Project, which includes Charlotte Street west of Aylmer Street, to AECOM. As a result, it is proposed to award the detailed design and preparation of the construction documents for Charlotte Street East to AECOM to ensure there is optimal coordination and consistency along the entire downtown Charlotte Street corridor and the Urban Park.

Purchasing By-law

It is proposed to award the detailed design, preparation of the tender and contract documents to AECOM. This can be done by including the Charlotte Street East section within the Bethune Street Project and increasing the contract amount to reflect the additional scope.

Likewise, it is also proposed to award the detailed design, preparation of the tender and contract documents to AECOM for the Downtown Gateway at the Park Street and Charlotte Street intersection. This can be done by including it within the Bethune Street Project and increasing the contract amount to reflect the additional scope.

The City's Purchasing By-law 14-127 permits a non-competitive award under section 17.4.6. a) "where the original award was approved by Council, additional Council approval is required for expenditures that exceed the original price by more than 10 percent or \$100,000".

AECOM's proposed fee for services has been justified as follows:

Utilizing the Ontario Association of Landscape Architects (OALA) fee for Services Table, AECOM has proposed using the capital cost estimate for Charlotte Street East and applying a percentage to each phase (OALA table attached as Exhibit "C"). Charlotte

Street East falls within Cat3/complex for which the OALA recommended range is 15%-19.5%. With AECOM's project background and understanding, they are proposing to use 10%.

The cost estimate for the Charlotte Street East Project is \$4,578,134.12. AECOM's proposed fee of 10% of this amount is \$457,813.41. In addition, AECOM's fee for the Downtown Gateway is \$25,000. This brings AECOM's total fee for services to \$482,813.41 plus HST in the amount of \$62,765.74 for a total of \$545,579.15.

Charlotte Street Concept Design Booklet

In consultation with City Staff, AECOM has prepared a Concept Design Booklet for Charlotte Street East (see Exhibit "B"). The Concept Design Booklet details the design/consultation process undertaken to arrive at the final conceptual streetscape design. The conceptual plans are included, with phasing options discussed and a cost estimate provided for the entire Charlotte Street East section. The construction cost estimate for the Charlotte Street East section is \$4,578,134.12, which includes \$435,000.00 for utilities and underground electrical work. The scope of the Charlotte Street East section is shown in Exhibit "A" of this report.

Highlights of the Charlotte Street East Concept Design

A "flexible street" design is one of the key features of the Charlotte Street East concept.

On-street parking can be accommodated in the winter. However, a system of portable bollards and street furnishings are proposed, which can be moved to the outer limit of the on-street parking spaces to permit seasonal uses, such as sidewalk cafes.

Being in the Downtown Core and connected to the Urban Park, pedestrians have been given the priority in the design. Some of the features and treatments in the Urban Park design extend into the Charlotte Street road allowance helping to give a pedestrian feel to the street. For example, paving treatments and the catenary lighting will extend from the Urban Park into the abutting Charlotte Street road allowance. Part of the plan involves closing Charlotte Street to vehicle traffic, between Aylmer Street and George Street, when events involving large numbers of people are taking place at the Urban Park.

The design also considers cyclists by providing adequate space to share the road, but by also incorporating some traffic-calming techniques. The proposed concept design includes many areas where the curbs protrude beyond the on-street parking zone, effectively bringing elements such as trees and street furnishings closer to the traffic lanes. This technique is a proven way of reducing traffic speed, making it safer for pedestrians and cyclists. In the warm-weather season, when the bollards and some street furnishings are moved to the outer limit of the on-

street parking zone, safety for cyclists is enhanced. Cyclists will not have to contend with vehicles parked on the street. As well, the posted maximum speed will be reduced from 50 km/hr to 40 km/hr.

The term “Festival Street Mode” is used for the street when it is closed to vehicle traffic between Aylmer Street and George Street. It is anticipated that the street will be closed in this section when grand events are taking place at the Urban Park and Charlotte Street. During the Festival Street mode, there will be a minimum clearance width of 6 metres maintained for emergency vehicles to access the area if required.

Other highlights of the concept design are as follows:

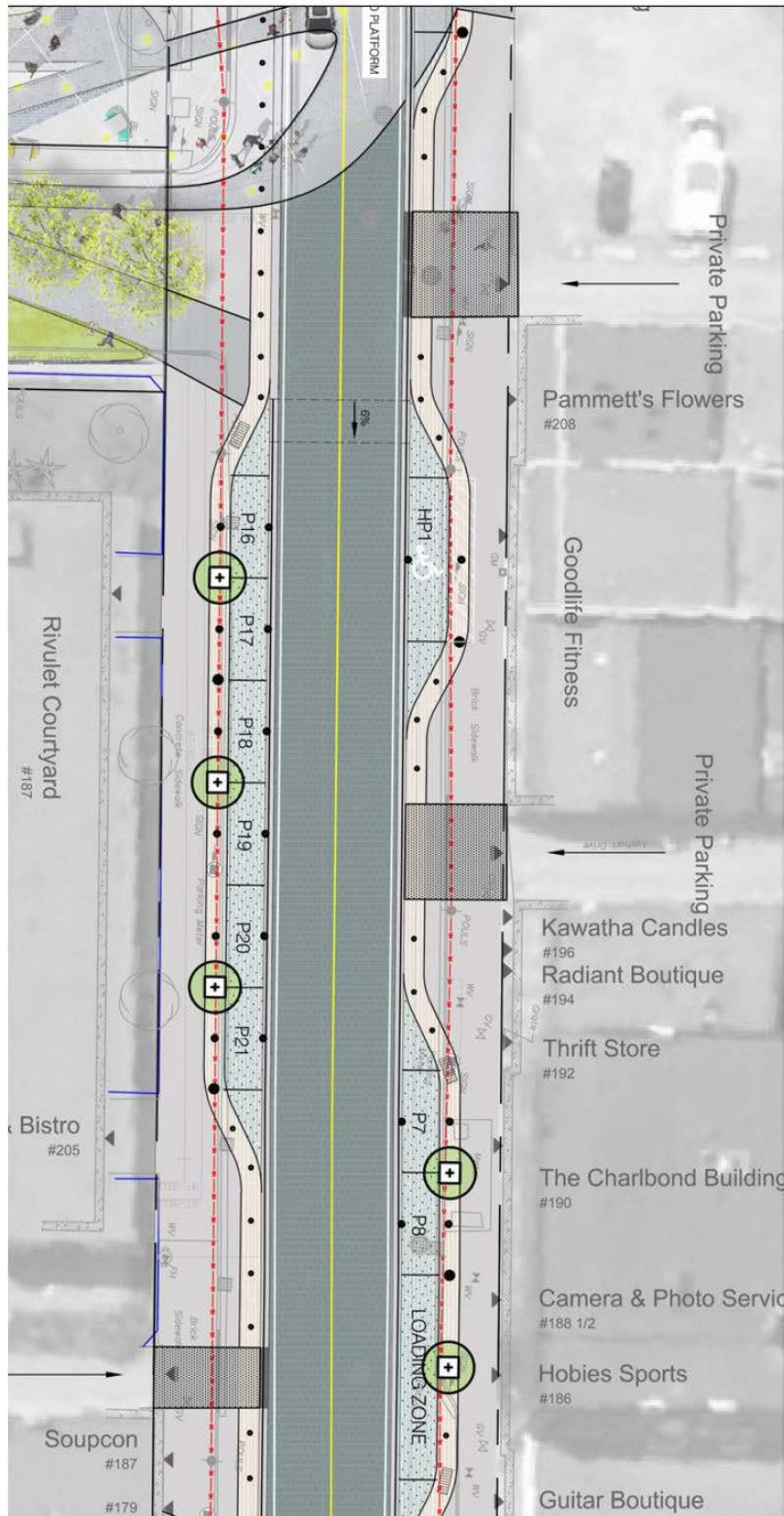
- Curb bump-outs and special paving at a pedestrian crossing over Jackson Creek in front of the Charlotte Mews. The design at this location is in keeping with the theme at the Urban Park, is a traffic calming feature and celebrates the presence of the creek;
- The use of structural soil or “soil cells” in order to provide more growing space for tree roots. Structural soil allows paved surfaces to be used over it without sinking and promotes the growth of much bigger, healthier and longer lived trees;
- Where practical, barrier-free access will be provided at building entrances along the sidewalk;
- Other than in front of the Urban Park, the use of streetlight poles and light fixtures in keeping with the traditional Downtown style of streetlight poles and fixtures as seen on George Street;
- The use of unit pavers on a concrete base for the vehicular portion of the street, including the on-street parking zone. This feature of the design is important in order to have the on-street parking zone function as sidewalk space in the warm weather season and to create a pedestrian oriented precinct; and
- The elimination of the exclusive left-hand turn lane on Charlotte Street (westbound) at its intersection with George Street. A traffic study concluded this can be done without negative impacts on area traffic operations. This component of the plan will create much needed pedestrian space around The Market Hall and Clock Tower.

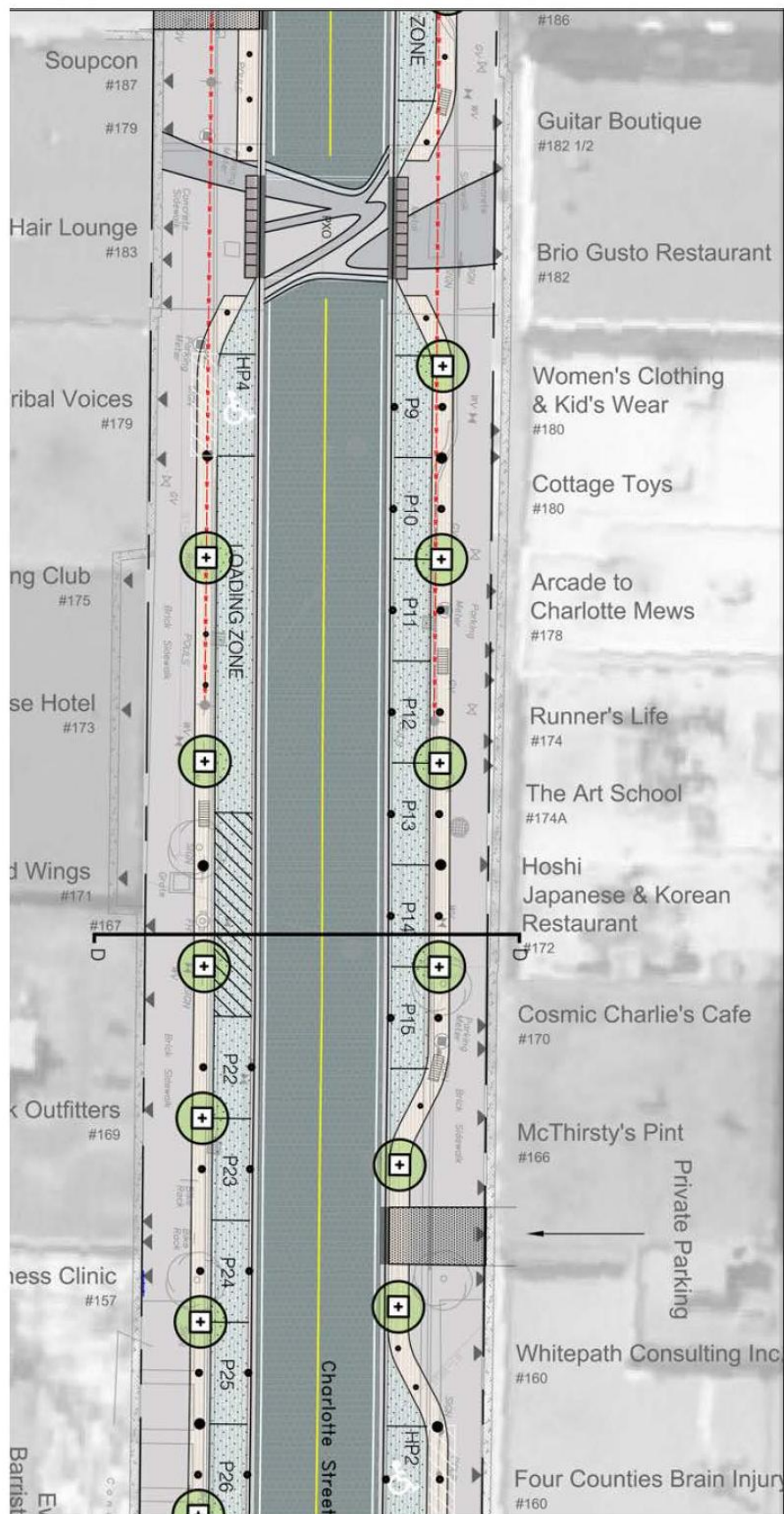
The following pages show the Charlotte Street Concept Design plans recommended for approval:

Charlotte Street Preferred Concept – Representative Plan View

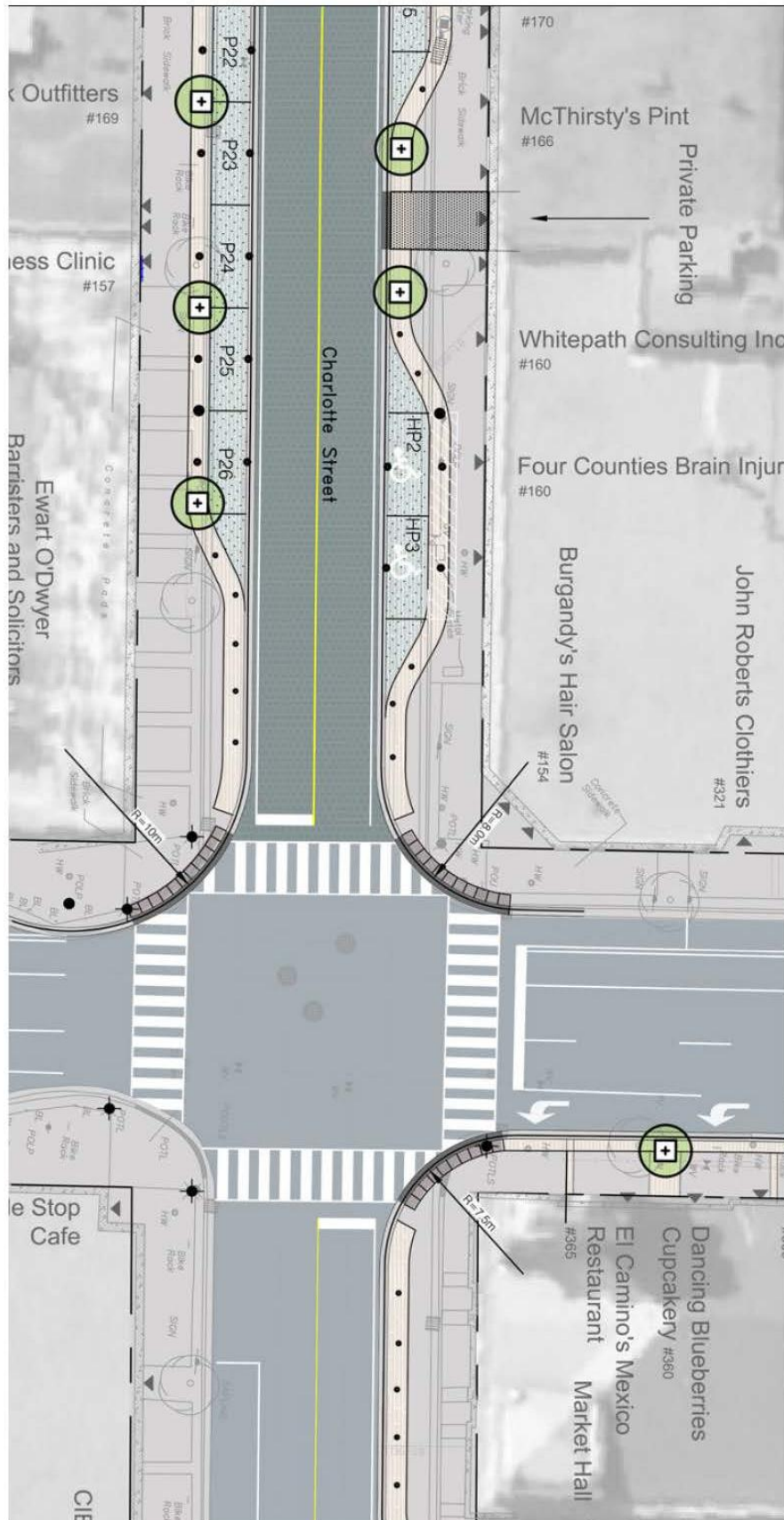


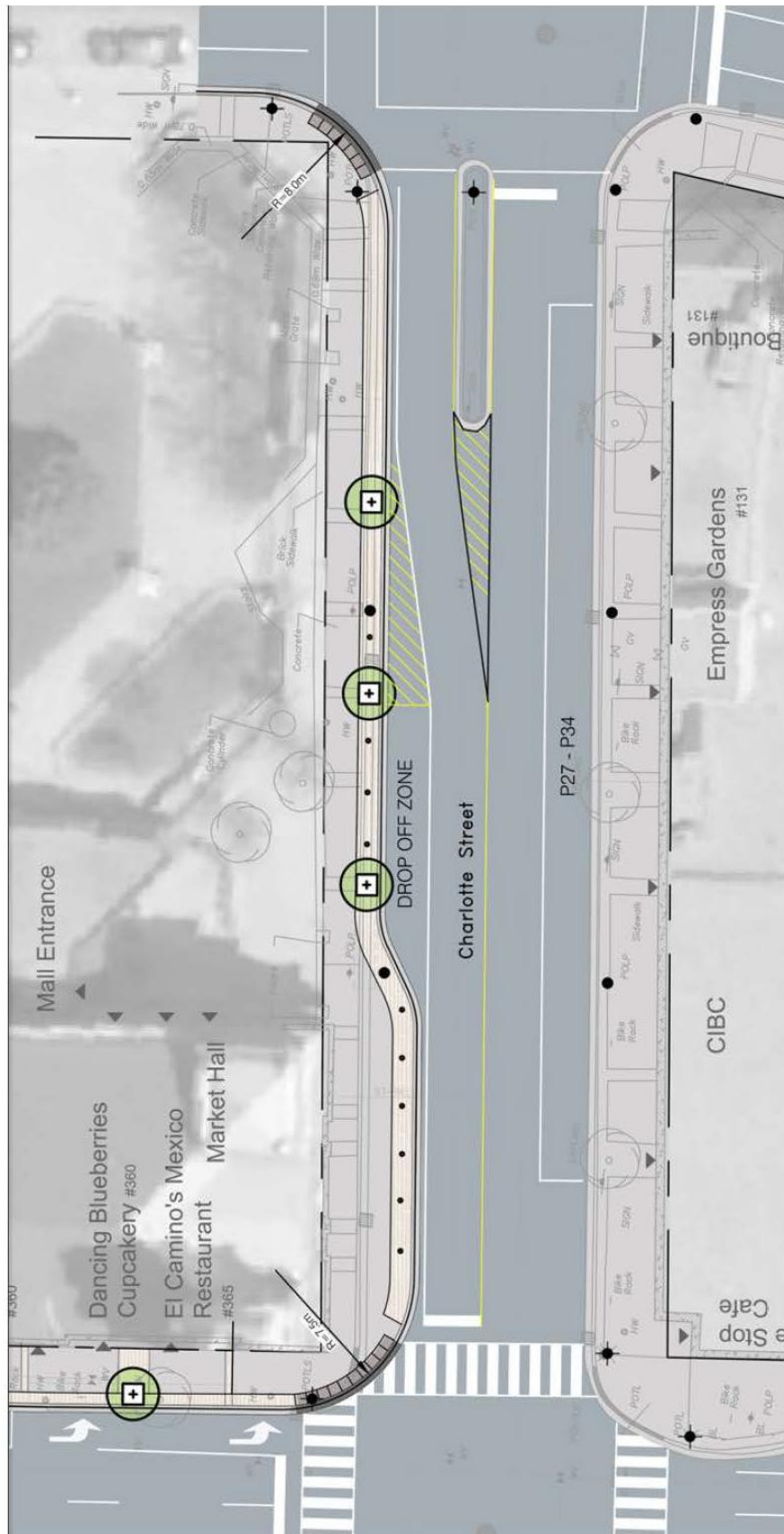
This architectural site plan illustrates a proposed development along Charlotte Street. The plan features a large, irregularly shaped building footprint on the left side, labeled "Possible New Building". To the right of this building is a parking area with six designated spaces, labeled P1 through P6. Each parking space is marked with a green circle containing a white cross. A yellow line runs parallel to the street, labeled "ELEVATED PLATFORM". The street itself is labeled "Charlotte Street" and has a 6% grade indicated. On the right side of the street, several existing businesses are listed with their addresses: #234 (24 Seven Family Gym), #234 (Peterborough Travel), #232 (Lili's Convenience), #230 (Tattooing & Piercing), #228 (Wimpy's Diner), #226 (Act), and #224 (Pettigrew Spa). A "Parking" area is also indicated on the far right. The plan includes various details such as sidewalks, curbs, and building footprints of existing structures. A north arrow is located in the upper right corner.

Charlotte Street Preferred Concept Plan (middle-west section)

Charlotte Street Preferred Concept Plan (middle-east section)

Charlotte Street Preferred Concept Plan (east section)



Charlotte Street Preferred Concept Plan (George to Water Street section)

George Street Preferred Concept Plan (east side)



Operational Cost

The proposed flexible street design will result in an increase to maintenance and operational costs. Approximately every five years, streetlight poles and bollards should be repaired and repainted. However, this work would probably be carried out as part of a bigger scope to include similar poles on other downtown streets.

The work to move the bollards and street furnishings twice annually is estimated to require Public Works to commit two employees with a pick-up truck four days a year, costing approximately \$4,000 (2018 budget).

Summary

The completion of Charlotte Street East and the Urban Park would provide quality public space for grand events and street festivals. However, the engineering design and construction phasing of this section of Charlotte Street hinges on the progress of the engineering design and construction on the west portion of Charlotte Street and the approval of additional Capital Budget for the Bethune Street Project to cover the cost of its construction.

The design related to below-ground infrastructure such as electrical servicing and storm water are inter-connected. As a result, it is recommended to increase the consultant's contract amount to include the detailed design and preparation of contract documents for the Charlotte Street East Project in the Bethune Street Project. This will be funded by way of a \$465,000 Budget Transfer from the Charlotte Street Renewal and Louis Street Urban Park Project.

Similarly, the Downtown Gateway at the intersection of Park Street and Charlotte Street is an integral component of the overall Charlotte Street streetscape improvement. As a result, it is practical to combine it with the Bethune Street Project and to increase the contract amount with AECOM to provide consulting services for its final conceptual and detailed design.

Submitted by,

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Commissioner of Infrastructure and Planning Services

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Attachments:

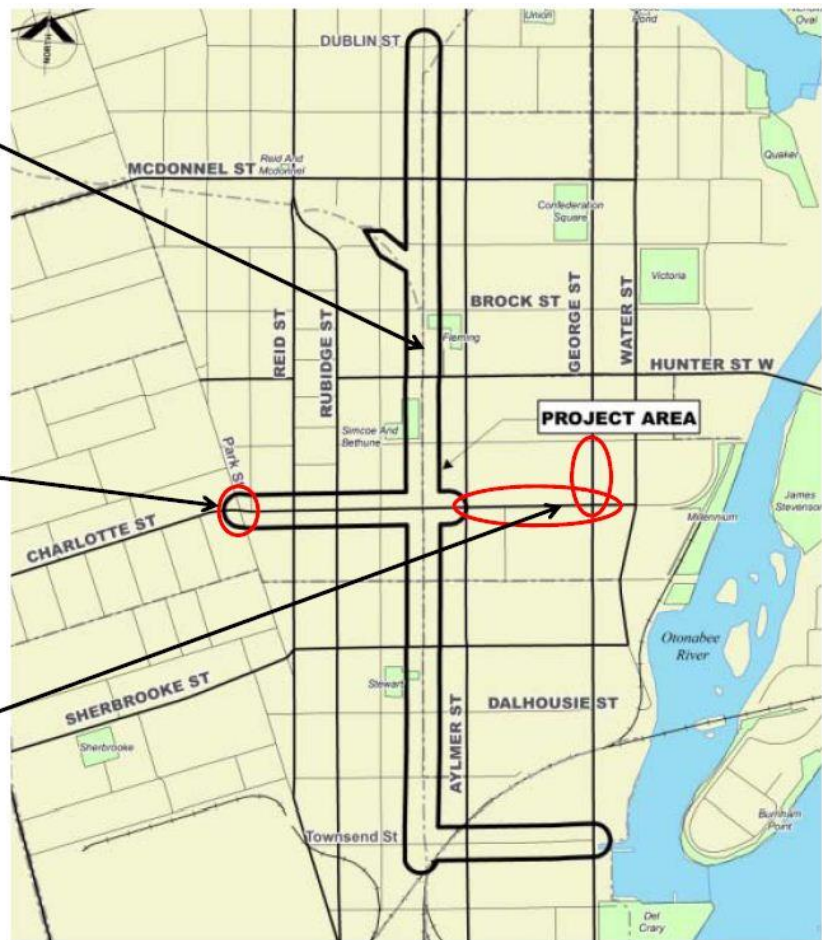
- Exhibit A: Proposed Transfer of Downtown Gateway and Charlotte Street East to the Bethune Street Project
- Exhibit B: The Charlotte Street East Conceptual Design Booklet
- Exhibit C: Ontario Association of Landscape Architects (OALA) Fee for Services Table

Exhibit A: Proposed Transfer of Downtown Gateway and Charlotte Street East to the Bethunescape Project, Page 1 of 1

Current "Bethunescape" Project Area

Addition of Downtown Gateway to Bethunescape Project Area

Addition of Charlotte Street East to Bethunescape Project Area





CHARLOTTE STREET CONCEPT DESIGN

DRAFT - Jan. 26, 2018



STRENGTHEN

the role of the Central Area and provide appropriate transitions between sub-areas

UTILIZE

public art to create distinctive destinations and event spaces

LINK

design approach to surrounding streetscapes

CREATE

an exceptional environment for pedestrians and cyclists that fosters active transportation and incorporates accessible public realm design that recognizes all users

INTEGRATE

public and private elements to create a high quality urban place

ENHANCE

connectivity along and across the corridor

IMPROVE

the quality of life of local residents, workers, and visitors to the area

FOSTER

context-sensitive intensification

CONTRIBUTE

to the urban forest, green the street, and improve the environmental performance of the public right-of way

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PROJECT BACKGROUND

PROJECT BACKGROUND

Charlotte Street is an important east-west running commercial Main Street in the City of Peterborough's downtown. There are a variety of land-uses in existence, such as high-density residential, retail, offices and restaurants. The urban form is generally typical for a downtown core location including consistent stretches of two to three storey buildings with at grade access from the sidewalk. One of Charlotte Street's most distinctive features is the presence of the City's iconic Clock Tower at the corner of George Street and Charlotte Street. In the block between Aylmer Street and George Street, Jackson Creek runs under Charlotte Street. As well, the Urban Park site has 44 metres of frontage on Charlotte Street within the same block.

In the Core Area of the City's Central Area, the Charlotte Street East Project area runs between Aylmer Street and Water Street.. This stretch includes a 250 metre long section between Aylmer Street and George Street and another 100 metre long section between George Street and Water Street. Both sections experience considerable vehicular and pedestrian traffic, as well as increasing numbers of cyclists. The Charlotte Street East Project is conceived as a subsequent phase to the development of the Urban Park planned to begin construction some time in 2018.

Today, Charlotte Street East is in poor condition and lacks the features and amenities needed to accommodate public activities such as sidewalk cafes and the growing number of events occurring in the downtown. This section, along with the new Urban Park at Louis Street, is envisioned to be one of the City's premier pedestrian oriented zones, employing a flexible street to optimize changing street programming.

The City of Peterborough retained AECOM to develop conceptual streetscape designs for Charlotte Street East and a short section of George Street. In addition to the two streetscape concepts, AECOM was also retained by the City to develop the conceptual design of the Urban Park, together with its detailed design, construction documents and contract administration services.

EXCERPT FROM THE PROJECT RFP:

Without pre-determining the outcome of the Charlotte street consultation process, an opportunity was identified, through the urban park design exercise, to create a precinct, designed with the flexibility to close the area to traffic during special events, when space to accommodate large gatherings of people is required. The idea is to use treatments for use on Charlotte street that are prevalent in the design of the urban park between Aylmer Street and George Street.





PLANNING CONTEXT

PLANNING CONTEXT

The following excerpts from the Project RFP provide a summary of the relevant planning documents, studies and initiatives that informed the design process for this project:

THE OFFICIAL PLAN

The site for this Project is located within the Central Area's Core, as defined in Schedule "J" of the City's Official Plan. The Commercial Core and the Waterfront Commercial Sub-Areas are also designated as the City's "Urban Growth Centre". The designation implements the Province's strategy to revitalize downtowns, not only by accommodating additional people and jobs, but also through the development of quality public spaces, in order to create meeting places, to accommodate cultural events where public institutions, major services and transit play a role. As our streets and parks in the Downtown are important public spaces, the development of the Urban Park and the renewal of Charlotte Street will play a significant role in implementing the Places to Grow Plan.

The design of Charlotte Street is also partially guided by the following Council approved Plans:

THE CENTRAL AREA MASTER PLAN

The Central Area Master Plan, or "CAMP", is an Official Plan document that contains 22 strategies intended to create the environment for Commercial Land-Use objectives to succeed in the Central Area in the City.

THIS PROJECT WILL IMPLEMENT TWO KEY STRATEGIES OF THE PLAN:

- a. "Create a Civic Square, or Urban Park, a multi-purpose outdoor venue for gatherings and community celebrations"; and
- b. "Prioritize the renewal of the Charlotte Street right-of-way from Water Street to Park Street".

THE COMPREHENSIVE TRANSPORTATION PLAN

The Comprehensive Transportation Plan identifies Charlotte Street as a Medium Capacity Arterial Street. In part, the Plan states that medium capacity arterial streets are to serve intra-municipal and inter- regional traffic between major land-use areas, at medium speeds through the City. However, being situated in the Downtown Core, this section of Charlotte Street is context sensitive and serves a number of purposes. Most of the buildings about the road allowance; there is a great mix of land-use; and far more pedestrian activity occurs here than outside the Core.

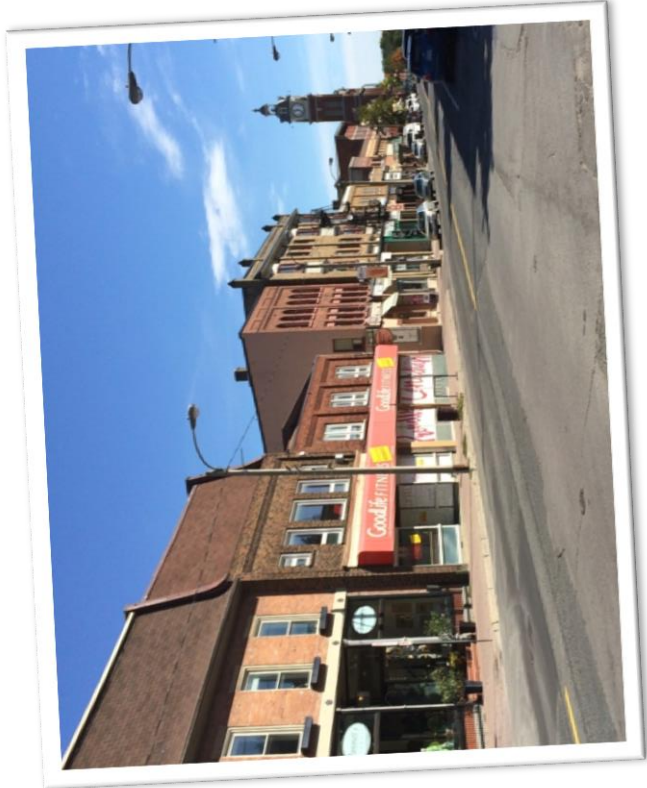
For all modes of transportation, Charlotte Street is one of the main east-west access routes into the Downtown from the City’s west end.

THE FLOOD REDUCTION MASTER PLAN

The Flood Reduction Master Plan prescribes the upgrades to the City storm sewer system that are required to reduce flooding in identified problem areas throughout the City. Charlotte Street, from Park Street to Jackson Creek is one of the many streets in the Downtown where a new storm sewer is required to accommodate 1 in 100 year storm flows, primarily from a drainage area further to the west of Park Street

THE MUNICIPAL CULTURAL PLAN

The Municipal Cultural Plan provides a vision for Peterborough, highlighting economic prosperity, social progress, and quality of life. It focuses on culture’s role in creating a livable, sustainable community, with a vibrant downtown and healthy neighbourhoods. Based upon extensive community engagement, the Plan provides a shared cultural vision in Peterborough and a set of guiding principles and actions that ensures Peterborough reaches its greatest potential as a culturally vibrant, creative city. Charlotte Street enhancements are envisioned to better accommodate and service store front businesses and the range of past and future festivals, events, markets and special occasions that enrich Peterborough’s culture.



1 – Charlotte Street Existing Conditions



DESIGN PROCESS

DESIGN PROCESS

PROJECT ANALYSIS

Project activities began with a detailed assessment and analysis of existing site conditions. AECOM's design team together with City staff carried out a joint site walk of Charlotte and George Streets as well as the Louis Street lot in September 2016 to assess streetscape features, function and condition. Follow-up visits were conducted to perform more detailed assessments of existing trees and vegetation, sidewalk condition and accessibility of storefronts and streetscape. A summary of inventory and analysis findings can be seen in Figure 2 a and b.

The project team has completed additional studies to investigate the site's archaeological resources, geo-technical conditions and traffic impacts of proposed alterations. Full versions of the reports will be posted to the City's project web site.

Excerpts include the following:

ARCHAEOLOGICAL RESOURCES

AECOM was retained by the City of Peterborough to conduct a Stage 1 Archaeological Assessment (AA) as part of the Conceptual Design for Charlotte Street and George Street project areas. The report provides the rationale, methods and results of the Stage 1 AA. Documentary sources, historic maps, detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential found within the project area. The results of the Stage 1 AA indicate that the project area has been deeply disturbed by past infrastructure development and sewer and utility installation, and therefore the archaeological potential has been removed. Given the results of this assessment, AECOM recommends no further Archaeological Assessment is required. Phasing Plan and cost estimate.

GEO-TECHNICAL CONDITIONS

WSP was retained by the City of Peterborough to conduct a geo-technical investigation as part of the Conceptual Design for Charlotte Street and George Street project areas. Geo-technical conditions are typical of other downtown Peterborough streets and do not pose any extraordinary issues. Test results were also compared to the Ministry of the Environment (MOE) guidelines for Full Depth Generic Site; Condition Standards (SCSs) in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property; Use of the Soil, Groundwater and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (April 15, 2011). The tested soil samples met the relevant MOE guidelines, with the exceptions of two locations (BH 17-5 and BH 17-6) along Charlotte Street.

TRAFFIC ALONG CHARLOTTE STREET

AECOM was retained by the City of Peterborough to conduct a Traffic Impact Study as part of the Conceptual Design for Charlotte Street and George Street project areas. The Study was a Transportation Impact Assessment (TIA) of proposed alterations to the Charlotte Street and George Street intersection. It is proposed that the existing westbound left turn lane from Charlotte Street onto southbound George Street will be repurposed into a shared left-thru lane resulting in a much wider sidewalk adjacent to the Market Hall and Clock Tower with an on-street parking space for buses and handi-vans near the Market Hall main entrance. The traffic analyses generated the following conclusions:

THE TRAFFIC ANALYSIS GENERATED THE FOLLOWING CONCLUSIONS:

1. The completed analysis shows all the intersections in the study area are operating satisfactorily under base conditions, with no significant delays in either the AM or PM peak periods.
2. Traffic operations are predicted to remain satisfactory for the 2018 and 2023 horizon years with no changes to the existing lane configuration. All individual movements are predicted to operate at LOS “C” or better with no significant delays noted during the AM and PM peak hours.
3. Traffic operations in 2018 and 2023 horizon years without the westbound left turn lane at the intersection of Charlotte and George Street indicates similar traffic conditions to conditions with the westbound turn lane. No significant traffic operation issues are predicted as a result of the removal of the westbound turn lane.

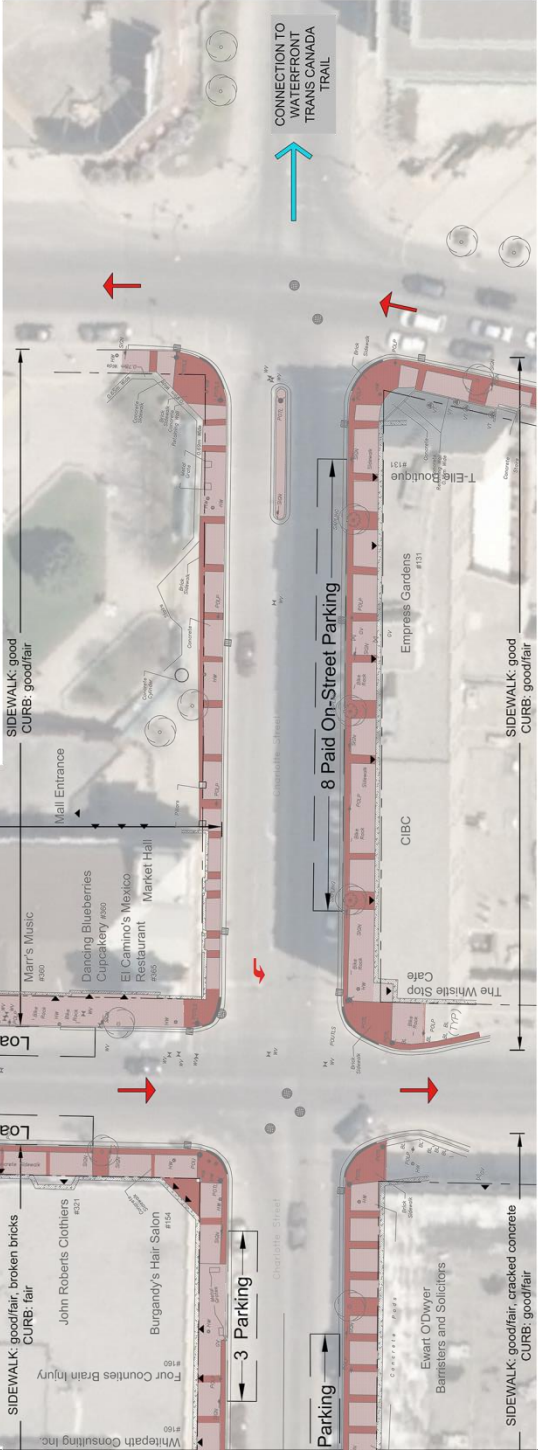




REFER TO PREVIOUS PAGE

- SIDEWALK IN FAIR TO GOOD CONDITION. CURBS IN FAIR CONDITION
 - ON-STREET PAID PARKING FOR 8 VEHICLES
 - 1 ACORN-STYLE LIGHT MOUNTED ON HYDRO POLE, 2 UTILITY/COBRA-STYLE LIGHTS ON LOWER POLES WITH BANNER ARM ASSEMBLIES
 - ACCESS TO PETERBOROUGH SQUARE OFFICES (4 STEPS ABOVE SIDEWALK LEVEL)
 - 3 STREET TREES
- OPPORTUNITIES TO MAINTAIN PORTION OF SIDEWALK ADJACENT TO BUILDINGS TO REDUCE COSTS AND DISRUPTIONS TO BUSINESSES
 - OPPORTUNITIES FOR SIDEWALK BUMP-OUT ADJACENT TO OFFICE ENTRANCE
 - PROVIDE LIGHTING AND BANNER ARM TREATMENT CONSISTENT WITH REST OF GEORGE STREET
 - ADD STREET TREES IN SOIL CELLS

- SIDEWALK IN GOOD CONDITION. CURBS IN FAIR CONDITION
 - 4 ACORN-STYLE LIGHTS MOUNTED ON SIDE ARMS. BANNER ASSEMBLIES ON SHARED POLES CONSISTENT WITH GEORGE ST. THEME
 - ENTRANCE TO MARKET HALL PERFORMING ARTS CENTRE
 - ACCESS TO PETERBOROUGH SQUARE MALL ENTRANCE
 - NO STREET TREES WITHIN R.O.W.
- OPPORTUNITIES FOR "BUMP-OUT" AND SIDEWALK EXTENSION AT THE NE CORNER OF GEORGE AND CHARLOTTE TO EXPAND PUBLIC PEDESTRIAN REALM AND REDUCE PEDESTRIAN CROSSING DISTANCES
 - ENHANCE AND EXTEND SIDEWALK TREATMENT
 - ADD STREET TREES IN SOIL CELLS



- SIDEWALK IN GOOD CONDITION. CURBS IN FAIR CONDITION
 - 4 ACORN-STYLE LIGHTS MOUNTED ON SIDE ARMS. BANNER ASSEMBLIES ON SHARED POLES CONSISTENT WITH GEORGE ST. THEME
 - ACCESSIBLE BUILDING ENTRANCES
 - 3 STREET TREES WITHIN R.O.W.
- MAINTAIN EXISTING SIDEWALK TREATMENT, LIGHTING AND STREET TREES



= EXISTING CONDITIONS



= OPPORTUNITIES

DESIGN ACTIVITIES

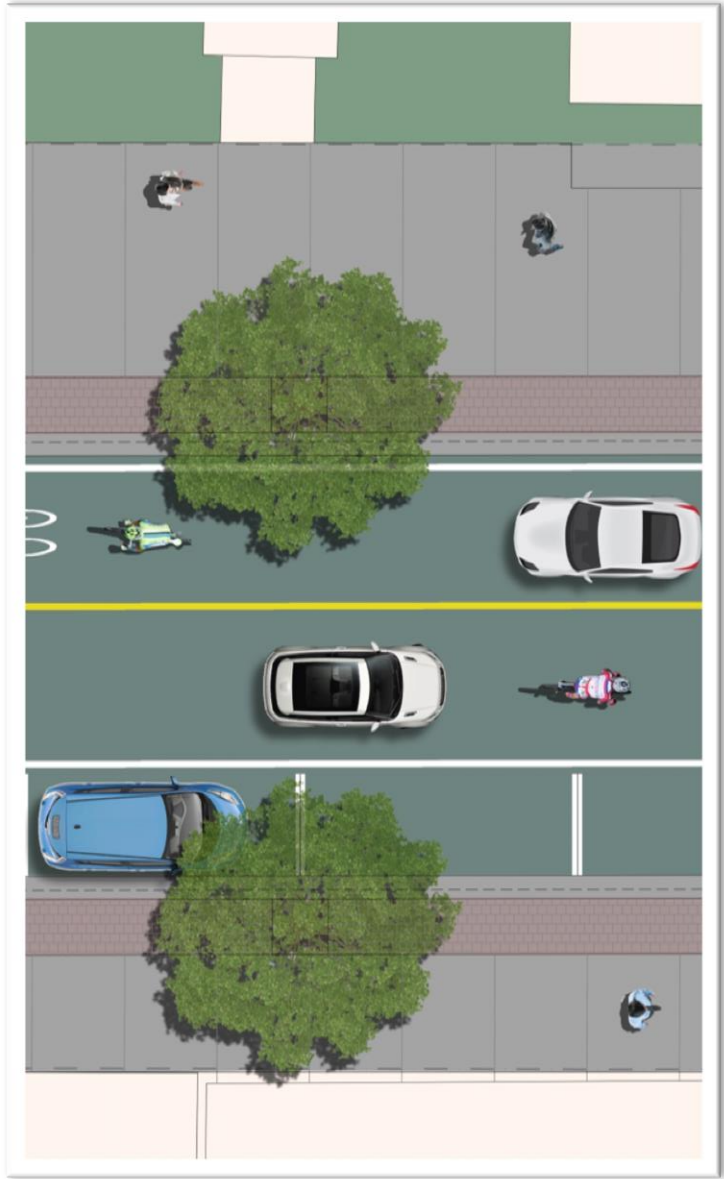
The design activities for Charlotte Street East began in September 2016, with a kick-off design workshop between AECOM's design team, City of Peterborough staff and stakeholders. The design workshop included: a site walk of Charlotte Street and George Street as well as the Louis St. Parking lot site; confirmation of project goals and objectives; key features and options; brainstorming of Charlotte Street programming; exploration of streetscape design options, treatments and features.

The design team then began to develop conceptual options for streetscape that took into consideration pedestrian, vehicular and cyclist circulation patterns as well as above and below ground infrastructure requirements.

The conceptual design options were presented at the first Public Open House in December 2016.

Following the Open House, a Draft Preferred Plan was developed, drawing from the conclusions of the consultation process. In conjunction with the preferred plan, a construction cost estimate was developed which included separate breakdowns for each block of the project (i.e. Charlotte between Aylmer and George; Charlotte between George and Water; and George Street between Charlotte and Simcoe Streets).

A final Public Information Centre was held in September 2017, followed by final refinements to the Draft Preferred Charlotte Street Conceptual Plan, Construction Phasing Plan and cost estimate.



3 – Flexible Street Concept Plan View



CONSULTATION PROCESS

CONSULTATION PROCESS

A key component of this project was consultation with stakeholders and the broader community. In November 2016 a project introduction letter and flyer was circulated to property owners, merchants and an online survey was set up to solicit early feedback from stakeholders and users of Charlotte Street. The survey provided an important opportunity to provide input on key issues and design priorities. The public survey remained open for participation until Jan. 4th 2017. Please refer to Appendix **B** for a summary of online survey results.

The first opportunity for public input for this project was the Public Information Centre (PIC) held on December 8, 2016 in the Doris Room at City Hall. This PIC was an open house format which jointly presented preliminary concepts for the Charlotte Street East Project as well as the concurrent Urban Park and Charlotte Street West Projects. The Charlotte Street East portion of the PIC presented Inventory and Analysis findings as well as two design concept options for consideration and comment. Presentation materials from the PIC were made available on the City's website.

Drawing from the conclusions of the consultation process and with direction from City Staff, the design team began the development of a preferred Conceptual Plan for Charlotte Street.

The Second Public Information Centre for the Charlotte Street East Project was held on September 19th, 2017 in the Sutherland Room at City Hall. The primary focus of the PIC was the presentation of the Preferred Design Concept Plan.



OTHER PRESENTATION MATERIAL SUPPORTING THE CONCEPT PLAN INCLUDED:

- precedent imagery illustrating the design intentions
- renderings of key streetscape locations such as the interface with the Urban Park area and the Jackson Creek pedestrian crossing
- diagrams illustrating streetscape programming options for the different “Typical Flexible Street Mode” and “Festival Mode”
- Cost Estimate Summary and Project Timeline
- Urban Park Concept Designs
- Inventory and Analysis drawings
- Background Analysis studies and reports (i.e. Geotechnical, Archaeological)

Following input from the second PIC and City Staff, further refinements to the preferred Concept Plan and cost estimate were made for inclusion in this report.



4 – Example of Precedent Imagery showing design options for the public realm (i.e. street trees, benches, planters within a designated “amenity zone”).



FINAL STREETSCAPE DESIGN

FINAL STREETSCAPE DESIGN

OVERVIEW

The City of Peterborough is designing a new streetscape for Charlotte Street east of Aylmer Street to Water Street in order to create an attractive, vibrant and flexible new public realm for this important downtown commercial destination. Balancing the vehicle lanes and parking with pedestrian amenities, safety, Accessibility for Ontarians with Disabilities Act (AODA) standards, special event and business needs will be achieved through a flexible design. The appearance of the new Charlotte Street “east” will combine the City’s traditional downtown streetscape flavour (similar to George Street) with features and materials being proposed for the downtown gateways, Bethunescape and the new Urban Park.

The renewal of Charlotte Street east is part of the Urban Park at Louis Street Project and is a key strategy of the Central Area Master Plan. The strategy seeks to create a permanent public gathering place in the Downtown for the benefit of the entire community.

A “Flexible Street” design is proposed where a system of portable bollards will be used to allow street parking in the winter, but can be moved to the outer limit of the parking spaces in the summer, effectively widening the sidewalk space to permit temporary uses such as sidewalk cafes. The design is intended to be compatible with the Urban Park, allowing the closure of Charlotte Street to vehicle traffic between Aylmer Street and George Street when events involving large numbers of people are taking place.

In addition to Charlotte Street east, this project includes the enhancement of the streetscape along the east side of George Street between Charlotte and Simcoe Streets. This treatment will be similar to the current streetscape along George Street. The City wishes to enhance this 100 m long section with a streetscape treatment to match the west side of the street.



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The City of Peterborough is designing a new streetscape for Charlotte Street east of Aylmer Street to Water Street in order to create an attractive, vibrant and flexible new public realm for this important downtown commercial destination. Balancing the vehicle lanes and parking with pedestrian amenities, safety, Accessibility for Ontarians with Disabilities Act (AODA) standards, special event and business needs will be achieved through a flexible design. The appearance of the new Charlotte Street “east” will combine the City’s traditional downtown streetscape flavour (similar to George Street) with features and materials being proposed for the downtown gateways, Bethunescape and the new Urban Park.

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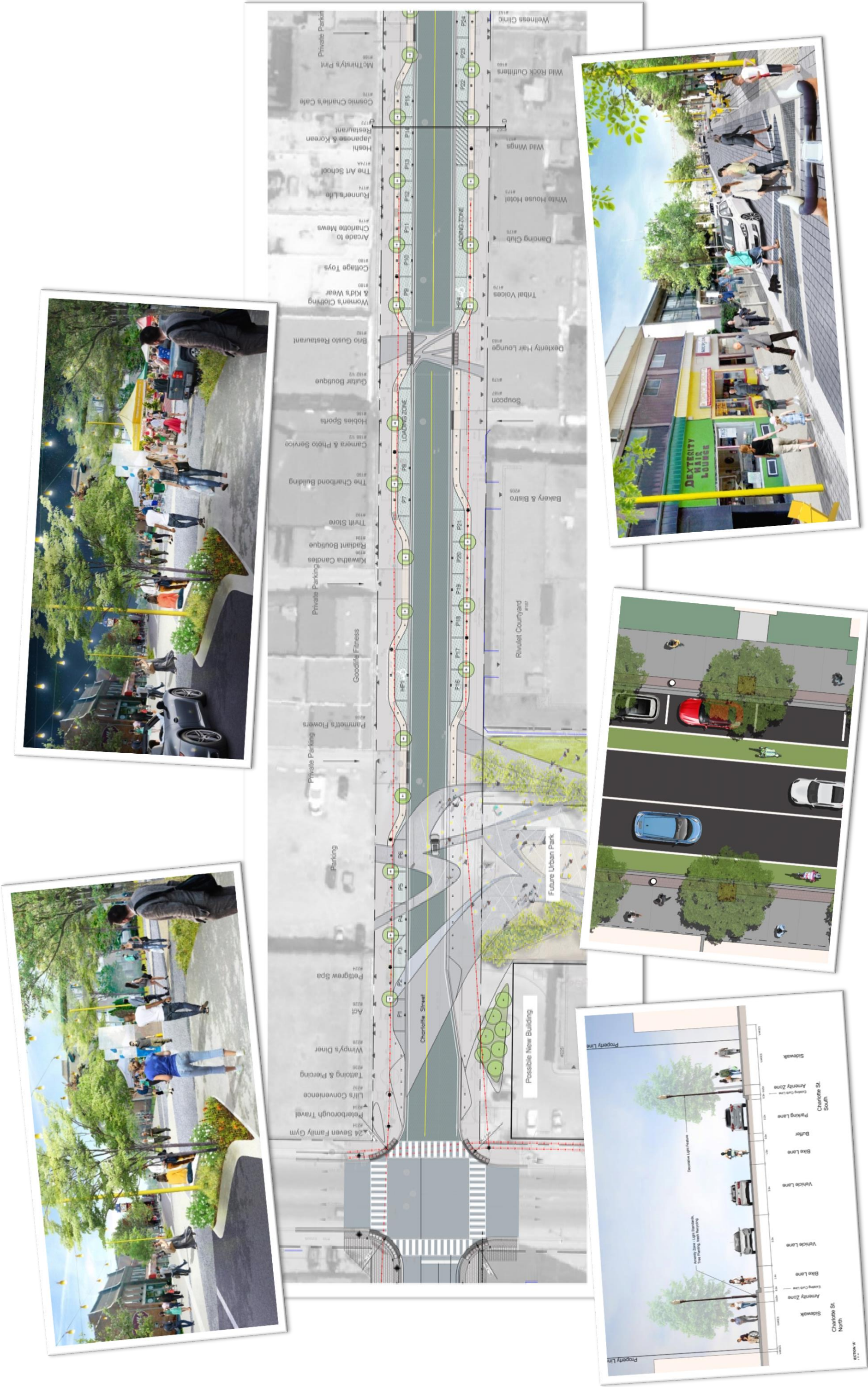
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In addition to Charlotte Street east, this project includes the enhancement of the streetscape along the east side of George Street between Charlotte and Simcoe Streets. This treatment will be similar to the current streetscape along George Street. The City wishes to enhance this 100 m long section with a streetscape treatment to match the western side of the street.



5 – Examples of Charlotte Street Festival mode

6A – CHARLOTTE STREET PREFERRED CONCEPT PLAN (AYLMER STREET TO WEST SIDE OF GEORGE STREET)





**6B – CHARLOTTE STREET PREFERRED CONCEPT PLAN
(GEORGE STREET AND CHARLOTTE STREET FROM GEORGE TO WATER STREET)**

STREETSCAPE PROGRAM

The programming of Charlotte Street between Aylmer and George Streets will alternate between “Typical Flexible Street Mode” and “Festival Street Mode” (see Figure 7).

TYPICAL FLEXIBLE STREET MODE

Charlotte Street travel lanes remain open to through traffic.

On street parking stalls to be available for parked cars, but can be easily converted if desired.

If converted, on street parking stalls can be replaced with sidewalk extensions and programming space for seating, cafes, vendors, gatherings, art work, kiosks etc. Conversion requires the relocation of decorative bollards.

FESTIVAL STREET MODE

Charlotte Street travel lanes closed to through traffic to allow walking, cycling, shopping, gathering and festival event programming

On street parking replaced with sidewalk extensions and programming space for seating, cafes, vendors, gatherings, art work, kiosks etc.

No vehicle access to Charlotte Street during festival mode.

A clearway will be maintained for cyclists, emergency and service vehicles etc.

Parking lot access to be temporarily closed during festival mode.

FLEXIBLE
1 STREET MODE
(Aylmer to George Streets)

On street parking stalls to be available for parked cars, but can be easily converted if desired. If converted, on street parking stalls can be replaced with sidewalk extensions and programming space for seating, cafes, vendors, gatherings, art work, kiosks etc. Conversion requires the relocation of decorative bollards.



Parking lot access



Charlotte Street travel lanes open to through traffic.



FESTIVAL
2 STREET MODE
(Aylmer to George Streets)

On street parking replaced with sidewalk extensions and programming space for seating, cafes, vendors, gatherings, art work, kiosks etc.



Parking lot access to be temporarily closed during festival mode.



No vehicle access to Charlotte Street during festival mode.



Charlotte Street travel lanes closed to through traffic to allow walking, cycling, shopping, gathering and festival event programming.



A clearway will be maintained for Pedestrians, emergency and service vehicles etc.



DESIGN ELEMENTS

STREET TREES WITH SOIL CELLS

The presence of healthy street trees within an urban environment provides not only an unparalleled aesthetic transformation of a site, but also numerous environmental, social, and economic benefits. Below are just a few:

ENVIRONMENTAL

- Active removal of carbon dioxide and other greenhouse gases from the air.
- Mitigation of air, dust, noise, heat and chemical pollution.
- Interception of rainwater, reduced runoff and improved storm water runoff quality.
- Shade for impervious surfaces thereby reducing the 'heat island' effect.
- Shade and shelter for buildings, reducing energy associate with cooling and heating.

SOCIAL AND HEALTH

- Contribution to desirable environments to live, work and spend leisure time.
- Providing shade for pedestrians.
- Contributing to reduced stress and improved physical health.
- Creating a greater sense of meaningful connection between people and natural environment.
- Increased traffic safety due to the perception of road width, curves and speed relative to tree layout and spacing.
- A stronger sense of community and empowerment for residents to improve their neighbourhood conditions and promote environmental responsibility and ethics.



DESIGN ELEMENTS

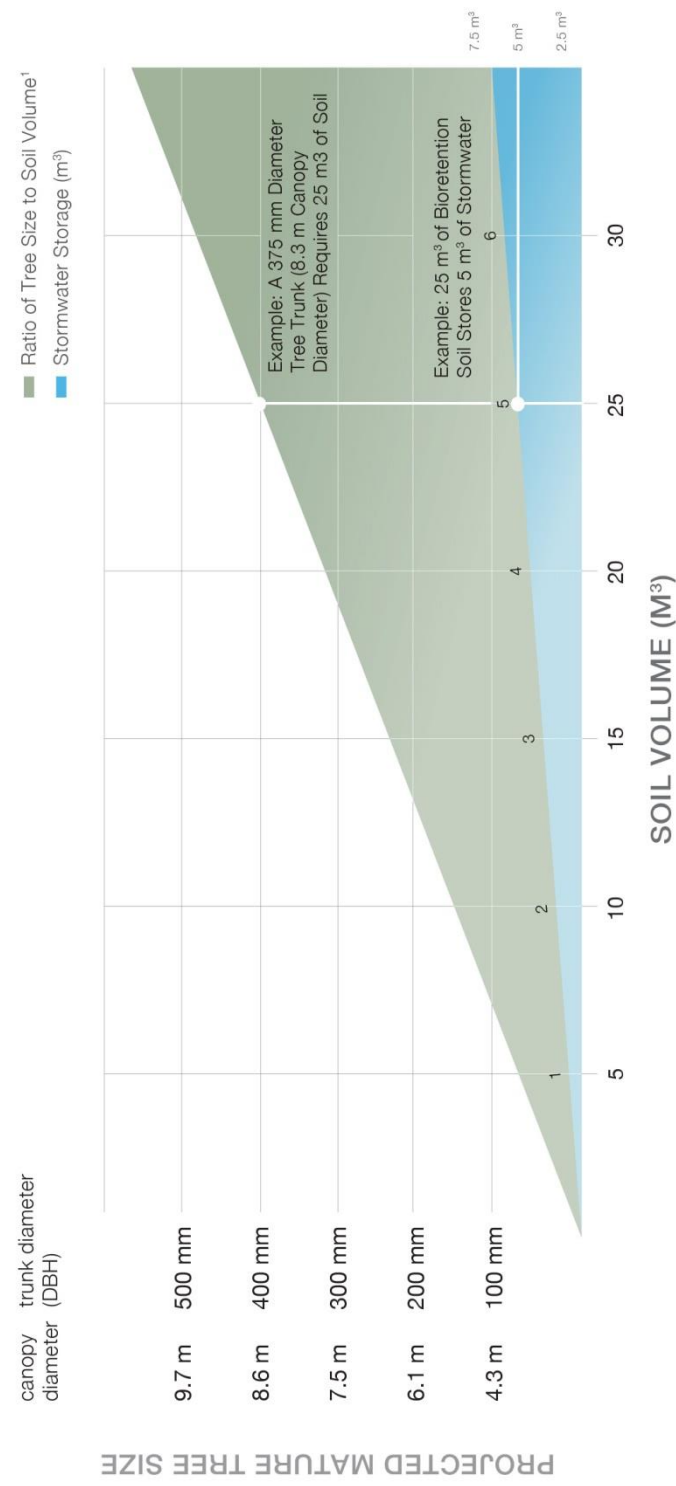
ECONOMIC

- Extended pavement surface life as a result of shade
- Lower utility costs as a result of increased energy savings.
- Attractive environment for business and consumers.
- Increased real estate values.
- Reduced healthcare costs associated with poor air quality.
- Reduced requirements for storm water treatment and flood control costs.

Primary factors that limit growth of urban trees are small planting volumes and highly compacted poor-quality soil. To provide proposed street trees for Charlotte Street East with optimal conditions for health and longevity, the use of underground soil cell systems are proposed. Soil cells are modular suspended pavement systems that provide large volumes of uncompacted high-quality soil for tree root growth while maximizing usable space above ground by providing structural support for paved areas such as sidewalks, parking areas and roads.

The soil volume available for rooting must be large enough to support the expected tree size. Expectations for ultimate tree size and life span must be adjusted based on the soil volume provided. Based on tree size to soil volume relationships a minimum soil volume of 30m3 is required for healthy growth to an ultimate trunk diameter of 40cm. A minimum soil volume of 15m3 is recommended for smaller tree species or shared root areas where closer spacing can be achieved. Please refer to Figures 8 and 9.

HOW MUCH SOIL TO GROW A BIG TREE?



8 – Graph illustrating soil volume requirements to grow healthy trees



9 – Image of soil cell installation

DESIGN ELEMENTS

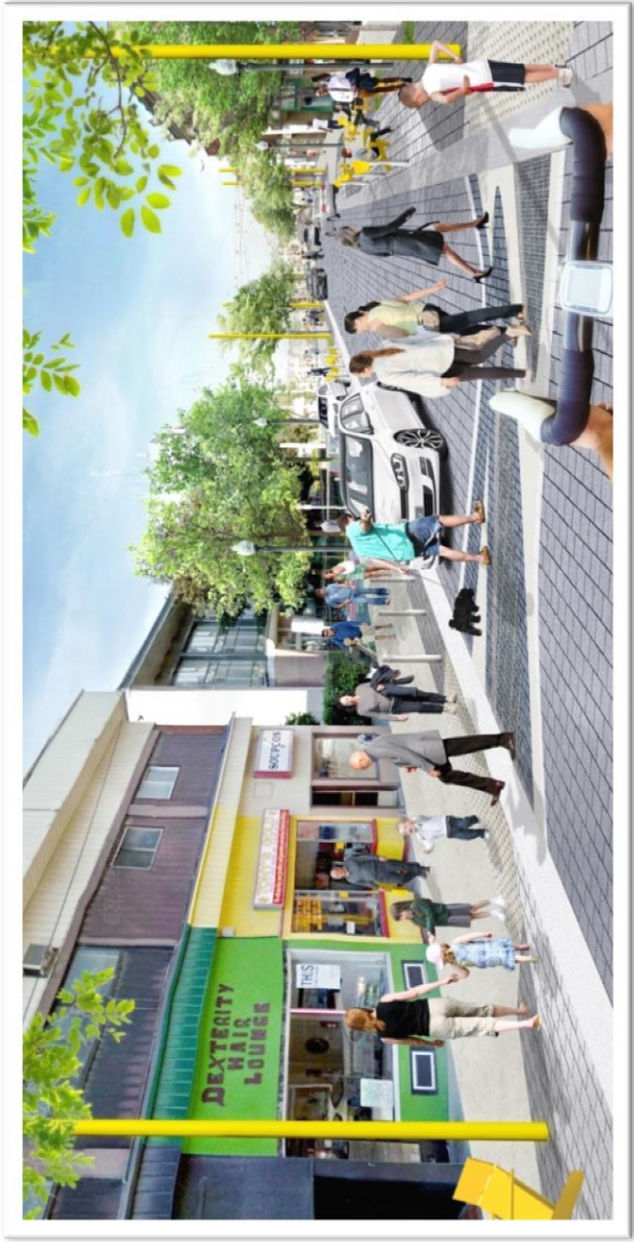
SURFACE TREATMENTS AND PAVING

The use of surface treatments and paving in the proposed Charlotte Street Concept Plan will be an important means for both unifying and animating the public realm. The typical treatment along Charlotte between Aylmer and George Streets will complement existing downtown streetscapes while also helping to create a distinct identity for this festival precinct. The typical road section (Refer to Figure 11) will consist of a concrete sidewalk “clear zone” adjacent to the property line and storefronts. Adjacent to the sidewalk will be the “amenity zone” strip featuring decorative unit paving and will be location for all “amenities” such as lighting, trash receptacles, sandwich board signage etc. A similar unit paving treatment will be used for the “flexible” zones which can function as both parking areas or expanded public realm space. In the warm weather season the expanded public (pedestrian) realm space may be used to display merchandise or establish sidewalk cafes or it may be expanded during special programming events.

A distinct unit paver on concrete treatment will be used for the vehicular roadway portion of the street between Aylmer Street and George Street.

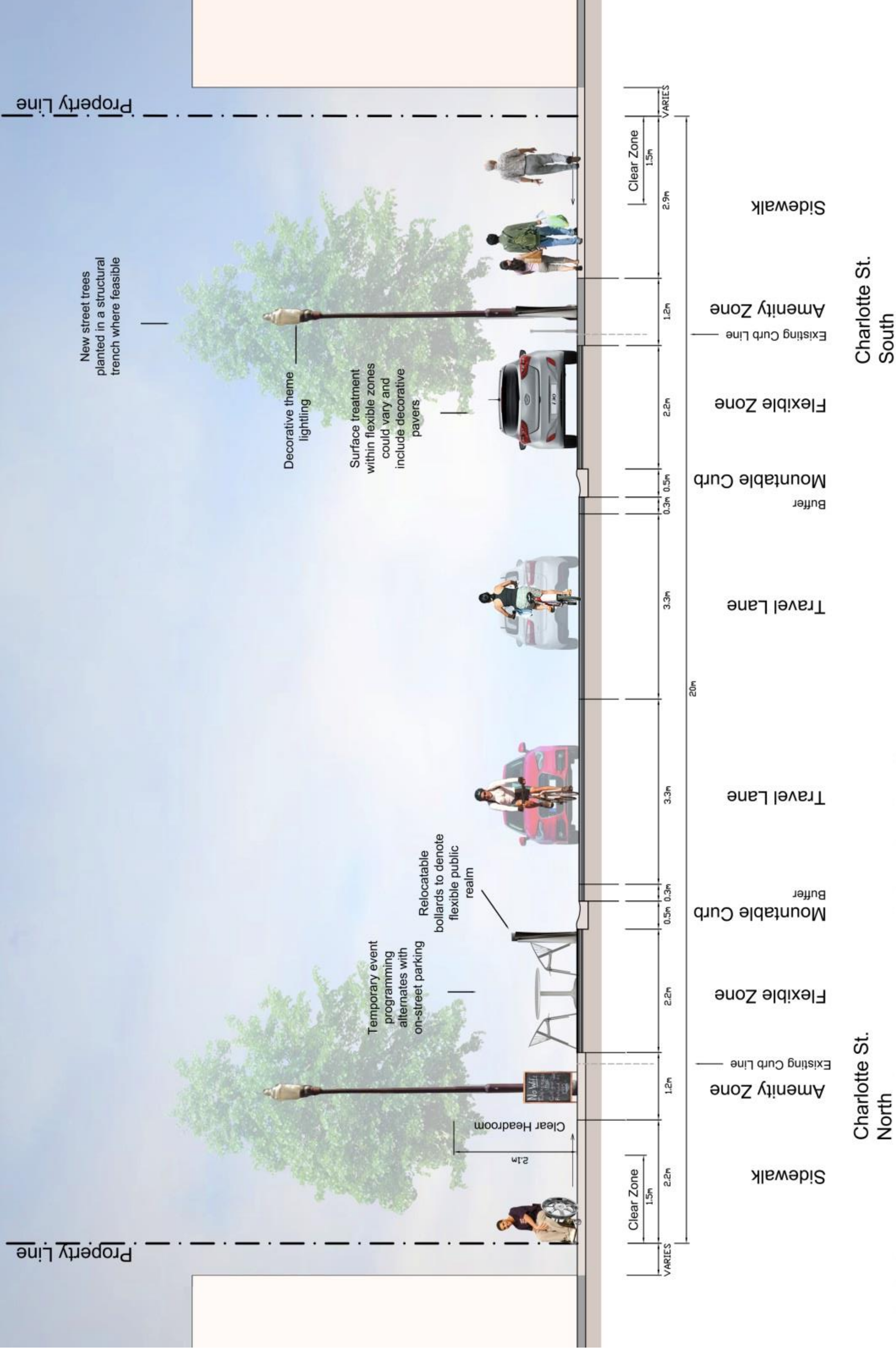
The typical surface treatments will be punctuated at two key locations by the dynamic paving patterns created within the Urban Park design. The Urban Park paving design spills across Charlotte Street, drawing pedestrians from downtown to this unique space. The ground plane treatment helps to transition from street to park, as well as to slow vehicular traffic through this area.

The special paving at the pedestrian crossing over Jackson Creek is consistent with the themes of the Urban Park design as well as highlights the presence of Jackson Creek with its flowing patterns and metal grates open to the water below.



10 – Proposed paving treatments for Charlotte Street and Jackson Creek pedestrian crossing

11 – TYPICAL CROSS SECTION OF THE PREFERRED CONCEPT PLAN



DESIGN ELEMENTS

BOLLARDS

A key component of the flexible streetscape design is the use of a relocate-able bollard system for defining use of space during different street modes.

Removable bollards create flexible spaces to suit the time of year—allowing vehicle parking in winter and during typical street mode, and sectioning off sidewalk extensions, and programming space for outdoor patio/café seating, gatherings, art work, kiosks, etc. in summer. The relocate-able bollards will be augmented with the use of move-able planters providing additional attractive greenery, traffic calming effects and another means of providing protection from vehicle intrusion into the pedestrian realm.

For each bollard, there would be a set of 2 permanent galvanized steel in-ground “sleeves” with a hinged stainless steel lid to provide a smooth walkway surface when not in use. Once installed, bollards are padlocked to open lids to prevent tampering and theft. The bollard installation detail developed during detailed design stage will take into consideration minimizing damage from potential vehicle collisions and reducing City maintenance requirements.

The design also includes fixed or permanent bollards in other areas (such as along the Urban Park frontage) in order to direct vehicular traffic away from pedestrian zones.

In order to quickly and efficiently close and open Charlotte Street East to vehicular traffic, gates at the Aylmer Street and George Street intersections are included in the concept. The gates may include substantial move-able bollards to prevent the possibility of any unwanted vehicles from entering the block.

Please refer to Figures 12 and 13 for proposed bollard design and installation options.



12 – Proposed bollard and bike bollard with sleeve and locking mechanism



13 – Example of streetscape amenity zone with decorative paving, bollards, move-able planters and bike rack

DESIGN ELEMENTS

ACCESSIBILITY (AODA)

There are currently several barriers within the existing Charlotte Street east streetscape which make approaching, entering and using buildings difficult for people with disabilities. During the detailed design stage, a wide range of opportunities exist to increase accessibility to the existing stores on Charlotte Street. The AODA Design guidelines will be implemented in the design of the project.

OTHER SITE FURNITURE

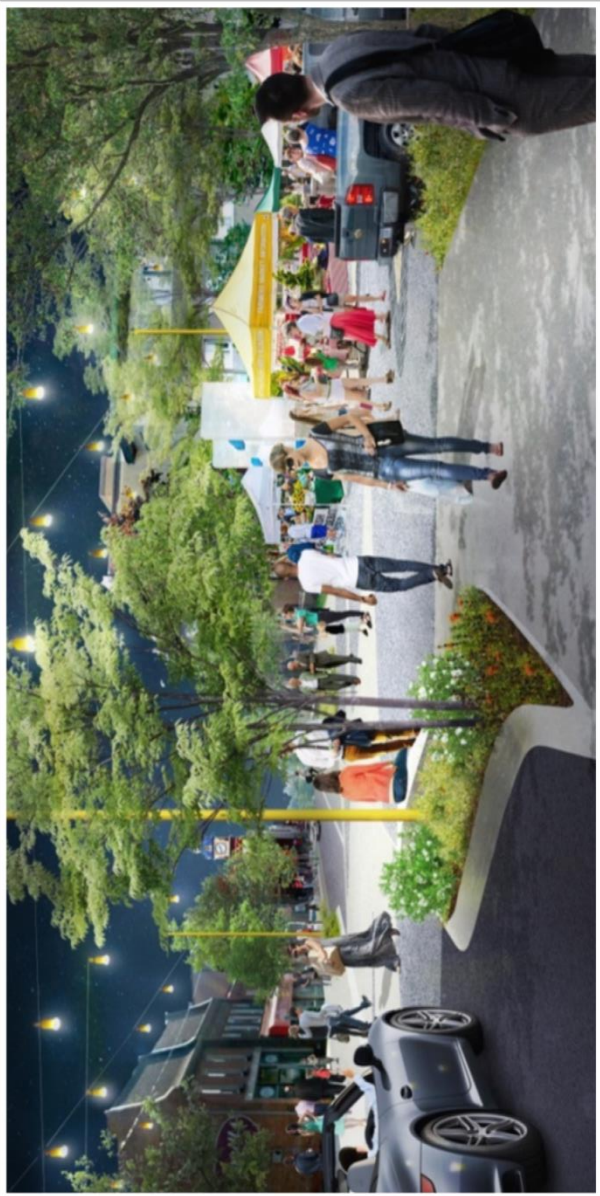
Other site furnishings proposed within the Charlotte Street east public realm include:

- Relocate-able bike bollards designed to complement the traffic bollards (2 footings per bollard), see Figure 12
- Fixed bench seating (standard Downtown model)
- Trash receptacles (standard Downtown model)

LIGHTING AND SIGNALIZATION

The proposed light standards, fixtures and luminaries will match those that are currently installed along George Street and at the intersection of Park Street and Charlotte Street. Similarly, a layout pattern similar to the existing pattern of pairs that are opposite each other will be employed along the length of the project. Signalization equipment will also be mounted to decorative poles and armatures.

Please refer to Figure 14 for proposed catenary lighting concept that extends from the new Urban Park outward across the Charlotte Street streetscape.



14 – small catenary light fixtures will be suspended from a cable system and create a “ceiling” along Charlotte Street.



PHASING OPTIONS

PHASING OPTIONS

PROJECT MILESTONES ARE AS FOLLOWS:

1. Proposed Conceptual Design Public Open House - Dec. 2016
2. Transportation Analysis and Assessment – Completed Aug. 2017
3. Preferred Conceptual Design Refinement, with construction phasing plan and cost estimate - Public Open House Sept. 2017
4. Final Design Report – Winter 2018
5. Planning Committee/Council Approval – Winter 2018
6. Selection of consultant to undertake detailed design and complete tender documents - Winter 2018
7. First Phase of construction - Spring 2019
8. Final phase of construction – Spring 2020



COST ESTIMATE

COST ESTIMATE

The following is a summary of proposed costs for implementation of the Charlotte Street East Conceptual Design.

Please refer to Appendix **B** for the detailed cost breakdown.

PART 'A-1': "Charlotte Street east" (West side of Aylmer St. to East Side of George St.)	Total Part 'A-1'	\$285,260.00
PART 'A-2': "Charlotte Street (north side) between George & Water Streets" SITE	Total Part 'A-2'	\$36,495.00
PART 'B-1': "Charlotte Street east"(West side of Aylmer St. to East Side of George St.)	Total Part 'B-1'	\$2,484,927.50
PART 'B-2': "Charlotte Street (north side) between George & Water Streets"	Total Part 'B-2'	\$249,598.30
PART 'C': "George Street" SITE	Total Part 'C'	\$14,700.00
PART 'D': "George Street" STREETSCAPE	Total Part 'D'	\$199,115.00
	SUBTOTAL	\$3,270,095.80
	15% Engineering	\$490,514.37
	25% Contingency	\$817,523.95
	Grand Total	\$4,578,134.12



APPENDIX A - GRAPHICS

FIGURE A1 – CHARLOTTE STREET PREFERRED CONCEPT PLAN (AYLMER STREET TO WEST SIDE OF GEORGE STREET)

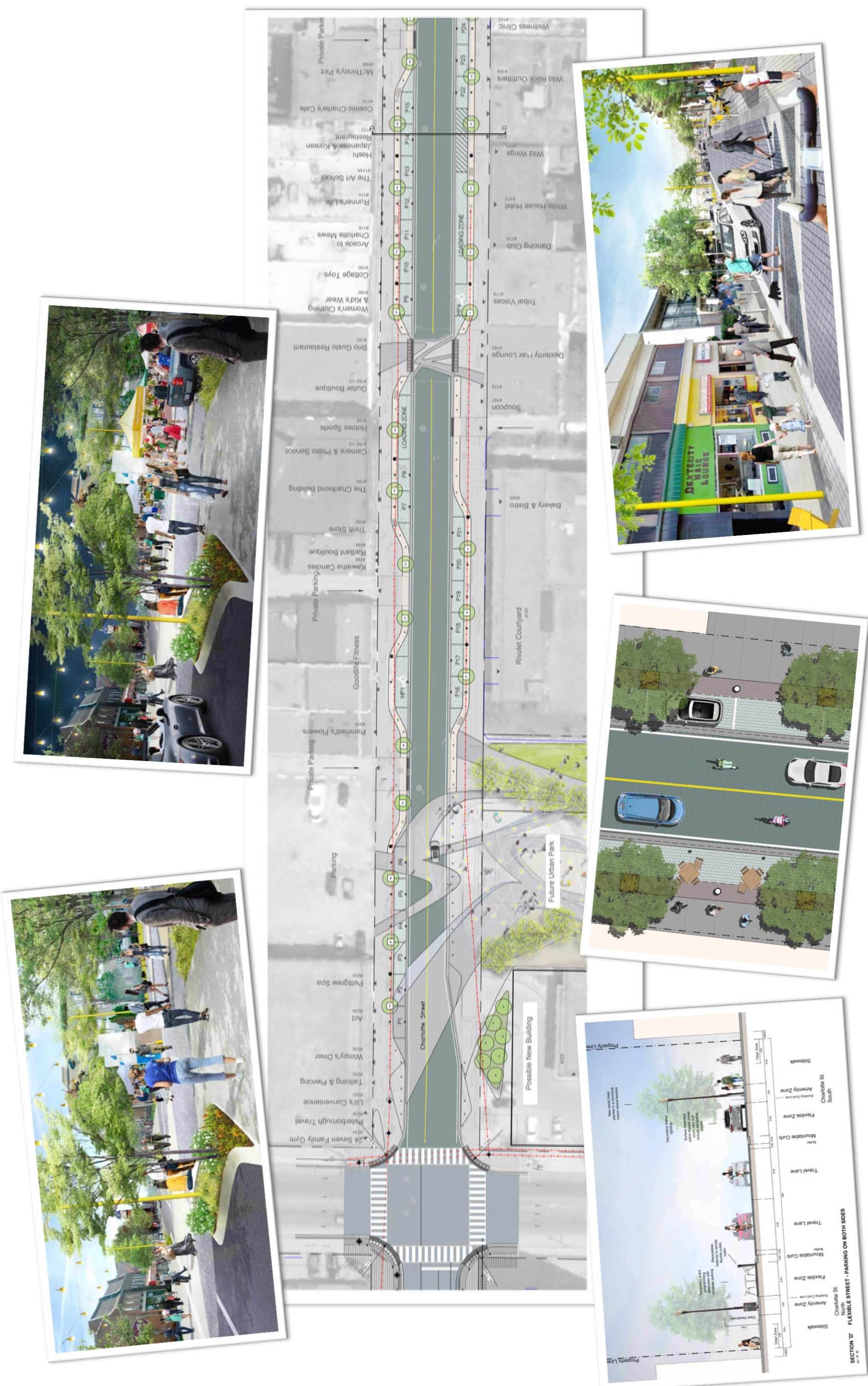




FIGURE A2 – CHARLOTTE STREET @ THE URBAN PARK



FIGURE A3 – CHARLOTTE STREET @ THE URBAN PARK



FIGURE A4 – CHARLOTTE STREET @ THE JACKSON CREEK CROSSING

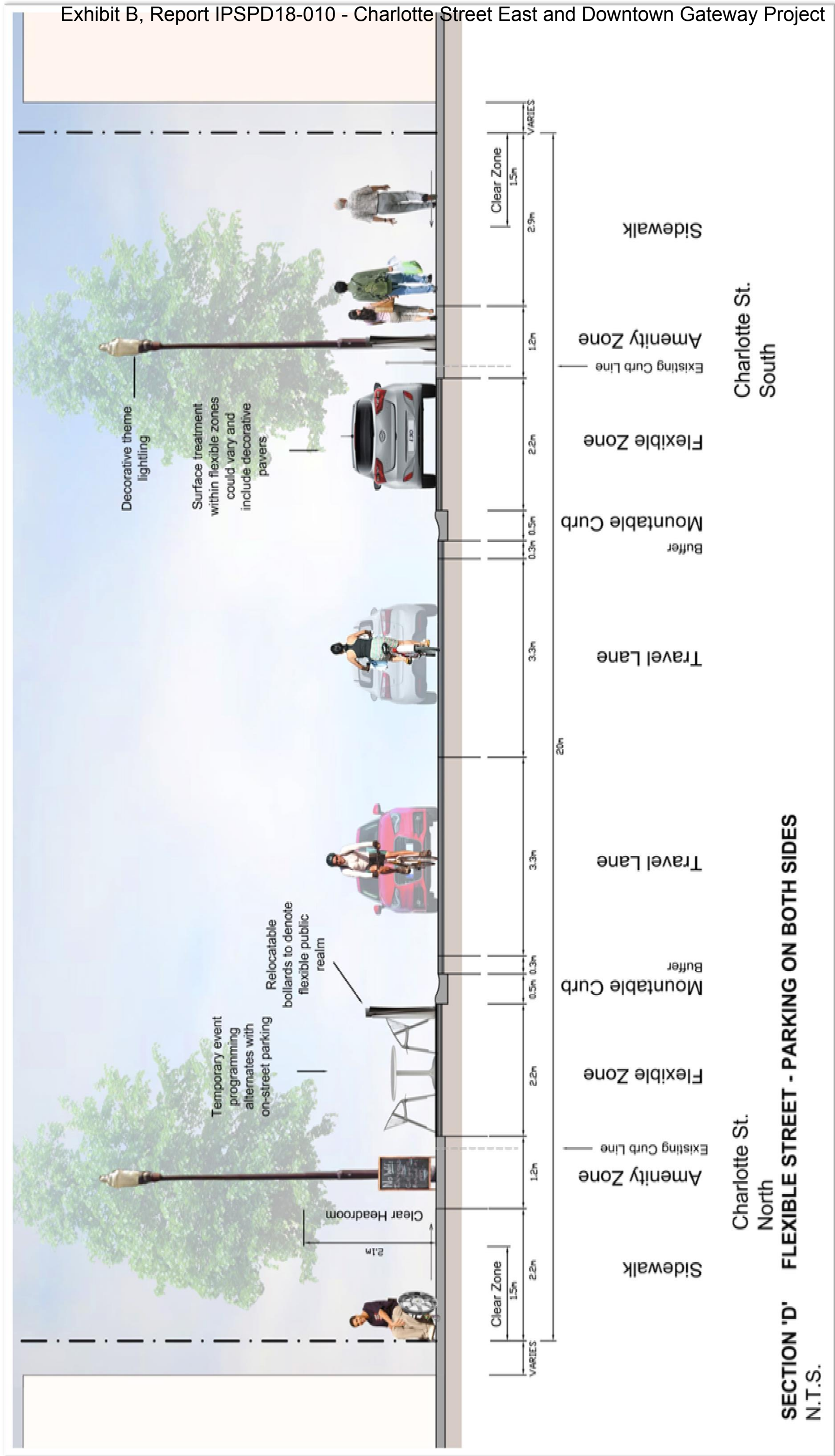




FIGURE A6 – CHARLOTTE STREET PREFERRED CONCEPT – REPRESENTATIVE PLAN VIEW

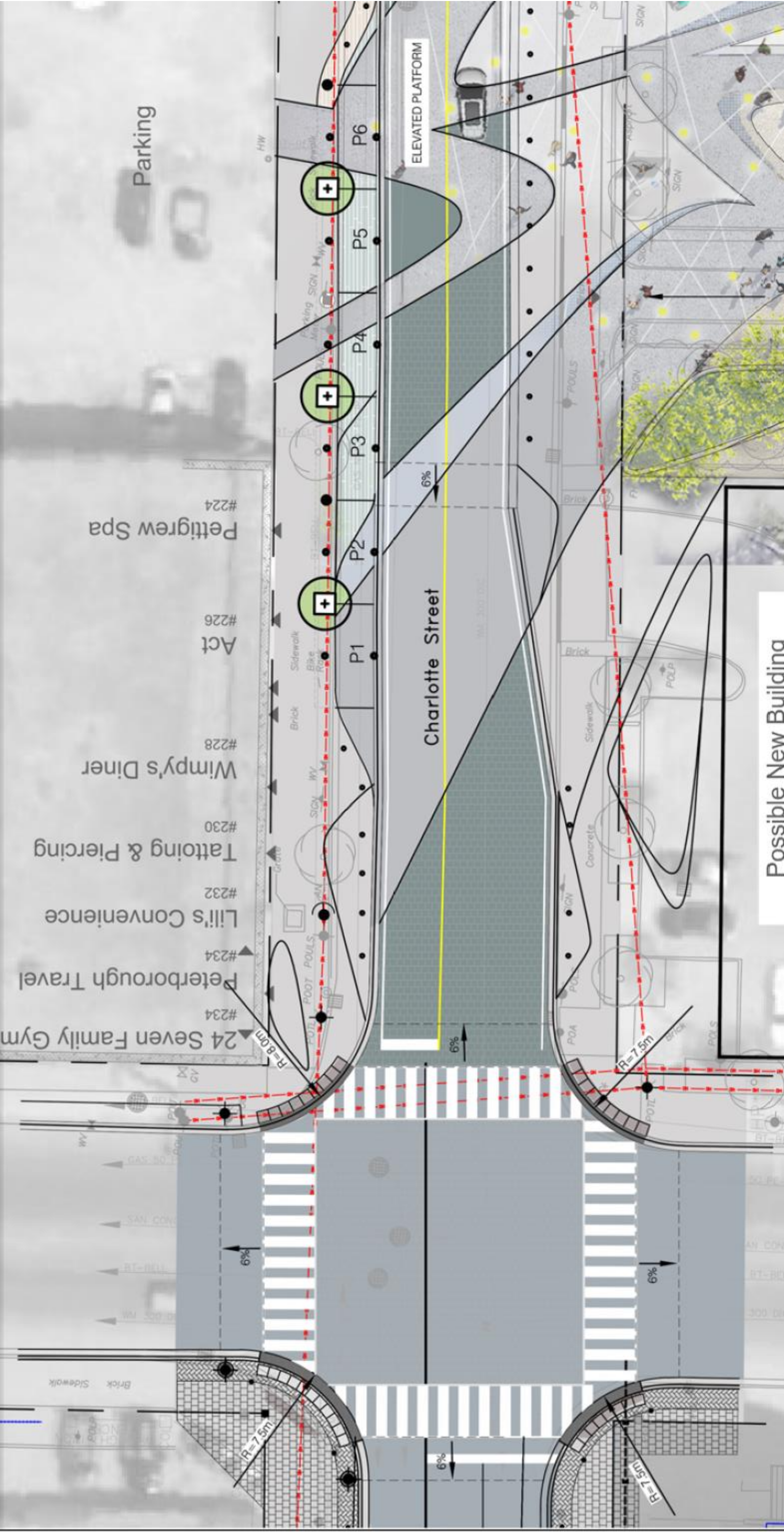


FIGURE A7 – CHARLOTTE STREET PREFERRED CONCEPT PLAN (west section)



FIGURE A8 – CHARLOTTE STREET PREFERRED CONCEPT PLAN (middle-west section)

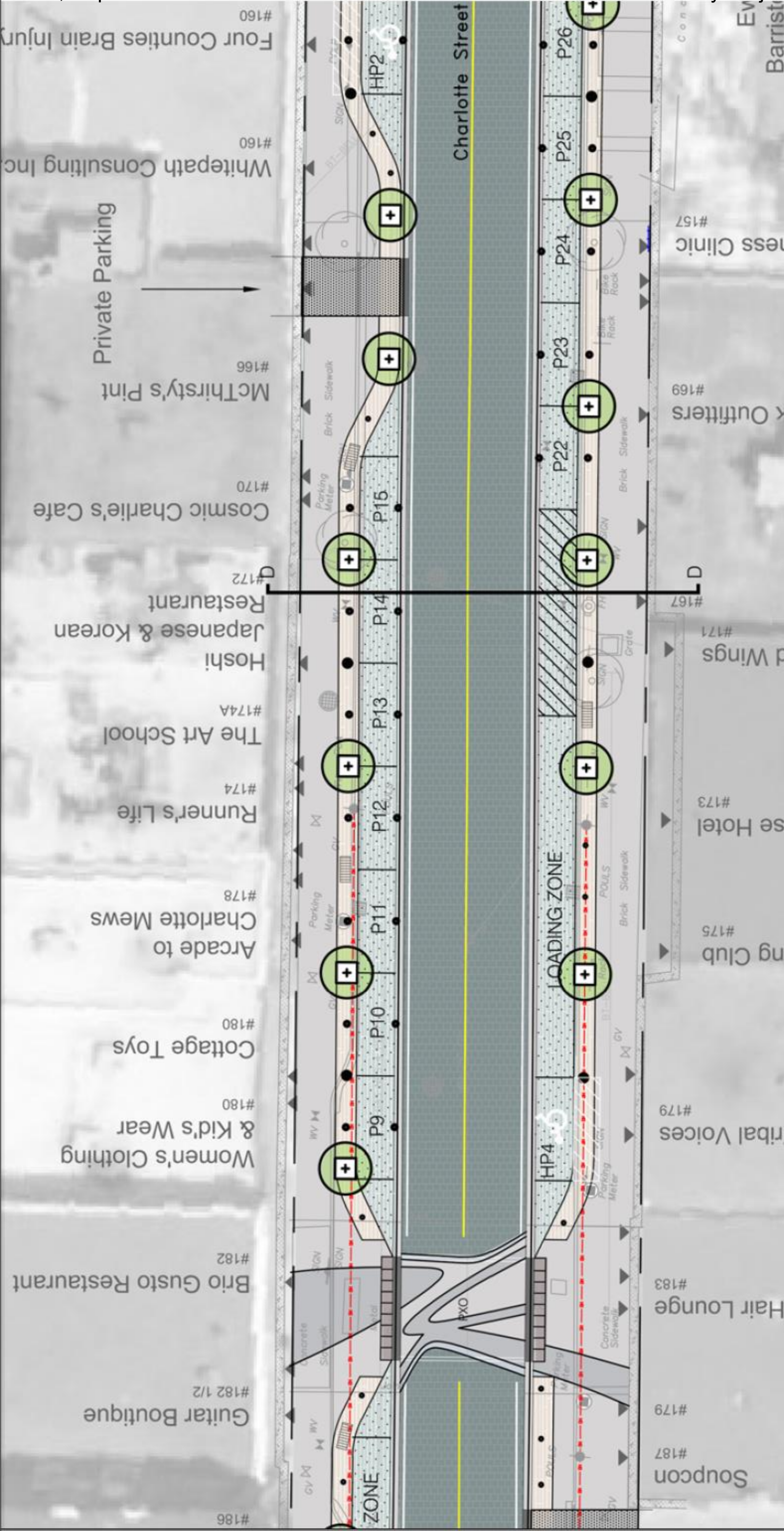


FIGURE A9 – CHARLOTTE STREET PREFERRED CONCEPT PLAN (middle-east section)

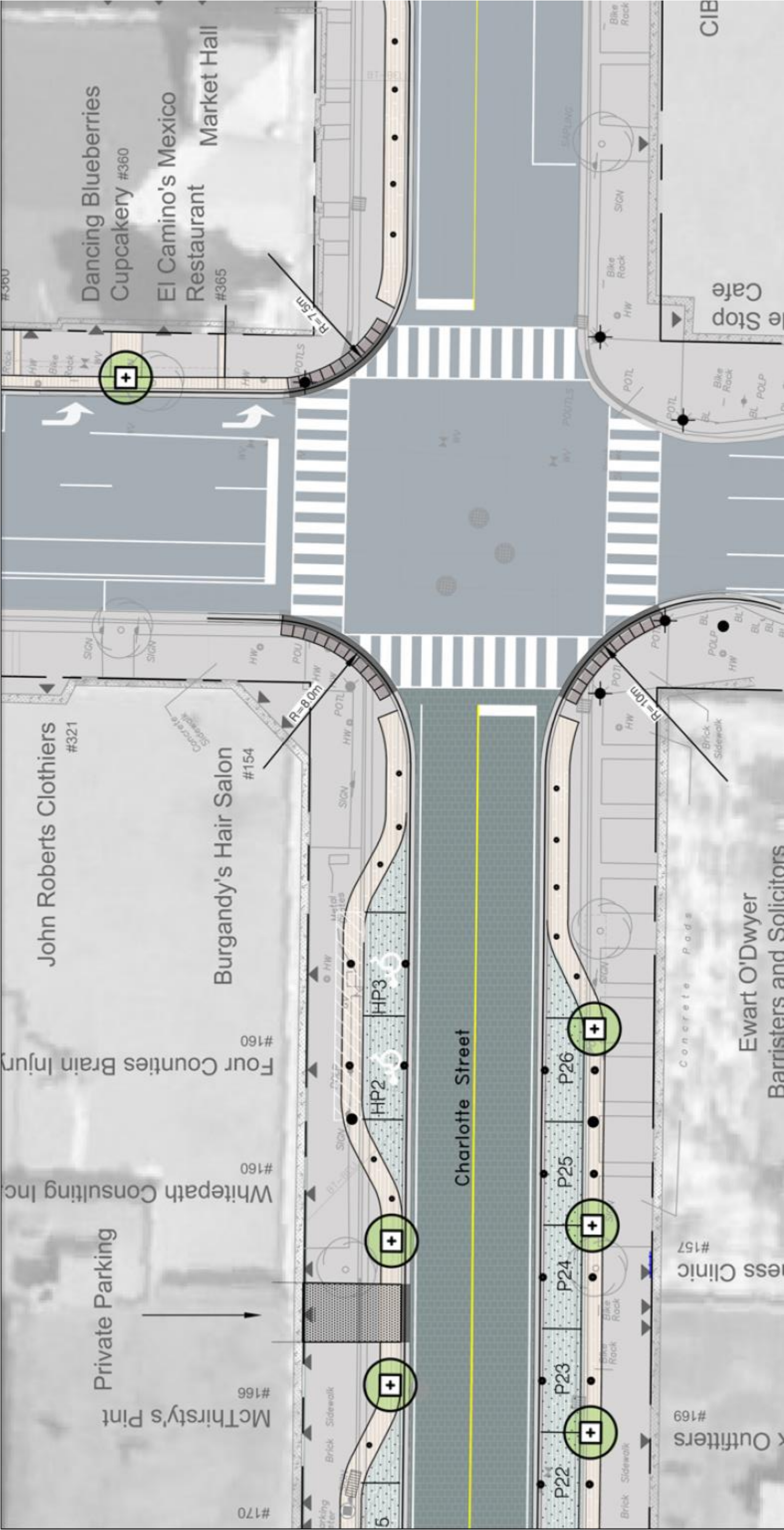
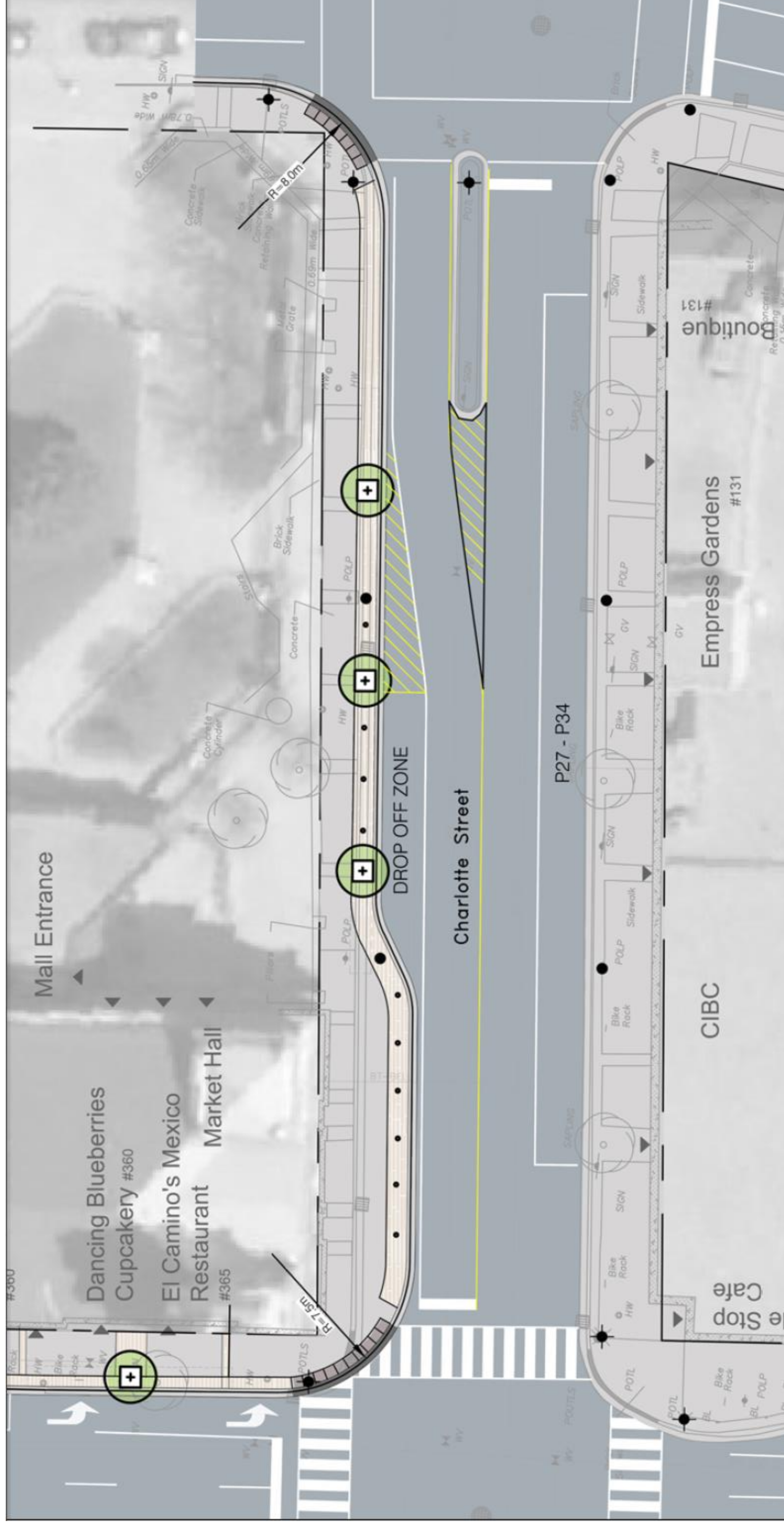
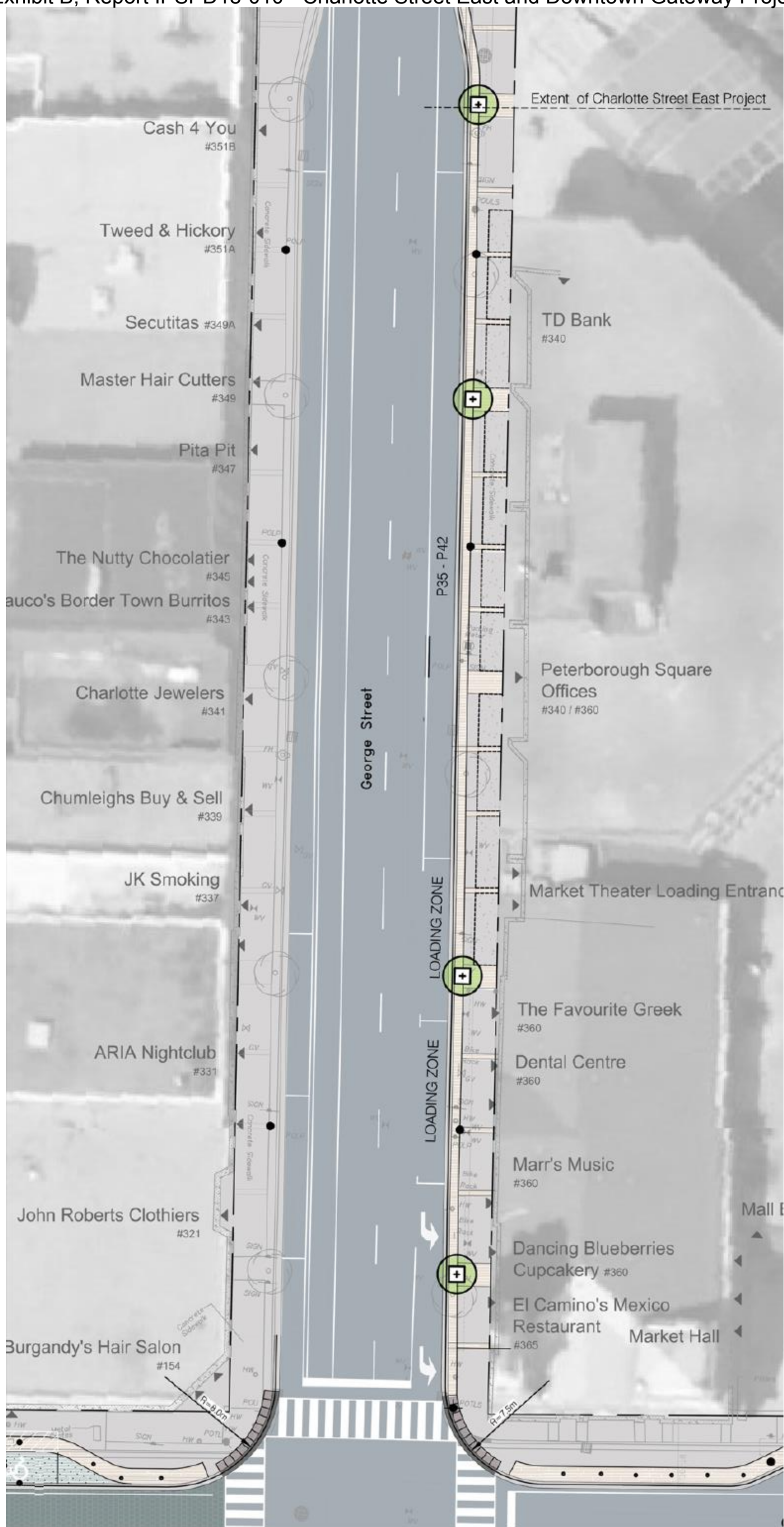


FIGURE A10 – CHARLOTTE STREET PREFERRED CONCEPT PLAN (east section)







APPENDIX B - Detailed Cost Breakdown

Item No.	Spec No.	Description	Unit	Quantity	Unit Price	Total
PART 'A-1': "Charlotte Street east" (West side of Aylmer St. to East Side of George St.) SITE PREPARATION AND REMOVALS						
1		Existing Concrete Sidewalk Removal (125mm Thickness)	m ²	562	\$10.00	\$5,620.00
2		Existing Brick Sidewalk Removal (125mm Thickness)	m ²	1,100	\$10.00	\$11,000.00
3		Existing Curb Removal	m	535	\$10.00	\$5,350.00
4		Existing Road Pavement Removal (50mm Thickness)	m ²	3,770	\$5.00	\$18,850.00
5		Bulk Excavation	m ²	5,432	\$45.00	\$244,440.00
		Total Part 'A-1' (Carried to Summary)				\$285,260.00
PART 'A-2': "Charlotte Street (north side) between George & Water Streets" SITE PREPARATION AND REMOVALS						
6		Existing Concrete Sidewalk Removal (125mm Thickness)	m ²	174	\$10.00	\$1,740.00
7		Existing Brick Sidewalk Removal (125mm Thickness)	m ²	35	\$10.00	\$350.00
8		Existing Curb Removal	m	90	\$10.00	\$900.00
9		Existing Road Pavement Removal (50mm Thickness)	m ²	482	\$5.00	\$2,410.00
10		Bulk Excavation	m ²	691	\$45.00	\$31,095.00
		Total Part 'A-2' (Carried to Summary)				\$36,495.00
PART 'B-1': "Charlotte Street east"(West side of Aylmer St. to East Side of George St.) IMPROVEMENTS						
11		Concrete Sidewalks	m ²	1,695	\$63.00	\$106,785.00
12		Concrete - Vehicular Roadway	m ²	50	\$75.00	\$3,750.00
13		Concrete Curbs - Mountable curb & gutter including intersection	m	346	\$61.00	\$21,106.00
14		Concrete Curbs - Concrete edge at outside edge of flexible zone	m	200	\$60.00	\$12,000.00
15		Subdrain	m	737	\$15.00	\$11,055.00
16		Decorative Surface Treatment - Vehicular Roadway (unit pavers on	m ²	1530	\$220.00	\$336,600.00
17		Decorative Surface treatment - Flexible Parking Stalls (unit pavers	m ²	535	\$220.00	\$117,700.00
18		Unit Pavers - Amenity Zone (unit pavers on concrete)	m ²	430	\$190.00	\$81,700.00
19		Unit Pavers - Sidewalks (unit pavers on concrete)	m ²	45	\$190.00	\$8,550.00
20		Exposed Aggregate/ Special Finish Concrete - Sidewalks	m ²	145	\$100.00	\$14,500.00
21		Exposed Aggregate/ Special Finish Concrete - Vehicular Roadway	m ²	245	\$120.00	\$29,400.00
22		Exposed Aggregate/ Special Finish Concrete - Flexible Parking	m ²	40	\$120.00	\$4,800.00
23		Metal Grate/ Slatted Concrete - Vehicular Roadway	m ²	10	\$650.00	\$6,500.00
24		Decorative Driveway Paving (unit pavers on concrete)	m ²	95	\$220.00	\$20,900.00
25		Roadway Divide Line Painting	m	235	\$1.40	\$329.00
26		Buffer Zone Line Painting	m	470	\$1.40	\$658.00
27		Stop Bar Line Painting	m	7	\$32.70	\$228.90
28		Crosswalk Line Painting	m ²	108	\$100.00	\$10,800.00
29		Parking Stall Line Painting	m	87	\$8.80	\$765.60
30		No Parking Area Line Painting	m ²	27	\$100.00	\$2,700.00
31		Accessible Parking Stalls Marking	ea	4	\$200.00	\$800.00
32		Street Trees (average small, medium and large trees) including	ea	25	\$20,000.00	\$500,000.00
33		Street Furniture (benches)	ea	6	\$3,000.00	\$18,000.00
34		Trash Receptacles	ea	6	\$1,500.00	\$9,000.00
35		Relocatable Bike Bollards (2 footings per bollard)	ea	8	\$3,500.00	\$28,000.00

Item No.	Spec No.	Description	Unit	Quantity	Unit Price	Total
36		Relocatable Bollards (2 footings per parking stall)	ea	29	\$3,500.00	\$101,500.00
37		Bollards	ea	62	\$650.00	\$40,300.00
38		Move-able planters	ea	30	\$450.00	\$13,500.00
39		Vehicular traffic gates	ea	2	\$20,000.00	\$40,000.00
40		Decorative Street Lighting	ea	14	\$12,000.00	\$168,000.00
41		Accent Street Lighting	ea	10	\$12,000.00	\$120,000.00
42		Hydro burial	ea	1	\$200,000.00	\$200,000.00
43		Utilities	LS	1	\$200,000.00	\$200,000.00
44		Culvert Structure replacement at Jackson Creek	LS	1	\$135,000.00	\$135,000.00
45		Concrete Storm Sewer System (sewer, catchbasins and laterals)	LS	1	\$120,000.00	\$120,000.00
		Total Part 'B-1' (Carried to Summary)				\$2,484,927.50

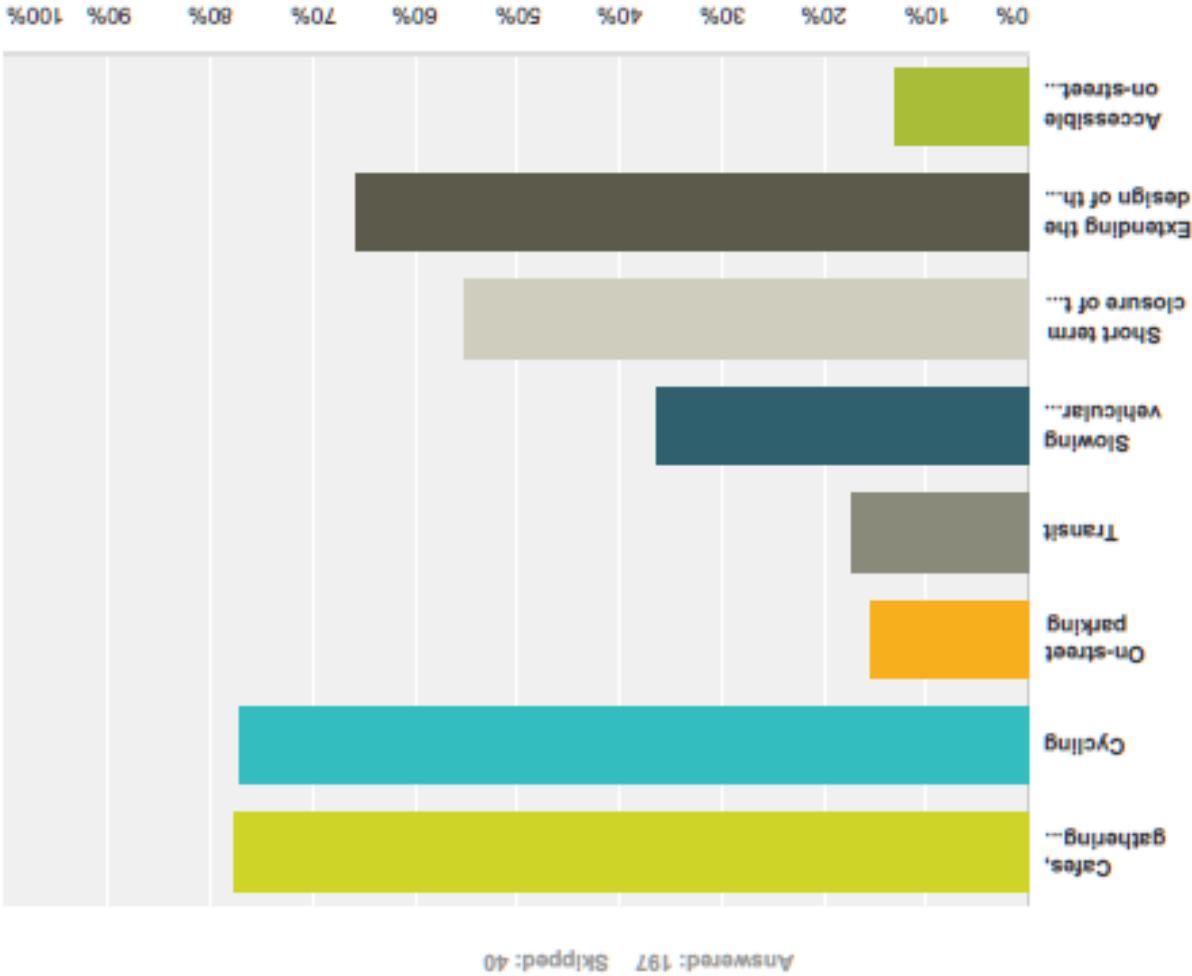
PART 'B-2': "Charlotte Street (north side) between George & Water Streets" IMPROVEMENTS						
46		Concrete Sidewalks	m ²	245	\$63.00	\$15,435.00
47		Concrete Curbs - Mountable curb & gutter including intersection	m	12	\$61.00	\$732.00
48		Concrete Curbs - Concrete edge at outside edge of lay-by zone	m	72	\$60.00	\$4,320.00
49		Subdrain	m	84	\$15.00	\$1,260.00
50		Unit Pavers - Amenity Zone (unit pavers on concrete)	m ²	80	\$190.00	\$15,200.00
51		Shave and Pave Roadway	m ²	482	\$45.00	\$21,690.00
52		Roadway Divide Line Painting	m	100	\$1.40	\$140.00
53		Buffer Zone Line Painting	m	66	\$1.40	\$92.40
54		Stop Bar Line Painting	m	7	\$32.70	\$228.90
55		Crosswalk Line Painting	m ²	55	\$100.00	\$5,500.00
56		No Parking Area Line Painting	m ²	40	\$100.00	\$4,000.00
57		Street Trees (average small, medium and large trees) including	ea	3	\$20,000.00	\$60,000.00
58		Bike Bollards	ea	3	\$1,500.00	\$4,500.00
59		Trash Receptacles	ea	2	\$1,500.00	\$3,000.00
60		Bollards	ea	10	\$650.00	\$6,500.00
61		Decorative Street Lighting (including electrical)	ea	6	\$12,000.00	\$72,000.00
62		Utilities (Gas Hydro Bell etc)	LS	1	\$35,000.00	\$35,000.00
		Total Part 'B-2' (Carried to Summary)				\$249,598.30

Item No.	Spec No.	Description	Unit	Quantity	Unit Price	Total
PART 'C': "George Street" SITE PREPARATION AND REMOVALS						
63		Existing Concrete Sidewalk Removal (125mm Thickness)	m ²	220	\$15.00	\$3,300.00
64		Existing Curb Removal	m	100	\$15.00	\$1,500.00
65		Bulk Excavation (to 225mm below existing ground surface)	m ²	220	\$45.00	\$9,900.00
		Total Part 'C' (Carried to Summary)				\$14,700.00
PART 'D': "George Street" STREETSCAPE IMPROVEMENTS						
66		Concrete Sidewalks - Minimum Clear Zone	m ²	150	\$63.00	\$9,450.00
67		Concrete Curbs - Mountable curb & gutter including intersection	m	5	\$61.00	\$305.00
68		Concrete Curbs - standard curb & gutter	m	116	\$60.00	\$6,960.00
69		Unit Pavers - Amenity Zone (unit pavers on concrete)	m ²	110	\$190.00	\$20,900.00
70		Street Trees (average small, medium and large trees) including	ea	5	\$20,000.00	\$100,000.00
71		Street Furniture (benches)	ea	3	\$3,500.00	\$10,500.00
72		Bike Racks	ea	3	\$1,000.00	\$3,000.00
73		Decorative Street Lighting	ea	4	\$12,000.00	\$48,000.00
		Total Part 'D' (Carried to Summary)				\$199,115.00
		PART 'A-1': "Charlotte Street east" (West side of Aylmer St. to East Side of George St.) SITE PREPARATION AND REMOVALS			Total Part 'A-1'	\$285,260.00
		PART 'A-2': "Charlotte Street (north side) between George & Water Streets" SITE PREPARATION AND REMOVALS			Total Part 'A-2'	\$36,495.00
		PART 'B-1': "Charlotte Street east"(West side of Aylmer St. to East Side of George St.) IMPROVEMENTS			Total Part 'B-1'	\$2,484,927.50
		PART 'B-2': "Charlotte Street (north side) between George & Water Streets" IMPROVEMENTS			Total Part 'B-2'	\$249,598.30
		PART 'C': "George Street" SITE PREPARATION AND REMOVALS			Total Part 'C'	\$14,700.00
		PART 'D': "George Street" STREETSCAPE IMPROVEMENTS			Total Part 'D'	\$199,115.00
					SUBTOTAL	\$3,270,095.80
					15% Engineering	\$490,514.37
					25% Contingency	\$817,523.95
					Grand Total	\$4,578,134.12

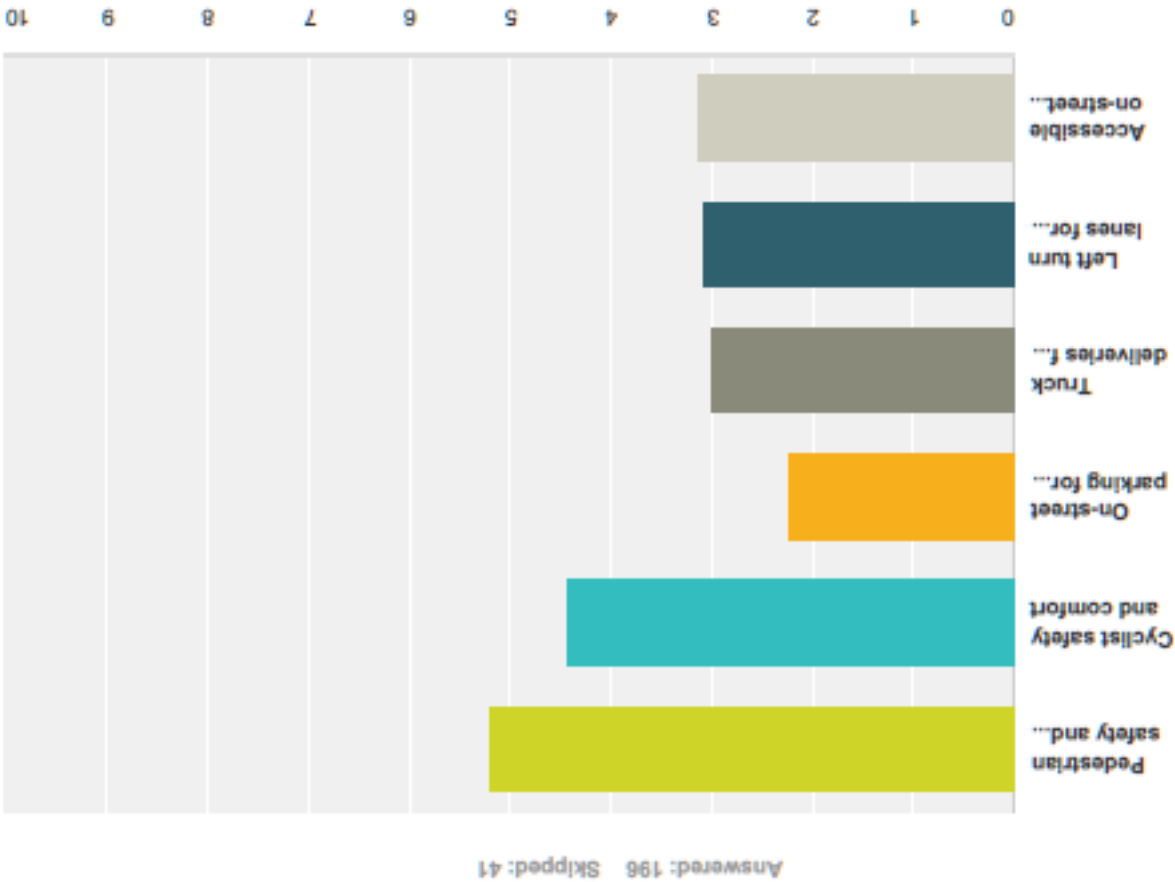


APPENDIX C – On-line Survey Summary

Answer Choices			Total Respondents: 197
Cafes, gathering spaces	77.66%	153	
Cycling	77.16%	152	
On-street parking	15.74%	31	
Transit	17.26%	34	
Slowing vehicular traffic to match bicycle speeds	36.55%	72	
Short term closure of the street for seasonal and special events	55.33%	109	
Extending the design of the new Urban Park onto the street	65.99%	130	
Accessible on-street parking	13.20%	26	
Responses			



		1	2	3	4	5	6	Total	Score
Pedestrian safety and comfort	63.39%	21.31%	3.83%	1.09%	2	5.46%	4.92%	183	5.21
Cyclist safety and comfort	15.30%	51.91%	13.11%	7.10%	13	6.01%	6.56%	183	4.44
On-street parking for vehicles	5.92%	5.33%	5.92%	15.98%	27	22.49%	44.38%	169	2.23
Truck deliveries for businesses	6.74%	6.18%	26.97%	19.10%	34	22.47%	18.54%	178	3.00
Left turn lanes for vehicles (for traffic flow and collision avoidance)	5.06%	10.11%	26.40%	24.16%	43	16.29%	17.98%	178	3.10
Accessible on-street parking	5.68%	6.82%	23.86%	30.68%	54	23.86%	9.09%	176	3.13





APPENDIX D – Accessibility Analysis

Charlotte Street East - Aylmer to Water St.
Barrier-Free Assessment and Mitigation Measures

Street Address	Description	Sidewalk Elevation	FFE Elevation	Existing Condition	Proposed Mitigation Measures
North Side (West to East)					
#234	24 Seven Family Gym	196.66	196.90	store located on lower level; accessible by stairway only	stairway alterations beyond scope of streetscape design
#234	Peterborough Travel	196.66	196.90	1 step up to raised outdoor concrete plinth	streetscape grading enhancements to meet grade of existing concrete plinth
#232	Lili's Convenience	196.66	196.90	1 step up to raised outdoor concrete plinth	streetscape grading enhancements to meet grade of existing concrete plinth
#230	Tattooing & Piercing/ Vacant	197.70	196.90	existing brick slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#228	Wimpy's Diner	196.70	196.90	existing brick slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#226	Act	196.73	196.90	existing brick slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#224	Pettigrew Spa	196.73	196.90	existing brick slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#208	Pammett's Flowers	196.60	196.89	2 exterior steps up to FFE	accessibility improvements to be confirmed during detailed design phase
#200	Vacant (prev. Goodlife)	196.60	196.59	Covered exterior concrete slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#196	Kawartha Candles	196.56	196.76	1 exterior concrete step	streetscape grading enhancements to meet grade of existing concrete step
#194	Radiant Boutique	196.55	196.76	1 exterior concrete step	streetscape grading enhancements to meet grade of existing concrete step
#192	Thrift Store	196.55	196.74	1 exterior concrete step	streetscape grading enhancements to meet grade of existing concrete step
#190	The Charlbond Building	196.55	197.80	1 upper level and 1 lower level storefronts accessible by staircases only (8 risers)	stairway alterations beyond scope of streetscape design

Charlotte Street East - Aylmer to Water St.
Barrier-Free Assessment and Mitigation Measures

Street Address	Description	Sidewalk Elevation	FFE Elevation	Existing Condition	Proposed Mitigation Measures
#188 1/2	Camera & Photo Service	196.57	196.63	granite tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#186	Hobbies Sports	196.57	196.65	concrete slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#182 1/2	Vacant (prev. Guitars)	196.60	196.65	Tile plinth with metal lip (sloping sidewalk)	streetscape grading enhancements to meet grade of existing tile plinth
#184	Moser Barristers & Solicitors	196.60	196.68	Tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#182	Brio Gusto	196.60	196.71	concrete slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#180	Charlotte's Web Women's Clothing & Kids Wear	196.57	196.61	exterior tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#180	Cottage Toys	196.57	196.61	exterior tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#178	Arcade to Charlotte Mews	196.58	196.65	unit paver slope/ walkway connection	ensure final sidewalk grade meets base of existing slope
#176	Private apartment access	196.56	196.64	1 concrete step up	ensure final sidewalk grade meets base of existing slope
#174	Runner's Life	196.54	196.85	Tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#174A	The Art School	196.56	196.84	Tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#172	Hoshi Japanese & Korean Restaurant	196.72	196.94	1 concrete step up with tile surface; drainage pipe outlet at step	streetscape grading enhancements to meet grade of existing concrete step; revise location of drainage pipe outlet
#170	Cosmic Charlie's Café	196.77	196.97	1 concrete step up	streetscape grading enhancements to meet grade of existing concrete step
#168	Private apartment access	196.77	197.02	1 concrete step up	streetscape grading enhancements to meet grade of existing concrete step

Charlotte Street East - Aylmer to Water St.
Barrier-Free Assessment and Mitigation Measures

Street Address	Description	Sidewalk Elevation	FFE Elevation	Existing Condition	Proposed Mitigation Measures
#166	McThirsty's Pint	196.82	196.94	concrete slope from SW to FFE	ensure final sidewalk grade meets base of existing concrete slope
#164	Private apartment access	196.83	197.18	2 concrete steps	accessibility improvements to be confirmed during detailed design phase
#160	Pinchin Ltd.	196.87	196.96	exterior tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#158	Four Counties Brain Injury (main entrance)	196.89	196.95	exterior tile slope from SW to FFE	ensure final sidewalk grade meets base of existing slope
#156	Four Counties Brain Injury	196.86	197.15	1 concrete step up	streetscape grading enhancements to meet grade of existing concrete step
#154	Burgandy's Hair Salon	197.11	197.16	exterior tile paving flush to main entrance	ensure final sidewalk grade meets existing entrance paving
#140	Market Hall Building	197.16	197.40	concrete slope to plaza entrance FFE	ensure final sidewalk grade meets existing paving
South Side (West to East)					
#205	Rivulet Courtyard Apartments	197.71	196.73	concrete slope to FFE main entrance	ensure final sidewalk grade meets existing paving
#205	Bakery & Bistro	197.71	196.75	concrete slope from SW to FFE	ensure final sidewalk grade meets existing paving
#187	Soupcon	196.52		brick and concrete sill	streetscape grading enhancements to address accessibility issues
#185	Lizard Gang Records	196.54		concrete slope from SW to FFE	ensure final sidewalk grade meets existing paving
#183	Dexterity Hair Lounge	196.54		concrete slope from SW to FFE	ensure final sidewalk grade meets existing paving
#181	Private apartment access	196.54		concrete slope to FFE	ensure final sidewalk grade meets existing paving
#181	Vacant building (storefront)	196.54		stamped concrete slope to FFE	ensure final sidewalk grade meets existing paving
#179	Tribal Voices (main entrance)	196.56		1 step up to FFE	streetscape grading enhancements to address accessibility issues

Charlotte Street East - Aylmer to Water St.
Barrier-Free Assessment and Mitigation Measures

Street Address	Description	Sidewalk Elevation	FFE Elevation	Existing Condition	Proposed Mitigation Measures
#175	Dancing Club	196.51	196.93	2 steps to FFE	accessibility improvements to be confirmed during detailed design phase
#173	White House Hotel	196.58	196.93	2 steps to FFE	accessibility improvements to be confirmed during detailed design phase
#171	Wild Wings	196.60	196.93	2 steps to FFE	accessibility improvements to be confirmed during detailed design phase
#167	Private apartment access	196.62	196.69	tile slope to door threshold/ FFE	ensure final sidewalk grade meets existing paving
#169	Wild Rock Outfitters (centre entrance)	196.64	196.73	tile slope to door threshold/ FFE	ensure final sidewalk grade meets existing paving
#169	Wild Rock Outfitters (east entrance)	196.66	196.73	tile slope to door threshold/ FFE	ensure final sidewalk grade meets existing paving
#157	Wellness Clinic	196.70	196.73	Concrete slope from SW to FFE	ensure final sidewalk grade meets existing paving
#311 (G)	Ewart O'Dwyer Barristors & Solicitors (entrance from 311 George St.)				no mitigation measures required
#141	Whistlestop Café	196.78	196.83	concrete slope from SW to FFE	no mitigation measures required
#135	CIBC	197.04	197.11	concrete slope from SW to FFE	no mitigation measures required
#131	Empress Gardens	197.16	197.17	stamped concrete slope from SW to FFE	no mitigation measures required
#131	T-Elle Boutique	197.14	197.17	concrete slope from SW to FFE	no mitigation measures required

APPENDIX 8.2

Table 5 - Percentage Method Fee Calculation Chart (Landscape Architecture & Engineering)

This chart may be used to estimate the budget for landscape architectural services with basic engineering fees (civil, structural, electrical)



COST OF CONSTRUCTION <i>(excluding taxes)</i>		\$50,000 - <\$100,000	\$100K - <\$150K	\$150K - <\$300K	\$300K - <\$600K	\$600K - <\$1mil	\$1mil - <\$2mil	\$2mil - <\$5mil	\$5mil - <\$10mil	\$10mil + over
		K = \$1000					mil = \$million			
CATEGORY	COMPLEXITY									
1	standard	13.00	12.50	12.00	11.50	11.00	10.00	8.50	8.00	7.50
	skilled	13.50	13.00	12.50	12.00	11.50	10.50	9.00	8.50	8.00
	complex	14.50	14.00	13.50	13.00	12.50	11.50	10.00	9.50	9.00
2	standard	17.50	17.00	15.50	14.50	13.25	12.00	10.85	10.00	9.25
	skilled	18.75	17.75	16.75	15.75	14.50	13.50	12.15	11.50	10.25
	complex	20.25	19.25	18.25	17.05	15.85	14.65	13.45	12.50	11.50
3	standard	22.00	20.00	19.75	19.00	18.00	16.00	15.00	14.00	13.00
	skilled	24.00	22.00	21.75	20.50	20.00	18.00	17.00	16.00	15.00
	complex	26.00	25.00	24.00	23.00	22.00	20.50	19.50	19.00	18.00

NOTES

- This chart is a guide for calculating consultant fees based on the total value of construction.
For projects requiring more involved engineering services, use Table 4 to determine Landscape Architect's fees, plus consult the relevant fee guides of the respective professional engineer associations for the specific engineering disciplines.
This chart is to be read in conjunction with the clauses under Section 7.0 Guidelines for Estimating Consultant Fees.
Use of the percentage method is defined under subsection 7.7 Remuneration and on Table 1: Services/Fee Options.
- "Category" Refers to a project type as described under subsection 7.6 "Project Type by Category"
The specific challenges of the site and/or approvals may advance a project to the next category.
- "Complexity" This is defined under subsection 7.5 "Levels of Complexity"