

WEST SIDE EMPLOYMENT LANDS (FINAL)

**Urban Design Guidelines
January 2021**



Oakland Park Square, Florida

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1.0 INTRODUCTION

1.1 Planning Context for the Guidelines

The West Side Employment Lands (WSEL) are located in the southwest corner of the City of Waterloo and represent a strategic area for growth and future economic development and investment. As per **Figure 1**, the site is bounded by the existing road network on three sides: Columbia Street West (Collector Road), Wilmot Line (Township Road) and Erb Street West (Regional Road). The fourth side is bounded by the Hydro One Networks Inc. (HONI) corridor.

The approximately 45 hectare (112 acre) city-owned area is one of the last places in the city with large enough parcels to accommodate employment uses. The future business employment/industrial campus will supply the growing demand for an employment and business area that is new, unique, high-quality and well-designed. This area will meet emerging needs, including (but not limited to): office, light industrial, flexible employment space for technological uses, and advanced manufacturing, as well as have the ability to support uses such as offices, labs, research and development, assembly, storage, warehousing,

etc. WSEL will accommodate services and uses for employees as well as for the adjacent residential neighbourhoods.

The City of Waterloo is well known for its expanding knowledge economy. Think tanks and start-ups flourish from an increasing population of post-secondary graduates. The west end of the City has also grown significantly, with the investment in a higher-quality public realm. This high standard of design will need to be carried forth into the WSEL to attract innovative industries and to create welcoming spaces for the employees and community.

At a regional level, the Region of Waterloo's overall goal for employment is to 'collaborate with Area Municipalities, Canada's Technology Triangle Inc. and other stakeholders to foster a diverse, innovative and globally competitive regional economy.' The objectives are to accommodate forecasted employment growth using a balanced approach to the provision and development of employment areas within the Built-Up Area, and Urban and Township Designated Greenfield Areas.

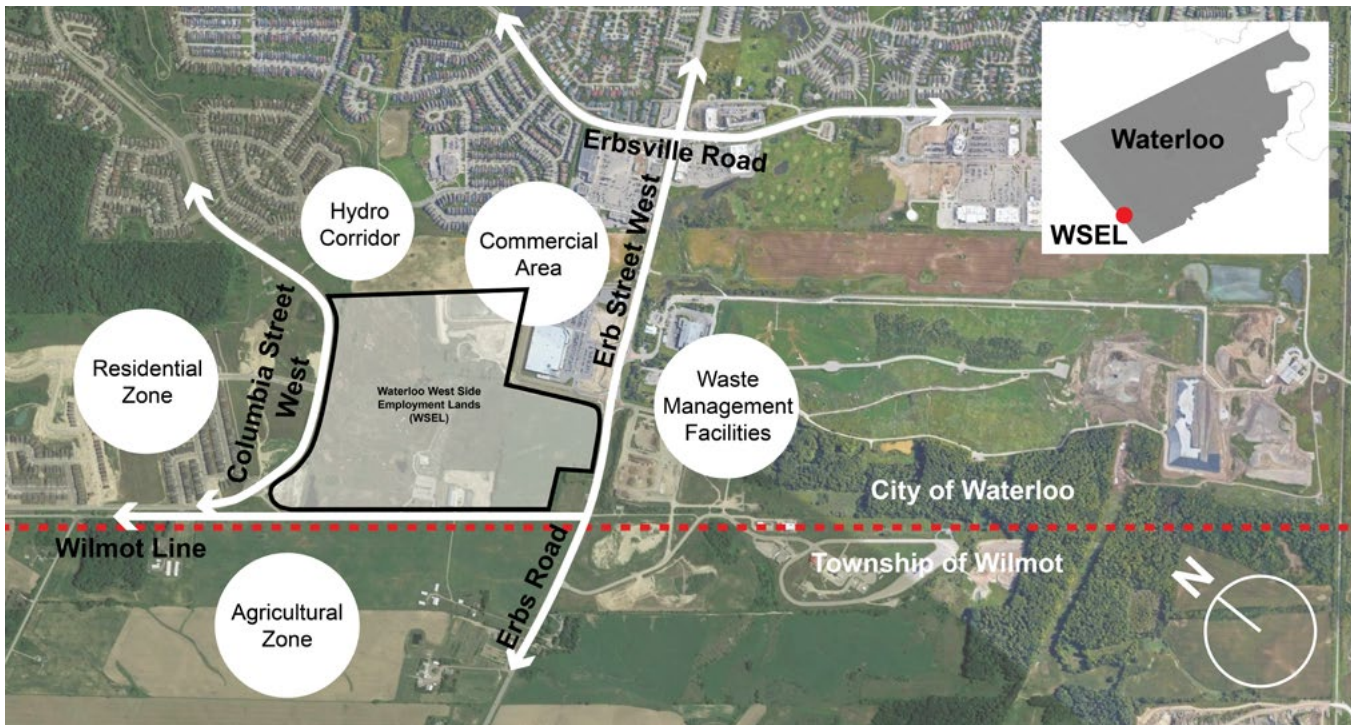


Figure 1. Location of WSEL in City of Waterloo

At a local level, the City of Waterloo's Official Plan - Chapter 10 Land Use Policies outlines land use policies including those pertaining to the Business Employment Designation (Policy 10.3.2.2) which are applicable to the employment area. Developments are to have higher urban design standards with solid connections to transit and environmentally-friendly and energy-efficient designs. The City of Waterloo Urban Design Manual, 2009 provides city-wide objectives, policies and guidelines for the public realm.

In the process of preparing the Plan of Subdivision for the WSEL, the City of Waterloo's Official Plan was amended (Amendment No. 24) in February 2020 which relocated the commercial block and allowed revisions to the existing 'Employment' lands use permissions. The Zoning By-law 2018-050 (Zoning By-law) was amended at the same time to include three zoning designations within WSEL: 'Open Space', 'Convenience Commercial', and 'Business Employment One'; the latter comprising the majority of the site. The Zoning By-law amendment also included Site Specific Regulations for 'Business Employment One', splitting it into six areas with varying use and height permissions, as illustrated in **Figure 2**.

1.2 Site Analysis

In order to develop urban design guidelines with a strong vision for development of the WSEL, it is important to understand the site's context, including historic uses, adjacent land uses, natural environment, existing and future transportation networks, topography, views and zoning requirements. Many background studies were prepared for the WSEL site, through the plan of subdivision approval process with the Region of Waterloo, including:

- *Commemoration Assessment Brief*, August 23, 2018;
- *Draft Plan of Subdivision*, September 20, 2018;
- *Environmental Impact Study*, August 13, 2018;
- *Functional Servicing Report*, August, 2018;
- *Geotechnical Investigation*, August 16, 2018;
- *Hydrogeological Assessment*, August, 2018;
- *Market Analysis*, August 2, 2018;
- *Phase 1 Environmental Site Assessment*, August 17, 2018;
- *Phase 2 Environmental Site Assessment*, August 17, 2018;
- *Archaeological Assessments (Stages 1 to 4)*, 2018-2019;
- *Planning Justification Report*, August, 2018;

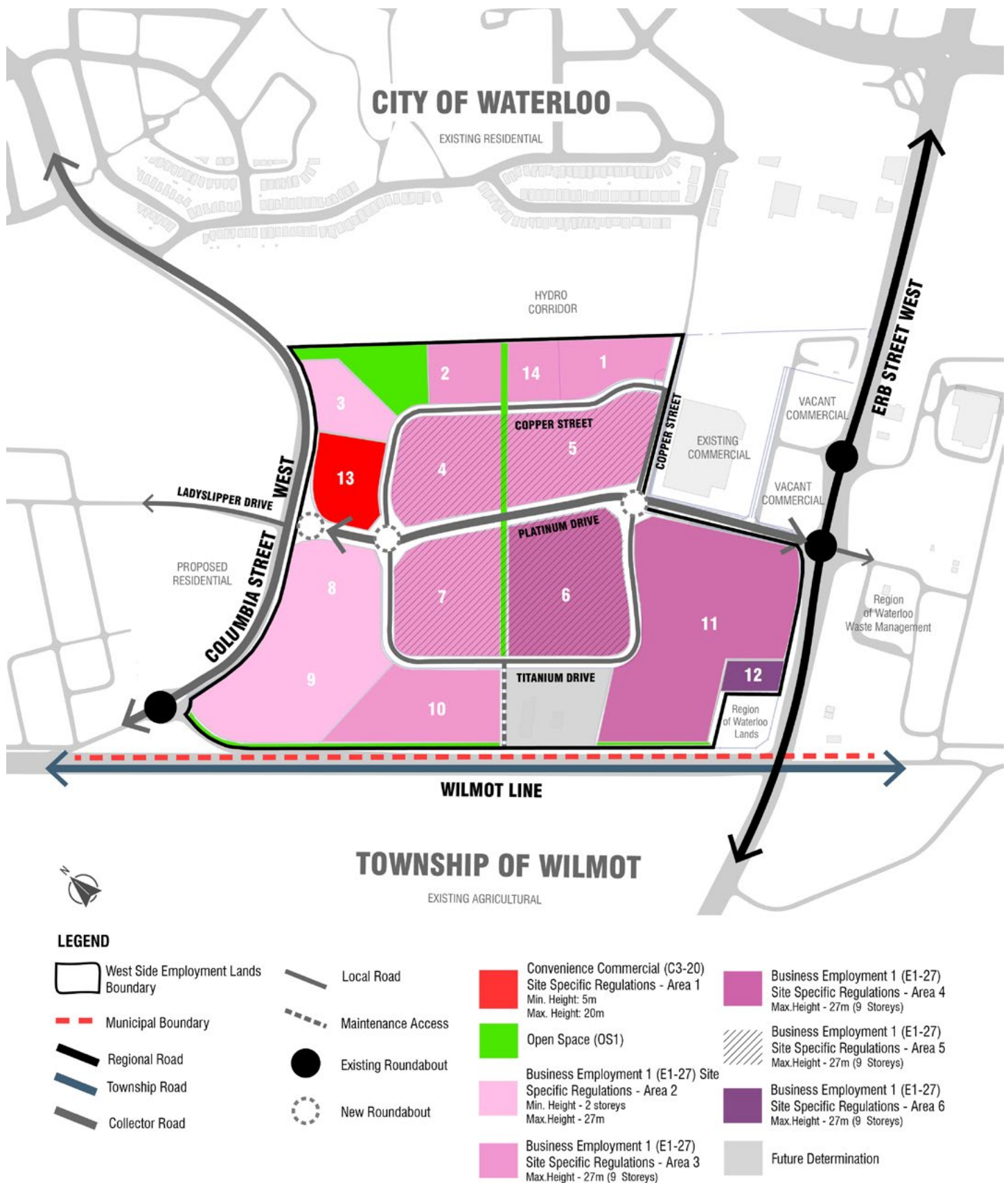


Figure 2. Site Analysis - WSEL Zoning and Development Blocks

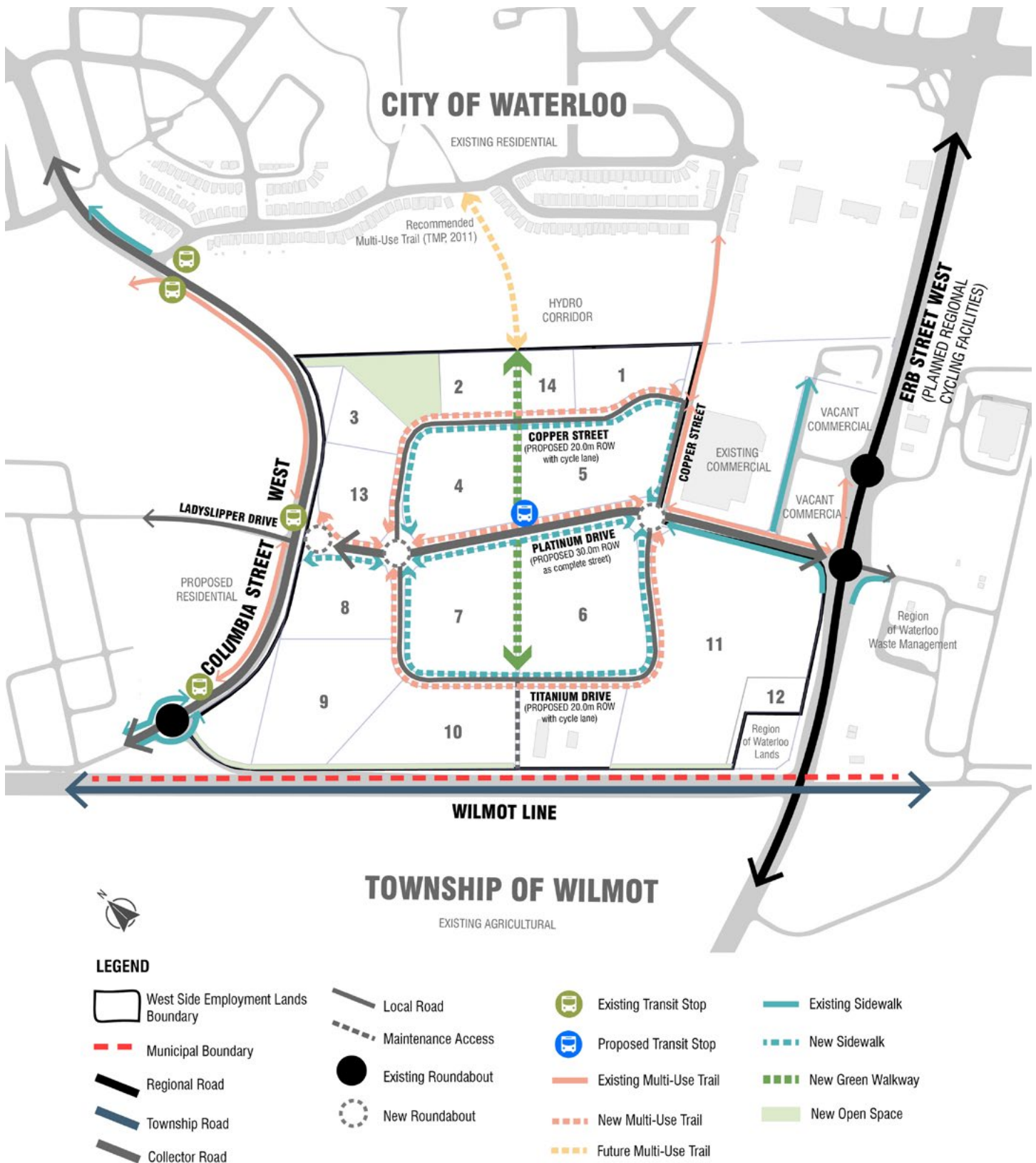


Figure 3. Site Analysis - WSEL Transportation Network and Circulation



View of the existing HONI Corridor

- *Preliminary Stormwater Management Report, August, 2018;*
- *Traffic Impact Study, August, 22, 2018; and*
- *Tree Management Plan, August, 2018.*

These studies were reviewed as background context and inform the opportunities and challenges identified on-site, as well as the Urban Design Guidelines in Sections 3 (Public Realm) and 4 (Private Realm).

The WSEL site is uniquely situated and bounded by: a new residential development to the north; HONI to the east with a stable residential community behind it; developed and future commercial lands and a regional waste management facility to the south; and farmland to the west. The plan of subdivision for the WSEL consists of one commercial parcel, 13 business employment blocks, one collector road (Platinum Drive), two local roads (Copper Street and Titanium Drive), central green walkway, open spaces, multi-use trails, separated cycling lanes and sidewalks (see **Figure 3**).

1.2.1 Site Opportunities

Key opportunities for the WSEL site are identified in sections below and illustrated in **Figure 4**.

High Vantage Point

A high vantage point is an area of higher elevation where more of the landscape and surrounding area is visible, such as at the top of a hill. There are several areas of high vantage points from Erbsville Road and Erb Street West along the southern edge of the WSEL, including Blocks 1, 5 and 6. The area with the greatest visibility is Block 11 at the southernmost area of WSEL.

Gateways/Nodes

Opportunities exist to create prominent gateways and nodes at important entrances, intersections and open spaces. The gateways and nodes instill a sense of arrival into the site and define the boundary of the WSEL, as well as foster a sense of place and identity, and provide wayfinding. There are two hierarchies of gateways and nodes at WSEL: major and minor.

Major Gateway/Node

Major gateways are located at the main entrances into a district, campus and employment areas. They are often depicted as more prominent vertical signage, public art/architectural elements, lighting and landscape treatments. Major nodes provide an opportunity for larger informal open spaces that can accommodate points of rest, seating and a physical void in a dense urban context. Both reflect the unique context, functions, uses and aesthetic of the site. The WSEL site has the opportunity for two major gateways along the key entrance points along Platinum Drive: intersecting Erb Street West and Columbia Street West.

Minor Gateway/Node

Minor gateways are located at secondary entrances, transitions in site function/use, and open spaces within district areas. Minor nodes provide a smaller space for seating, people watching and informal open space. Both reflect the unique context, functions, uses and aesthetic of the site, and are often depicted as design interventions of smaller scale, including: signage, paving, furnishings, lighting and landscape treatments. The WSEL site has the opportunity for a minor gateway at the Columbia Street West entrance adjacent to the open space, and another community gateway at Copper Street at the existing multi-use trail intersection. Further, there is an opportunity to have a minor node at the centre of each of the blocks along the green walkway, at the park on the eastern section of WSEL, and a cultural heritage node along Platinum Drive, creating unique informal spaces, and smaller areas for gatherings.



Commemoration Assessment Brief, 2018 (Stantec)

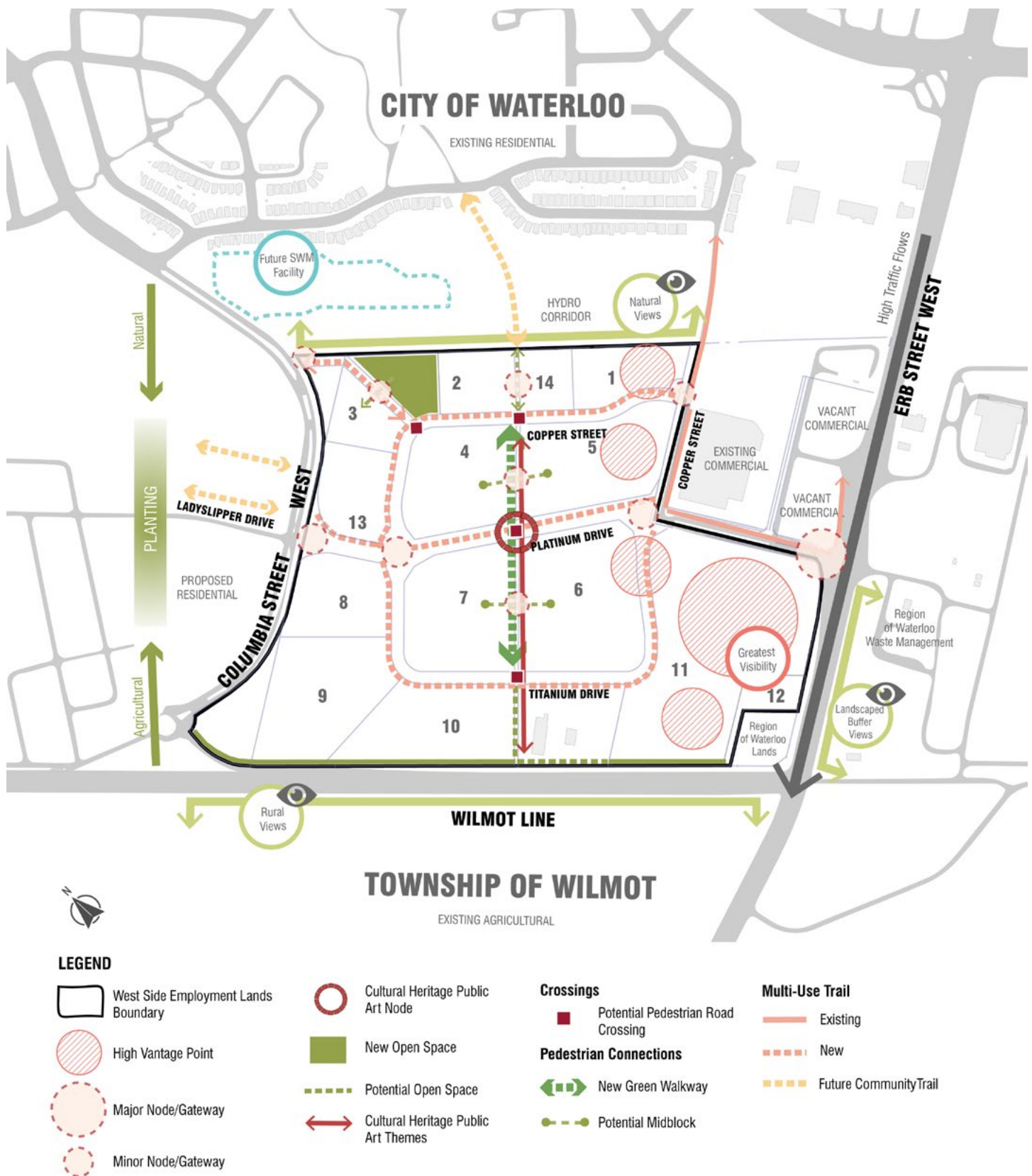


Figure 4. Site Analysis - WSEL Opportunities

Cultural Heritage

There is an opportunity to celebrate the site's interesting cultural heritage throughout the WSEL's landscape, including Indigenous presence within the Clair Creek watershed and farming heritage of the site. The archaeological assessments completed between 2018 and 2019 by Stantec identified and documented both pre-contact Indigenous and Euro-Canadian resources and artifacts, some of which were collected.

The Commemoration Assessment Brief (2018) identified the local farming heritage options and themes for landscape commemoration including:

- History of the Hergott family (1833-2010);
- Farming operations (1833-1929);
- Cider Mill operations (1929-2010);
- Self-sufficiency & ingenuity;
- 19th Century settlement in the former Township of Waterloo;
- 19th century farming;
- Community site through Cider Mill operations and educational programming;
- Livestock (pigs & chickens); and,
- Agriculture (orchard and fruit trees).

Several options for commemoration were discussed in the *Commemoration Assessment Brief*, and the preferred option examined ways to integrate architectural commemorative structures with landscape treatments associated with the farmstead, including: a gateway into WSEL with commemorative orchard species plantings such as ornamental pear, cherry or crab-apple and linear plantings of ornamental grasses to represent the former agricultural fields. An opportunity was also identified to develop a commemorative feature from existing fieldstone into a small feature at the corner of the historic Hergott homestead in combination with replica barrels as well as plantings.

The green walkway presents a key opportunity within the WSEL to commemorate its cultural history themes as interpretive features (e.g., benches, planters, lighting, paving, panels, etc.) along the linear open space that transverses the site, and to have a major cultural heritage node with public art commemorating the site's history using collected materials at the green walkway and Platinum Drive crossing.

Open Space

Although parks and open spaces are not traditionally located within employment areas, the WSEL's prestigious profile and location amidst residential communities, and natural and countryside landscapes, lends a unique dual function: innovative employment hub that is integrated with and an amenity for the community. Open spaces within the WSEL provide employees and neighbouring residents with outdoor space and amenities, and create stronger and resilient communities with increased opportunities for recreation and active transportation networks. There is a typology of open spaces for WSEL, including: accessible open space and inaccessible open space.

Accessible Open Space

A designated open space was identified at the northeast boundary of the WSEL with a proposed function as a dog park, which is in high demand in the City. There is also a 15 metre open space corridor adjacent on the north side of this open space, accommodating a multi-use trail and servicing for the WSEL site. There is an opportunity to further explore the connection of this northeast open space cluster to community across Columbia Street West.

A designated 10 metre wide open space green walkway was also identified as the east-west connection through the WSEL site providing key connections across the HONI corridor to the existing residential community to the west.

Non-Accessible Open Space

A designated non-accessible 6 metre wide open space was identified along Wilmot Line to provide a safe separation and rural road buffer to Wilmot Line. There is an opportunity to allow pedestrian circulation along the maintenance access right-of-way off of Titanium Drive, to gain countryside views beyond Wilmot Line.

Vistas & Views

Long vistas and views are well-framed for the WSEL site, both looking into and out of the site. The site grading is at its highest elevation along the west and south blocks, sloping down towards the

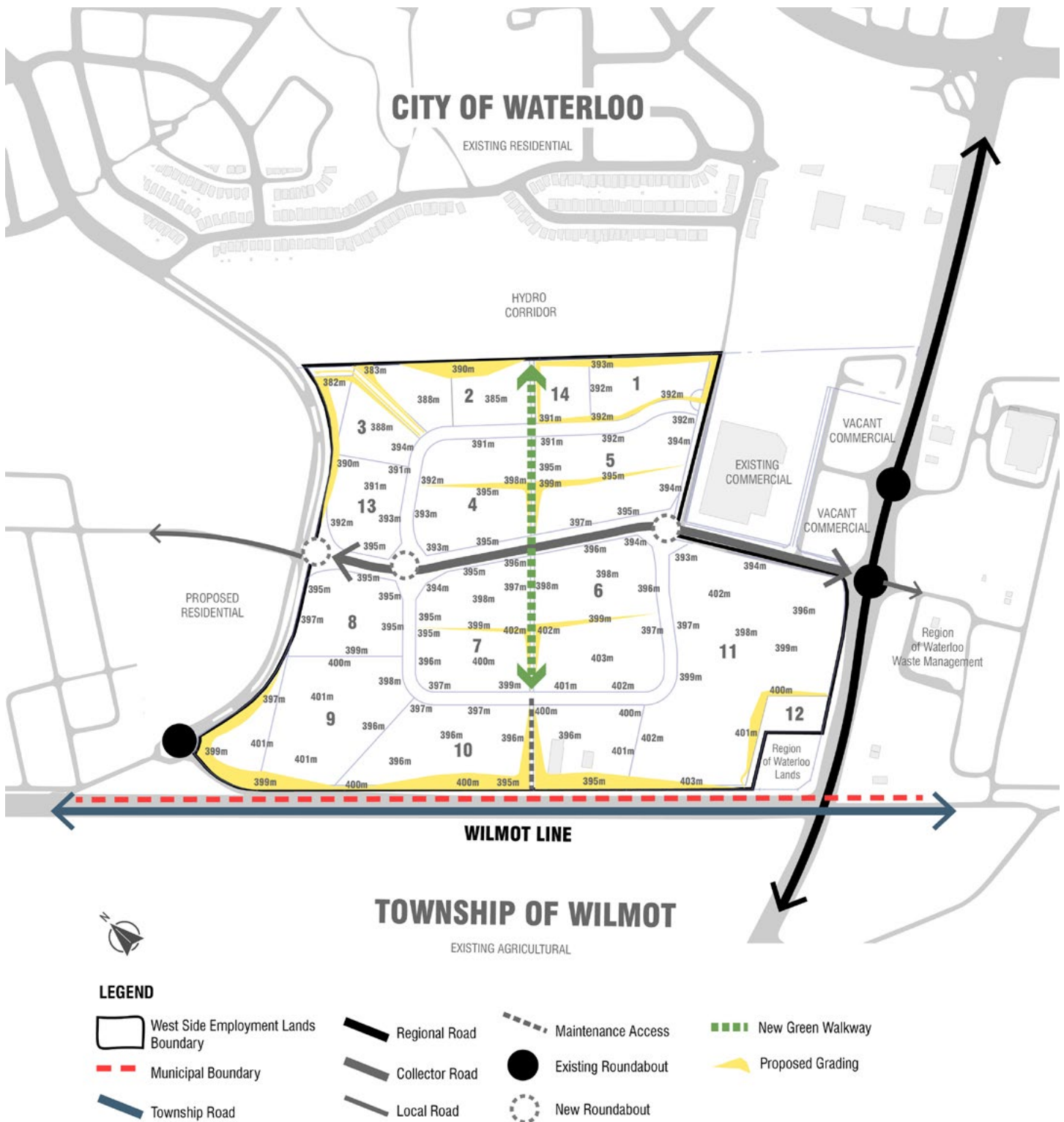


Figure 5. Site Analysis - WSEL Grading

northeast (refer to [Figure 5](#)). Blocks 1, 5 and 11, across from the commercial edge along Platinum Drive and Copper Street, have the greatest vista exposure from Erbsville Road and Erb Street West, as well as along Blocks 11 and 12 along Erb Street West; these are the most prestigious sites framing the skyline from the bounding Regional roads.

There is also an abundance of natural buffer views along the HONI corridor which runs the entire length of the east end of WSEL, and countryside landscapes along Wilmot Line that runs along the entire length of the west end of the WSEL. An existing established landscape buffer at the waste management facility across Erb Street West also contributes to the natural views.

On-Road Cycling Connections

Platinum Drive right-of-way provides a designated 1.8 metre raised cycling lane on each side of the road, while Copper Street and Titanium Drive have a 1.5 metre cycling lane with a painted buffer line. The cycling lanes have been integrated as part of the City's existing and future active transportation network along Columbia Street West and Erb Street West.

Pedestrian Connections

Pedestrian connections provide an avenue for safe access and egress for non-motorized vehicular movement (e.g., walking, cycling, etc.) through the WSEL site. These connections set aside space away from the travelled portion of the roadway to allow for efficient movement by its users. WSEL provides opportunities to create stronger connections between the adjacent communities, the nearby commercial properties, and the future developments within WSEL. There are several types of pedestrian connections, as outlined below.

Community

Community links connect the existing residential neighbourhoods into the site and contribute to the interconnected network. An existing

community link into WSEL is located near the commercial development to the southwest. There are opportunities to create potential links into the WSEL site from the neighbouring communities including across Columbia Street West, as well as through the HONI corridor.

Green Walkway

There is a great opportunity to create a strong east-west connection through the site with the development of the green walkway. The green walkway is a 10 metre public pedestrian right-of-way providing connections across the development blocks, from the HONI corridor, crossing Cooper Street and Platinum Drive and terminating at Titanium Drive. Additional mid-block links intersecting the green walkway provide important opportunities for pedestrian access along future private developments within the WSEL.

Midblock

Large development blocks are often barriers to a site's walkability and navigability, especially when these large lots are developed back-to-back and have step grade separations, as illustrated in [Figure 5](#). For WSEL, there is an opportunity for shared privately-owned pedestrian paths at the back of the properties to facilitate mid-block movement and access to the green walkway. Midblock pedestrian connections are encouraged between properties within the various development blocks to achieve a true campus environment. Severing of lots will also affect the coordination of midblock connections, particularly within the secondary road network.

Multi-Use Trail

Multi-use trails provide safe pathways that are separated from the road and intended for more than one use or device. Platinum Drive, Copper Street and Titanium Drive have multi-use trails along the right-of-way to provide strengthened active transportation networks within the WSEL.



View of the Countryside and WSEL Site along Wilmot Line

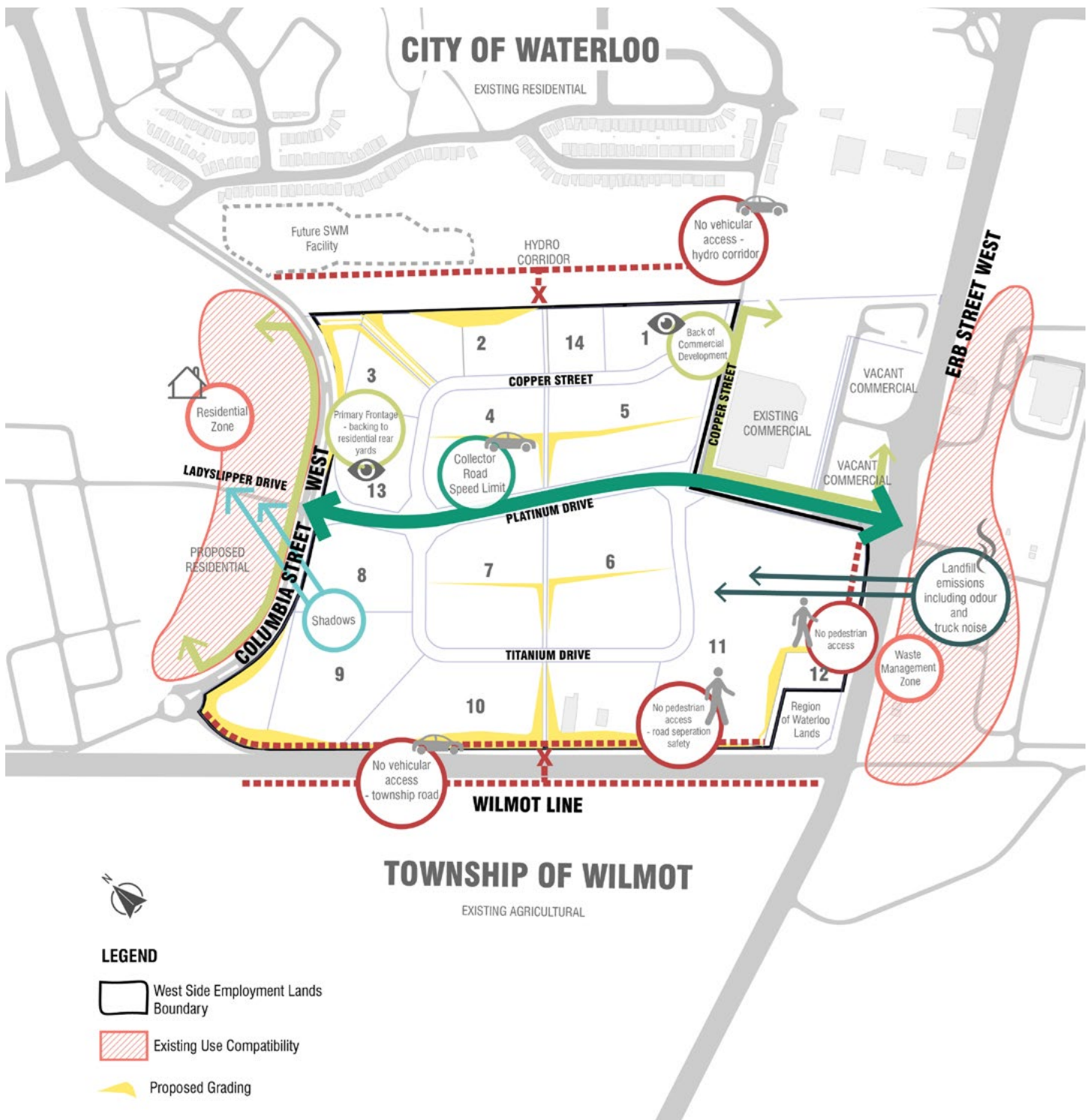


Figure 6. Site Analysis - WSEL Constraints

These connections paired with sidewalks on the opposite side of the right-of-way, these connections enhance the pedestrian network and help diversify the availability for multi-modal travel.

Road Crossings

Road crossings are designated areas for pedestrians and cyclists to safely cross the road, at key nodes where the two modes of movement intersect. They provide visual and physical cues to both pedestrians and motorists to signify an area requires a heightened level of attention.

1.2.2 Site Constraints

Key constraints for the WSEL site are identified in sections below, and illustrated in **Figure 6**.

Existing Use Compatibility & Views

The WSEL site's location and adjacencies to the residential and waste management zones are unique and may pose additional design considerations to minimize potential impacts.

Residential Zone

The development on the WSEL site may necessitate additional design considerations around potential shadows and light impacts to the adjacent residential zone to the north as well as noise impacts. Design considerations to reduce these adverse impacts are discussed in the private realm guidelines. The rear yards of this residential development also front Columbia Street West, providing limited views from the WSEL site.

Waste Management Zone

The development on the WSEL site may necessitate additional design considerations around potential screening and landscape buffers along Erb Street West to address the existing waste management zone's site operations, physical characteristics and vehicular movements.

Vehicular Access

The WSEL's vehicular access into the site is via Platinum Drive. The site's adjacencies restrict vehicular access from all directions. To the east lies the HONI corridor which deems the eastern WSEL boundary inaccessible via a formal paved roadway between Columbia Street West and Erb Street West. Further, vehicular access to WSEL is not permitted from Wilmot Line, a Township of Wilmot road, maintaining a rural road cross-section.

Platinum Drive was designed to meet the demands of the adjacent residential communities, as well as the internal WSEL transportation needs. The design of Platinum Drive and its streetscape are critical to encouraging appropriate vehicular speeds along this collector road for the safety and comfort of the multi-modal users of this complete street profile.

Multiple Frontages

The WSEL site's multiple right-of-ways surrounding the development blocks set the need for dual frontages, a primary and secondary, on some parcels. Each developable parcel will need to consider its adjacencies to a regional or township road, collector road, local road, green walkway, open space and access roads. There is also the potential for severing of the development blocks which will have implications with respect to how each parcel is organized. There will be a need to balance site design and endeavour to address each frontage sensitively, both along the roadways and the green walkway.

Erb Street West

Development of 'Business Employment One' lands facing Erb Street West will have a combination of multiple frontages: Erb Street West, Platinum Drive and Titanium Drive. Erb Street West and Platinum Drive would act as the primary frontages, although no vehicular access is permitted off of Erb Street West.

Columbia Street West

Development of 'Business Employment One' lands facing Columbia Street West will have the need for multiple frontages, as vehicular access is from Copper Street or Titanium Drive. One parcel also has an open space adjacency. Columbia Street West would act as the primary frontage. This applies to the 'Convenience Commercial' block as well.

Platinum Drive

Development of some 'Business Employment One' lands facing Platinum Drive may have a combination of multiple frontages: Platinum Drive, Copper Street, Titanium Drive, and the green walkway. Platinum Drive would act as the primary frontage.

Copper Street/Titanium Drive

Development of 'Business Employment One' lands facing Copper Street or Titanium Drive may have dual frontages: main access road and green walkway. The main access road would act as the primary frontage.

1.3 Purpose

The purpose of the guidelines are to provide the City with: a defined vision and guidelines to attract investment; a defined vision and guidelines for the public realm; a document to guide agreements with future employers; and an implementation tool to ensure that any future developments are designed to a high quality and meet the intent of Waterloo's Official Plan. The WSEL Urban Design Guidelines (UDG) build on the existing City of Waterloo Urban Design Manual, 2009 and consider specific directions related to employment areas.

Branding for particular development sites is a common practice, especially when those sites are meant to be more prominent or prestigious. 'The Boardwalk' at Ira Needles Boulevard, for example, has a unique and identifiable brand which is echoed in its digital information (website) as well as how the site is laid out and designed with contributing features such as specially curated furnishings, planting, signage lighting etc. Branding for WSEL (naming, logo, aesthetic etc.) will be determined at a later date between the City of Waterloo and relevant parties. However, various elements within these guidelines will require alignment with the established future branding and are noted.

1.3.1 Who Should Use These Guidelines?

The UDG will provide design direction for all developments within WSEL and are meant to be reviewed and used by:

- Developers
- Employers
- Engineers
- Planners
- Architects
- Landscape Architects
- City Staff
- Residents

1.3.2 How to use the Guidelines?

The Urban Design Guidelines are to be read in their entirety and alongside all other applicable plans and guidelines. They are a tool to guide public and private sector development in WSEL. They are meant to guide the site planning process and are not intended to replace zoning and other applicable regulations.

The UDG provide overarching design intent, principles and guidelines to provide practical urban design guidance for new developments in the WSEL. These guidelines also provide direction on the street typologies and proposed organization of the road rights-of-way. Public realm guidelines pertain to the public rights-of-way including roads, sidewalks, and public open space. Private realm guidelines pertain to lands owned by employers within the property line. The private realm guidelines are organized into general, sustainability and LEED, and site specific guidelines. General guidelines include: site organization, safety & security, massing, amenity areas, landscape design, landscape buffers, lighting & signage and active transportation. The sustainability guidelines outline the various mandatory versus optional guidelines

for improving sustainability on the site. Site specific guidelines are divided into each of the land uses/ site typologies and is organized into guidelines pertaining to the site design as well as architectural guidelines for the building itself.

This document should be used:

- when new development applications are submitted for a block / area as a tool to guide public and private sector development.
- to facilitate development through the Site Plan process including providing detailed standards for site plan drawing submissions. They should be used as formal standards, or failing that a best target for development.
- by staff as an evaluation tool for master plans or large development projects within WSEL. Staff should encourage applicants to prepare an urban design study to clarify design priorities for the proposal at which point staff can use the WSEL UDG to evaluate as well as the City's own General Guidelines.
- during the Development Review process. City Staff should encourage applicants to review the site specific UDG prior to submitting their application. Key design objectives and urban design priorities should be identified early in the process.
- as a reference in the Report Recommendations for the Development Review process. A recommendation should be included such that the UDG form a component of the Site Plan review and approval.

1.4 Organization of the Document

The UDG are organized into the following sections:

- Section 1: Introduction
- Section 2: Urban Design Framework
- Section 3: Public Realm Guidelines
- Section 4: Private Realm Guidelines

Guidelines for enhanced public health and environmental sustainability are included throughout the document. The environmental sustainability guidelines are presented with two categories: integrated sustainability guidelines, and advanced sustainable guidelines. Integrated guidelines present the required minimum site interventions towards sustainability, and the advanced guidelines provide additional considerations for site and building design towards sustainability.



Donge Ejiao Biotechnology Park, Shangdong Province, China, SED Landscape Architects Ltd

2.0 URBAN DESIGN FRAMEWORK

The Urban Design Framework was developed as a result of the background research, site analysis and inspirations from the site context. This high level framework highlights the urban design principles, site character areas and key opportunity areas for design excellence. These elements support the desired prestigious employment based land uses and uphold the vision for the employment lands while also enhancing the existing character of the area.

2.1 Urban Design Vision, Objectives and Principles

2.1.1 Vision

“The West Side Employment Lands will create a new, unique, high-quality and well-designed employment and business area within the City of Waterloo. WSEL will provide an array of employment land needs ranging from traditional office and light industrial/employment

uses to flexible employment space for more technologically advanced and innovative employers. There is also space for support uses and high quality public realm which will serve both the employers and the community alike. The zoning provisions for emerging employment land needs and well designed amenity spaces will attract innovators and forward thinkers to the City. All lands are designed in harmony with the adjacent contexts, cultural heritage and the natural environment.”



Regenerative Wetland Park, Tianjin, China, Turenscape

2.1.2 Official Plan Urban Design Policies

The *City of Waterloo Official Plan Office Consolidation January 2020* currently has policies on a number of design elements and expectations for both the public and private realm including:

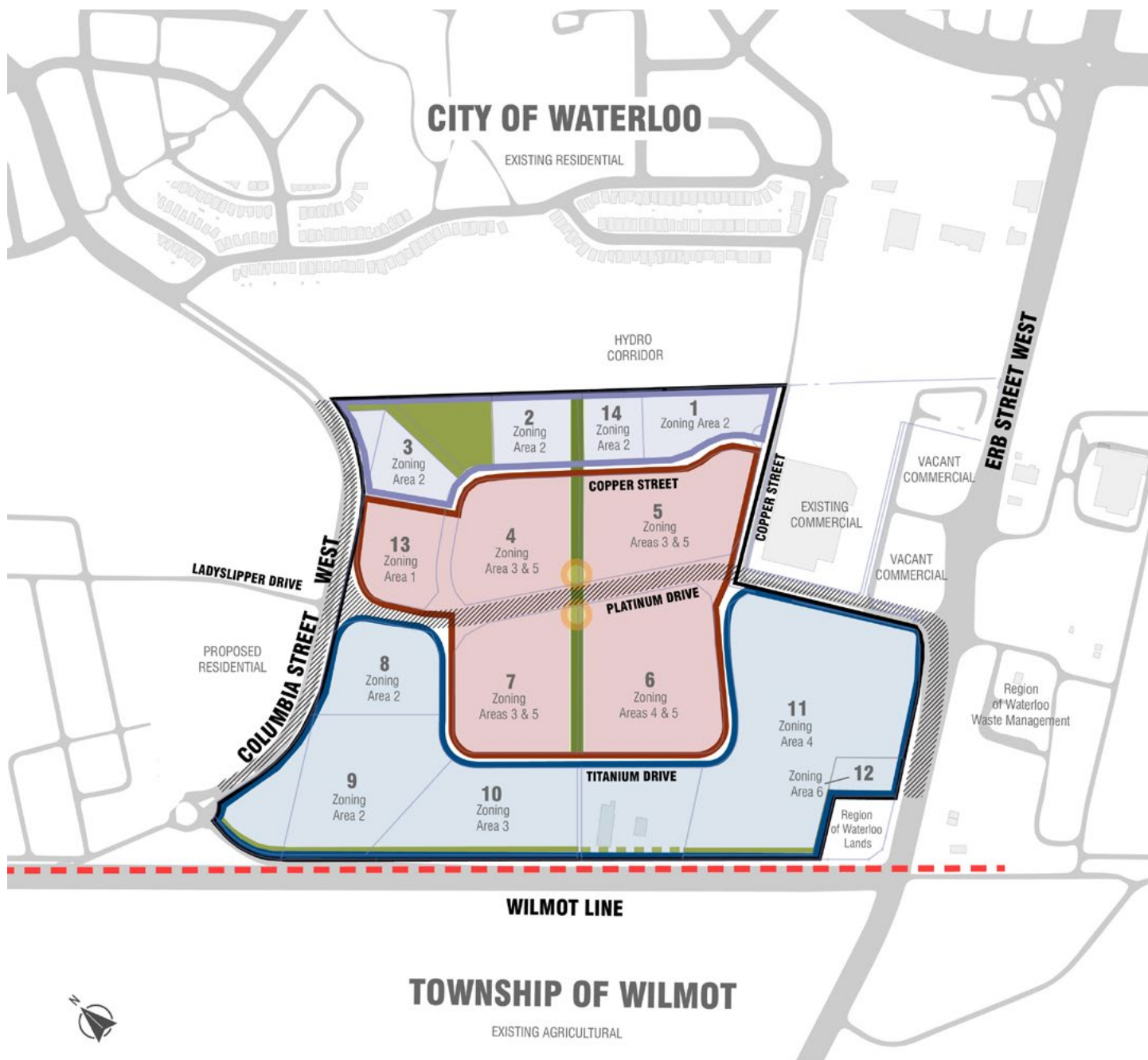
- Intensification
- Character
- Views and vistas
- Streetscapes
- Existing Site Features
- Heritage
- Open Space
- Gateways
- Landmarks
- Safety and Security
- Site Circulation
- Transit-Oriented Design
- Universal Design
- Parking
- Site Servicing
- Outdoor Lighting
- Signage
- Compatible Development
- Human-Scale Development
- Building Design
- Accessory Structures
- Landscape Design
- Site Amenities
- Sustainable Design
- Public Art and Culture
- Innovation and Creativity
- Utilities
- Wayfinding
- Priority on Urban Design

Refer to the Official Plan for each policy in more detail (*Chapter 3 – City Form, 3.11 Urban Design, 3.11.1 – General Urban Design Policies*).

2.1.3 Urban Design Principles

The urban design principles set the overall design intent and direction for the WSEL, aligned with the vision for the future development.

- 1. Identifiable Sense of Place Through Site and Building Design.** The employment lands have an identifiable sense of place, character and 'employment community' that thrives in its unique setting, while also remaining physically connected and welcoming to the surrounding residential communities. Inclusion of gateways, nodes, public art and interpretive cultural heritage features contribute to the creation of the sense of place.
- 2. Enhanced Pedestrian Safety.** The employment lands have a dual function to attract both employees and residents alike at various times of the day. Application of the CPTED principles are critical in supporting accessible and safe spaces for all users of the site.
- 3. Long-Term Investment Into the Public and Private Realms.** Investment in high quality streetscapes, open spaces and landscape design build the foundation for and attract private-realm investment. Both public and private realms play an equally important role in the establishment of the three WSEL character areas, and the inclusion of public art.
- 4. Cohesive, Innovative and Green Architectural Design.** Both the commercial and employment buildings' architecture offers unique, innovative and green design features which support the overall site character and enhance the site's environmental sustainability. The buildings have an overall cohesiveness through built form, placement, composition and selection of materials.
- 5. High-Quality Architectural Design that Enhances the Private and Public Realms.** In order to encourage active street frontages, the massing, rooflines and building orientation are to be situated as close to the street as possible, while providing outdoor amenities (e.g., patios, seating, etc.) in between buildings and the street, and/or the buildings and the green walkway.
- 6. High-Quality Landscape Architectural Design.** All elements of the landscape architectural design should equally complement the high standards of architectural design, including: character enhancing outdoor furnishings, paving, environmental site design, and creation of native and biodiverse landscape areas. The quality and aesthetic of the planting materials are critical in the establishment of the three WSEL character areas.
- 7. Active-Transportation Oriented Site and Building Design.** The site and building designs are to provide direct linkages to the on-road and off-road facilities enabling safe and highly visible connections for pedestrian and cyclists.
- 8. Celebrate the Natural and Countryside Views.** The topography and scenic context of the WSEL site affords multiple natural and countryside views that set the framework for the WSEL character areas. Public open spaces protect the viewsheds into such landscapes, and any site development along those natural site edges should allow for longer vistas through the breaks in buildings, framed views, etc.
- 9. All-Encompassing Environmental Sustainability.** The WSEL site's location, functions and high-quality standard of design offer multiple levels of sustainability which is to be further distilled into site-specific measures that advance climate change resiliency overall, and more specifically the environmentally-based site and building design approach and certification.



LEGEND

West Side Employment Lands Boundary

East WSEL Character Area

Core WSEL Character Area

West WSEL Character Area

New Open Space

Potential Open Space Link

New Green Walkway

Key Interfaces

Cultural Heritage Public Art Node

*WSEL -West Side Employment Lands

Figure 7. WSEL Character Areas

2.2 Site Character Areas

While the Zoning By-law 2018-050 and Zoning By-law Amendment 2020-010 prescribe elements pertaining to the layout of the site as well as the massing of the buildings, the site character areas prescribe the treatment of the landscape both in the public and private realms. The site's unique cultural heritage, innovative employment uses and location amidst natural, urban and countryside environments sculpt an incredibly earthy, yet modern, character that is distinctive to the WSEL.

The overall WSEL character is defined by an enriched restored landscape that is sustainable and intercepted with materials and expressions of the agricultural cultural heritage that is reflected in the structures, gateways and open spaces. As per **Figure 7**, there are three site character areas identified for the WSEL site: WSEL East, WSEL Core and WSEL West, as described in sections below.



2.2.1 East WSEL Character Area

The East WSEL Character Area is inspired by the open natural landscape of the HONI corridor, which provides a buffer between the residential area to the east and the WSEL. The open space connection, park, green walkway (at Blocks 2 and 14) and private landscape areas of Blocks 1, 2, 3 and 14 will be characterized by a Carolinian meadow and forest landscape, with primarily open meadows/gardens with native and pollinator species. The City of Waterloo is situated in the Carolinian region, which is one of the smallest vegetation zones yet boasts a greater number of species of flora and fauna than any other ecosystem in Canada¹.



2.2.2 Core WSEL Character Area

The Core WSEL Character Area is inspired by the diverse history of cultivated lands and farming on-site; the picturesque imagery of blossomed trees and autumn harvest. It is defined by the commercial Block 13, four central blocks (4, 5, 6 and 7) along Platinum Drive, green walkway and the cultural heritage public art node, and characterized by a reconstructed commemorative orchard landscape with flowering trees placed in parallel rows and native decorative gardens.



2.2.3 West WSEL Character Area

The West WSEL Character Area is inspired by the rolling countryside landscape across from Wilmot Line, with a colourful transition of crop fields amidst the urban landscape. Blocks 8, 9, 10, 11 and 12², and the access road (at Block 10) are characterized by Carolinian tall grasses, and linear deciduous edges and coniferous hedges.

¹ Carolinian Canada. *Carolinian Species and Habitats*. Retrieved on September 27, 2020 from <https://caroliniancanada.ca/legacy/SpeciesHabitats.htm>

² The intended use for Block 12 is for Region of Waterloo purposes, however, if it is not used/owned by the Region of Waterloo, it would form part of Block 11 and the relevant UDG would apply.

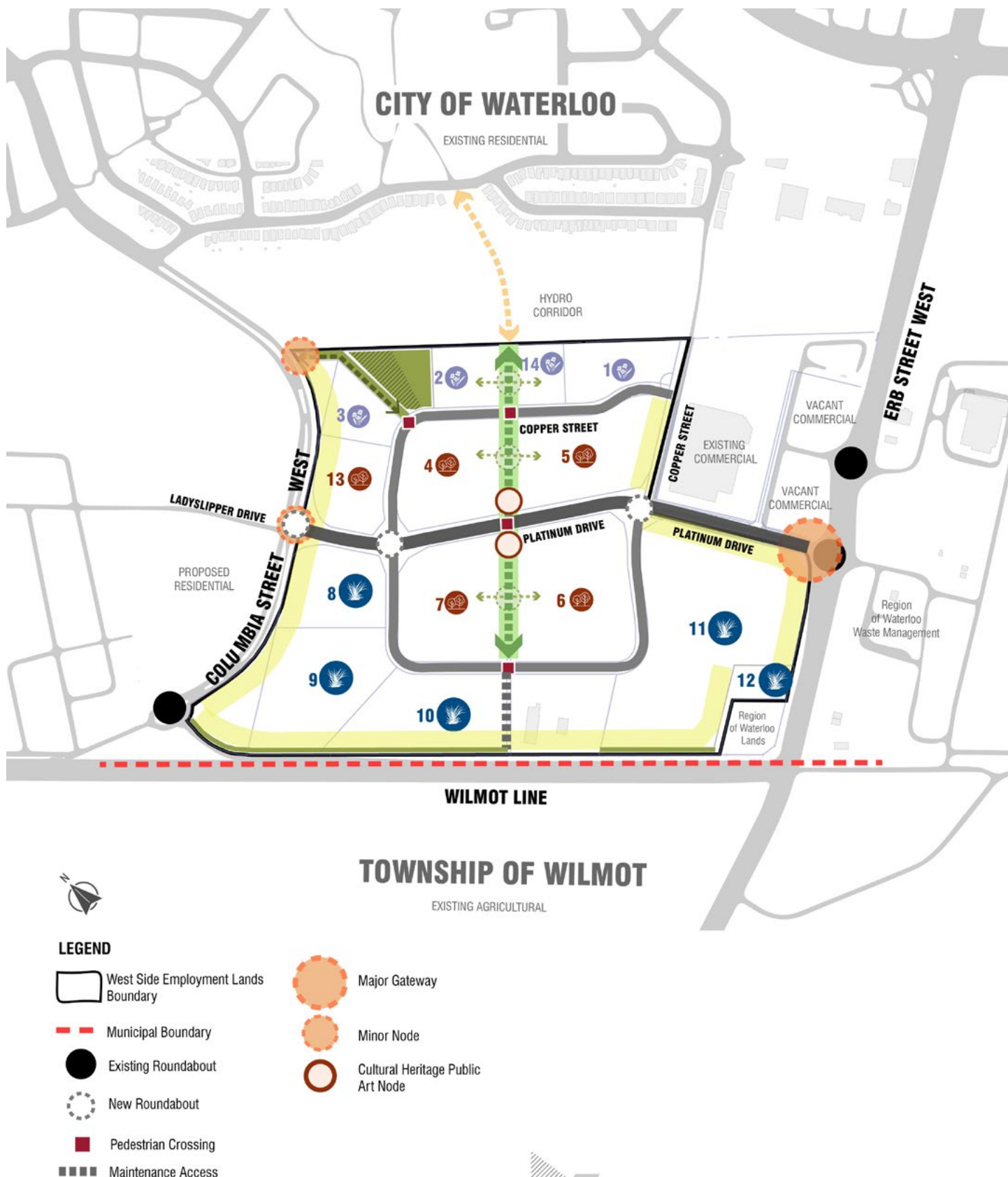


Figure 8. WSEL Urban Design Framework



Eglinton Crosstown, Toronto, Ontario, ERA Architects

2.2.4 Key Interfaces

The WSEL site has three key streetscape interfaces that sensitively merge the existing land uses and street profiles with the WSEL, and build on the envisioned WSEL character and brand. The streetscape interface along Erb Street West is critical to enabling built form visibility, with no access and pedestrian facilities along the road right-of-way. The new streetscape along Platinum Drive is critical to the development of an active street front and continuous building edge, especially since it is adjacent to the existing commercial lots outside of the WSEL. The streetscape interface along Columbia Street West is also critical to the establishment of a continuous and active building edge, especially since adjacent to the residential development outside of the WSEL.

2.3 Key Areas

A critical part of the urban design framework are the key areas, developed as a result of the site analysis summarized in Sections 1.2.1 and 1.2.2. Key areas present the various urban design elements which capitalize on opportunities and help to mitigate the challenges. Each of the elements discussed below are also presented in the urban design framework diagram (see [Figure 8](#)).

2.3.1 Gateways and Nodes

Gateways and nodes are important entry points into the WSEL, fostering a sense of place and identity that ties both the public and private realms. Two major gateways are at each terminus of Platinum Drive (i.e., Erb Street West and Columbia Street West) including elaborate design elements (e.g., signage, architectural elements, lighting, landscaping, earthworks) as main entrances into the WSEL. A minor gateway is located at the open space entry at Columbia Street West, with smaller design features, including signage, paving, lighting and custom furnishings. There are also three minor nodes along the green walkway and two public art nodes at the intersection of Platinum Drive and the green walkway. Gateway elements are to be located within the public right-of-way and should be sized appropriately where space permits. Gateways will align with future branding.

2.3.2 High-Profile Frontage, Streetscape and Green Walkway

The street and active transportation network is where WSEL visitors and users experience the area. Certain streetscapes and walkways are designated as 'high-profile' due to their visibility along important corridors such as the central road thoroughfare (Platinum Drive) and the main pedestrian link (green walkway). These areas are intended to have an even higher standard of design with a focus on pedestrian activity at the street level. These areas will also need to align with future branding.

Frontages along the high-profile streetscape and the Green walkway should create a continuous street wall and/or building edge with narrower setbacks to help to foster a sense of enclosure and comfort within the right-of-way by framing the street/walkway. Opportunities should be encouraged for uses that have a public facing element such as patios, tasting areas or outdoor gallery space, to locate it adjacent to the public right-of-way to allow for access and interaction.

Understandably, this cannot happen everywhere within the WSEL as employment and industrial uses have different built form and siting needs, however those uses which are flexible, innovative and creative are likely to operate well in a more urban streetscape orientation and these are encouraged along Platinum Drive and the green walkway where it will be the most effective. The other development blocks should still achieve higher quality design as well as the proposed landscape design for the respective character area.

2.3.3 Landscape Buffer

The landscape buffers have multiple functions in the WSEL, responding to both the opportunities and constraints identified on site. As a result, the landscape treatment for each buffer area is unique, as discussed below.

Along Erb Street West, the landscape buffer's function is to screen potential traffic or odour impacts from the external adjacent environment, and to screen the new developments' areas for storage. This is fitting for a more natural landscape buffer, along with fencing. The buffer, however, should not be a complete visual barrier to the new development as this is a key interface area. New buildings should still be visible from Erb Street West to help with wayfinding.

Along Platinum Drive and Copper Street, the landscape buffer's function is to elevate the aesthetic on the lands opposite the large block commercial development sites, for improved pedestrian comfort with landscape treatments along the private lands. This segment of Platinum Drive may function as both a primary and secondary frontage for future development, whereas Copper Street functions as a secondary frontage.

Along Columbia Street West, the landscape buffer's function is to provide an elevated aesthetic on the private development lands opposite the residential development with rear yards facing the street. Columbia Street West functions as a primary frontage for those developments, supporting an enhanced landscape treatment as an interface to the existing streetscape.

Along Wilmot Line, the landscape buffer's function is to provide a continuous rural cross section along the Township road, as well as to act as an additional graded setback for pedestrian safety. This is fitting for a more natural landscape buffer along the designated open space, along with fencing.

2.3.4 Public Transit, Bike Lanes, and Trails

The WSEL is accessible by multiple modes of transportation including public transit, cycling and pedestrian movement. A new transit stop is proposed along Platinum Drive, feeding into the larger Grand River Transit route network along Columbia Street West and beyond, while each new road is equipped with a cycling lane, as well as multi-use trails and sidewalks. A key pedestrian connection is established with the green walkway, with potential to link to future community links across the HONI corridor.



Transit Stop, Euclid Avenue Healthline BRT, Cleveland, OH. Sasaki Architects



James Hunter Dog Park, Arlington, VA.

2.3.5 Public Art

Public art is an effective way to establish or enhance the identity of an area. Public art helps connect people to places, especially if it is contextually sensitive, multi-functional and/or interactive. There are different ways of incorporating public art, such as to highlight the existing cultural or natural heritage, commissioning a local artist, use of public art in gateways, and locating interactive or multi-functional art in public spaces. There is also the opportunity to provide publicly visible private art within development boundaries. Public art can also vary in size from small/medium to large scale public art.

The key public art commemorative features in the WSEL are the two cultural heritage nodes at Platinum Drive and the green walkway, although the inclusion of public art as a placemaking feature is encouraged throughout the site.

2.3.6 Parks and Open Space

Parks and open spaces provide employees and neighbouring residents with outdoor space and amenities, adding to the wider park and open space network. They are important spaces for active transportation and outdoor recreation, as well as for creating a stronger connection to the community. Two such spaces are identified for WSEL: the green walkway and two-zone park.

The green walkway runs east to west from the HONI corridor to Titanium Drive, with mid-block pedestrian connections through the rear yards of private parcels. The walkway acts as a linear park through the employment lands, enabling the use of this flexible space by both employees and nearby residents. Its prominent landscape with respective

WSEL character area interfaces with the bordering secondary frontages of employment buildings and their landscape and amenity areas.

The two-zone park, located along the north-east boundary of WSEL, is unique to Waterloo. Its primary function is a dog park, which is of high demand in the city, and its secondary role is a passive open space providing shaded seating. The purpose for this two-zone park is to create an inclusive space where all users, dog owners and non-dog owners, have a sense of belonging and enjoyment of the space. The dog park design itself will follow suit with a high-quality design.

2.3.7 Views and Vistas

The WSEL has many views and vistas. There are natural open space views to the east along the HONI corridor and there are countryside views to the west across Wilmot Line in the Township of Wilmot. The site slopes upwards from north to south with the highest vantage points occurring along the southern border. The lands here are valuable since they are highly visible from the surrounding area and from Erb Street West. Views from the south of WSEL across Copper Street contain the Costco Wholesale building and parking lot and there are potentially views of the waste management and recycling uses on the south side of Erb Street West. As such, there may be a need for screening and other visual elements to help with potentially unappealing views.



3.0 PUBLIC REALM GUIDELINES

The public realm is defined by all lands that fall outside of the private property line and are publicly accessible including streetscapes (i.e., boulevards, sidewalks, multi-use trails and landscape buffers), and parks and open space. The urban design of the public realm should contribute to a sense of identity and pride for the City as a whole, promote environmental sustainability throughout the employment lands, create interconnected spaces throughout, provide safe, accessible and comfortable spaces, enhance community and public health, and allow for flexibility and the ability to adapt to future economic changes. Elements proposed within the Public Realm Guidelines are under the City of Waterloo's responsibility to construct and maintain. Guidelines for the public realm are explored in the sections below.

3.1 Public Health Considerations

In 2020, the COVID-19 pandemic provided new perspectives on public realm design. The need to physically distance from one another is to be balanced with the physical and mental health benefits provided by access to open space. With physical distancing requiring at minimum a 2 metre separation, it evokes new strategies on the minimum widths of many linear pedestrian facilities to date - including sidewalks and trails. Open spaces, such as linear parks (e.g. WSEL green walkway), are garnering attention with their ability to allow for small pockets of passive activities while also facilitating safe physical distancing and through movement. These considerations also provide linkages to the wider community network of active transportation infrastructure.

Public realm guidelines for WSEL need to foster flexible and dynamic environments that encourage safe public movement, and distanced civic and recreational gathering. Streetscapes as public open space becomes increasingly important, as evident through ActiveTO - creation of quiet streets, closing major roads for active transportation as well as expanding the network for non-motorized movement³.

Guidelines for enhanced public health are included in this document and will contribute to an improved overall public health and safety.

3.2 Sustainable Design

Environmentally sensitive and sustainable design practices, as well as measures towards climate change resilience and adaptation, facilitate long-term success for the WSEL public realm. These best practices are to be echoed in the design, construction, operations and maintenance related to daily use of the space. Innovation within the design of the public realm plays a major role in mitigating adverse effects resulting from climate change, while supporting the objectives of the *A Climate Action for Waterloo Region* (2019). Increased frequency and intensity of precipitation events, increased frequency and intensity of hot weather days, potentially damaging winds, potentially damaging cold weather storms, and potential increase in frequency of droughts are only a handful of some of the adverse effects of climate change which need to be considered.

The integrated environmental sustainability guidelines present the minimum standards for development, and the advanced sustainability guidelines provide options towards interventions with greater impacts to mitigating and adapting to climate change.

Optional Advanced Sustainability / Public Health Guideline

3.3 Streetscape Design Guidelines

The streetscape design guidelines describe and illustrate the desired conditions of the streetscape network within WSEL. The character of streetscapes is largely defined by the elements found within the public right-of-way. These guidelines strive to achieve high-quality, pedestrian-oriented streetscapes with their own distinct character. The general streetscape guidelines pertain to treatments that are applicable to all roads within the WSEL network, and followed by street typology guidelines that provide greater detail on the specific features and amenities.

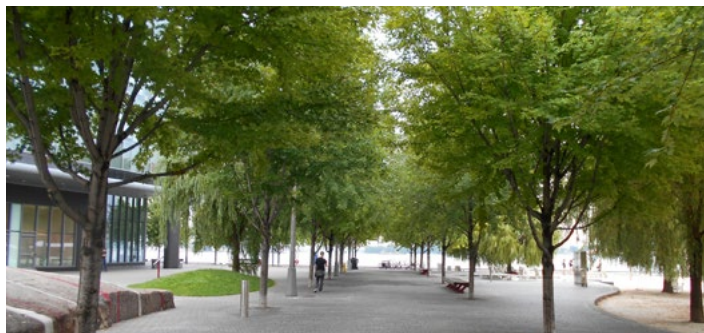
3.3.1 General

All streetscapes throughout WSEL should be pedestrian-oriented with heightened human comfort, accessible and barrier free, and safe. When fully built out, these lands are planned to function as a mini village with emphasis on the safe and efficient movement of people through green spaces and buildings. The streets, nodes and green spaces will become animated, especially during the noon hour and early evenings as people access the green walkway and various amenities and services such as coffee shops and restaurants. The green road network should accommodate this by providing the various amenities and infrastructure which directly contribute to a pedestrian oriented street including gateways/nodes and site identity, landscape treatments, lighting and furnishings, signage, both formal and informal pedestrian crossings and utilities, as outlined below. The following elements should also align with future branding of the WSEL.

3 City of Toronto. COVID-19: ActiveTO. Retrieved on October 5, 2020 from: <https://www.toronto.ca/home/covid-19/covid-19-protect-yourself-others/covid-19-reduce-virus-spread/covid-19-activeto/>



*Buffalo Industrial Heritage Trail, Buffalo, New York,
TWLA Landscape Architects*



Deeproot Silva Cells along Sugar Beach, Toronto

Gateways / Nodes & Site Identity

Guideline 1. Major gateways are key points of arrival into WSEL, along Platinum Drive.

Guideline 2. Minor gateways are places of transition and entry including pedestrian-oriented decision points.

Guideline 3. Gateways should integrate wayfinding information for all modes entering the WSEL and be scaled appropriately for major and minor gateways.

Guideline 4. Integrate the relevant WSEL character areas' themes for landscaping in the design and materials for both major and minor gateway and nodes.

Guideline 5. Design gateways and nodes in consideration of daylight/sightline corner requirements, and the Accessibility for Ontarians with Disabilities Act (AODA) guidelines.

Guideline 6. Provide pedestrian scale and accent lighting for safety and enhanced visual aesthetic where gateways/nodes intersect with the pedestrian flow of movement. Coordinate with City of Waterloo's Transportation Department.

Guideline 7. Reinforce the WSEL brand by providing features that express interpreted site character and identity through paving, banners, planters, screening panels, benches, bike racks, decorative poles/markers and public art at appropriate locations within the right-of-way.

Guideline 8. Place interpretive and information signage where contextually appropriate to highlight the cultural heritage of the site.

Landscape Treatments

Guideline 1. Locate street trees on both sides of the boulevards to enhance the urban forest canopy and to improve micro-climatic conditions for pedestrians (i.e., shade, protection from wind, etc.).

Guideline 2. Locate street trees to limit conflicts with overhead utilities.

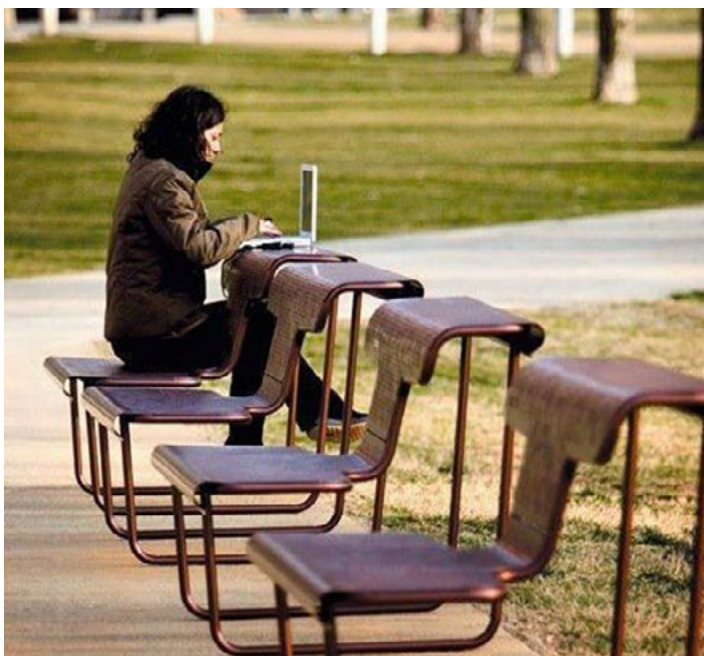
Guideline 3. Street trees should not be located within 15 metres of an intersection to avoid obstructing vehicular sight lines.

Guideline 4. Select street tree species that are high quality stock, low maintenance and have sufficient rooting areas to reach a mature street tree canopy.

Guideline 5. Use soil cells, as necessary, to achieve higher soil volumes necessary for healthy street tree growth under hard surfaces and constrained underground utility areas.

Guideline 6. Design landscape areas in line with Crime Prevention Through Environmental Design (CPTED) principles, avoiding entrapment areas or impeded views, and reducing the impact of screening and buffers.

Guideline 7. Employ Low Impact Development (LID) measures as non-traditional stormwater source and conveyance controls such as bioretention areas and permeable pavers where appropriate. Refer to the *City of Waterloo Stormwater Master Plan*, Section 5.1.2 and 5.1.3 for additional techniques.



Example of Public Seating



Example of Gateway Signage

Lighting & Furnishings

- Guideline 1.** Provide lighting accents in addition to primary street lighting to maintain appropriate illuminance, enabling pedestrian comfort and safety along the public rights-of-ways.
- Guideline 2.** Select LED and full cut-off fixtures to avoid light spillover and up-lighting along the streetscape.
- Guideline 3.** Locate lighting and street furnishings in accordance with the City's accessibility guide, avoiding physical and perceived barriers to accessibility.
- Guideline 4.** Provide street furniture that is durable, high-quality design and made of sustainable materials, while representative of the overall WSEL brand and site character.
- Guideline 5.** Locate street furniture (i.e., benches, and waste and recycling receptacles) at regular intervals along the streetscapes, to support the multiple activities along street frontages.
- Guideline 6.** Have regard for the International Dark-Sky guide for LED lighting to reduce light pollution where possible, as observed by the Region.

Signage

- Guideline 1.** Adhere to the City of Waterloo's Sign By-Law (No. 2016-050), describing the requirements for size, location, compatibility, safety, potential impacts and functions.
- Guideline 2.** Use City's standard wayfinding signage to identify location and mark distances between multi-use trails and key site features (e.g. park, green walkway, community connections, etc.)
- Guideline 3.** Use signage with a consistent palette of colours and materials to reinforce the WSEL identity, while also remaining complementary to WSEL street furnishings, (e.g. powder coat colour for posts, metal finishes, contemporary versus modern shape).
- Guideline 4.** Provide signage that is visible and legible from the road right-of-way, and complies with the AODA guidelines.
- Guideline 5.** Signage within the public right-of-way is under the City's responsibility to install and maintain.



Example of Patterned Paving



Example of Painted Murals

Paved Surfaces & Pedestrian Crossings

Guideline 1. Utilize paving design and colours to denote pedestrian and cycling zones across driveways and at all intersections, including pedestrian crossings where appropriate.

Guideline 2. Design sidewalks, multi-use paths, nodes and other hard surface areas along the green walkway and other open spaces in accordance with AODA guidelines and the Design of Public Spaces Standards (DOPSS).

Guideline 3. Provide pedestrian crossing signage at every intersection, including at all roundabout intersections and where the green walkway crosses Platinum Drive, with AODA compliance.

Guideline 4. Consider future traffic calming measures including tapered table tops, material changes, curb extensions and bumpouts where appropriate.

Utilities

Guideline 1. Use landscape planting beds or murals, as appropriate, to screen required above-ground servicing equipment (e.g. transformer boxes etc.).



Example of Rain Garden and Walkway



Example of Public Space Walkway with Planted Strips

Sustainability

Guideline 1. Source planting, imported soil, pavers, site furniture, signage and lighting standards locally to reduce carbon footprint.

Guideline 2. Use recycled or sustainably sourced materials with longer life cycles for paving and street furniture.

Guideline 3. Use a diverse planting strategy, promoting diversity within Carolinian species.

Guideline 4. Utilize species for street tree plantings and landscape buffers that are low-maintenance, native, and salt, drought and disease resistant.

Guideline 5. Avoid large expanses of manicured sod; plant low-maintenance plant species in open spaces.

Guideline 6. Employ Low Impact Development (LID) techniques to promote infiltration and on-site stormwater management where appropriate.

Guideline 7. Use lighter-colour hardscape surfaces to lessen heat absorption.

Guideline 8. Consider incorporating renewable energy sources for streetscape amenities such as solar power pedestrian-scale lighting etc.

Public Health Considerations

Guideline 1. Consider using sidewalk widths of 2.5 metres minimum to allow for safe passing between pedestrians.

Guideline 2. Provide equitable points of access to public amenities to allow for safe physical distancing.

Guideline 3. Space seating to allow for safe physical distancing.

Guideline 4. Consider materials that are easy to clean and disinfect.

3.3.2 Street Typologies

The WSEL site has a diverse set of road functions, each contributing to a larger network that accommodates the movement of transit, personal vehicles, pedestrians and cyclists, while also accommodating places of rest within the public realm elements. The street typologies within and bounding the WSEL include: high-profile streetscape and frontage; secondary streetscape; regional road, collector road; and township road. They are illustrated in **Figure 9** and described in more detail in the following sections, with supporting typical cross-sections diagrams.

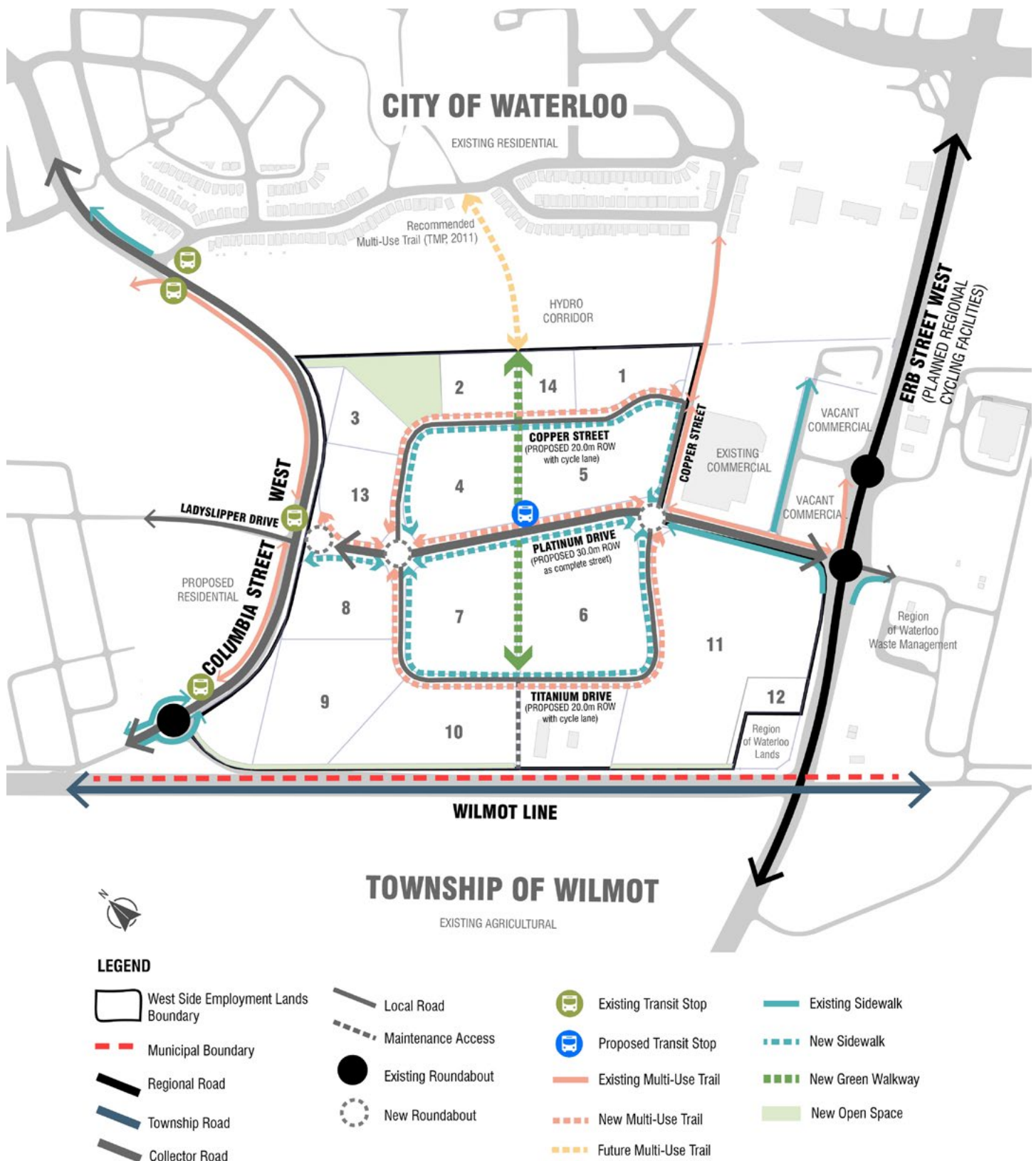


Figure 9. WSEL Street Typologies

Primary High-Profile Streetscape & Frontage

Platinum Drive

Platinum Drive, a collector road, is the central spine and key interface of the WSEL. At its two entry points, this high-profile road is anchored by identity-defining gateways into the WSEL, and characterized by the high investment into the public realm. The high standard of design along this right-of-way is also reflected in the building frontages, and the interface between the private and public realm. It is critical for this continuous prestigious streetscape to have cohesion along its built form edges, semi-public building frontages, streetscape elements and overall character as a core WSEL district.

As a complete street, it is designed with a multi-modal right-of-way to accommodate safe access for all users, of all ages and abilities. It is defined by two central vehicular travel lanes separated by a median, raised bike lanes on both sides of the road, planted boulevards and street trees on either side

of the bike lane (4.3 to 5.5 metres wide), a 3 metre multi-use trail on the east side of the road, and a 1.8 metre sidewalk on the west side of the road.

Along Platinum Drive, there are four roundabout intersections and one pedestrian crossing at the green walkway. Pedestrian and cyclist safety is paramount in supporting the principles of environmental sustainability for the WSEL, with high level of design intervention to provide inviting, comfortable and visually aesthetic streetscape. The following guidelines pertain to Platinum Drive as a primary road and are illustrated as the typical cross section in **Figure 10**.

Guideline 1. Provide a continuous streetwall and sense of enclosure with upper-storey stepbacks beyond 3 storeys at-grade, with active street fronts that provide patios, informal seating areas, shade trees and rain gardens.

Guideline 2. Design midblock connections for improved pedestrian access, while maintaining at maximum 100 metre building frontages.

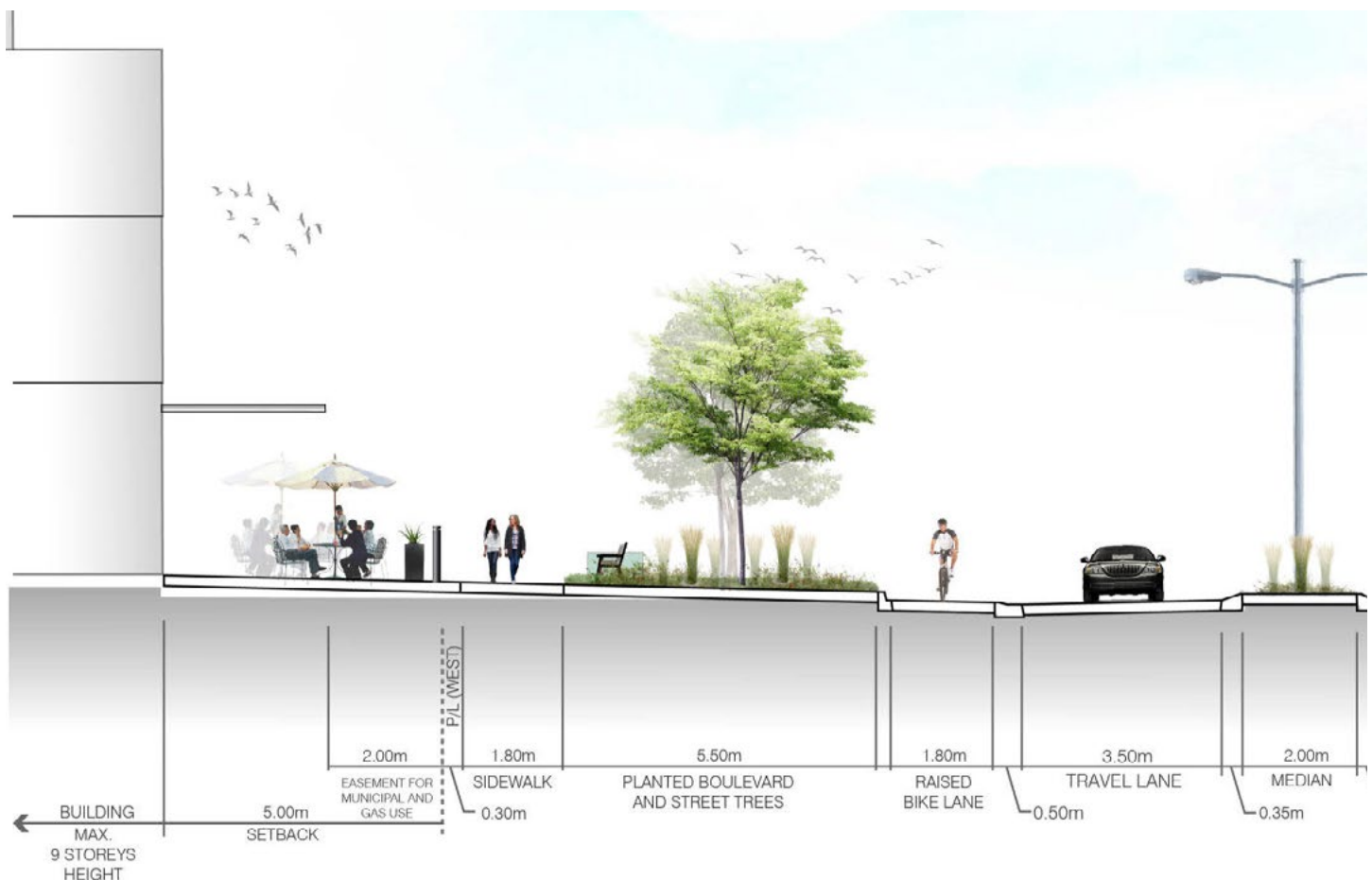


Figure 10. Typical Streetscape Cross-Section for Platinum Drive

Guideline 3. Encourage access to development blocks from Copper Street and Titanium Drive. There is to be no direct vehicular access from Platinum Drive unless no other alternative exists.

Guideline 4. Consider traffic calming measures at all pedestrian crossings, including the roundabouts and the intersection of Platinum Drive and the green walkway (i.e., raised stamped concrete/pavers).

Guideline 5. Provide highly visual commemorative cultural heritage public art at each end of the green walkway at Platinum Drive, acting as a minor gateway into the linear park while also creating a node with informal seating.

Guideline 6. Consider implementing similar LED lighting treatments along Platinum Drive such as the WATERLUMINATE fixtures found in Uptown Waterloo.

Guideline 7. Use planting species that contribute to the Core WSEL character area.

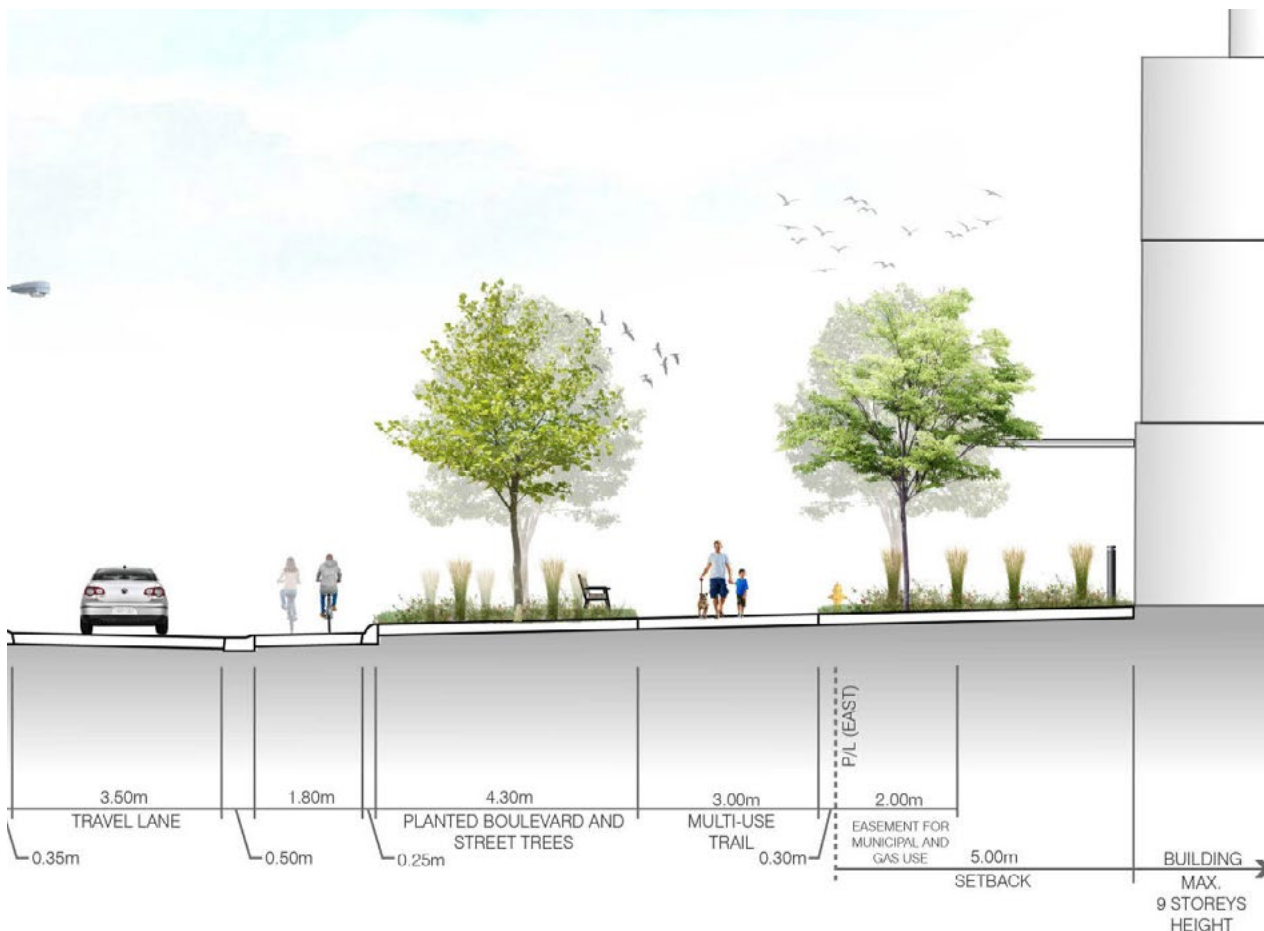
Guideline 8. Plant low-lying native ornamental grasses, that are low maintenance and salt-resistant, in the central median.

Guideline 9. Plant both large and medium stature native trees that are hardy along the boulevard, depending on the root zone size, soil volumes and overhead restrictions.

Guideline 10. Plant coniferous native trees and shrubs, and native ornamental shrubs and accent trees along the roundabouts to enhance the seasonal planting aesthetic. Planting to be located outside of sight line triangles for safety.

Guideline 11. Provide bioretention gardens within the planted boulevards, to temporarily store, treat and infiltrate stormwater runoff.

Guideline 12. Plant high quality, low-maintenance and durable native ornamental tall grasses and other perennial species in planting beds along the boulevards.



Secondary Streetscape

Copper Street & Titanium Drive

The WSEL's two local roads, Copper Street and Titanium Drive, provide access to employment uses east and west of Platinum Drive, and have instances of both primary and/or secondary frontage layouts at various blocks, as outlined:

- Primary frontage assigned to WSEL lands (Blocks 3, 8, 9 and 13) along Columbia Street West, with secondary frontage and access from Copper Street;
- Primary frontage assigned to WSEL lands (Blocks 1, 2, parts of 4, parts of 5, parts of 6, parts of 7, 10, parts of 11, and 14) along and with access from Copper Street and Titanium Drive; and
- Primary frontage assigned to WSEL lands (parts of Blocks 2, 4, 5, 6, 7 and 14) that face the green walkway.

The inconsistent street frontage along these local roads amplifies the importance of using landscape buffers, planting, screening and amenity zones to enhance the streetscape by helping to provide separation between the road and pedestrians for safety and comfort as well as supporting active transportation. The character of the east (Copper Street) and west (Titanium Street) WSEL areas will influence the design interface approaches between the public and private realm.

Both Copper Street and Titanium Drive are designed with designated bike lanes in each direction, a 2.2 metre boulevard and 1.8 sidewalk to the south and 1 metre boulevard and 3 metre multi-use trail to the north. The local road right-of-ways do not have adequate space for tree planting along both sides of the road, therefore, the landscape interface with the private realm becomes critical for greening Copper Street and Titanium Drive. Refer to **Figure 11** for the typical secondary streetscape cross section.

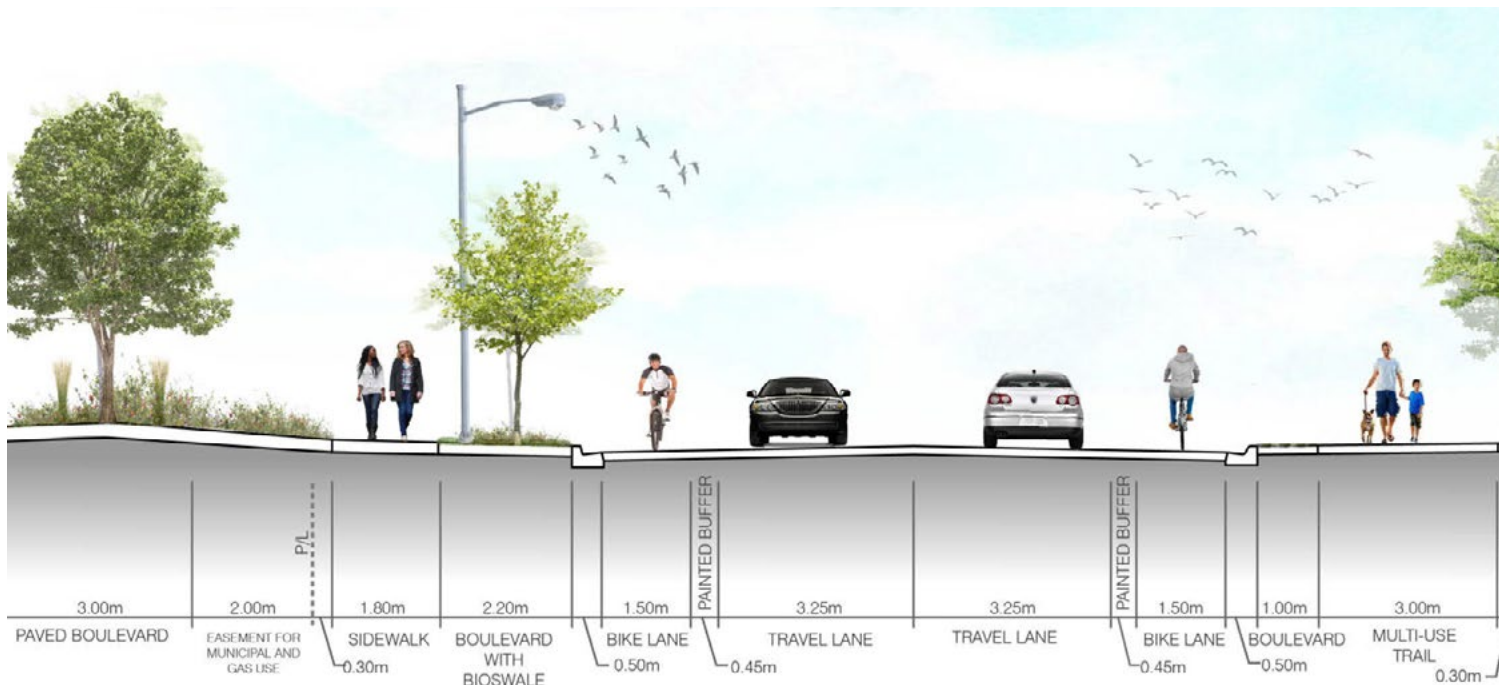


Figure 11. Typical Streetscape Cross-Section for Copper Street and Titanium Drive

Guideline 1. Provide a continuous streetwall along segments of the road, whether it is built form with upper-storey stepbacks beyond 3 storeys at grade or green zones featuring landscape buffers, biofiltration gardens, planting, screening and amenity zones.

Guideline 2. For larger sites, consider having separate buildings that face the multiple street/ green walkway frontages, to enhance the local road streetscape.

Guideline 3. Avoid building frontages greater than 100 metres for improved mid-block connections and improved pedestrian access.

Guideline 4. Encourage shared driveway access between two parcels to minimize public right-of-way user conflicts.

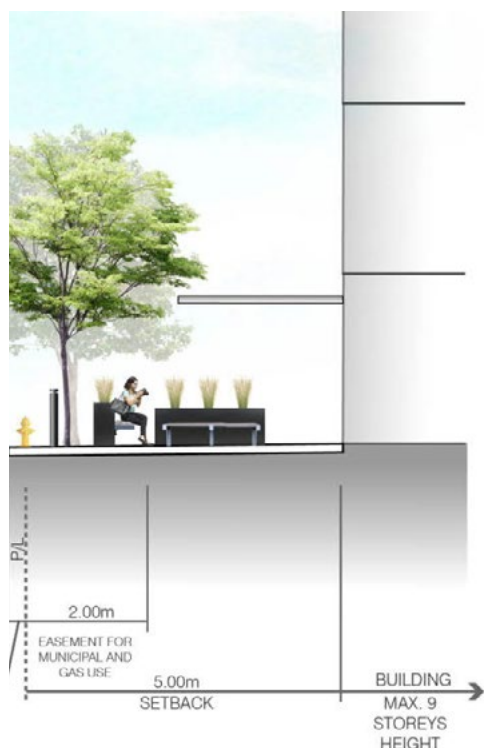
Guideline 5. Consider traffic calming measures at all three pedestrian crossings (i.e., raised stamped concrete/pavers).

Guideline 6. Use planting species that contribute respectively to the East and West WSEL character areas.

Guideline 7. Plant native ornamental grasses, that are low-maintenance and salt-resistant, along the smaller boulevard.

Guideline 8. Plant small- to medium-stature native trees that are hardy along the larger boulevard, depending on the root zone size, soil volumes and overhead restrictions.

Guideline 9. Provide bioretention gardens, as appropriate, in the larger boulevards, to temporarily store, treat and infiltrate stormwater runoff.



Regional Road

Erb Street West

Erb Street West, a regional road, is the southern boundary of the WSEL that provides east-west connections through the City of Waterloo and a key interface into the WSEL. This segment of the regional streetscape functions primarily as a multi-modal movement corridor, with potential for road widening in the future, and no pedestrian access is planned at this time. Part of Block 11 backs onto Erb Street West, with access from Platinum Drive, and should be treated as a secondary frontage with high-profile signage opportunities. Block 12 is intended for Regional purposes, however, if it is not used/owned by the Region of Waterloo it would form part of Block 11 and all relevant guidelines would apply.

The interface between the regional road and the private realm should support a 3 to 5 metre landscape buffer with fencing to function as a screen from potential traffic noise or odour impacts

from the external adjacent uses, and to screen potential storage areas on the employment lands. Planting should reflect the West WSEL Character Area. Refer to **Figure 12** for the typical Erb Street West cross section. The road right-of-way design is to adhere to the Region of Waterloo's *Context-Sensitive Regional Transportation Corridor Guidelines* (2013).

Guideline 1. Provide built form with upper-storey stepbacks beyond 3 storeys at-grade or green zones featuring landscape buffers, biofiltration gardens, planting and screening.

Guideline 2. Evaluate merits of providing direct access to Erb Street West at detailed design stage, in consultation with the Region of Waterloo.

Guideline 3. Plant trees and other woody vegetation within the private landscape buffer, with period breaks to allow for visibility of the new development, as an interface to the regional right-of-way.

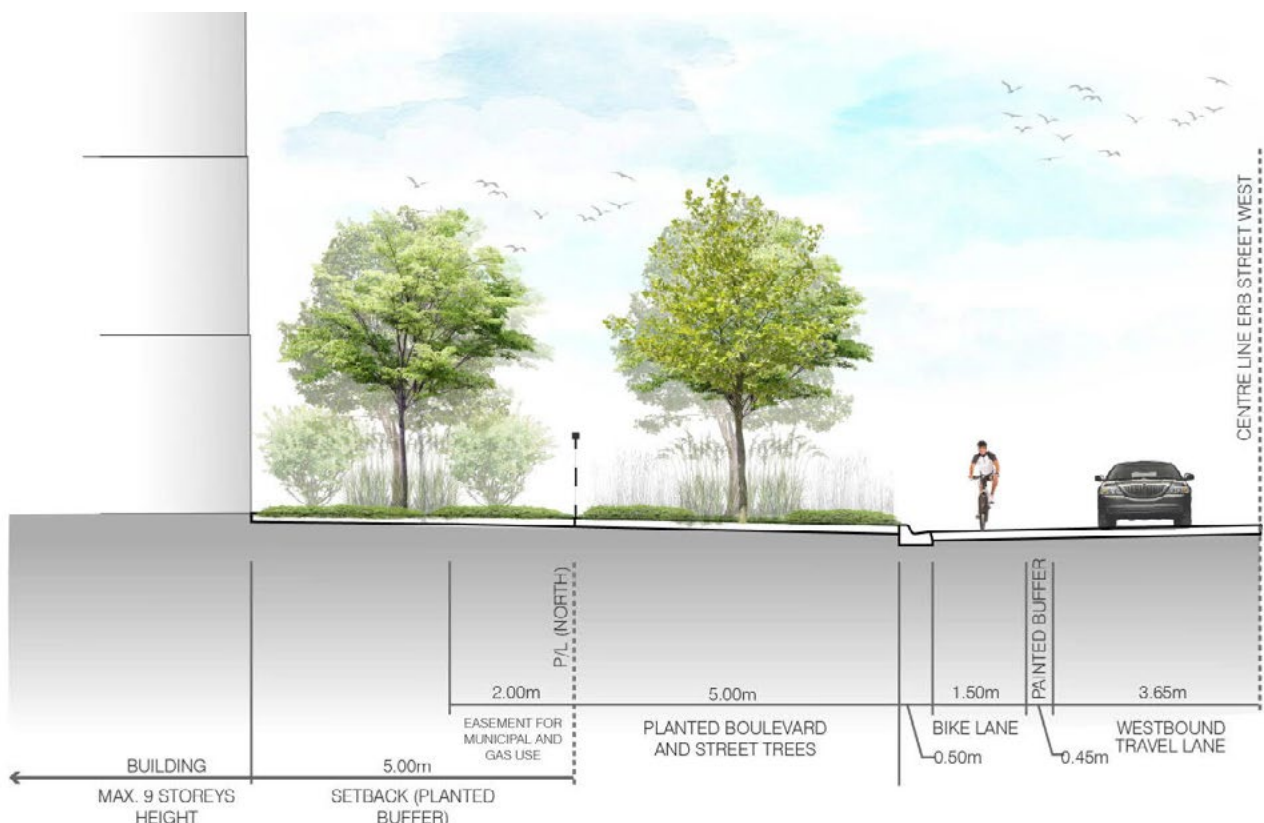


Figure 12. Typical Streetscape Cross-Section for Erb Street West

Collector Road

Columbia Street West

Columbia Street West, the northern boundary of the WSEL, provides connections into the adjacent residential communities and is a primary access point into the employment lands. As a key interface to the WSEL, it functions as a primary frontage for employment uses (Blocks 3, 13, 8 and 9) with vehicular access off of Copper Street. The interface between the private and public realm should have enhanced landscape treatments along the grading slopes, patios and informal seating areas to enhance the streetscape. Refer to **Figure 13** for the cross section for commercial uses along Columbia Street West.

Guideline 1. Provide a continuous streetwall with upper-storey stepbacks beyond 3 storeys at-grade, with active street fronts that provide patios, informal seating areas, shade trees and rain gardens.

Guideline 2. Design midblock connections for improved pedestrian access, while maintaining at maximum 100 metre building frontages.

Guideline 3. Provide a sidewalk along the southern side of Columbia Street West to provide access from the residential community to the WSEL, including the open space on the northeast.

Guideline 4. Encourage shared access between two parcels to minimize public right-of-way user conflicts.

Guideline 5. Provide traffic calming measures at all pedestrian crossings, including the roundabout (i.e., raised stamped concrete/pavers).

Guideline 6. Use planting species that contribute to the East and West WSEL character area.

Guideline 7. Plant both medium - and large-stature native trees that are hardy along the boulevard, depending on the root zone size, soil volumes and overhead restrictions.

Guideline 8. Plant coniferous native trees and shrubs, and native ornamental shrubs and large-stature accent trees along the roundabouts to enhance the seasonal planting aesthetic, within sightline triangles for safety.

Guideline 9. Enhance the public right-of-way with small to large native street tree planting, depending on the root zone size, soil volumes and overhead restrictions.

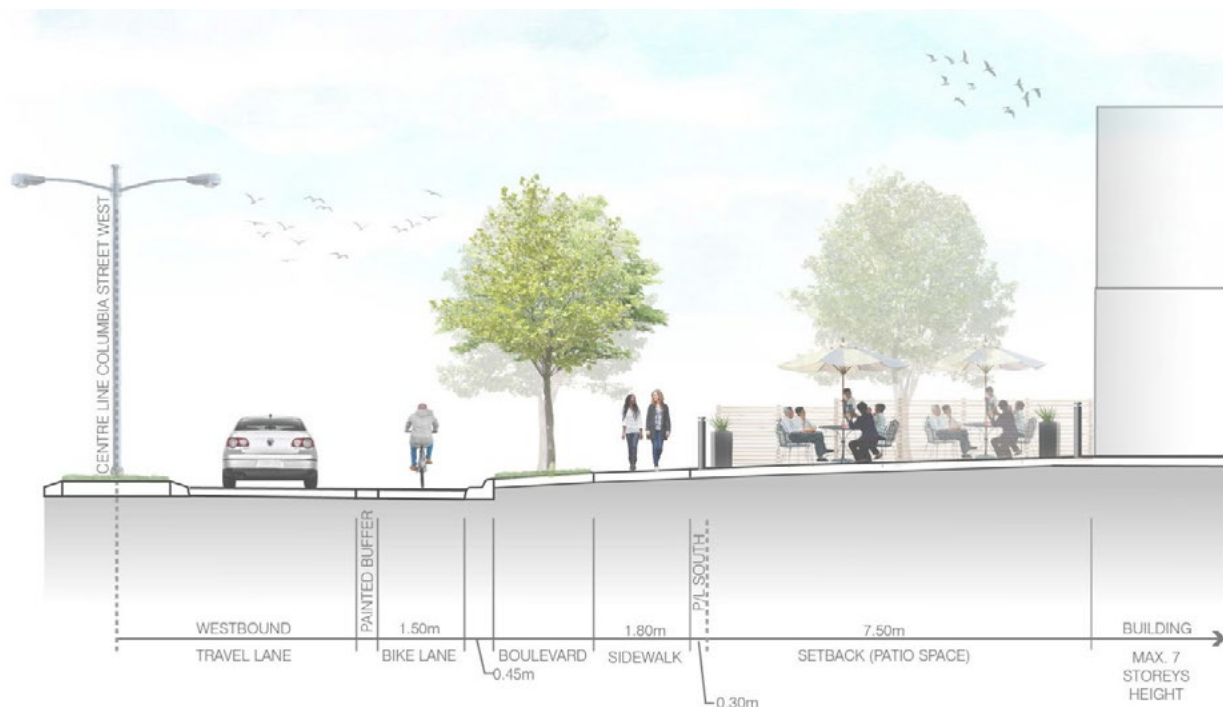


Figure 13. Typical Streetscape Cross-Section for Columbia Street West

Township Road

Wilmot Line

Wilmot Line is a Township of Wilmot road, with a rural profile that needs to be protected as it delineates the interface between the urban area (City of Waterloo) and the rural countryside (Township of Wilmot). There is no vehicular or pedestrian access into WSEL from Wilmot Line, therefore, the interface between the private and public realm should build upon the existing rural cross-section providing a natural buffer along the designated open space. Refer to [Figure 14](#) for the typical Wilmot Line cross-section.

Guideline 1. Provide a minimum 30 metre setback from Wilmot Line right-of-way, protecting the rural road cross-section.

Guideline 2. Naturalized plantings should be encouraged along the property line as well as within the 30 metre building setback on private property.

Guideline 3. Plant trees and other woody vegetation within the open space landscape buffer.

Guideline 4. Plant species that reflect the West WSEL character area.

Guideline 5. Provide post and wire fencing along the west side of the open space along Wilmot Line.

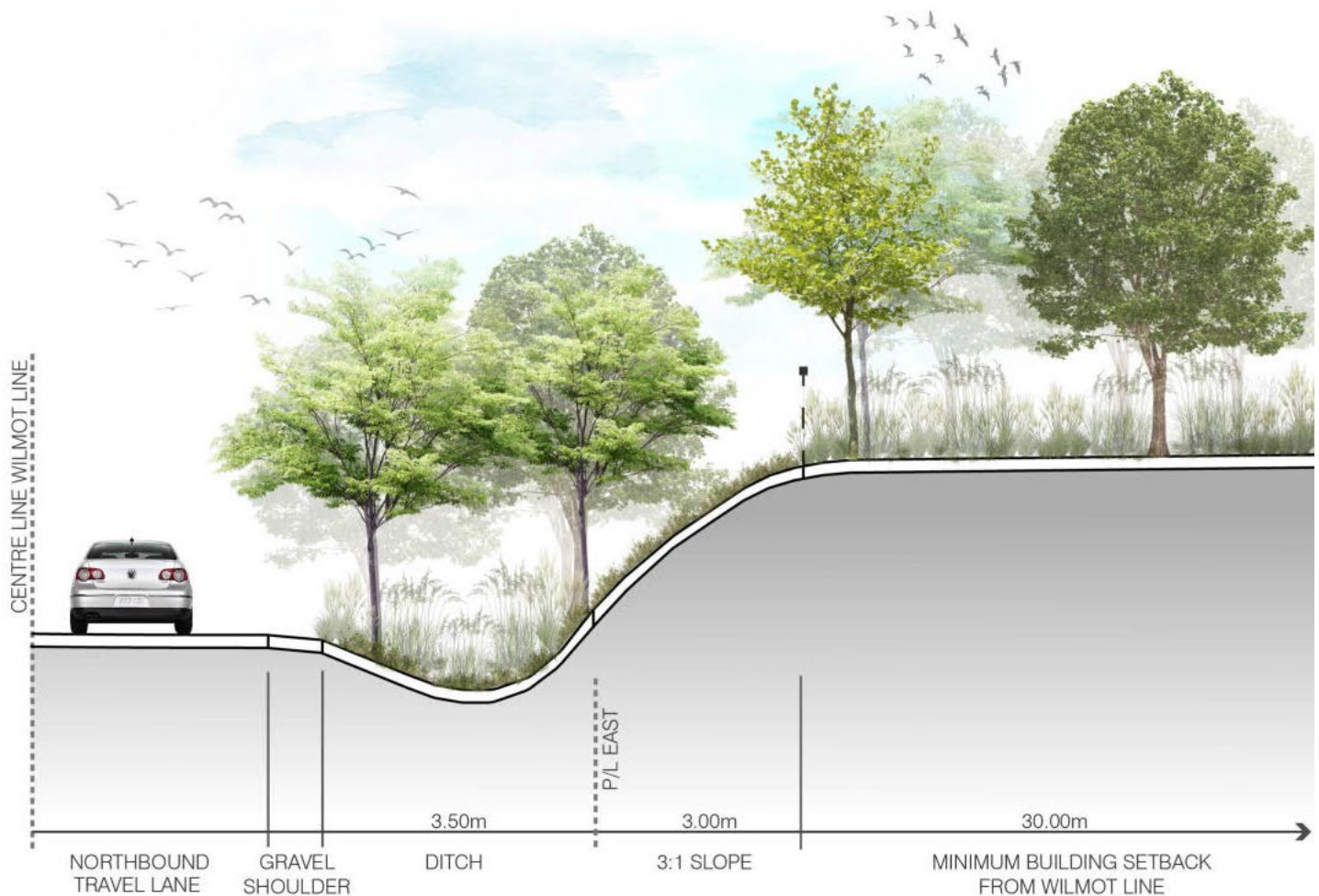


Figure 14. Typical Streetscape Cross-Section for Wilmot Line

3.3.3 Gateways & Nodes

Gateways anchor the entry points into the WSEL, while also highlighting the distinct identity within the district. Gateways provide wayfinding, enhance the public realm, and foster a sense of place. Gateways, as they are located within the public realm, are constructed and maintained by the City and not private owners. There are two major gateways at each end of Platinum Drive and six minor nodes across the WSEL site, as illustrated in **Figure 15** and detailed below.

Major Gateways

Erb Street West & Platinum Drive

At the south entry into the WSEL, a major gateway should frame the Platinum Drive right-of-way. Given the adjacent uses, this major gateway design will primarily be experienced from a vehicle.

Guideline 1. Incorporate gateway signage for “Waterloo West Side Employment Lands” (or future name) within the gateway feature.

Guideline 2. Consider providing vertical elements (major public art/architectural elements) appropriate to the scale and uses of adjacent developments, to denote the hierarchy as a major gateway and entry into the WSEL.

Guideline 3. Use decorative lighting to enhance the gateway signage and vertical elements in the evening.

Guideline 4. Use decorative paving and intensive planting zones around the base of the vertical elements to provide ground-level aesthetic elements.

Guideline 5. Use a tying design element (i.e., colour, material, theme, etc.) for both the south and north gateways



Martin Luther King Jr. Boulevard Gateway, Portland, OR. *2.ink Studio Landscape Architecture.*

Columbia Road West & Platinum Drive

At the north entry into the WSEL, a major gateway should frame the Platinum Drive right-of-way. The adjacency of the commercial block and the residential community allow for a unique gateway design that has an equally unique experience as a pedestrian, as well as from a vehicle.

Guideline 1. Incorporate signage announcing “Waterloo West Side Employment Lands” (or future name) within the gateway feature. .

Guideline 2. Provide vertical elements (major public art/architectural elements) appropriate to the scale and uses of adjacent developments, to denote the hierarchy as a major gateway and entry into the WSEL.

Guideline 3. Consider using self sustaining decorative lighting to enhance the gateway signage and vertical elements in the evening.

Guideline 4. Use decorative paving and intensive planting zones around the base of the vertical elements to provide ground-level aesthetic elements.

Guideline 5. Landscape design to include plants that align with the West WSEL character area.

Guideline 6. Use a tying design element (i.e., colour, material, theme, etc.) for both the south and north gateways.

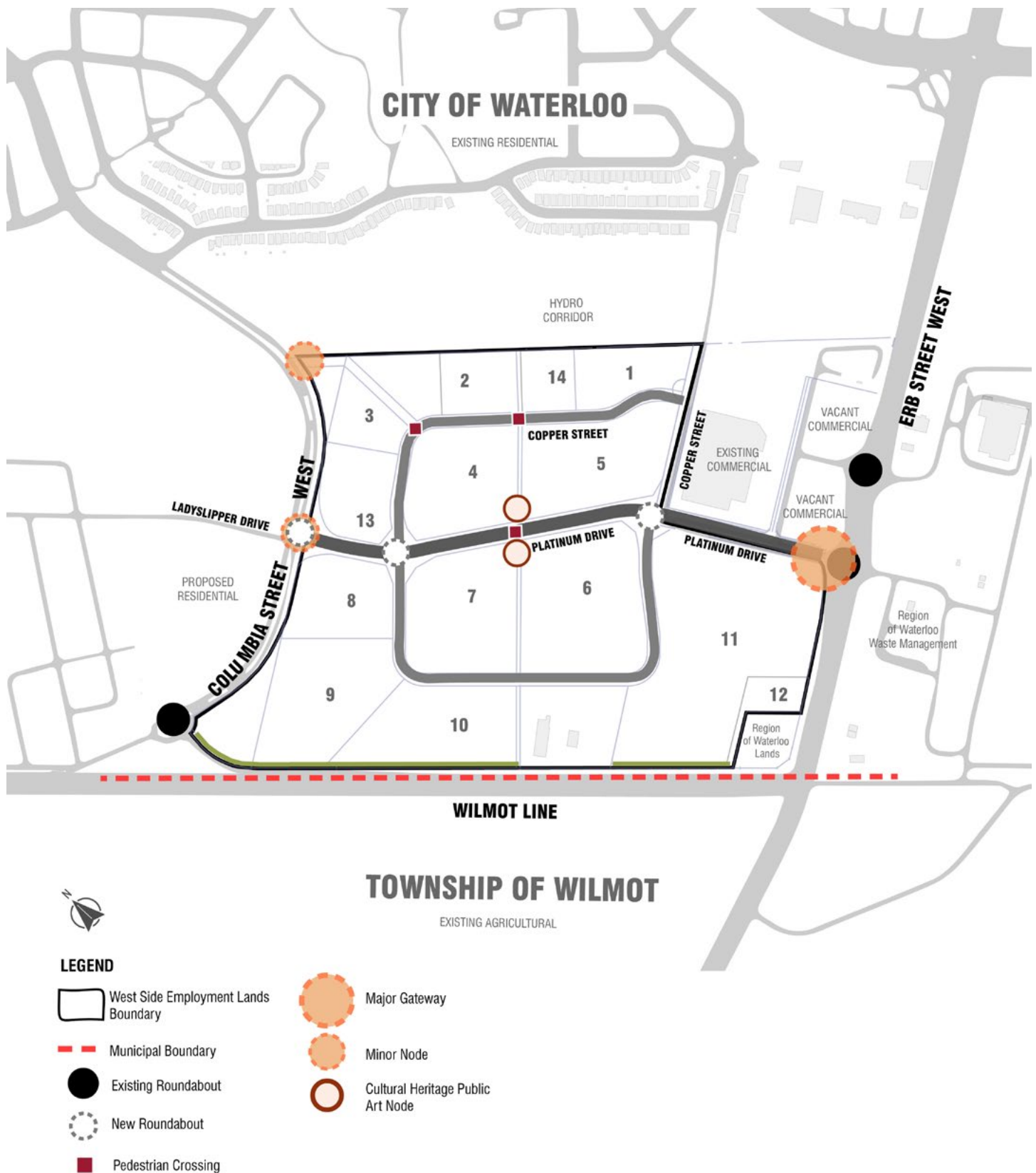


Figure 15. WSEL Gateways and Nodes



Open Space Frontage of Built Form

Minor Nodes

Open Space Entrance from Columbia Street

At the northeast corner of WSEL, there is a multi-use trail to an open space that leads to the park and Copper Street.

Guideline 1. Use open space and City's standard wayfinding signage to identify the area as "Waterloo West Side Employment Lands Link" (or future name).

Guideline 2. Provide sufficient pedestrian-scale lighting for safety and comfort of all users.

Guideline 3. Provide informal seating and consider it to be part of multi-functional public art that ties to the site's cultural heritage and West WSEL character area.



Mobilio Towns Development, Vaughan, Ontario, Menkes Development LTD.

Green Walkway Nodes at Midblock

Three green walkway nodes break up the configuration of the linear park and provide open informal seating and gathering areas, as well as midblock access via rear yard paths of the developed parcels in the WSEL.

Guideline 1. Provide an intentional opening in the green walkway and the continuous building enclosure, to provide contrast within the linear park.

Guideline 2. Design the nodes to function as potential outdoor meeting areas for employees and community rest areas, with appropriate perimeter seating.

Guideline 3. Consider the placement of large stature trees or public art within the node, as a wayfinding landmark within the linear park.

Guideline 4. Use permeable paving solutions to improve onsite stormwater infiltration.

Guideline 5. Place interpretive signage where appropriate to highlight the cultural and natural heritage aspects of the surrounding area.



Buffalo Industrial Heritage Trail, Buffalo, New York, TWLA Landscape Architects

Cultural Heritage Public Art Node

The cultural heritage public art nodes are located at the end of the crosswalk at the green walkway and Platinum Drive intersection, featuring commemorative interpretations of the site's history.

Provide vertical elements (major public art/architectural elements) appropriate to the scale and uses of adjacent developments, to denote the hierarchy as a major gateway and entry into the WSEL.

Guideline 1. Design public art features for visual prominence at an appropriate vertical scale, complementing the massing of the adjacent developments.

Guideline 2. Develop appropriate themes after consultation with city staff (i.e., arts and culture) and those responsible for approving public art within the City.

Guideline 3. Provide decorative paving to highlight the importance of the node and delineation between the rest of the right-of-way.

3.4 Open Space Design Guidelines

The open space design guidelines describe and illustrate the high-quality design standard of the open spaces within the WSEL, which include: the park, green walkway, open space buffer and open space link (see [Figure 16](#)). The general and more detailed guidelines are outlined below.

3.4.1 General

Open spaces throughout WSEL should be inclusive, low-maintenance, comfortable, accessible and barrier free, safe and visually interesting. The network of open spaces should be designed with LID and sustainable techniques. General open space guidelines are outlined below.

Guideline 1. Design open spaces that are multi-functional, and provide benefits to people, habitats (birds, animals) and the environment (e.g., visual and physical screening/buffering, stormwater attenuation and improved microclimate).

Guideline 2. Design open spaces that accommodate multiple user needs (e.g., employees, residents and visitors), including AODA and CPTED standards.

Guideline 3. Design for multi-seasonal access and enjoyment of the open spaces.

Guideline 4. Design open spaces as part of a larger network by providing trails within and connecting through to external trails, including City's standard wayfinding signage.

Guideline 5. Reflect the respective WSEL character areas in the landscape design of open spaces, carrying out the WSEL's vision on placemaking.

Guideline 6. Select native, drought-tolerant, pest- and disease-resistant species of vegetation and use low-maintenance design techniques.

Guideline 7. Source locally all planted and non-planted material for open spaces (e.g., rocks, paving, furnishings) to reduce carbon footprint.

Guideline 8. Plant large stature trees for shading to provide microclimatic comfort and protection from the sun.

3.4.2 Park

The park, located in the northeast corner of the WSEL, is accessed via the open space link from Columbia Street West and Copper Street from the south. As a two-zone park, its primary function is to accommodate a fenced-in off-leash dog area; its secondary function is to provide an informal seating area that opens up the space to a more diverse community - both residential and employment. Innovative best practices for the design of a dog park are outlined below.

Guideline 1. Design an innovative dog park, reflective of the prestigious employment area.

Guideline 2. Consider providing a shade structure that spans across both user zones and becomes an iconic landmark.

Guideline 3. Maximize the use of the site as a park space, reducing the requirements for parking and encouraging use of the active transportation network.

Guideline 4. Locate the secondary seating zone fronting Copper Street and the adjacent open space link with periodic unobstructed views into the dog park.

Guideline 5. Use permeable paving techniques where appropriate to facilitate on-site stormwater mitigation and groundwater infiltration in order to prevent spread of diseases.

Guideline 6. Maximize the space for the dog park, providing both room to roam and enclosed spaces.

Guideline 7. Design a variety of challenges such as surface-level fields, gentle hills, clumps of rocks and tunnels for dogs to explore.

Guideline 8. Place obstacles that prevent too much straight line running within the dog park.

Guideline 9. Provide access to a water feature for drinking, swimming and wading as dogs don't manage heat very well.

Guideline 10. Provide a 1.5 metre-high fence at minimum, ideally 2 metres around the perimeter with a hard surface bottom.

Guideline 11. Select plant species within and adjacent to the dog park that are hardy and non-toxic.

Guideline 12. Plant hardy shade trees to improve comfort during the summer.

Guideline 13. Provide a walking loop around the perimeter of the fenced-in dog park.

Guideline 14. Provide signage and waste stations with bags, to encourage owner-led clean up..

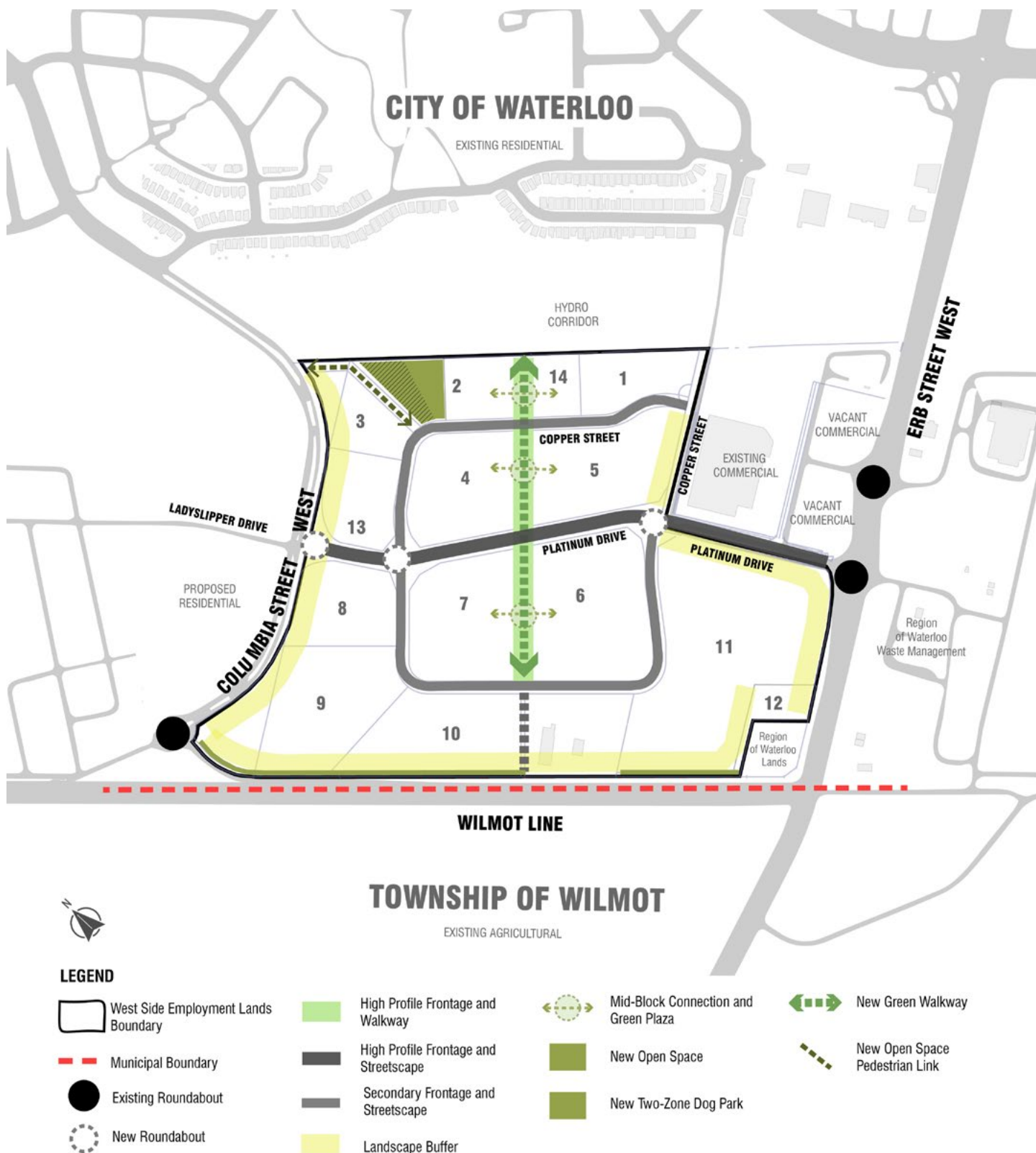


Figure 16. WSEL Parks and Open Space Treatments



East Village Green Dog Park, San Diego, OJB Landscape Architecture



Levy Dog Park, Houston, Texas, OJB Landscape Architecture



Example of a Green Walkway

3.4.3 Green Walkway

The green walkway is a high profile amenity space located along the midline of the WSEL, running east to west from the HONI corridor to Titanium Drive. The vision for the green walkway is to create a green corridor amidst the employment uses that spills over into the private realm amenity space and landscape buffers. Although the character of the green walkway will vary between the East and Core WSEL districts (see [Figure 17](#) to [Figure 19](#)), the walkway spatial layout typologies for the paths, seating and private realm interfaces will be the same, as per [Figure 20](#) to [Figure 23](#).

Guideline 1. Design a green linear park that is both a shared amenity space and connector to the multi-use trail network.

Guideline 2. Design the east segment of the walkway with curvilinear features that reflect the open and rolling meadows of the Carolinian landscape.

Guideline 3. Design the core segment of the walkway with linear modular features that reflect the cultural heritage of cultivated fields and gardens within the landscape.

Guideline 4. Use the walkway typologies intermittently to vary the experience along the linear park, which will also influence the interface with the private realm.

Guideline 5. Provide a 2 metre minimum path width in each direction if the paths are separated by planting.

Guideline 6. Provide a 4 metre minimum path width if it is a shared through way.

Guideline 7. Develop a permeable interface between the public and private realms by providing opportunities for employment uses to spillover from their private amenity open areas into the green walkway (e.g. patios, outdoor gallery space).

Guideline 8. Provide midblock plaza openings and connections to the employment uses through the private realm.

Guideline 9. Use onsite materials as accents in the design and highlight through the implementation of interpretive signage on the site's history. (e.g. ruins, apple trees.)

Guideline 10. Use wood, steel and concrete as main materials for the walkway, capturing an overall theme of a restored landscape with rustic and recycled remnants of the site's history.

Guideline 11. Place City's standard wayfinding signage at entrances and decision points highlighting directional information for users.

Guideline 12. Provide safe crossings and consider traffic calming at all intersections with roads.

Guideline 13. Reduce to the extent possible, the negative effect of building shadows on the green walkway.

Guideline 14. Green walkway should be designed with grading to direct overland stormwater into planting beds for infiltration.

Guideline 15. Use permeable paving solutions to improve onsite stormwater infiltration.

Guideline 16. Snow storage should be accommodated along the walkway in areas of lower visibility and public interaction.

3.4.4 Open Space With Pedestrian Links

The WSEL has one open space link, at the northeast corner of the site. The 15 metre-wide open space functions as a servicing corridor and a multi-use trail, and is adjacent to the park.

Guideline 1. Provide a permeable interface between this open space and the adjacent park.

Guideline 2. Landscape design to include plants that align with the East WSEL character area.

Guideline 3. Provide safe crossings and traffic calming at the Copper Street intersection.

3.4.5 Open Space Buffer

The WSEL site has a continuous open space buffer along Wilmot Line, and a potential open space link along the maintenance access space. In the future, the open space buffer would apply to the lands south of the maintenance access space, which are currently not included in the overall WSEL boundary.

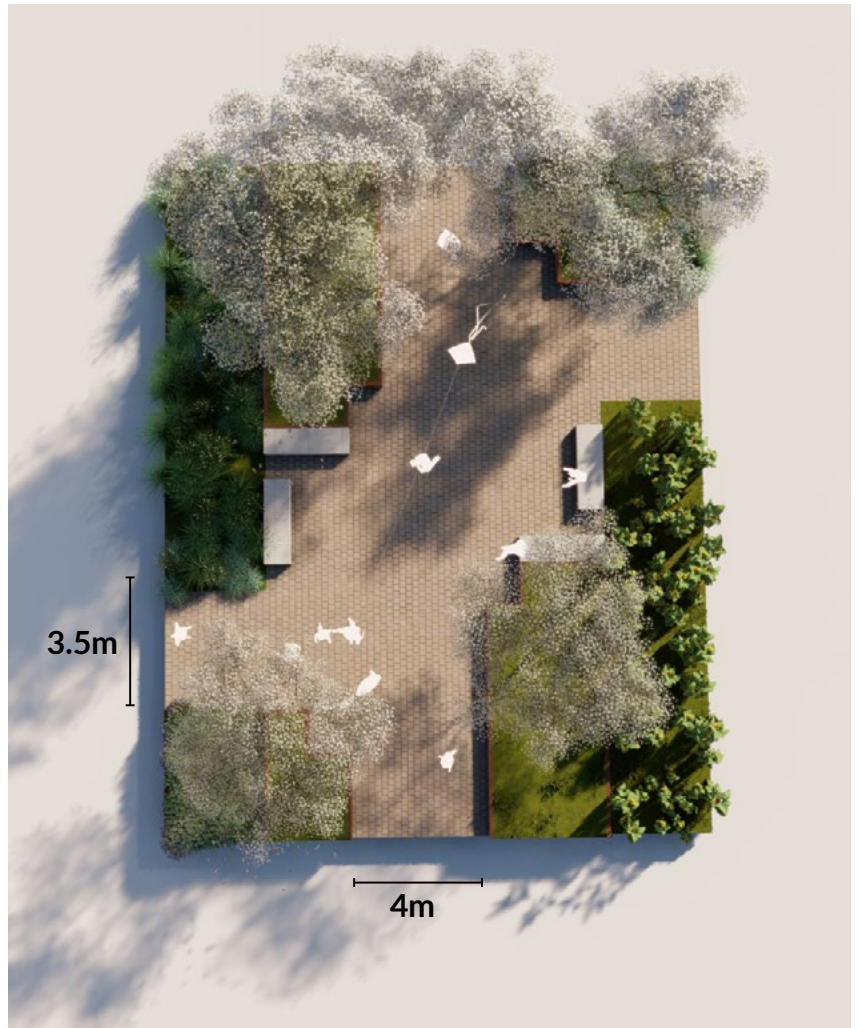
Guideline 1. Plant a generous open space buffer with native species for screening, expanding on the existing roadside planting along Wilmot Line.

Guideline 2. Provide post and wire fencing along the west side of the open space along Wilmot Line.

Guideline 3. Provide a granular or sod road allowance with linear hedges along the edges of the maintenance road access parcel, reflecting the vision for the West WSEL character area.



East WSEL Character Area



Core WSEL Character Area

Figure 17. Green Walkway WSEL Character by District



Figure 18. Green Walkway Spatial Layout Typology - East WSEL Character Area



Figure 19. Green Walkway Spatial Layout Typology - Core WSEL Character Area Illustration



Distributed Green



Periphery Green



Central Green

Figure 20. Green Walkway Spatial Layout Typologies



Figure 21. Green Walkway Spatial Layout Typology - Distributed Green Illustration



Figure 22. Green Walkway Spatial Layout Typology - Periphery Green Illustration



Figure 23. Green Walkway Spatial Layout Typology - Central Green Illustration



4.0 PRIVATE REALM GUIDELINES

The private realm comprises all lands that fall within the private property line and are largely only accessible to the private users, unless there are provisions for Privately Owned Publicly Accessible Open Spaces (POPS). The private realm includes buildings, internal circulation for both vehicles and pedestrians, amenity areas, lighting and signage, and landscaping.

Incorporating sustainable design practices as well as measures towards climate change resilience and adaptation within the private realm enhances the long term sustainability of the WSEL. Innovative site and building design plays a major role in mitigating adverse effects resulting from climate change while supporting the objectives of the A Climate Action for Waterloo Region (2019).

Environmental sustainability considerations have been integrated throughout this section, and the noted advanced sustainability guidelines provide options towards interventions with greater impacts to mitigating and adapting to climate change.

There is an opportunity for the City to provide incentives such as grants to encourage the implementation of the suggested sustainable measures described in the sections below. Elements proposed within the Private Realm Guidelines are the responsibility of developers and land owners to complete and maintain. The following sections identify general and site guidelines for the private realm within the WSEL.

4.1 General Guidelines

The general private realm guidelines are applicable to all private lands within the WSEL and describe requirements for the sites, buildings, landscapes, amenity spaces and circulation. As noted in the above section regarding the public realm, the private realm is also subject to alignment with the future branding for WSEL, notably the palette of site furnishings, lighting,

4.1.1 Site Organization & Design

Guideline 1. Develop an overall cohesive site, building and architectural design that create an identifiable and recognizable employment 'community' while enabling every building and site to have different and unique attributes.

Guideline 2. Site design should be cognizant of neighbouring sites and should aim to achieve a campus style development with continuous pedestrian connections and cohesive landscaping.

Guideline 3. Locate buildings and planting to minimize adverse impacts, such as shadows, wind tunnelling, noise attenuation and snow disposition for neighbouring properties and amenity areas.

Guideline 4. Allow flexibility for buildings to cut into grading on site edges along Columbia Street West, green walkway and other internal sites, to provide at street-level grade amenity space and building access.

Guideline 5. Implement strategies to contribute to pedestrian scale development including modest building setbacks with landscape treatments and canopy trees, entrances related to the street, pedestrian-scale lighting in high pedestrian traffic and parking areas.

Guideline 6. Maximize buildings facing primary frontages, and provide amenity spaces that spill into the public right-of-way.

Guideline 7. Capitalizing on prominent views and vistas through grading, site and building design, and the intentional placement of pedestrian connections and landscape treatments.

Guideline 8. Ensure that siting of buildings, storage and operations on-site does not impact sightlines for natural and countryside views.



Example of active pedestrian frontage with lights supporting safe spaces

Guideline 9. Reduce the amount of impermeable surfaces on site, improving on-site stormwater management.

Guideline 10. Maximize greening of parking lots to reduce the heat island effect, and improve on-site stormwater management.

Guideline 11. Provide Electric Vehicle Charging facilities for operational and personal vehicles.

Guideline 12. Provide priority parking for sustainable vehicle and carpooling users.

Guideline 13. Locate parking at the side or rear of buildings and provide adequate landscape buffer screening from public view.

Guideline 14. Sites are designed to give priority to pedestrian access and circulation. Truck access shall be planned to avoid non-motorized conflicts.

Guideline 15. Consolidate access roads and driveways wherever possible prevent conflicts with cyclists and pedestrians.

Guideline 16. Use various paving materials and colours to delineate prominent pedestrian entry points.





Example of parking lot bioswale and walking path

Guideline 17. Provide accessible walkways and special paving to denote pedestrian flow across private driveways and parking lots for increased safety and convenience.

Guideline 18. Ensure loading and servicing areas are adequately signed and located behind buildings and are adequately screened from the public right-of-way, green walkway and amenity areas.

Guideline 19. Short-term delivery / drop-off space for couriers should be located in close proximity to main entrances within building parking lots.

Guideline 20.  Consider indoor and outdoor water use reduction and rainwater management.

Guideline 21.  Optimize building energy performance and improve building energy efficiency with the use of renewable resources (e.g., solar panels, ground source heating, etc.).

4.1.2 Building and Massing

Guideline 1. Provide appropriate height-to-street width ratios through step-backs and massing. A minimum height to width ratio of 1:3 is required to achieve a perceived sense of enclosure.

Guideline 2. Locate building(s) at minimum setback requirements to bring the building closer to the street to maintain a continuous streetwall and enhance the interface between the private and public realms.

Guideline 3. Set building step-backs for building(s) taller than 3 storeys, protecting the pedestrian scale along the street.

Guideline 4. Provide multiple entrances and pedestrian connections to the public right-of-way, the green walkway, and amenity space that spills over into the public realm if appropriate.

Guideline 5. Provide architectural features along the public streetscape to provide sense of enclosure and protection from the elements including canopies, trellises or awnings.

Guideline 6. Avoid monolithic building(s) and provide architectural variations and articulation along continuous building façades, especially between separate units and between ground and upper floors for visual interest. Blank walls are prohibited.

Guideline 7. Design higher-quality frontages along the public edges (rights-of-way and the green walkway).

Guideline 8. Buildings located within significant vistas or views should be designed with heightened quality in order to enhance and optimize the view.

Guideline 9. Building colours should be warm, natural tones which complement and enhance the surrounding character and context, limiting bold or contrasting colours to accents and focal elements.

Guideline 10. Design roof lines to locate rooftop mechanical equipment away from the public right-of-way or conceal using incorporated architectural features; if concealing is not



Example of human scale built form

feasible, equipment should be painted to better blend into the colour scheme of the rest of the building design.

Guideline 11. Design buildings and rooflines to reflect contemporary design and be compatible with adjacent buildings.

Guideline 12. Locate buildings to minimize adverse impacts, such as shadows, wind tunnelling, noise attenuation and snow disposition for neighbouring properties and amenity areas.

Guideline 13. Define street corners of an intersection with prominent architectural design forms through massing and detailing.

Guideline 14. Use recycled or sustainably-sourced materials with longer life cycles for paving, building materials and site furnishings.

Guideline 15. Deep well garbage systems are preferred over detached garbage enclosures.

Guideline 16. 🔄 Design green roofs for buildings with large expanses of building roof.

Guideline 17. 🔄 Design for LEED certification, which is an important industry standard and method to score various aspects of development, including architectural design, building systems, and other infrastructure, as well as urban design and site planning elements.



Example of a parking bioswale and landscape screening

4.1.3 Landscape Design

Guideline 1. Design landscape to include planting configurations and species that reflect the WSEL character areas.

Guideline 2. Use planting, topography and decorative screens to buffer conflicting site uses from pedestrian view (e.g. service areas, parking, and utilities).

Guideline 3. Use planting and topographical features for landscape buffers to mitigate negative impacts and provide visual and physical screening.

Guideline 4. Avoid planting vegetation at prominent views or sightlines to the main building and entrances.

Guideline 5. Include periodic breaks along the landscape buffers to allow for visibility of the new development to assist in wayfinding.

Guideline 6. Use vegetation along the street fronts to enhance the interface between the public and private realm, while considering opportunities for onsite stormwater management (i.e., bioretention gardens, large stature trees, etc.)

Guideline 7. Rear landscape treatments are to be treated the same as the landscape along the building frontage.

Guideline 8. Provide a palette of planting that is sustainable, native, salt and drought tolerant, and resistant to diseases and pests.

Guideline 9. Specify a variety of planting heights for visual interest (perennials, grasses, shrubs, trees).

Guideline 10. Select species that will provide multi-seasonal interest (e.g., fall colours, colourful in winter).



Example of landscaping and seating in amenity area

Guideline 11. Use principles of environmental design to improve the biodiversity and survival of planted species.

Guideline 12. Group plant species together according to their growing needs, optimizing their environment and watering needs.

Guideline 13. Enhance City's urban forest through introduction of new tree planting on-site.

Guideline 14. Use soil cells, as necessary, to achieve higher soil volumes necessary for healthy street tree growth under hard surfaces.

Guideline 15. Prioritize locating medium to large stature trees in landscape zones to enhance the urban forest canopy and to improve microclimatic conditions for pedestrians (i.e., shade, protection from wind, etc.).

Guideline 16. Design landscape areas in line with Crime Prevention Through Environmental Design (CPTED) principles, avoiding entrapment areas or impeded views, and reducing the impact of screening and buffers.

Guideline 17. Consider using publicly visible private art features at key amenity areas interfacing with the public realm.

Guideline 18. Provide a variety of site furnishings including benches, bike racks, and waste and recycling receptacles at entrances and in amenity areas.

Guideline 19. Tree planting and softscaping is highly encouraged throughout parking areas to reduce urban heat island effects.

Guideline 20. Incorporate mitigation or abatement measures to reduce noise and odours into landscape design wherever possible.



Example of shading with trellis structures

Guideline 21. Infiltration practices are required within each development block for on-site water retention. Refer to the *Preliminary Stormwater Management Report*, prepared by Stantec in 2018.

Guideline 22. Employ Low Impact Development (LID) measures as non-traditional stormwater source and conveyance controls such as bioretention areas and permeable pavers where appropriate. Refer to the *City of Waterloo Stormwater Master Plan*, Section 5.1.2 and 5.1.3 for additional techniques.

4.1.4 Amenity Areas

Guideline 1. Provide high quality designed amenity areas (semi-public space) to foster human activity, and connect and enhance the public realm.

Guideline 2. Locate amenity areas along the primary frontages and the green walkway; locate amenity areas away from service areas and parking lots.

Guideline 3. Private open space can either be dedicated to private users only, such as internal courtyards, or lunch areas, or integrated into the public right-of-way to allow for interaction and spillover such as patios or outdoor gallery space.

Guideline 4. Design amenity areas in line with AODA and CPTED standards.

Guideline 5. Provide elements to maximize human comfort in amenity areas (shade trees, structures, seating, landscape elements).



Example of mural on transformer box

4.1.5 Safety, Security & Comfort

Guideline 1. Design all new site developments with CPTED principles.

Guideline 2. Provide adequate lighting illumination and continuous lighting.

Guideline 3. Increase security through the use of private wayfinding signage.

Guideline 4. Provide barrier-free access for emergency vehicles.

Guideline 5. Use higher-quality fencing designs, if required for security and safety.

Guideline 6. Provide appropriate seasonal maintenance (vegetation maintenance, snow removal) to provide safe access to all accessible areas of the property (i.e. entrances, parking, amenity space, servicing area, paths, etc).

Guideline 7. Incorporate mitigation or abatement measures to reduce noise and odours into building landscape and site design wherever possible. Screening elements should complement building in terms of materials and colour. Elements could include on site berming, landscaping and strategic location on site to reduce impacts to neighbouring properties.

4.1.6 Utilities

Guideline 1. Locate utilities and above ground equipment away from publicly visible areas.

Guideline 2. Use landscape planting beds or murals, as appropriate, to screen required above-ground servicing equipment (e.g. transformer boxes etc.).



Example of built form lighting

4.1.7 Lighting & Signage

Guideline 1. Provide site and building LED lighting that reduces and minimizes light pollution and glare with full cut-off lighting.

Guideline 2. Adequately light pedestrian areas (entrances, walkways, amenity areas, service areas etc.) including pedestrian scale lighting along high traffic routes.

Guideline 3. Encourage decorative light fixtures which are also sympathetic to the unique WSEL character and brand.

Guideline 4. Provide a coherent signage hierarchy for the site, including: private wayfinding to adjacent active transportation routes and the green walkway, access signage for employers and servicing, parking, etc.

Guideline 5. ☞ Encourage the use of renewable energy resources for lighting such as wind or solar power where possible.

Guideline 6. ☞ Consider using lighting fixtures that are made from renewable resources or recycled materials.

Guideline 7. Integrate signage and lighting architecturally into the building facades.

Guideline 8. Integrate durable and high-quality signage and building address architecturally into the building facades, along primary frontages.



Example of a freestanding sign



Example of active transportation station

Guideline 9. Locate free-standing and high-quality design signage along the site frontage where buildings are set further back from the roadway; locate near the site entrance.

Guideline 10. Private signage should be moveable and zero maintenance such as logos etched on stone.

Guideline 11. Consolidate multiple unit identification signage as a free-standing and high-quality design feature, located along the site frontage.

Guideline 12. Reinforce the overall character, identity and brand for the WSEL through the use of appropriate materials, size, shape and colours.

4.1.8 Active Transportation Facilities


Guideline 1. Provide grade-separated pedestrian only circulation from parking area to the building(s).

Guideline 1. Provide well-lit, well-marked, at-grade and safe bike storage on site.

Guideline 2. Provide well-lit and well-marked connections and linkages to and from the bike storages as well as other related facilities to enhance the site for pedestrians and cyclists.

Guideline 3. Extend sidewalks across all driveway entrances and major pedestrian crossings internal to the sites.

Guideline 4. Provide safe separation between vehicular and pedestrian/cycling traffic on-site for safety, especially in parking lots.

Guideline 5.  Provide for changing facilities, lockers and showers within the building to encourage employees to utilize non-motorized modes of transportation.

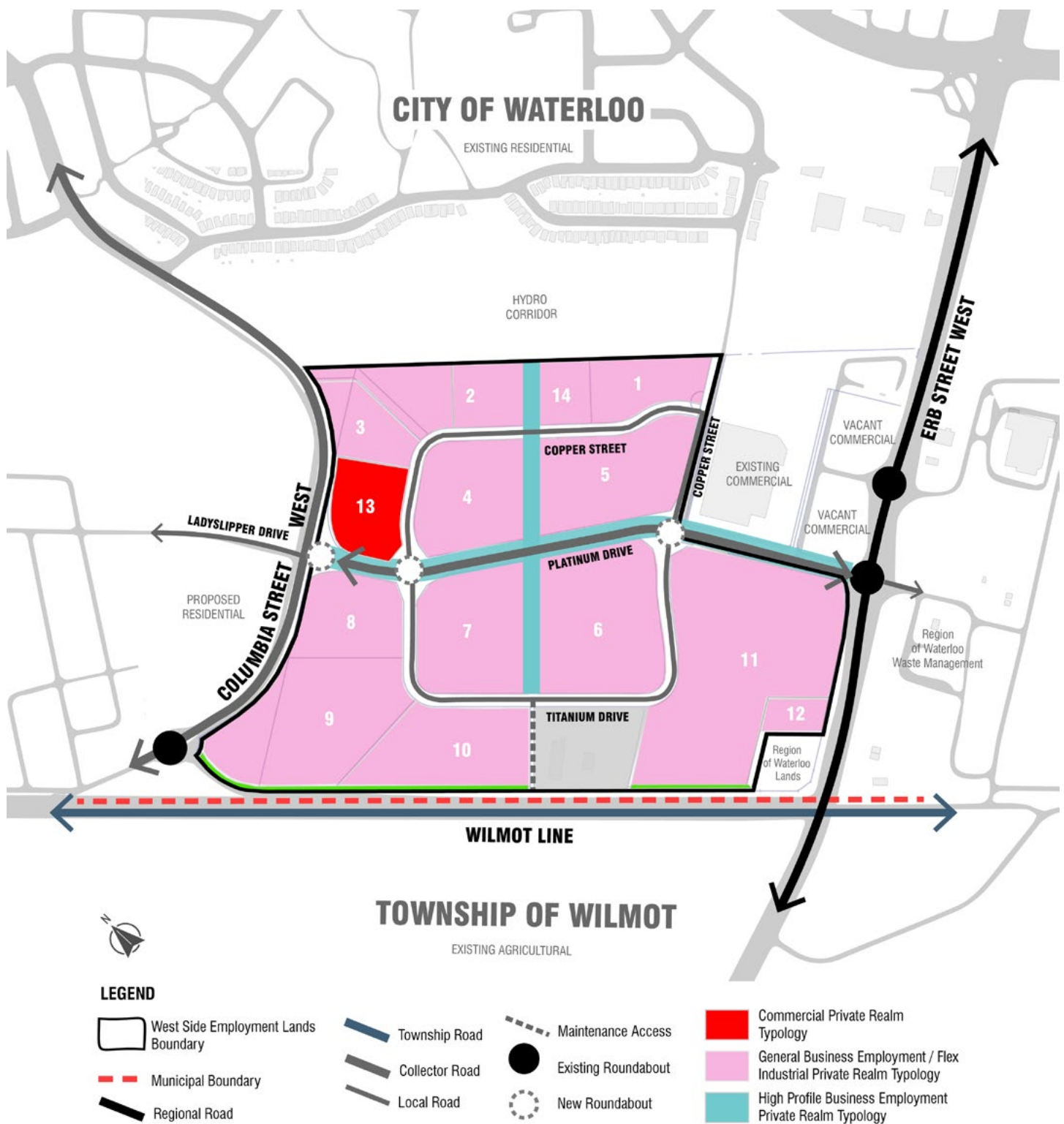


Figure 24. WSEL Site Typologies

4.2 Site Specific Design Guidelines

This section focuses on the following three site typologies that are permitted within the boundaries of WSEL, as per the City's Official Plan and Zoning By-law (see [Figure 24](#)):

- Commercial;
- High-Profile Business Employment; and,
- General Business Employment/Flex Industrial

Guidelines below provide direction on the site design and architectural design for each of the above typologies.

All illustrative concept plans are intended to provide guidance on site organization. Typical site layouts assume parcels have been severed except where noted. Exact locations of site components will be determined through the Site Plan process.

4.2.1 Commercial

General Theme

There is only one development block that is designated as 'Commercial', as per **Figure 24**. It is located at Block 13, at the corner of Platinum Drive and Columbia Street West. It provides local commercial services for the nearby community as well as support for the employment uses within the WSEL. The general theme for the commercial use within the WSEL is activation and interaction with the adjacent public realm.

This commercial site should have prominent frontages with high-quality architectural design along Columbia Street West and Platinum Drive, with the north facing facade being the primary frontage. It should provide an inviting environment for pedestrians with ground flood visual and physical permeability, and POPS. This block should be an anchor between the employment area and the adjacent neighbourhood, providing an attractive and transitioning built form. The development should be designed to complement overall WSEL vision and the quality of the desired architectural aesthetic.

An illustrated example of the site layout is provided in **Figure 25**, and the following guidelines provide detailed guidelines. Numbers on each diagram correspond with the associated site design guidelines on the following pages.

Site Design

- Guideline 1.** Orient the building(s) fronting Columbia Street West and Platinum Drive to frame the important north gateway corner.
- Guideline 2.** Provide semi-private amenity spaces along the streetfront, such as patios, plazas, informal seating and shade trees.
- Guideline 3.** Provide consolidated parking entrance off of Copper Street, maximizing the continuous street frontage along Platinum Drive.
- Guideline 4.** Locate parking at the side or rear of the site with minimal visibility from Columbia Street West and Platinum Drive.
- Guideline 5.** Provide pedestrian paths on all sides of the lot to encourage and facilitate porosity between the public and private realms.
- Guideline 6.** Provide publicly visible private art or a landmark tree at the corner of the lot, to enhance the sense of place.
- Guideline 7.** Provide a variety of site furnishings including benches, bike racks, and waste and recycling receptacles.
- Guideline 8.** Provide building canopies or awnings over private open spaces to provide shelter to users.
- Guideline 9.** Commercial services are encouraged to front on Platinum Drive.
- Guideline 10.** Rear landscape treatments are to be treated the same as the landscape along the building frontage.

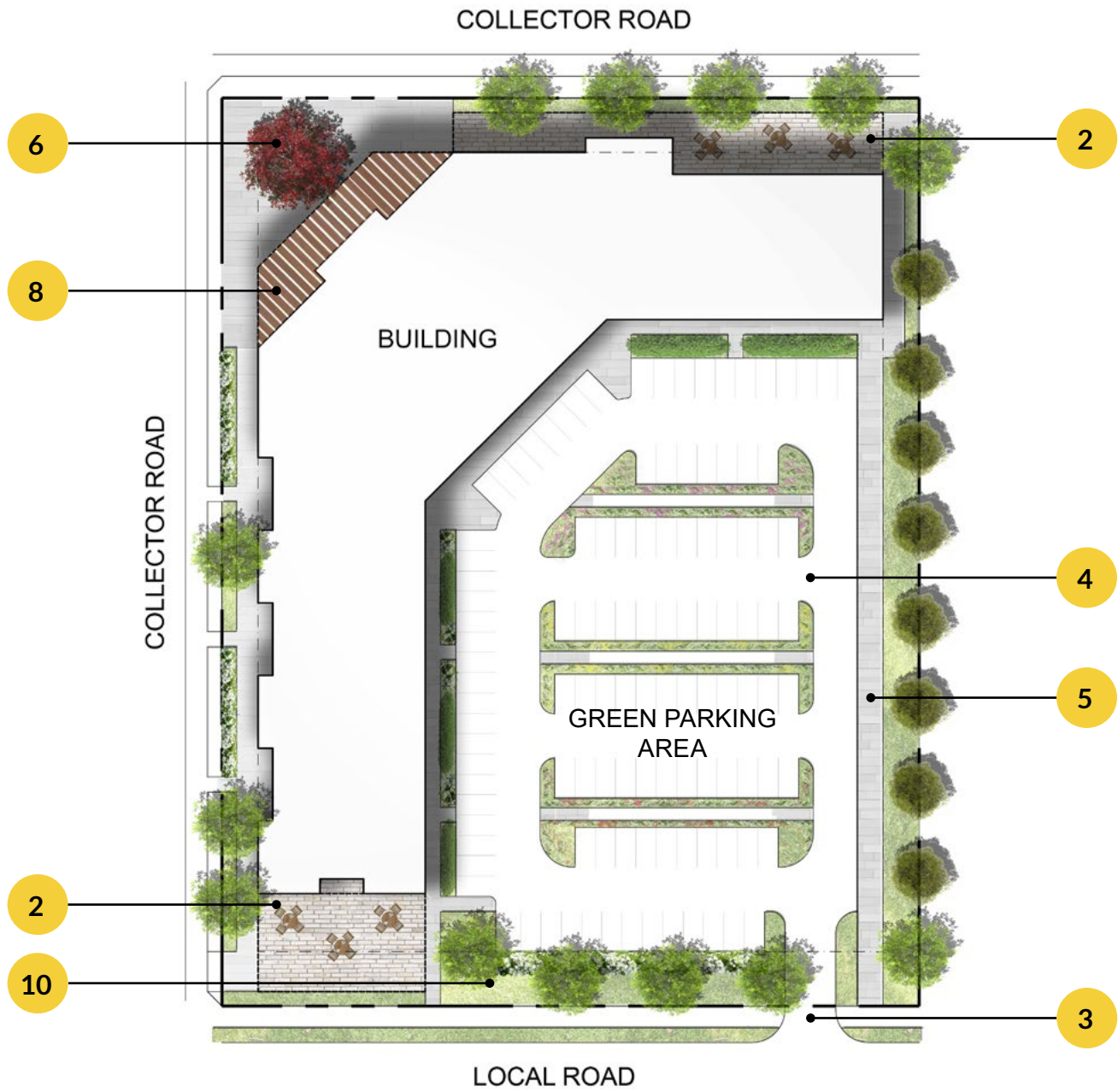


Figure 25. Typical Commercial Site Design Layout



New Seasons Market in Portland, Oregon, IRS Architects



Example of Commercial Architectural Design, Bignell Watkins Hasser Architects.

Architectural Design

Guideline 1. Design building(s) at minimum 2 storeys (5 metres) in height, and maximum 8 storeys (20 metres) in height.

Guideline 2. Design building(s) that are 50 metres maximum in length in either direction, optimizing pedestrian walkability.

Guideline 3. Articulate building(s) at corners and entrances for visual interest such as with increased height, use of architectural projections, variations in the roofing, or changes in materials such as increased glazing to also help activate the public realm.

Guideline 4. Provide vertical divisions of the facade to provide visual interest and definition if multiple units are located in a single building.

Guideline 5. Design for a minimum of 80% glazing along the ground floor/pedestrian-level frontage.

Guideline 6. Provide canopies and overhangs, where possible, to provide optimal pedestrian environment comfort.

Guideline 7. Provide entrances, bicycle parking and/or patios and outdoor display areas along building frontage between the building and the right-of-way.

Guideline 8. Primary entrances will face Columbia Street West and Platinum Drive, and secondary entrances will face the parking area.

Guideline 9. Entrances, primary street frontage / façade and other highly visible areas should be of a higher quality material and architectural style.

Guideline 10. Use a combination of materials including stone, wood, steel and glazing for a more modern and contemporary appearance of the building(s).

Guideline 11. Material changes will highlight changes between floors/building levels (podium/tower) as well as entrances and exits.

Guideline 12. Signage along the commercial units should be placed with consistency in location and size along the frontage of the building.

Guideline 13. Building flankage is to be treated the similarly as the building frontage.

4.2.2 High Profile-Business Employment

High profile business employment sites are located along Platinum Drive, as well as those fronting the green walkway, as per **Figure 24**. The design of these buildings will vary based upon the specific needs of the employer and the types of work being conducted on site. Clean, innovative and cultural industries are encouraged for these high profile sites, including: artist studio, microbrewery, makerspace, custom service shop, pharmaceutical industries, cultural facilities and light industrial (manufacturing, assembly, processing).

These high profile sites are to be designed to a higher standard than general business employment sites. When sites are designed more efficiently, it results in production efficiencies. The guidelines related to these uses should be applied with flexibility based on the context as well as the individual functional needs of the employers.

Figure 26 provides an illustrated example of an un-severed block site design layout. **Figure 27** illustrates a potential severed block site layout. Site Design guidelines numbering corresponds to numbers on the following figures.

Site Design

Guideline 1. Orient building(s) frontage to Platinum Drive or the green walkway to maximize access and exposure from the public right-of-way(s).

Guideline 2. Balance the need for some of the employment sites to have dual frontages, framing the important edge between Platinum Drive and the green walkway.

Guideline 3. Locate building(s) minimum 5 metres from green walkway to allow for additional plantings and amenity areas.

Guideline 4. Orient building(s) entrances and semi-private amenity areas (e.g., patios, outdoor galleries, etc.) to interface with the Platinum Drive right-of-way.

Guideline 5. Orient building(s) entrances to interface with the local road right-of-way, and the secondary entrances and private amenity areas (e.g., patios, outdoor galleries and classrooms, etc.) along the green walkway.

Guideline 6. Outdoor storage is prohibited in a front and flankage yard unless part of an outdoor display area associated with a permitted use. Outdoor storage is prohibited in a side and rear yard unless fenced and visibly screened (planting, decorative fencing or architectural features) from public visibility and sensitive uses.

Guideline 7. Direct access to high-profile sites from Copper Street and Titanium Drive are highly encouraged. There is to be no direct vehicular access from Platinum Drive unless no other alternative exists.

Guideline 8. Plazas will be situated along frontages and/or at building corners and intersections for enhanced integration with the public right-of-way.

Guideline 9. Consider locating street lighting within medians in areas of zero lot lines to mitigate impacts to awnings off balcony offsets along the pedestrian areas.

Guideline 10. Provide a substantially planted landscape buffer edge where parking areas interface the public right-of-way (green walkway / street) including a minimum double row of trees.

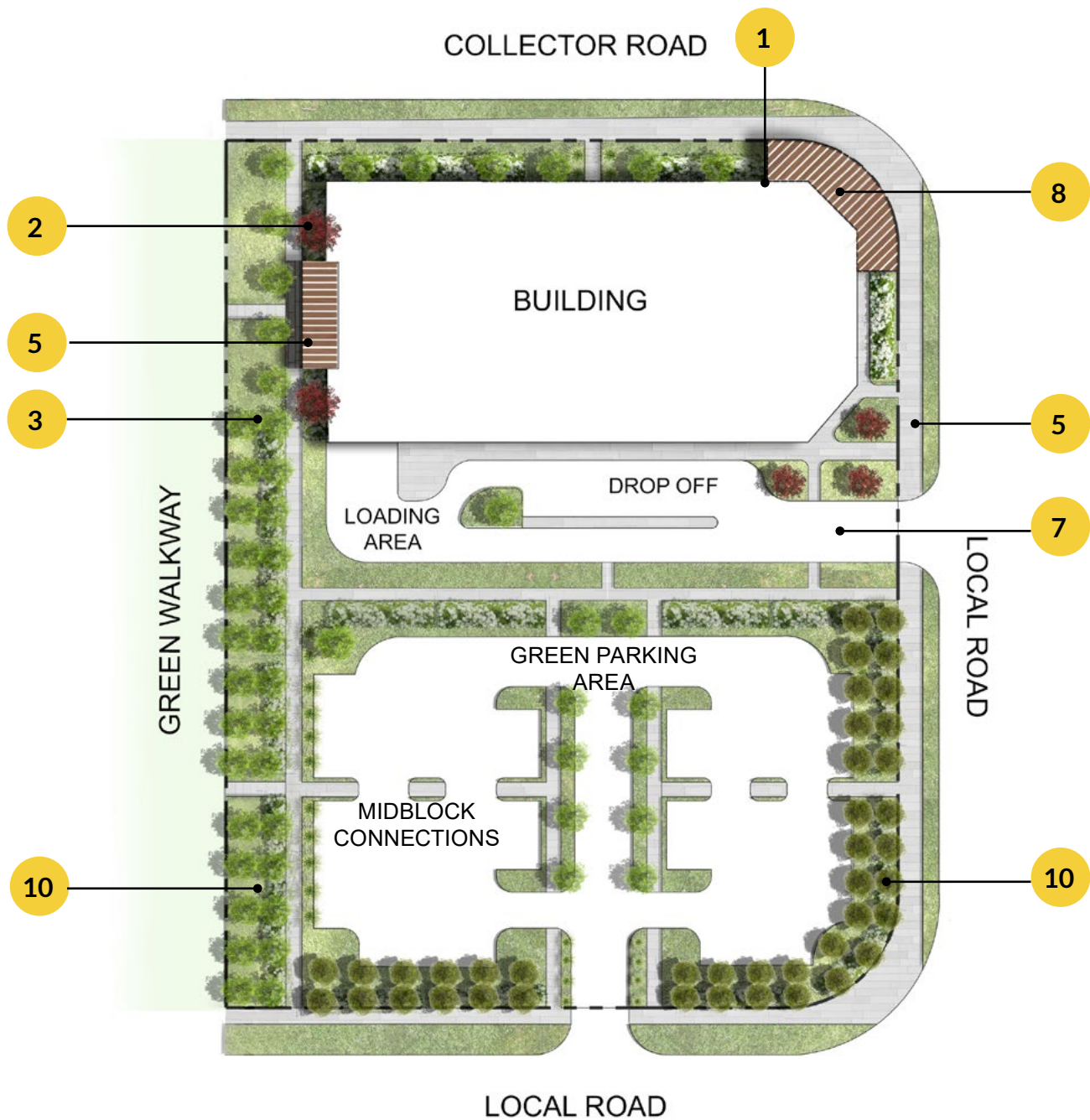


Figure 26. Typical High-Profile Business Employment Site Layout (un-severed development block)



Figure 27. Typical High-Profile Business Employment Site Design Layout



Mobilio Towns Development, Vaughn, Ontario, Menkes Development LTD.

Architectural Design

Guideline 1. Design building(s) to a maximum of 9 storeys (27 metres) in height; ancillary buildings shall be no taller than 2 storeys.

Guideline 2. Design building(s) that are 80 metres maximum in length, optimizing pedestrian walkability.

Guideline 3. Articulate building(s) at corners and entrances for visual interest such as with increased height, use of architectural projections, variations in the roofing, or changes in materials such as increased glazing to also help activate the public realm.

Guideline 4. Design higher quality frontages along the green walkway than the side or the rear of the building; it will share the same design standard as the road right-of-way frontage.

Guideline 5. Use high quality and durable cladding materials and finishes that create a unified appearance of a modern and prestigious business park, such as masonry (stone/brick), glazing, aluminum composite panels, and complementary materials.

Guideline 6. Provide main/office building design features and qualities to the ancillary buildings.

Guideline 7. Maximize exposure for office areas, if applicable, to primary street frontages and key site views.

Guideline 8. Orient all entrances along street frontage with direct access by pedestrian walkways.

Guideline 9. Provide architectural features along the public streetscape to provide sense of enclosure and protection from the elements including canopies, trellises or awnings.

Guideline 10. Main office area and visitor entry designed with a higher quality and architectural treatments.

Guideline 11. Provide multiple entrances and connections to the green walkway, and amenity space that spills over into the public realm.

Guideline 12. Consolidate signage if there are multiple units in a single building.

Guideline 13. Building flankage is to be treated the same as the building frontage.



Oakland Park Square, Florida, US

4.2.3 General Business Employment & Flex Industrial

General business employment and flex industrial sites are located throughout the remainder of WSEL site, along Copper Street and Titanium Drive, as illustrated in [Figure 24](#). The design of these sites will also vary based upon the specific needs of the employer and the types of work being conducted on site.

The general permissions for these uses apply. Clean, innovative and technologically advanced uses are encouraged. Industries and uses include but are not limited to: advanced tech (and associated assembly/manufacturing/processing); business incubator; communications; data centre; makerspace; medical clinic; office; and microbrewery.

Illustrated examples of (severed) site layouts are provided in [Figures 28 to 30](#), and the site design guidelines related to these uses should be applied with flexibility based on the context as well as the individual functional needs of employers.



Advocate Illinois Masonic Medical Center, Center for Advanced Care Proposal, Smith Group Source: Alison Furuto

Site Design

Guideline 1. Orient building(s) to have primary frontages pedestrian frontages along collector roads and the green walkway, with secondary frontage and access off local roads to maximize access and exposure from the public right-of-way(s).

Guideline 2. Balance the need for some of the employment sites to have dual frontages, framing the important edge between Copper Street/ Titanium street and the green walkway.

Guideline 3. Setbacks should be able to appropriately accommodate required infrastructure such as street lights.

Guideline 4. Orient building entrances and semi-private amenity areas (e.g., patios, outdoor galleries, etc.) to interface with the public right-of-way along the road and/or the green walkway.

Guideline 5. Develop a landscape buffer along the south side of Copper Street between the intersection at Platinum Drive and the dead-end to improve the visual aesthetic and key interface between the WSEL and the existing commercial use.

Guideline 6. Outdoor storage is prohibited in a front and flankage yard unless part of an outdoor display area associated with a permitted use. Outdoor storage is prohibited in a side and rear yard unless fenced and visibly screened (planting, decorative fencing or architectural features) from public visibility and sensitive uses.

Guideline 7. Use higher-quality fencing designs, if required for security and safety.

Guideline 8. Provide security buildings and gates, as required, for entry to properties.

Guideline 9. Design security buildings, walls and fencing to be consistent with the architectural features of the main building and to include high-quality elements, such as landscaping and lighting to reduce negative visual impacts to the public realm.

Guideline 10. Plazas will be situated along frontages and/or at building corners and intersections for enhanced integration with the public right-of-way.

Guideline 11. Naturalized plantings are encouraged along the property line and within the 30 metre building setback on development parcels adjacent to Wilmot Line.

Guideline 12. Private electrical and utilities equipment shall not be located within the City's right-of-way.

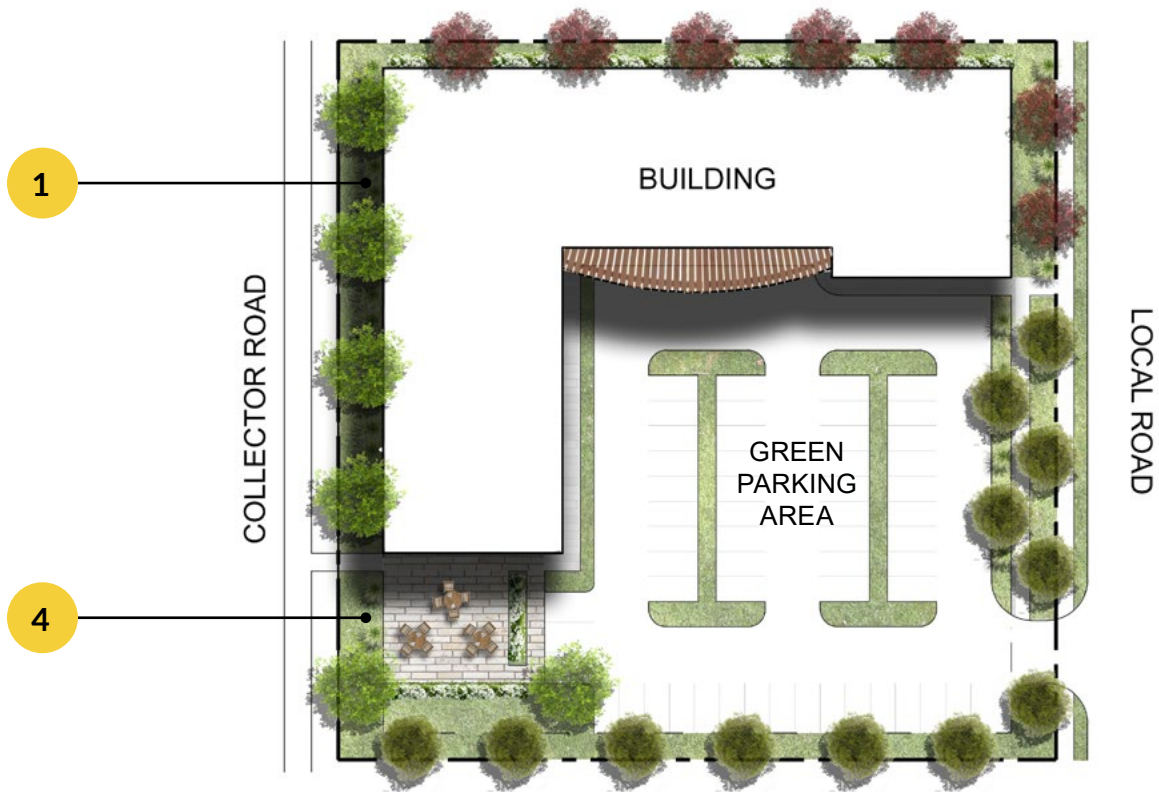


Figure 28. Typical General Business Employment Site Layout (A)



Figure 29. Typical General Business Employment Site Layout (B)

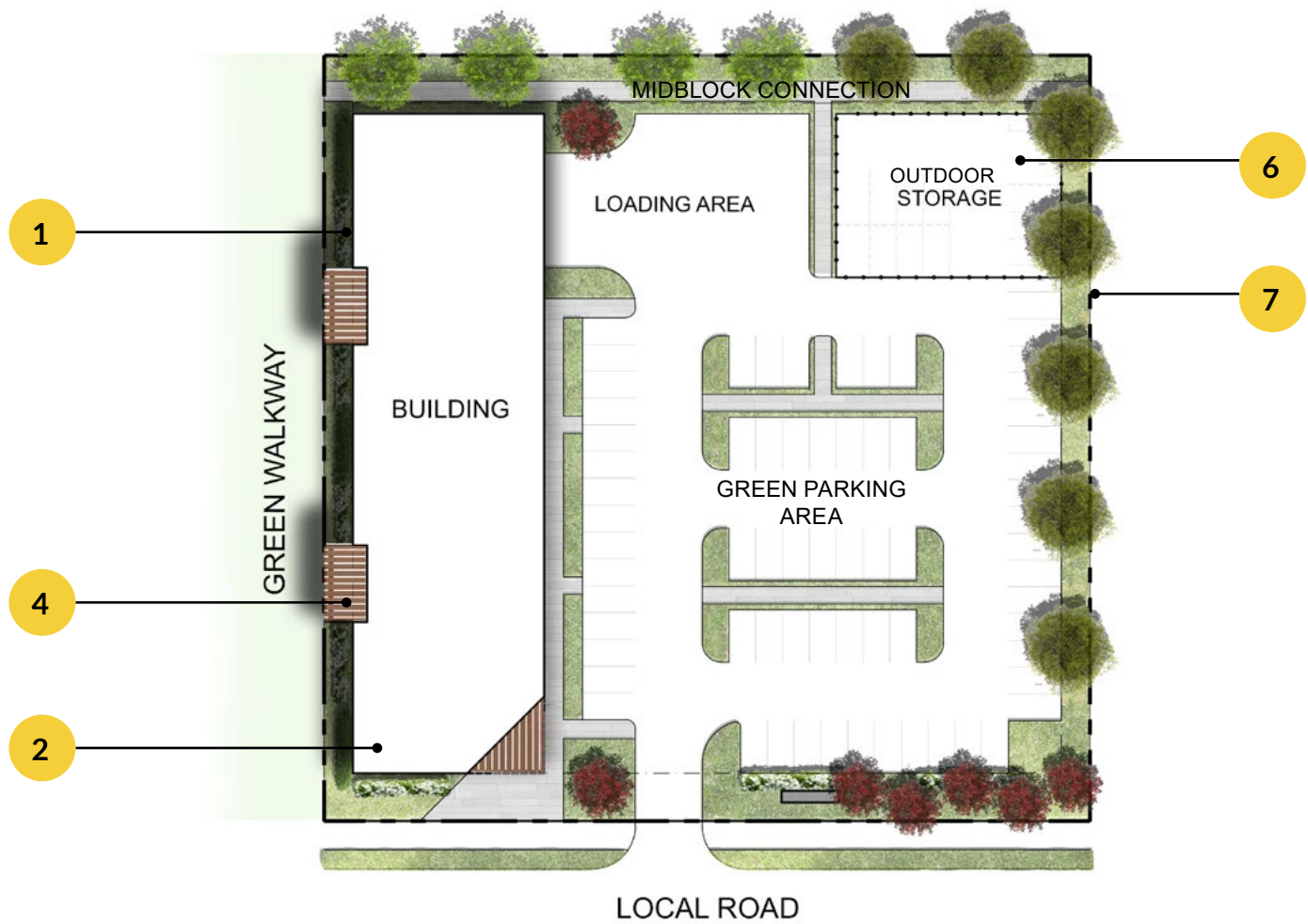


Figure 30. Typical Flex Industrial Site Layout (C)



New Corporate Headquarters, rojo Architecture

Architectural Design

Guideline 1. Design building(s) at a maximum 9 storeys (27 metres) in height; ancillary and storage buildings shall be no taller than 2 storeys.

Guideline 2. Design building(s) that are 100 metres maximum in length.

Guideline 3. Design facades along primary frontages and the green walkway with a higher-quality material and architectural design, as well as minimum 80% glazing.

Guideline 4. Maximize exposure for office areas, if applicable, to primary street frontages and key WSEL views.

Guideline 5. Provide floor-to-ceiling heights for office components at 3 to 6 metres in height.

Guideline 6. Use high quality and durable cladding materials and finishes that create a unified appearance of a modern and prestigious business park, such as masonry (stone/brick), glazing, aluminum composite panels, and complementary materials.

Guideline 7. Ancillary buildings should provide complementary design qualities to the main building component.

Guideline 8. Design main office area and visitor entry with a higher quality and architectural treatments.

Guideline 9. Consolidate signage if there are multiple units in a single building.