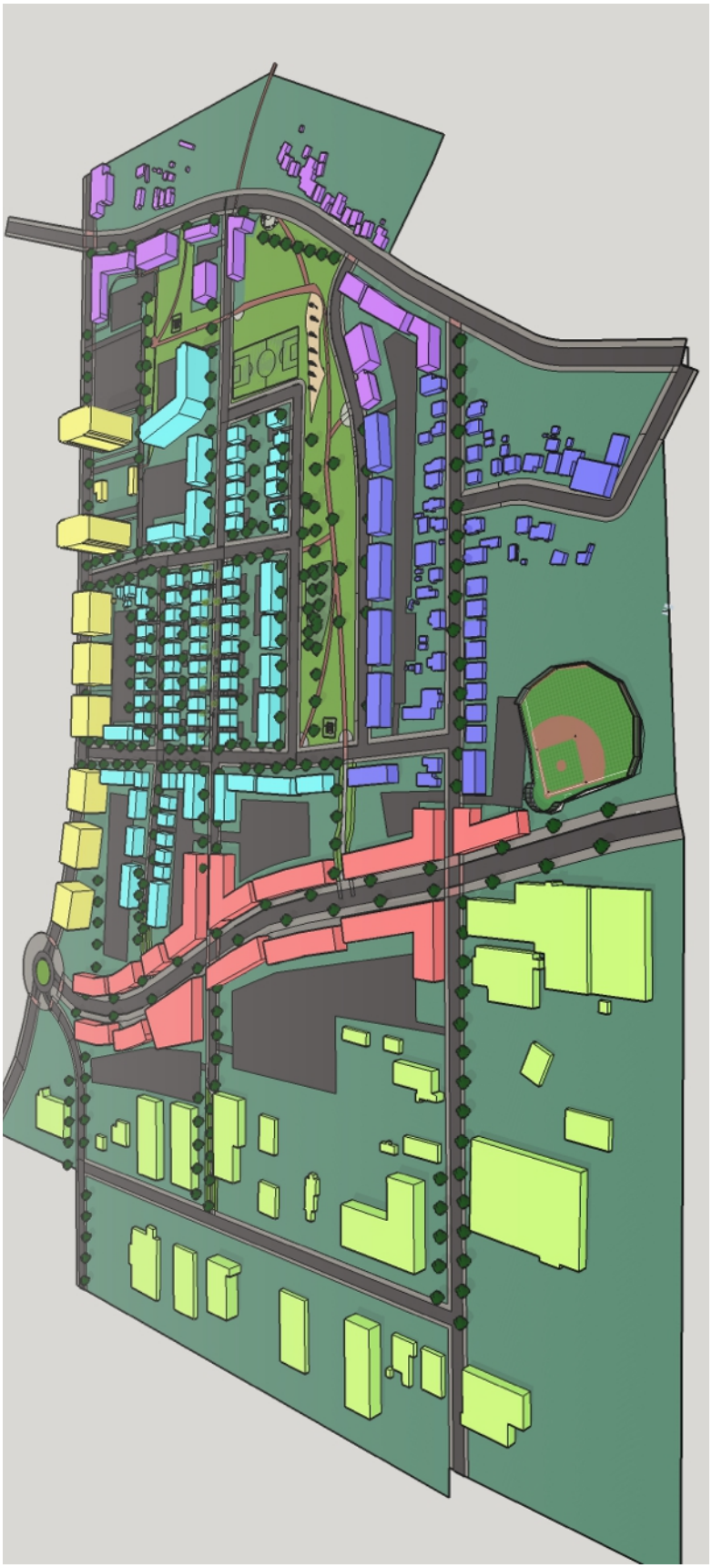
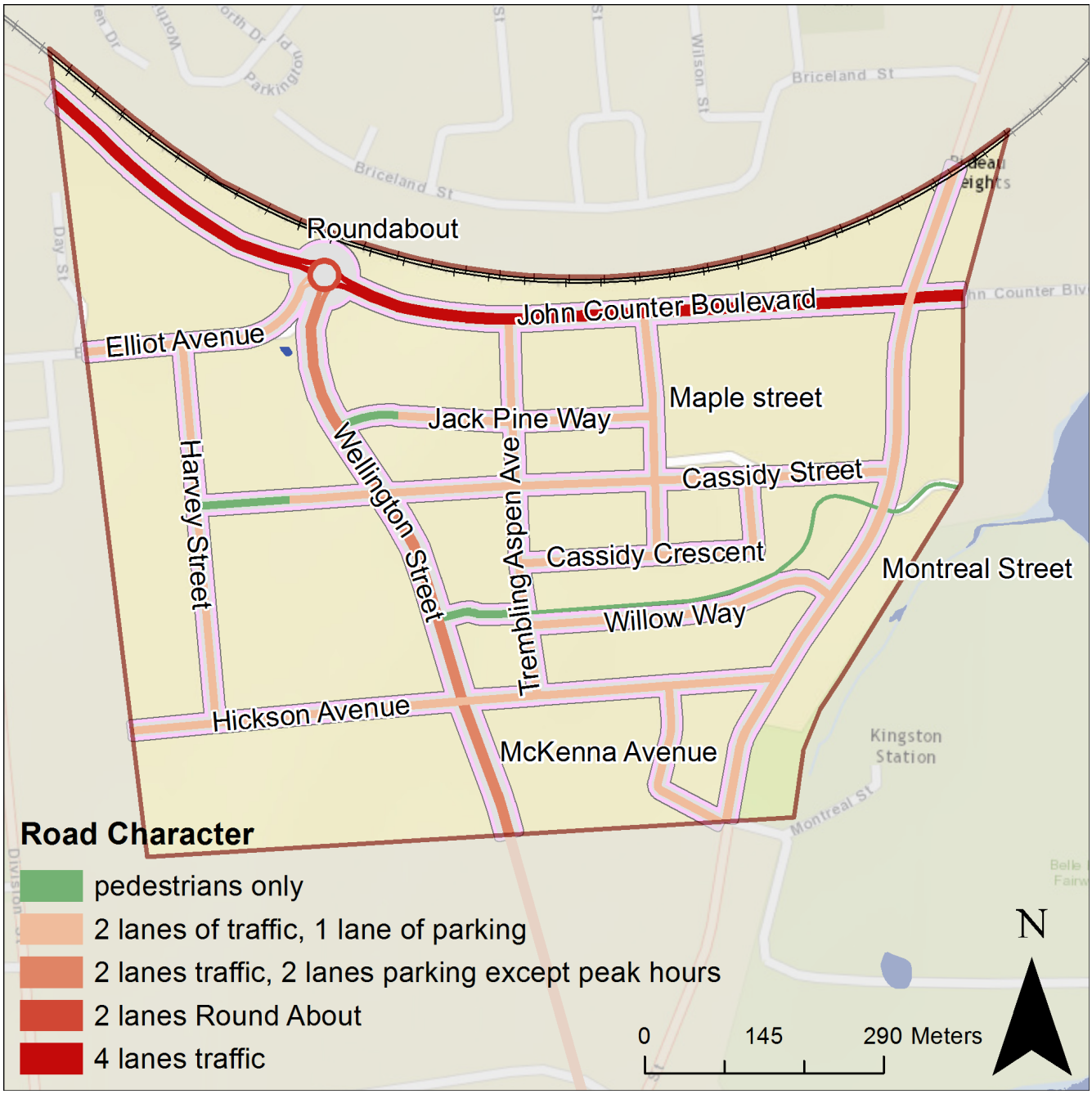
# MASTER URBAN DESIGN PLAN



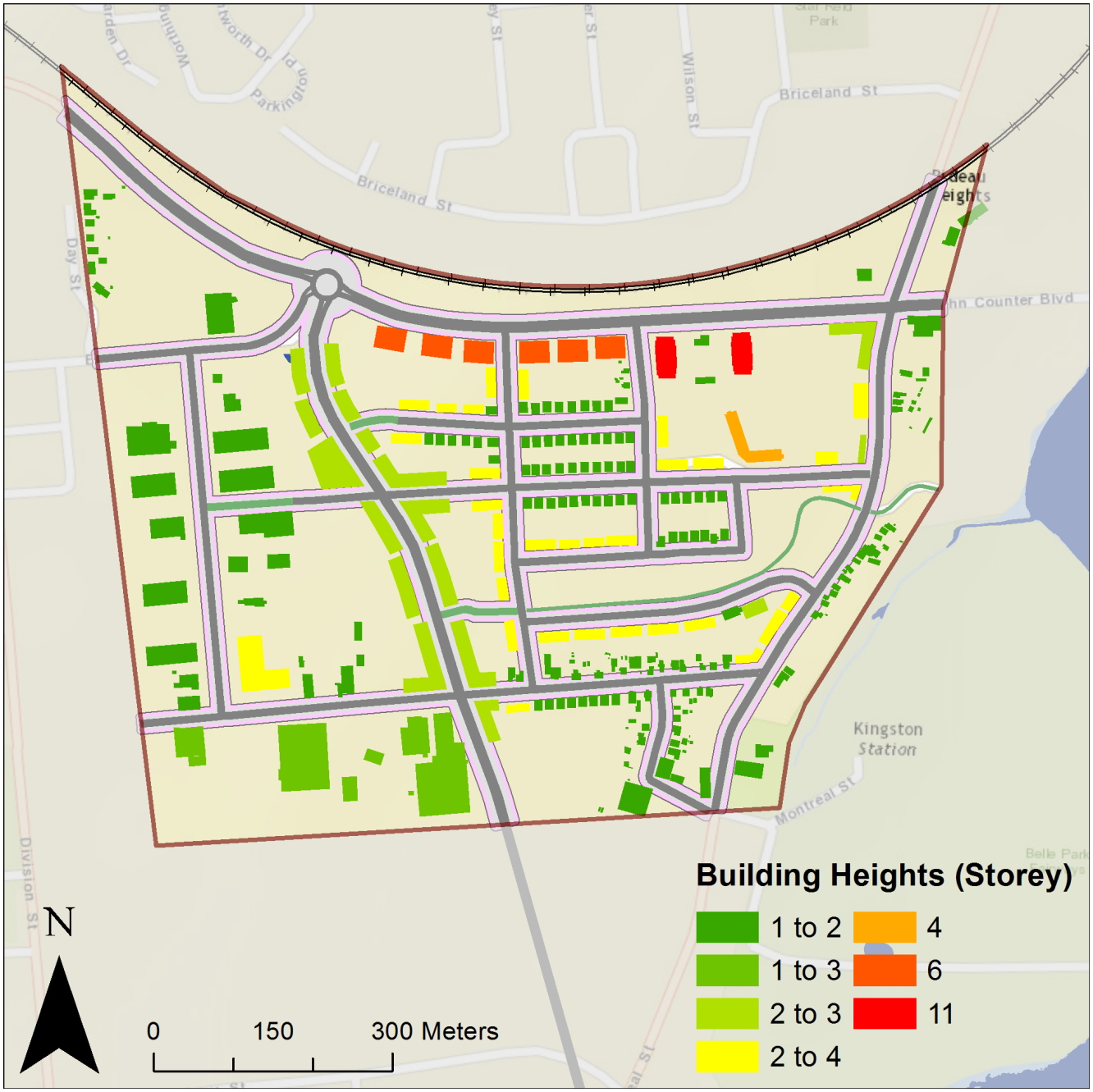
## Road Character Map



# Land Use Map


N
0
130
260 Meters
Land Uses
Commercial
Industrial
Institutional
Open Space
Residential

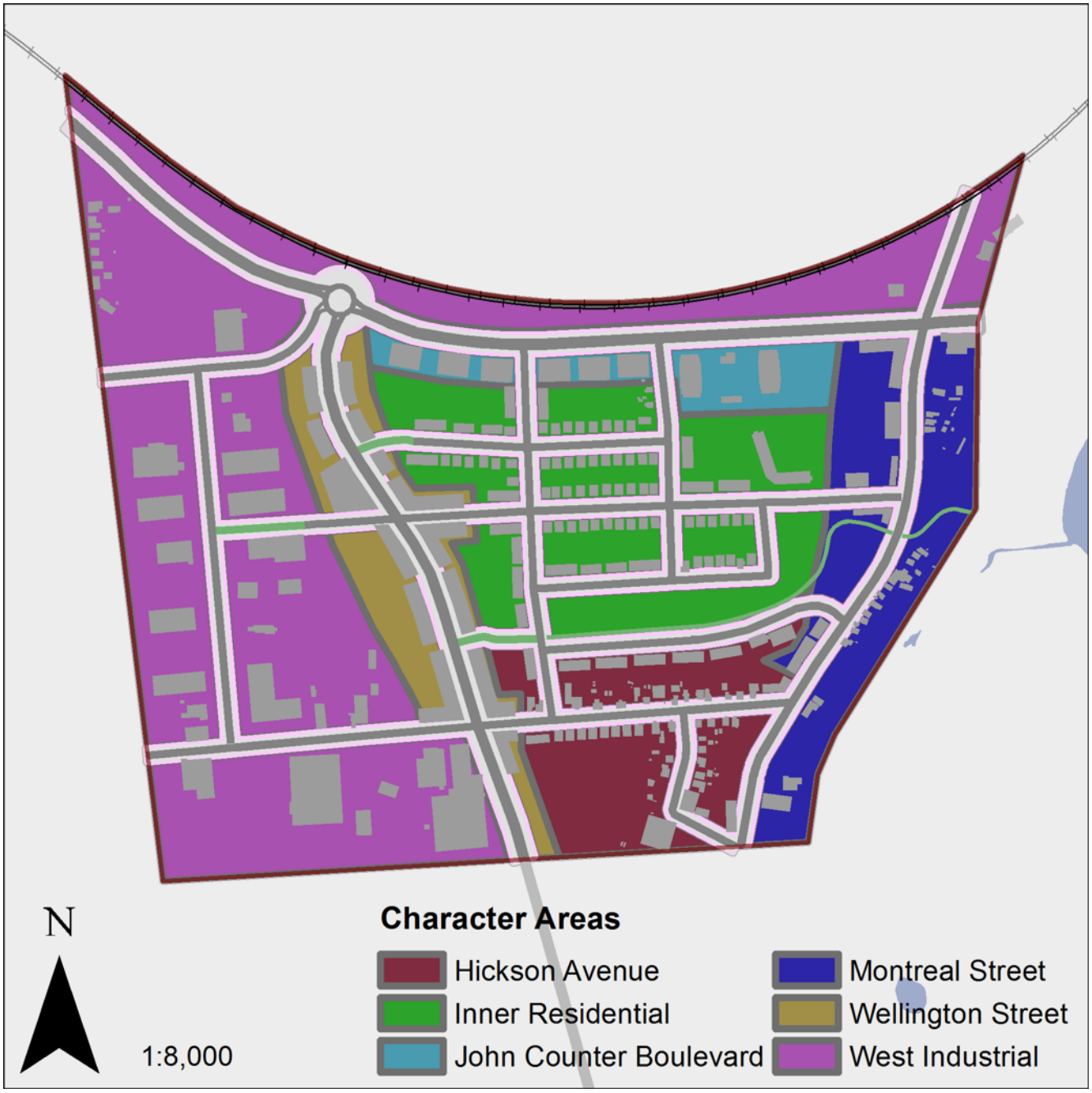
# Building Heights Map



# Building Plan Map

## Residential Density Map

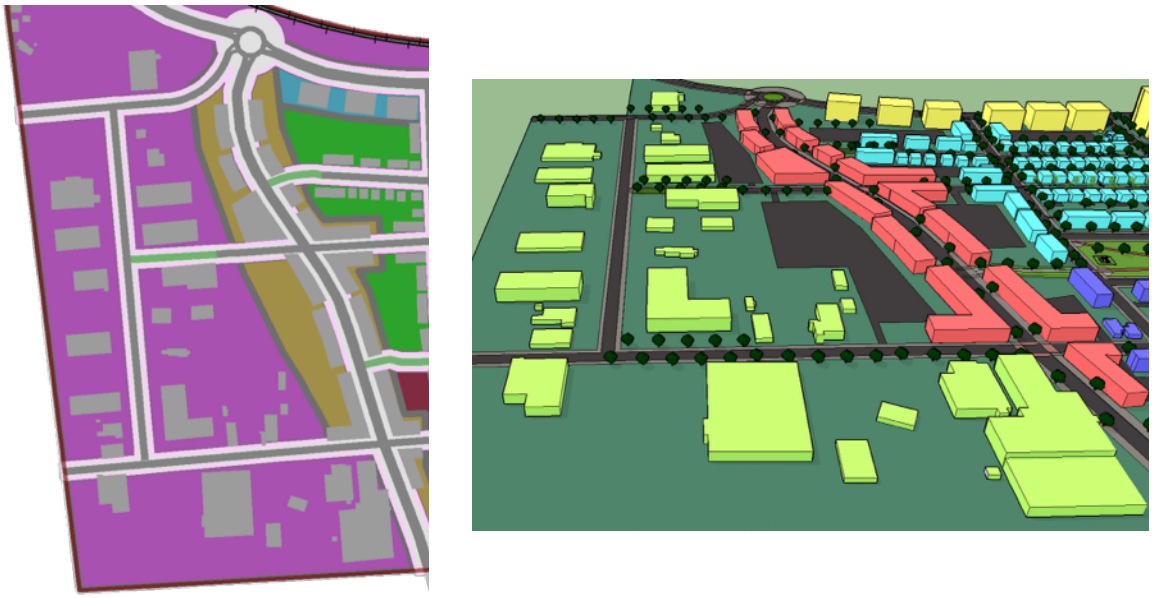
# Character Areas



# Design Brief

## West Industrial Area

The West Industrial Area includes the lands bound by Harvey Street to the west, Hickson Avenue to the south, Elliott Avenue and John Counter to the north, and Wellington to the east.



The West Industrial Area shown in purple (left); West Industrial Area shown in lime green in 3D (right)

### Land Use & Built Form

Current market demand for commercial development in Kingston is relatively stagnant, and does not justify a full redevelopment of the entire *Old Industrial Area*. The West Industrial character area currently provides appropriate lands for light industrial uses. Thus, it will not be disturbed at time when demand may not exist for further development. Moreover, the location of the site relative to downtown Kingston should make them desirable for some industrial operations that benefit from access to the core. Therefore, the West Industrial Area will remain largely unchanged for the time being and continue to serve the City of Kingston's policy goals of having some industrial uses in the area – as per the Official Plan and Zoning By-Law. A further evaluation may be made in the future to determine the feasibility of a redevelopment featuring a higher density and greater mix of uses – notably, residential and commercial. In the meantime, no residential uses are proposed for the area. Any existing institutional uses, such as the Second Chance Education Centre, will be allowed to remain.

By and large, the character area will be composed of the current stock of low-rise, low density buildings, with somewhat large setbacks from the road. That being said, many properties currently appear to be vacant; efforts should then be made to attract new businesses in the area and take advantage of the space available for industrial uses. New buildings in the area will be subject to the city design guidelines, including smaller front yard setbacks and stormwater management measures.

While demolition of some buildings in the area is planned, the heritage building at the corner of Harvey and Elliott is preserved.

### Natural Environment & Open Space

The West Industrial Area does not feature any parks. However, the construction of proper sidewalks and an east-west multi-use pathway between Wellington and Harvey will increase the connectivity of the site, thereby improving access to other parks in the vicinity. Street trees enhance the comfort and aesthetics of the site. Moreover, the new pathway between Wellington and Harvey will act as a small open space.

### Street Form, Function & Character

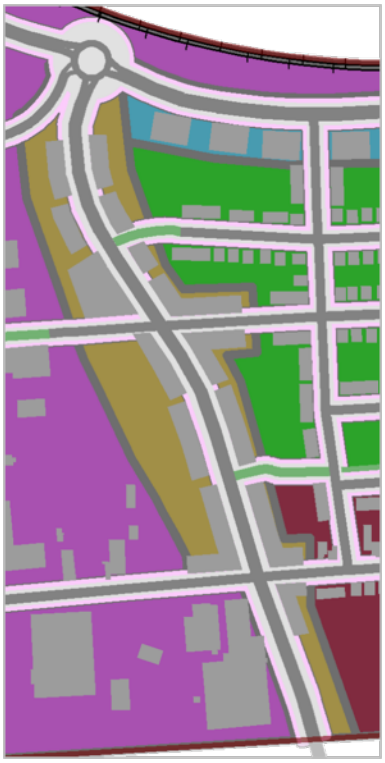
Much like the built form, street form will remain largely similar existing conditions. One exception is the presence of a roundabout at the intersection of John Counter and Wellington; Elliott Avenue will also feed into this roundabout, allowing continuity between Elliott and John Counter.

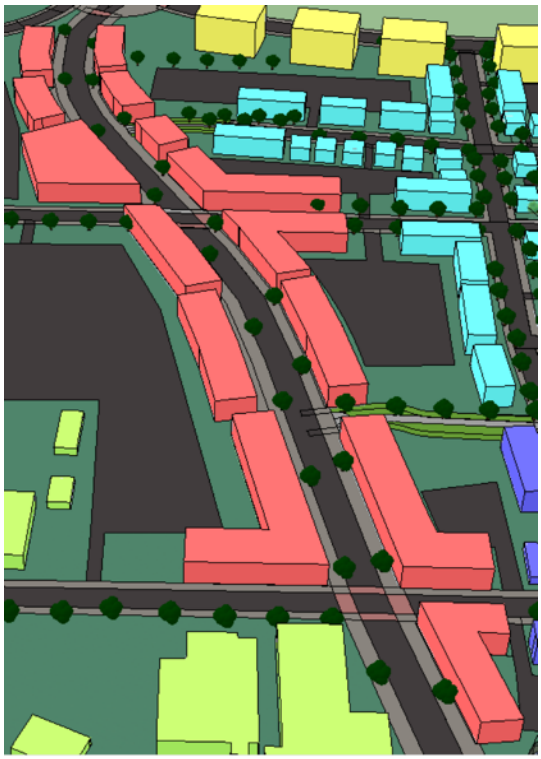
To enhance the connectivity, safety, security, and attractiveness of the site, pedestrian pathways are included. Sidewalks along Hickson, Harvey, and Elliot will enable better pedestrian access to existing businesses. Streetscape improvements such as lighting, street trees, and benches will enhance the pedestrian environment. Finally, a new east-west pedestrian and cycling pathway will connect between Harvey and Wellington just north of the Second Change building. An appropriate right-of-way will be maintained to accommodate future conversion to a street if necessary.

## Wellington Street

The Wellington Street extension will serve as the central traffic thoroughfare of the new development. The extension, going in a largely north-south direction, follows the shape of where Hagerman Avenue is currently located and then takes up the space that the K&P Trail currently occupies up to a roundabout at the north, where it connects with John Counter and Elliott Avenue.

Wellington Street character area in yellow (left); Wellington Street character area in red in 3D (right)





### Land Use & Built Form

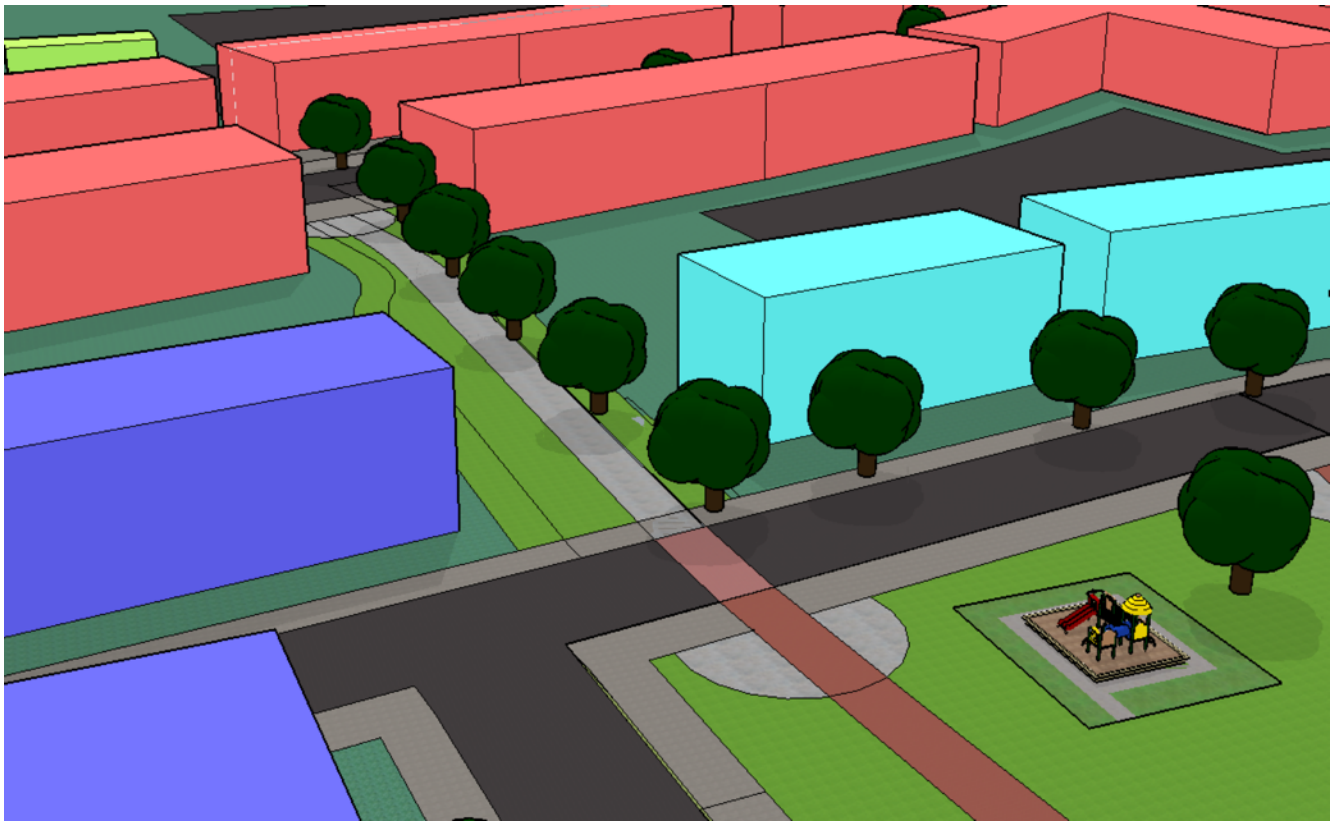
Buildings along Wellington Street will form a “main street” feel; they will be located close to the street and constructed at a human scale that will foster street-level activity. These buildings will be between two to three stories in height. The option exists for taller buildings to be constructed along Wellington Street, but current building heights should be somewhat restricted due to market realities. The building landscape will be continuous, but some spaces between buildings will be reserved for active transportation pathways, laneways to rear yard parking lots, and/or intersections. Another measure that will lead to a greater sense of

positive enclosure along Wellington is the installation of canopies on buildings; these will also keep pedestrians dry in instances of inclement weather.

Commercial uses (retail and services) will be located on the ground floor of buildings to create a vibrant streetscape. In particular, the building at the northwest corner of the intersection of Wellington and the extended Cassidy Street is an ideal location for the construction of a central supermarket. Meanwhile, residential uses, with perhaps some offices and service-based commercial uses, will be located on the upper floors.

### Natural Environment & Open Space

The Wellington Street character area does not feature major park areas. However, two multi-use pathways connecting to Wellington will act as small linear public green spaces. Numerous street trees will enhance the pedestrian environment along the street. Lastly, connections are provided to nearby parks and recreational spaces. For instance, a baseball field is located at the corner of Wellington and Hickson, and a multi-use pathway connects Wellington directly to the new linear park



3D model of a pathway that acts as a small, linear public greenspace and connects Wellington Street to the large park.

## Street Form, Function & Character

The key consideration in designing the Wellington corridor was finding a balance between traffic movement and fostering a walkable, pedestrian and cyclist friendly environment. With this in mind, Wellington has limited access points to facilitate traffic movement. The street is designed to be four lanes where the outside lanes become on-street parking during off-peak hours. In addition to its capacity as a vehicular thoroughfare, Wellington Street also features enhanced pedestrian and cycling connectivity. Wide sidewalks are included on each side enabling easy pedestrian access to new mixed-use buildings. Cycle tracks are included at sidewalk level to improve cycling safety. The cycle tracks and sidewalks are buffered by a boulevard with street trees, furniture, and lighting for an inviting environment.

Moreover, additional pedestrian connections are provided in the form of pathways and alleyways between buildings. Two of these pathways could conceivably be converted into roadways: Cassidy Street west of Wellington would connect to Harvey Street; and a street just to the north of Cassidy would connect to the eastern side of Wellington.

To ensure the viability of commercial businesses along Wellington, we recognize the necessity of including more parking spots in addition to the on-street parking. Small parking lots will therefore be located in the rear yards. This will permit ease of use for motorists without compromising the aesthetics of the street itself.

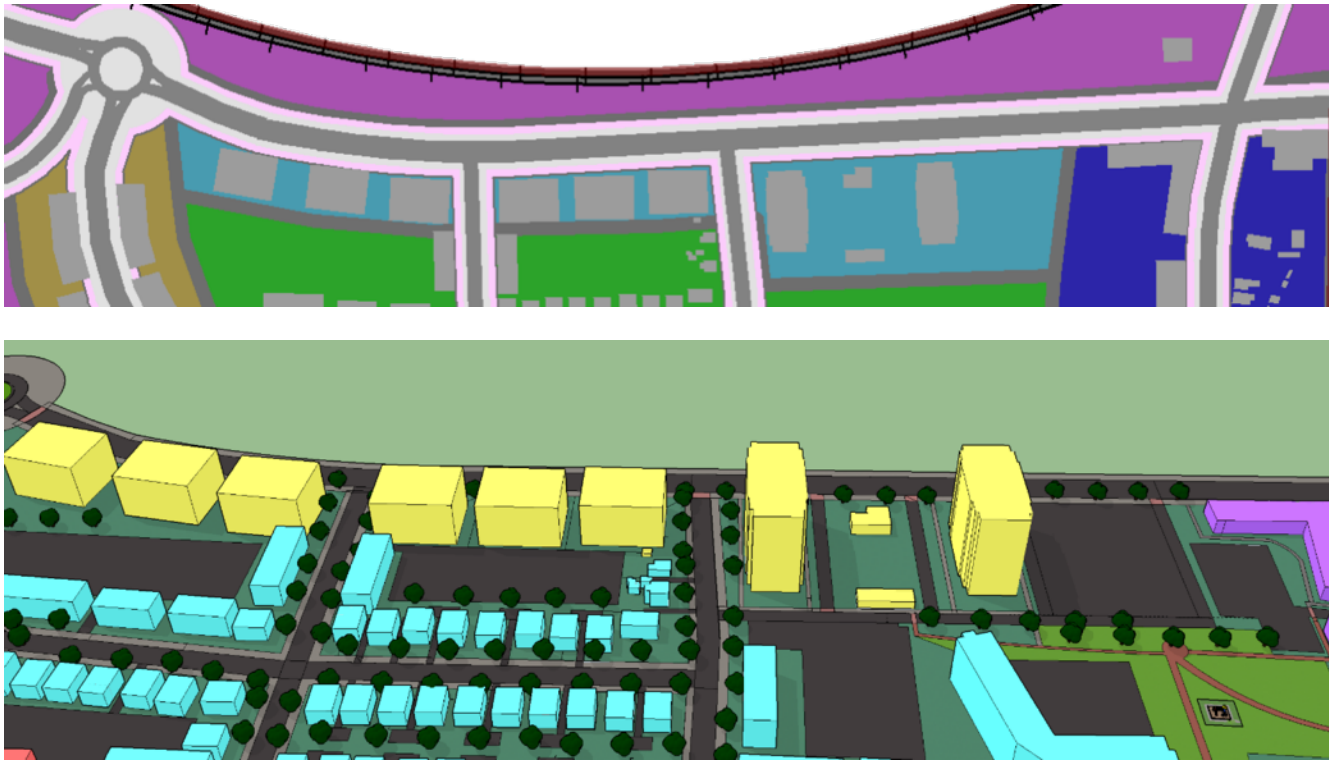
Regarding public transit, it is anticipated that a bus route may eventually run along Wellington Street. In this case, bus stops can easily be accommodate by removing some of the on-street parking.


Perspective drawing of the Wellington Street character area.

## John Counter Boulevard

John Counter consists of higher intensity residential land use. This higher density residential adds another element of diversity to the site.

The conceptual plan for the John Counter area is shown below.



The John Counter area is shown in turquoise in the top map and in yellow on the 3D model at the bottom.

### Land Use & Built Form

This area consists of two distinct sections: east of Maple Street, and west of Maple Street. To the east, existing high-rise apartment buildings are preserved to maintain neighbourhood character and to limit displacement. To the west of Maple, six new mid-rise apartment buildings are proposed. These new buildings will be 6 storeys – the maximum for low-cost wood frame constructions, and a significant cut-off point in fostering streetscape vibrancy (Gehl, 2013). Each building consists of about 70 units, greatly increasing density in the area. Buildings will be designed with at-grade entrances to maximize street presence.

## Street Form, Function & Character

The John Counter corridor is currently high-traffic and automobile-dominant. Due to the anticipated construction of the Wellington Street extension and the third crossing, this segment is expected to carry increased traffic. The design plan accommodates the anticipated higher volume of traffic by widening the street from two to four travel lanes.

It was also important, however, to provide streetscape improvements to enhance walkability and foster a pedestrian friendly environment. New apartment buildings will face the street with a 5m setback. This will help to frame the street, enhancing safety by providing eyes on the street and improving aesthetic value. Street trees and lighting will provide additional aesthetic and safety enhancements.

Pedestrian connectivity between existing apartment buildings and the inner residential area is improved. Fences between properties will be removed, opening up the current playground area into a larger park. This park will extend down to Cassidy and connect with the linear park. By better integrating this area with the rest of the site, social exclusion of the older area is diminished.

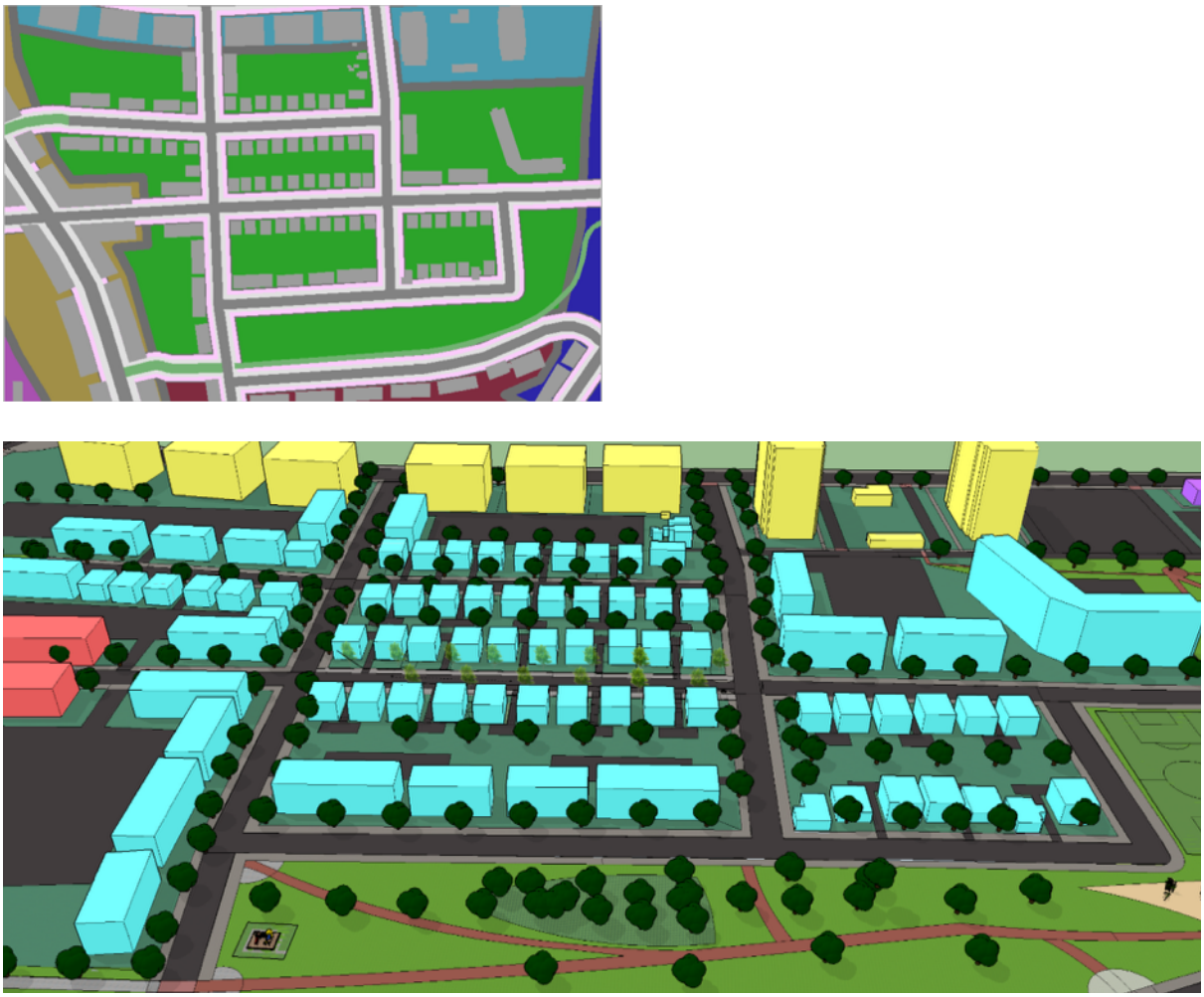
The Conceptual plan for the park and pedestrian connections of the northeastern portion of the site are shown below.

Pedestrian connections and parks in the northeast corner, looking north.

## Inner Residential Area

This character area forms the heart of the new community. It is bounded by the lots fronting onto the busier roads of the site, including Montreal to the east, Wellington to the west, and John Counter to the north. The southern portion ends at a new linear park.

The conceptual plan for the Inner Residential Area is shown below.



The Inner Residential Area is shown in green in the top map and in teal on the 3D model at the bottom.

### Land Use & Built Form

Residential and park are the only land uses in the area. Residential in the area is diverse in both its type and tenure. Single family detached housing is the most prevalent with 64 units, 7 of them existing. Lot widths for these houses is comparable to those in other parts of Kingston near downtown. The area also includes numerous new stacked townhouses; 22

new buildings will house 200 units, of which 44 are allotted to be affordable units. This matches the goal of 17% affordable housing in the development. Townhouses are generally located at the periphery of the inner community, while the single family residential are at the core. The townhouses act as a transition between single family dwellings and more intensive uses on busier streets. Townhouses are the dominant housing type fronting onto the park. This allows more people to gain benefit from park views and access, creating a healthier community. Additionally, the park generates more demand along its edges, allowing for greater densities to be sustained and a higher land value to be captured. One block fronting on the park is designed for single family housing to preserve existing houses. Existing single family housing on the west side of Maple Street just south of John Counter will be preserved. Finally, the existing 4-storey apartment building on Cassidy will be preserved to limit displacement.

### Street Form, Function & Character

The aim is for this neighbourhood is for it to be very walkable and vibrant. The that end, a new grid street pattern with some elements of a fused grid pattern are proposed. Street blocks are about 90 meters, which is considered within the optimum range to promote walkability (McNally, 2010). Pedestrian-only connections from dead end streets and the linear park complete the fused grid.

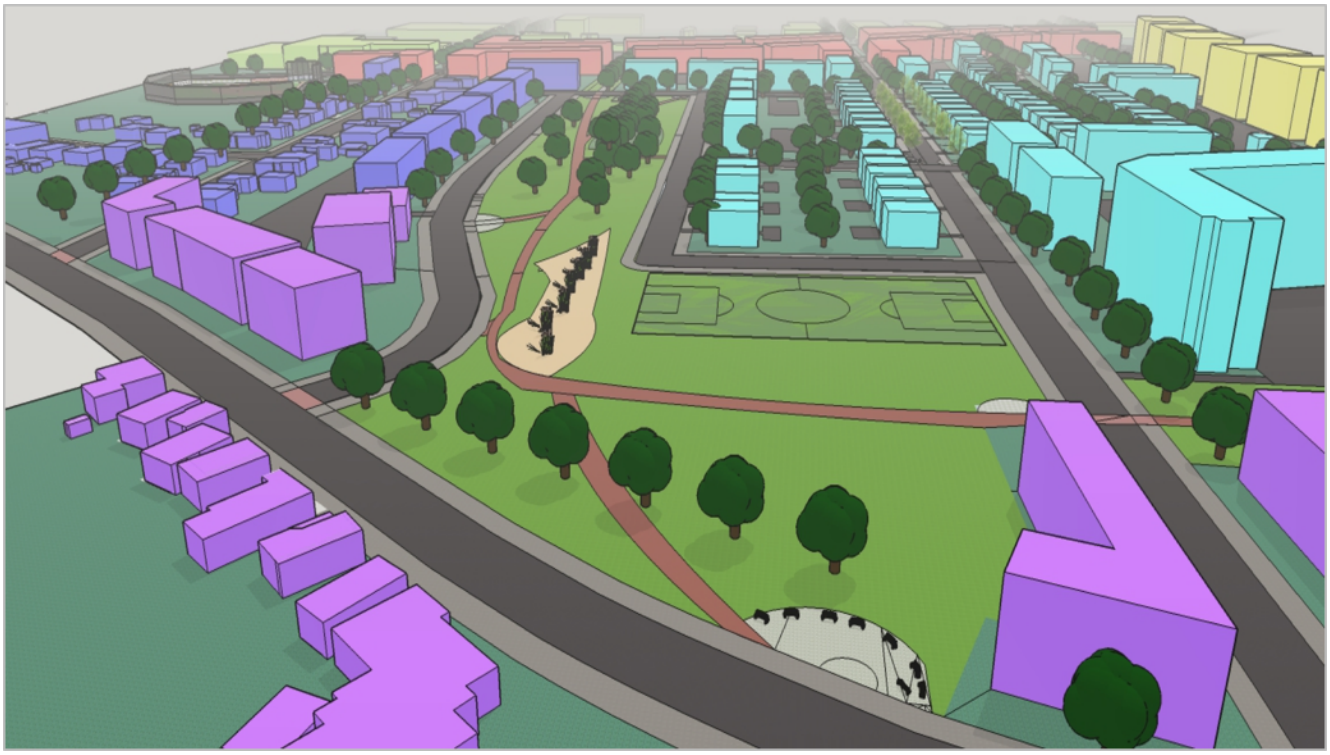
All new residential streets use the suggested local street profile as described in the Kingston design guidelines; roads are 7m wide and will have generous 3m wide sidewalks. These streets are designed to slow traffic speed using curb extensions at intersections and on-street parking (one side). Appropriate street furniture, lighting, and street trees will contribute to a safer, inviting pedestrian experience. Buildings are set back 5m from the sidewalk, allowing for front porches and the creation of a soft edge. A soft edge is a space in between the private space of a home and the public space of the sidewalk and street which facilitates interactions between the two environments. An example of this is people sitting on their porch and talking to neighbours as they walk by, enabling a more close-knit and socially cohesive neighbourhood.

A unique feature of this design is the parking strategy for single family houses. Shared driveways are used with parking at the back of the house taking up a portion of the yard. It is design feature that you see in some of the older neighbourhoods in Kingston. This allows fewer driveways connecting to the street, improving safety and walkability. It also puts the garage at the back of the house, which allows for a soft edge at the front. Compared to a parking design which includes a rear lane, this design has less impervious surface, reducing

stormwater runoff and allowing for bigger lots. Additionally, it maintains the front of the house as the primary entrance point, enhancing street vibrancy.

### Natural Environment & Open Space

The conceptual plan for the linear park is shown here.



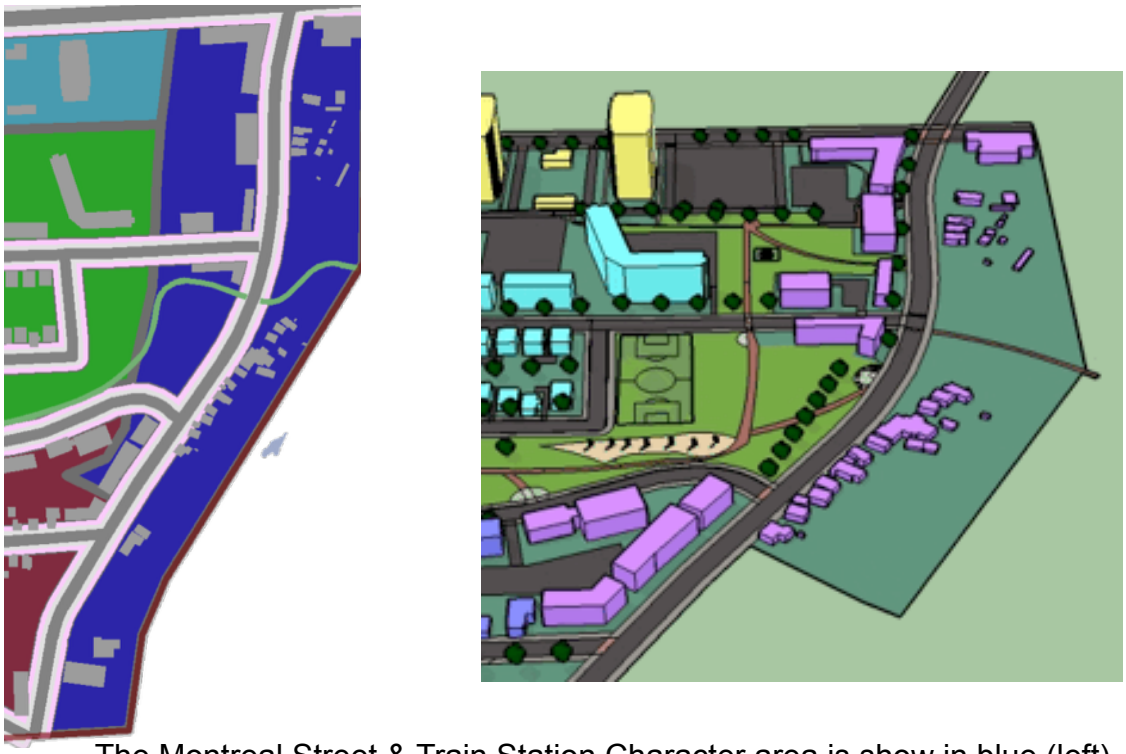
Linear park shown looking westward from Montreal Street. The marsh appears in beige, while the wooden naturalized area is seen at the top right corner of the park. Social seating areas are shown in the foreground at the connection of the park path to Montreal.

The plan creates parks that are multi-functional, usable, and safe. Local roads frame the park to promote accessibility and safety; open views of the park allow visibility. The park includes naturalized areas, recreational features, and places for socialization. The naturalized area incorporates an existing marshy area at the low point of the site which is retained to serve as a stormwater retention pond. A clustering of trees adjacent to the K&P trail is maintained as a naturalized wooded area. Social spaces are included at significant park entrances and pathway intersections. Finally, a large portion of the park opens out on to Montreal Street, showcasing the space and providing improved connectivity.

## Montreal Street & Train Station

The Montreal Street & Train Station character area forms the eastern portion of the site. It is bounded by the Inner community character area to the west, Bell Park to the east, by John Counter Boulevard to the North, and the Royal Canadian Legion Branch 560 to the south.

The conceptual plan for this area is shown in the figures below.



The Montreal Street & Train Station Character area is show in blue (left)
Montreal Street in 3D (right)

### Land Use & Built Form

The land use is predominantly residential with neighbourhood commercial and institutional interspersed. The commercial strip development at the corner of John Counter and Montreal is replaced with a new mixed commercial residential building. All existing tenants from the commercial strip, including the bingo hall, will be accommodated in the new building. A new row of stacked townhouses, similar to those in the inner residential area, are planned just to the south. The heritage building at the corner of Montreal and Cassidy will be maintained. Single family homes on the east side of Montreal will be maintained to preserve neighbourhood character and minimize displacement of existing residents.

A new residential street is planned to connect to Montreal midblock between Hickson and Cassidy, near the train station. Mixed-use buildings are proposed for the southwestern portion

of the intersection, fronting on Montreal. These buildings will accommodate some of the social services displaced in other parts of the development while also providing space for new services.

A new mixed-use commercial and residential building is proposed for the northwest corner of Montreal and Hickson. Montreal will also gain significant frontage on to the new linear park. This will enhance views of the park and create greater access from Montreal.

Finally, the vision for this character area incorporates the heritage CN train station as a new community hub. The building will be restored to highlight its heritage value, and retrofitted to accommodate a new commercial use; we envision a café or micro-brewery to promote community entrepreneurship. This endeavour will capitalize on park views and the heritage value of the site. It will also create a new community hub where residents can gather to socialize. As previously noted, the Cheshire Cat Pub in Carp, Ontario is a great precedent. The first image shows the train station ruin as it stands today, while the one on the right shows the massing of the design vision.

Ruins of the former CN Railway station (left), and massing of train station and a potential addition as seen from the park (right).

## Natural Environment & Open Space

The natural environment is to be enhanced along Montreal Street through extensive planting of street trees. While there are no dedicated naturalized areas, Montreal Street will enhance pedestrian and cyclist connectivity to the linear park and other green spaces around the site. Notably, a continuous pedestrian path is proposed to connect from Bell Park across Montreal to the linear park, continuing through to Wellington Street.

### Street Form, Function & Character

The street form along Montreal will remain largely similar to what already exists. However, streetscape improvements are proposed to enhance the pedestrian environment and contribute to neighbourhood character. These improvements include: widened sidewalks (2m), street trees, unique street lighting, benches, and pedestrian crosswalks.

The street will maintain its existing two travel lanes. An additional lane will be introduced to provide on-street parking. Due to the construction of Wellington Street, it is expected that Montreal will become a calmer street with less traffic. To further emphasize the residential character, additional traffic calming measures will be implemented. For example, travel lanes will be a minimum width to reduce speed, and speed humps and bump-outs will be used at preferred pedestrian crossing locations. Building setbacks will be the same as those described in the inner residential area, providing for more eyes on the street.

## Hickson Avenue

This character area forms the southern portion of the site. It is bounded by Wellington Street to the west, Montreal Street to the east, by the park to the north, and by the Royal Canadian Legion Branch 560 to the south.
The Conceptual plan for this area is shown below.

The Hickson Avenue character area can be seen in red (left). Hickson Avenue in 3D (right).

### Land Use & Built Form

Proposed land uses in this area include residential and some recreational space. Housing is lower density that in other areas of the site; all of the existing single-family homes will be preserved, and some new single-family housing is proposed to replace light industrial buildings. This will maintain the existing character of the area and contribute to a more friendly neighbourhood feel. Running parallel to Hickson, a new street is proposed for one block north. The north side of this street connects to the new linear park. On the south side, new 3-4 storey townhouses are proposed to take advantage of the park frontage. This also allows for a subtle increase in density while providing a mix of housing types and tenure

options. Modified zoning will permit small-scale home-based business in this area; for example, a bakery, deli, or hair salon. Finally, the Legion hall will be maintained for its community value.

### Natural Environment & Open Space

An existing baseball diamond behind the Legion hall was a focus of the recreational space in this character area. The diamond is an opportunity to draw traffic from outside the neighbourhood and support local businesses. It also plays an important role in fostering a sense of place; it is a gathering space for children and adults alike to socialize and engage in activity. The diamond will be revitalized to serve as a high quality amateur baseball facility, including new fencing, dugouts, and stands. A good precedent is Sullivan Park in the City of Thorold, Ontario.

Sullivan Park in the City of Thorold, Ontario

### Street Form, Function & Character

Much of the existing street network will be maintained, however there are two major additions. First, Red Pine Way runs roughly parallel to Hickson and provides frontage on to the new linear park and the historic train station. As previously mentioned, this street will be lined on one side with stacked townhouses to increase density and capitalize on park views. Second, McKenna Avenue will be extend to connect with Montreal at Bell Park Drive. This allows for better connectivity and a more efficient use of residential land.

The design plan also creates a safe, inviting pedestrian environment. Residential streets are limited to two narrow travel lanes; an additional parking lane will be added to help keep traffic slow. New buildings will have short setbacks of only five meters, which includes space for front porches. This will foster a human scale and ensure more eyes on the street. It will also create a soft edge wherein the transition from public to private realm is smooth. Streetscape enhancements will include wide sidewalks and street trees to create an inviting and aesthetically plea

# Regulatory Changes

## Official Plan

The City of Kingston Official Plan indicates that the majority of the study site is designated as “General Industrial”. In addition, there are minimal amounts of land designated as “Residential” and “Institutional” near the intersection of John Counter Boulevard and Montreal Street.

To accommodate the proposed changes in the master urban design plan, the official plan will need to be amended to incorporate a more flexible and diverse set of land uses designations. The majority of land to the east of Wellington Street is currently designated as “General Industrial”, and should be altered to allow “Residential” or “Mixed Use” land uses. Lands along the new Wellington Street corridor should be designated as “Mixed Use” or “Commercial” as a means of establishing a traditional main street. Lands west of the new Wellington Street corridor shall remain “General Industrial” for the time being as a means of preserving affordable lands for local industrial businesses. Included amongst the “Residential” and “Mixed Use” lands will be provisions for affordable housing, which the City of Kingston has prioritized in their official plan. Finally, the design plan calls for the acquisition of the abandoned rail pathways for public uses including roads (Wellington Street) and a park, which is consistent with the official plan.

## Zoning By-law

It is important to note that the existing official plan and zoning by-law were written at different times and therefore have some minor inconsistencies. Residential areas should be designated as “B1” meaning that they can have up to 69 dwelling units per hectare in lodging structures such as apartments, row houses and stacked townhomes. Lands along the Wellington Street corridor should be zoned “C1” which permits commercial properties while also allowing residential units within the commercial structure. West of Wellington Street should be zoned “M6” to allow for light industrial uses, which are of the same character of the existing conditions.

## Brownfield Community Improvement Plan

A brownfield community improvement levy provides tax assistance and grants for an environmentally contaminated site within designated areas of the city. These sites are often strategically located in core areas of the city that are well-suited for redevelopment based on factors such as access to existing infrastructure, proximity to water, and proximity to transportation networks. The *Old Industrial Area* is identified as a Community Improvement

Project Area (Appendix B). By implementing the brownfield CIP, the City of Kingston intends to recoup the upfront costs required for grants or tax breaks by increasing the municipal tax base through the redevelopment of brownfield sites. An overarching objective of the program is to revitalize areas of the core with abandoned or brownfield sites.

The City of Kingston is embarking on a new secondary plan for the “North King’s Town” area, which encompasses the study site and will support the revitalization and redevelopment of the area (Appendix B). Currently a community visioning exercise is being undertaken as a very preliminary step in establishing a secondary plan for the area.

# SUMMARY

Throughout this redevelopment proposal, various methods have been used to develop our preferred option. The overarching vision corresponded to creating social, economic and environmental prosperity, all whilst creating a new vibrant community. This includes the consideration of the third crossing and Wellington Street extension – therefore fostering a proposal that supports intensification of the area to accommodate these impending changes on the *Old Industrial Area.* The plan has been designed to become a 'gateway' to downtown Kingston - that is a live, work, play area that does not mimic the intensity of downtown Kingston, but that still fosters a 'main street feeling' within the constrains of the site. This is achieved through the application of a mix of housing types [geared to different incomes], commercial spaces , attractive streetscapes and re-development of heritage site.

This plan is feasible as it supports the revitalization of the town's old urban core and respects the character of the area. Firstly, by respecting the diversity of land uses present in the area, the plan relates to this need and creates newer and more appealing uses. Second, the main policies were considered in the design for Wellington St and others. Furthermore [we] ensure feasibility through the understanding of the demographic nature of the area - with this knowledge, [we] set out to create a mix of housing and social services available to the area. Finally, the retainment of the K&P trail and the creation of bike lanes and the linear park establish good ecological and recreation planning ideals in the area.

In the city of Kingston's context, the suggested plan coincides with the area's character and thus makes it a feasible plan. Through careful consideration of Kingston's best practices as well as the general planning and building trends in the city, we set out to create a plan that compliments the rest of the city. This includes the maintenance of social services in the area, the use of the location as a gateway to downtown, the use of sustainable development and adapting to new city infrastructure.

### Maintenance of Social Services

- Due to the underlying demographics of the area and the city's north end, the area needs to accommodate for both these residents and the ones coming from the third crossing.
- This plan promotes the maintenance of services and the creation of a sense of community.
- The plan looks to de-stigmatize the area

### Use of location as gateway

- The location itself should not compete with downtown Kingston.
- The chosen land uses reflect the notion of gateway – it is less dense but still created a 'main street feeling' and opportunities for residential use.
- We operate on the idea that our vision will provide a nice corridor from the highway to downtown.

### Adapting to City Infrastructure

- This plan helps people from the north end and Pittsburgh township get better access to amenities following the construction of the 3rd crossing.
- Increase connectivity to the city

The plan was developed through a variety of methodologies aimed at using the space in the most *strategic* and *economically diverse* fashion. Through site analysis, precedents, options considered, policy review, cross-sections and comparisons, the best recommendations for the site plan have been created. This site plan is the most enriching plan for the area, as it would set guidelines to accommodate and welcome future growth in Kingston's North End all while preserving the unique character and history of the area. Furthermore, this approach was used as it favoured the retainment of residential lots and the re-development of brownfield. Within the options considered, the creation of a cafe within the heritage site is an example of this retainment/re-development approach.

# POSTSCRIPT

## Reflection on City of Kingston Design Guidelines

The City of Kingston's Design Guidelines for Communities was important to the development of this urban design plan. Throughout the planning process, numerous guideline recommendations were reviewed and evaluated to determine their appropriateness in the context of the design plan. Design guidelines were also compared to the ten key principles of urban design identified by von Hausen.

The master design plan drew heavily from the design guidelines for parkland and street design. Our local street cross-sections and streetscape features were drawn directly from the document. In planning the parks, recommendations to create multi-functional areas, greenway connections, and to showcase parks from busy roads were implemented.

In some instances the design plan did not adhere to the design guidelines. Notably, block length has a recommended minimum of 200 meters and a maximum of 250 meters in the guidelines. Instead the design plan recommends 90 meters, which is considered to be in the optimum range for walkability (McNally, 2010). This also matches closely to the block length in downtown Kingston.

Overall, the Kingston Design Guidelines for Communities were a useful resource in the development of the master urban design plan. Several key design elements were drawn directly from the guidelines. However, some other design elements were deemed inappropriate for the site, and alternative solutions were proposed.

## Lessons Learned

In developing a design plan for the *Old Industrial Area*, the creation of social, economic, and environmental prosperity were key objectives. With these in mind, the design team has learned several lessons that can better inform future design work.

### *Lesson 1:* Demand for industrial lands in proximity to downtown

The *Old Industrial Area* is made up primarily of light industrial land uses or vacant lands. It is important to maintain some light industrial space in close proximity to downtown to house service industries such as trades, auto repair, small warehousing, and others. Accessibility via arterial roads and highways is a key factor affecting the viability of these types of land uses. There is a notion that industrial land uses aren't 'sexy', however they remain a critical component of a comprehensive land use framework. Moreover, mixing light industrial uses

with other land uses, such as residential, can be challenging. Planners and designers should look for innovative ways to mix these land uses in a complimentary manner.

### *Lesson 2:* Market analysis informs development feasibility

Conducting a thorough market analysis is critical component to identifying the correct scale for a development to achieve profitability, and in identifying the realistic needs of a community. While market analysis is a standard practice for any development, due to constrained resources the design team was unable to assemble a thorough analysis. Given additional time, access to information, and personnel resources, the a complete market analysis would have greatly informed the design plan feasibility.

### *Lesson 3:* Study large sites at both a broad and narrow scale

While any site should be studied at a variety of scales, it is particularly important to subdivide large sites into smaller character areas. These character areas may be similar due to existing environmental, socio-cultural, built form, or other features. They may also be divided according to the plan vision wherein an area is best suited for a particular design feature. While each character area may be addresses in more detail, they must each fit into the broader site and regional context. Appropriate connections between character areas and across the site must be established to ensure it acts as a cohesive development.

### *Lesson 4:* Land remediation is expensive

When remediation is required, development profitability can suffer. Remediation incurs a large up-front cost that can be prohibitive to development potential. As a result, taller and more intensive land uses are often necessary to maintain an appropriate level of development profitability. Our proposed design plan includes single family homes and townhouses, which may not be feasible given the high cost of remediation.

### *Lesson 5:* Intermediate land uses

In many cases where brownfield sites planned for remediation, poor or stagnant market conditions may affect the financial feasibility of full redevelopment. As discussed above, the cost of remediation can be prohibitive. One approach to manage this issue is through the development of big box format commercial, such as Wal-Mart, Costco, or others. The development of these types of uses on brownfield sites is subject to less stringent regulations regarding remediation, and development profitability is still feasible. This type of development could be a feasible interim use, lasting a period of about 10 years. The remainder of the site is secured for future development, and the land can be slowly remediated over time using natural remediation techniques.

# REFERENCES


Canada Mortgage and Housing Corporation (2016). Designing Flexible Housing: Grow Home – Montreal, Quebec. Retrieved from http://www.cmhc-schl.gc.ca/en/inpr/afhoce/afhoce/afhostcast/afhoid/cohode/deflho/deflho_005.cfm

Cheshire Cat Pub. (n.d.). *Entertainment*. Retrieved from Cheshire Cat Pub: http://www.cheshirecatpub.com/entertainment.html

City of Kingston (2013). Community Improvement Project Areas Key Map. Retrieved from https://www.cityofkingston.ca/documents/10180/19597/CIP+-+Key+Map/ec5b091b-fa87-4850-80ff-2a34347b3a47

City of Kingston (2015). North King's Town Secondary Plan. Retrieved from https://www.cityofkingston.ca/documents/10180/11849298/COU_A0116-16007.pdf/af78ee80-8954-40b3-bdd2-b88940c493d0

Colenbrander, A. (2013, September 6). *UBC Sustainable Housing: Sail Grand Opening Ceremony*. Retrieved from Vancouverscape: http://vancouverscape.com/ubc-sustainable-housing-sail-grand-opening-ceremony/

Eade, R. (2013, December 17). *Cheshire Cat pub in Carp to reopen within days, after devastating fire*. Retrieved from http://ottawacitizen.com/life/food/cheshire-cat-pub-in-carp-to-reopen-within-days-after-devastating-fire

Gehl, J. (2010). *Cities for People.* Washington, DC: Island Press.

Google Maps. (2015, June). *Google Street View image of Rijnstraat, Amsterdam, Netherlands [photo].* Retrieved from Google Maps: https://www.google.ca/maps/@52.3481961,4.9045246,3a,75y,153.79h,89.18t/data=!3m6!1e1!3m4!1sp6AGd4bGiEGa6-HOIC7dLw!2e0!7i13312!8i6656

Google Maps. (2015, June). *Street View Image of Quebec Street [photo]*. Retrieved from Google Maps: https://www.google.ca/maps/@44.2390058,-76.491358,3a,75y,332.06h,76.12t/data=!3m6!1e1!3m4!1st_7yWRaAOjwPkfPJvW-oug!2e0!7i13312!8i6656

Grohne, R. (n.d.). *Sail exterior photo*. Retrieved from Vancouverscape: http://vancouverscape.com/wp-content/uploads/2013/09/exterior.jpg

Lubrant, R. (n.d.). *Crescent Terminus [photo].* Retrieved from reThink Wood: http://www.rethinkwood.com/sites/default/files/Mid-Rise-Wood-Construction-CEU-Apr-2015.pdf

McNally, K. (2010). Design guidelines for walkable communities. *Ohio: Niehoff Studio*.

Modbox. (n.d.). *Springfield Towns*. Retrieved from Modbox: http://modbox.ca/project/springfield-towns/

Morrison Hershfield (2006). Wellington Street Extension: Environmental Study Report. Retrieved from https://www.cityofkingston.ca/documents/10180/1125510/Environmental+Assessment/75d3a1d6-0110-4173-8b64-cc8378df5fca

ThirstyBeachlover. (2015, October). *(Picture of the Cheshire Cat Pub) from the parking lot*

reThink Wood. (2015, April). *Mid-Rise Wood Construction.* Retrieved from reThink Wood: http://www.rethinkwood.com/sites/default/files/Mid-Rise-Wood-Construction-CEU-Apr-2015.pdf

Rybczynski, W. (2012). *Grow Homes, Montreal, 1992* [Image]. Retrieved from http://www.witoldrybczynski.com/modern-life/housing-redux/

Sustainable Kingston (2010). Sustainable Kingston Plan. Retrieved from http://www.sustainablekingston.ca/

ThirstyBeachlover. (2015, October). *(Picture of the Cheshire Cat Pub) from the parking lot*. Retrieved from Trip Advisor: http://media-cdn.tripadvisor.com/media/photo-s/09/3c/d8/3d/the-cheshire-cat-pub.jpg

Unknown. (2015, June 17). *Untitled photo of Bank Street in the Glebe*. Retrieved from ImagineGlebe: https://imagineglebe.files.wordpress.com/2015/06/bankst16.jpg

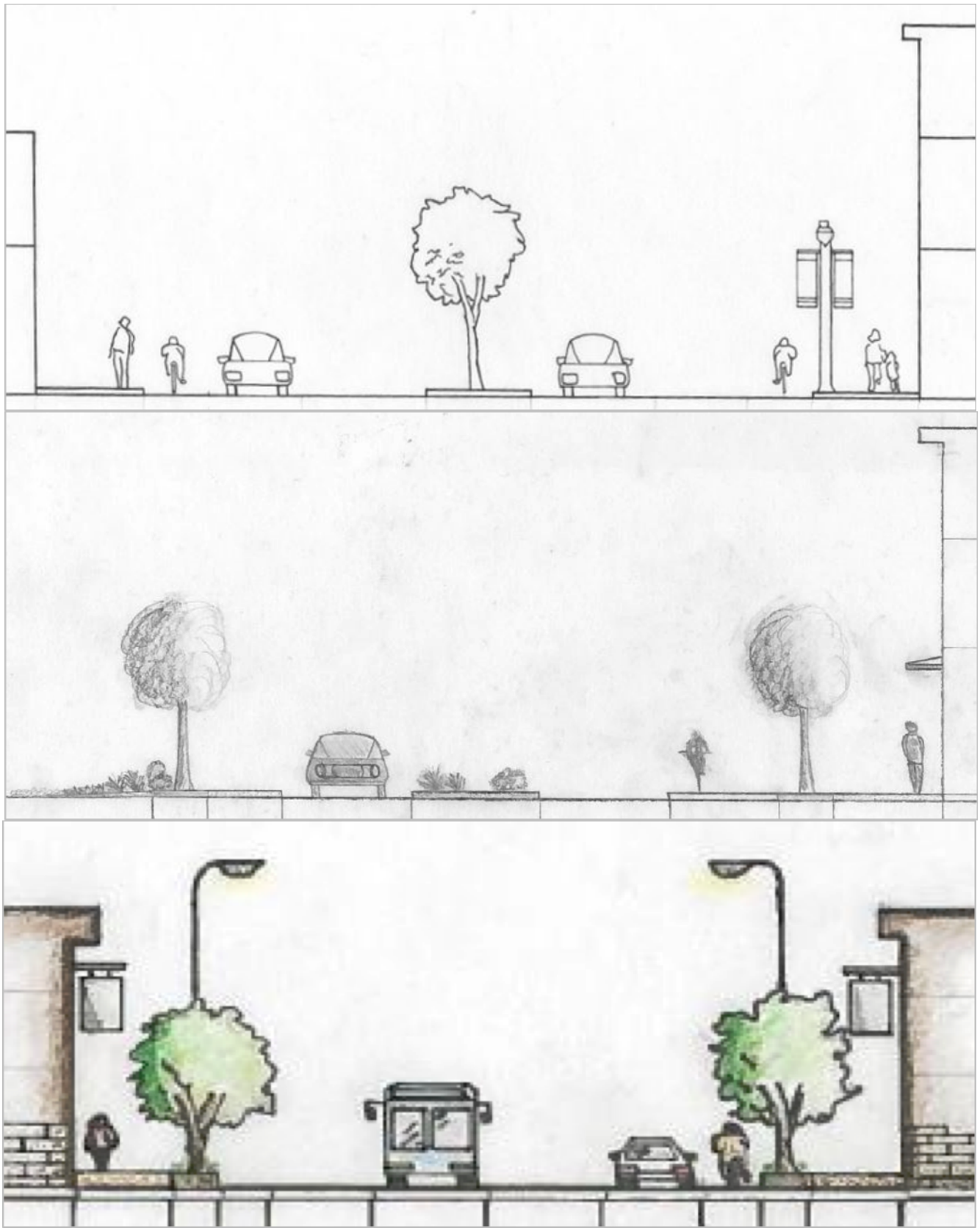
Urban Strategies. (2015, September). *Pedestrian walkway, including lighting and tree planting (Arbutus Walk, Vancouver) [photo].* Retrieved from Rideau Heights Regeneration Strategy: https://www.cityofkingston.ca/documents/10180/11143637/HHC_A0815-15013-ExB.pdf/b45483a2-5631-4de6-8b9a-61891d458c0d

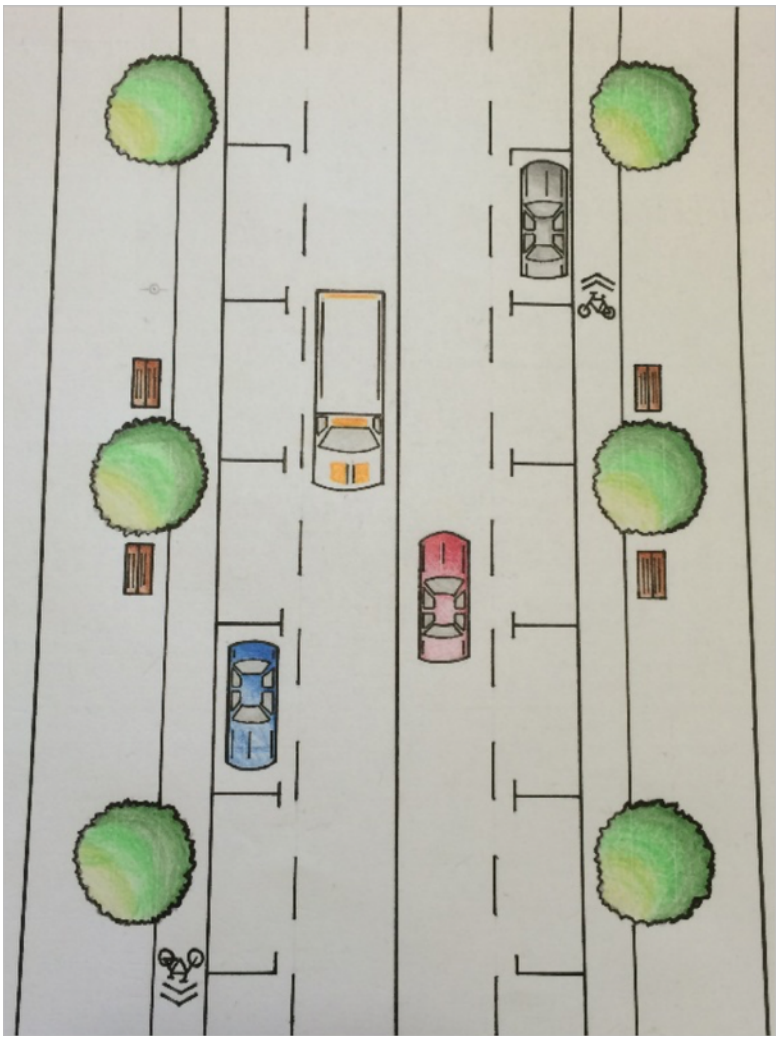
Urban Strategies. (2015, September). *William Hancox Drive, Toronto [photo].* Retrieved from Rideau Heights Regeneration Plan: https://www.cityofkingston.ca/documents/10180/11143637/HHC_A0815-15013-ExB.pdf/b45483a2-5631-4de6-8b9a-61891d458c0d

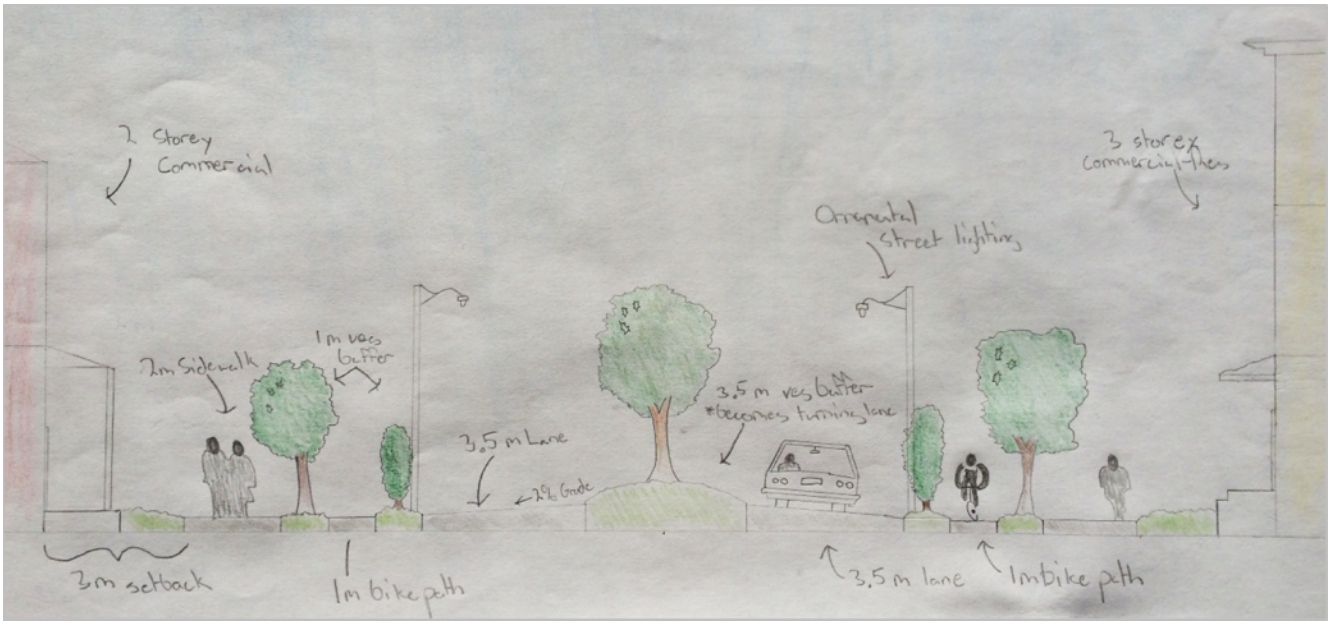
Von, H. M. (2013). Dynamic urban design: A handbook for creating sustainable communities worldwide. Bloomington, IN: iUniverse Inc.

# APPENDIX A

## Idea Gallery

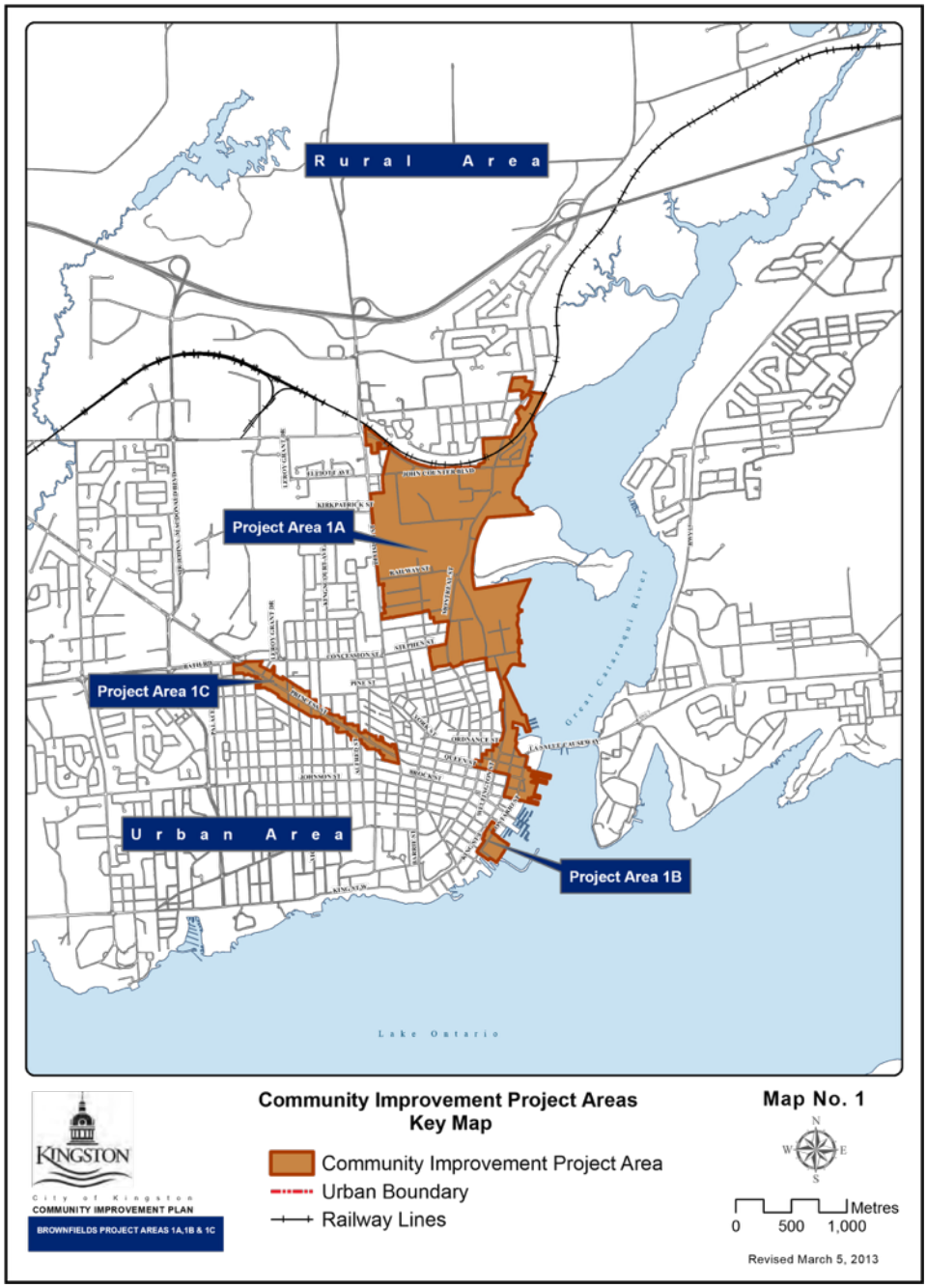



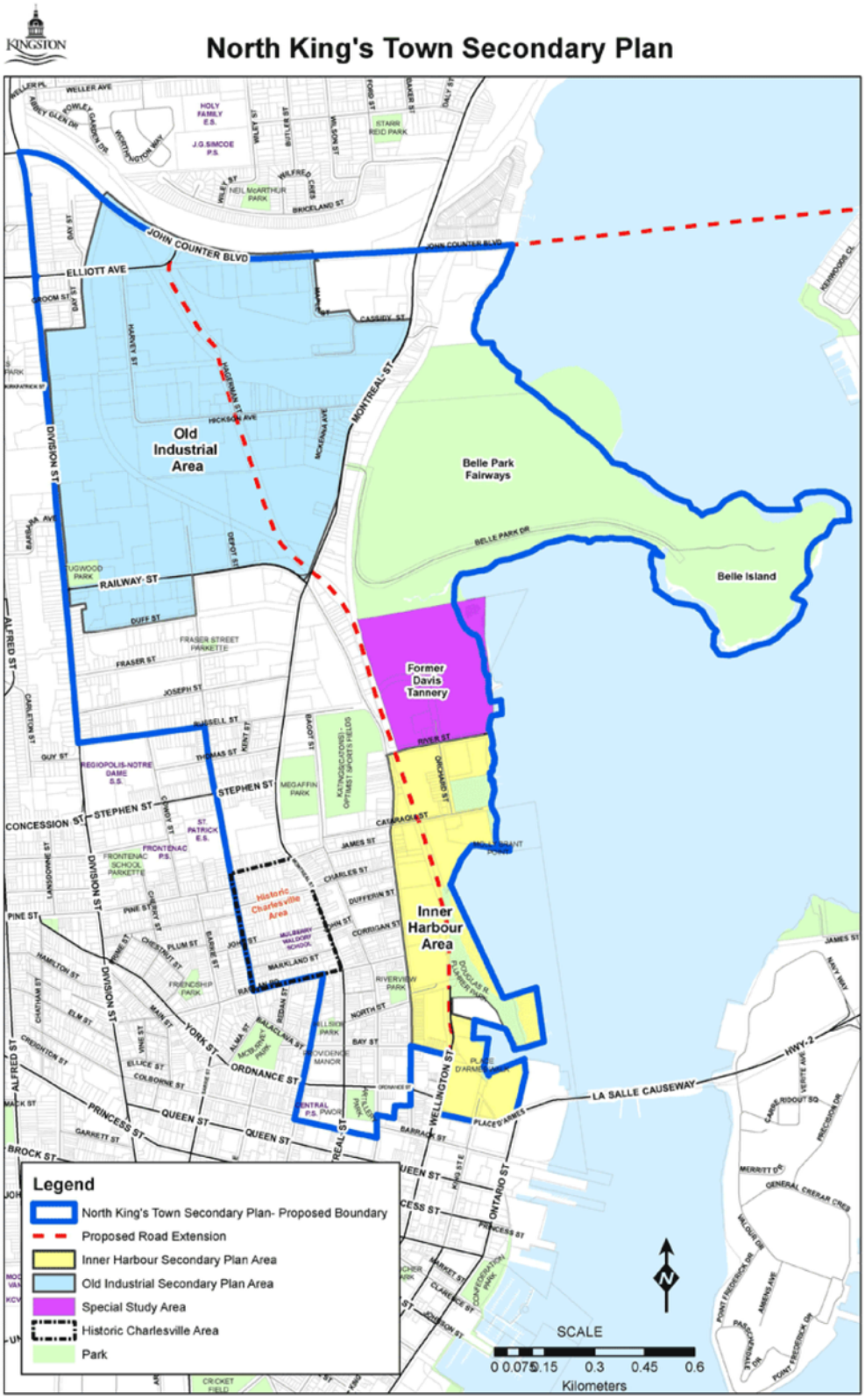



2 Storey Commercial
3 storey commercial/flats
Ornamental Street lighting
2m Sidewalk
1m res buffer
3,5 m res buffer *becomes turning lane
3,5 m Lane
2% Grade
3m setback
1m bike path
3.5 m lane
1m bike path

# APPENDIX B

## Regulatory Maps




North King's Town Secondary Plan
Old Industrial Area
Belle Park Fairways
Belle Island
Former Davis Tannery
Inner Harbour Area
Historic Charlesville Area
JOHN COUNTER BLVD
ELLIOTT AVE
MONTREAL ST
DIVISION ST
RAILWAY ST
STEPHEN ST
CONCESSION ST
PINE ST
ORDNANCE ST
PRINCESS ST
QUEEN ST
BROCK ST
LA SALLE CAcauseway
HWY 2
ONTARIO ST
WELLINGTON ST
Legend
North King's Town Secondary Plan- Proposed Boundary
Proposed Road Extension
Inner Harbour Secondary Plan Area
Old Industrial Secondary Plan Area
Special Study Area
Historic Charlesville Area
Park
SCALE
0 0.075 0.15 0.3 0.45 0.6
Kilometers