APPENDIX 9

SHAPING NINTH LINE URBAN DESIGN GUIDELINES

CITY OF MISSISSAUGA
JUNE, 2017

SHAPING NINTH LINE

Mississauga's Northwestern Gateway


FRIENDLY YORK VILLAGE FINE FOODS

Contents

1 INTRODUCTION

1.1 STUDY AREA OVERVIEW

The Ninth Line Neighbourhood is located on the western boundary of the City of Mississauga. Its boundaries are Highway 401 to the north, Ninth Line to the east, the Highway 407/Ninth Line crossover to the south and Highway 407 to the west. It comprises a total of approximately 350 hectares (914 acres).

At present, the Ninth Line Neighbourhood is mostly undeveloped, with the exception of the Union Gas plant south of Derry Road, some commercial uses with outside storage,and a few residential dwellings, including an historic farmhouse near Argentia Road. While the area is mostly field, there are a number of large woodlots and natural areas.

To the east of Ninth Line are two established residential neighbourhoods, including the Lisgar neighbourhood (north of Britannia Road) and the Churchill Meadows neighbourhood (south of Britannia Road). In addition, north of the hydro corridor and CPR tracks and south of Eglinton Avenue are employment areas.

1.2 ROLE OF THE GUIDELINES

The Shaping Ninth Line Urban Design Guidelines provide detailed direction for the implementation of the City's Official Plan vision, and the Ninth Line Neighbourhood Character Area, guiding principles, and related official plan policies. They articulate the aspirations of the community, and will assist Council, City Staff, landowners, developers and the public with clear directions to guide new development.

Urban design guidelines are an essential tool to ensure new development in the Ninth Line lands supports an active, diverse and healthy City, and reflects contemporary best practices in urban design. The guidelines should be applied during the design, review and approvals process for new development in the Ninth Line lands, including both private and public projects.

The guidelines address all aspects of design, and should be referenced in their entirety in the design and review of all projects. It is not the intention of the guidelines to limit creativity. Where it can be demonstrated that an alternative built form achieves the intent of the guidelines, its merits should be considered on a case-by-case basis. Where additional advice is appropriate, projects should be evaluated by the Urban Design Advisory Panel. Each precinct should be considered for tertiary master plan requirements.

1.3 DOCUMENT STRUCTURE

The Shaping Ninth Line Urban Design Guidelines are comprised of four sections, including:

1. Introduction - Section 1 introduces the guidelines, providing an overview of the study area and describing the application of the guidelines.

2. Vision and Guiding Principles - Section 2 outlines the City's Official Plan vision. To achieve this vision within the Ninth Line lands, a series of guiding design principles have been developed through consultation with the City, stakeholders and the public.

3. Public Realm Design Guidelines - Section 3 provides recommendations related to public realm design in the Ninth Line lands, including the design of greenlands and public space and transit-supportive streets and blocks.

4. Private Realm Design Guidelines - Section 4 provides recommendations related to private realm design in the Ninth Line lands, including the design of residential, commercial, institutional and employment buildings, as well as site design matters such as on-site parking and accessibility. Guidelines for the sustainable development of buildings and sites are also provided.

2 VISION AND GUIDING PRINCIPLES

2.1 SHAPING NINTH LINE VISION

The Ninth Line Neighbourhood is the last remaining greenfield land in Mississauga, and will be planned as sustainable, transit-supportive, connected and distinct. The Ninth Line Neighbourhood, and its six precincts, will be a model for sustainable development and a gateway into the City of Mississauga. The Neighbourhood will be designed with a focus on the importance of the natural environment, and the creation of a healthy, complete community with a sense of place. Current and future Ninth Line, Lisgar and Churchill Meadows residents will have access to a linked natural heritage system, multi-use trails, parks and open spaces. Higher- order transit, community uses and facilities and a variety of housing choices and employment opportunities will be provided to meet their needs.

2.2 GUIDING PRINCIPLES

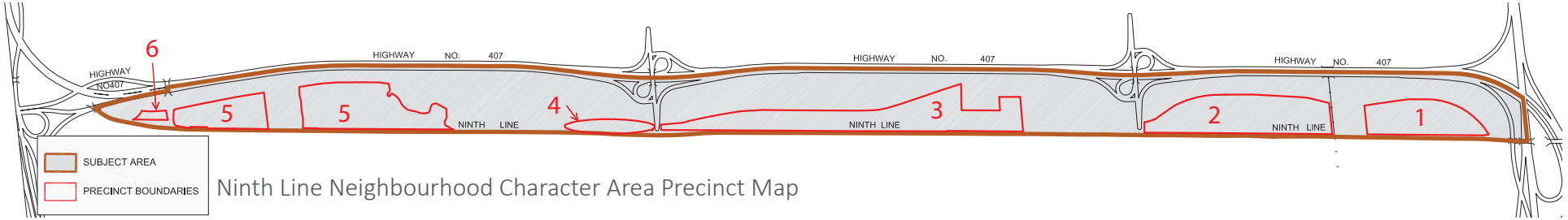
The Ninth Line Neighbourhood Character Area, the six Ninth Line precincts, related Official Plan policies, and the urban design guidelines are founded on extensive public and stakeholder consultation. This feedback informed the development of a set of Community Design Principles that form the basis for the Neighbourhood Character Area, six precincts, related Official Plan policies, and urban design guidelines.

The six Neighbourhood Character Area Precincts include: Precinct 1 - Employment Focus; Precinct 2- Derry 407 Transitway Station; Precinct 3 - North Britannia; Precinct 4 - Britannia 407 Transitway Station; Precinct 5 - Community Park Focus; and Precinct 6 - Gateway Employment.

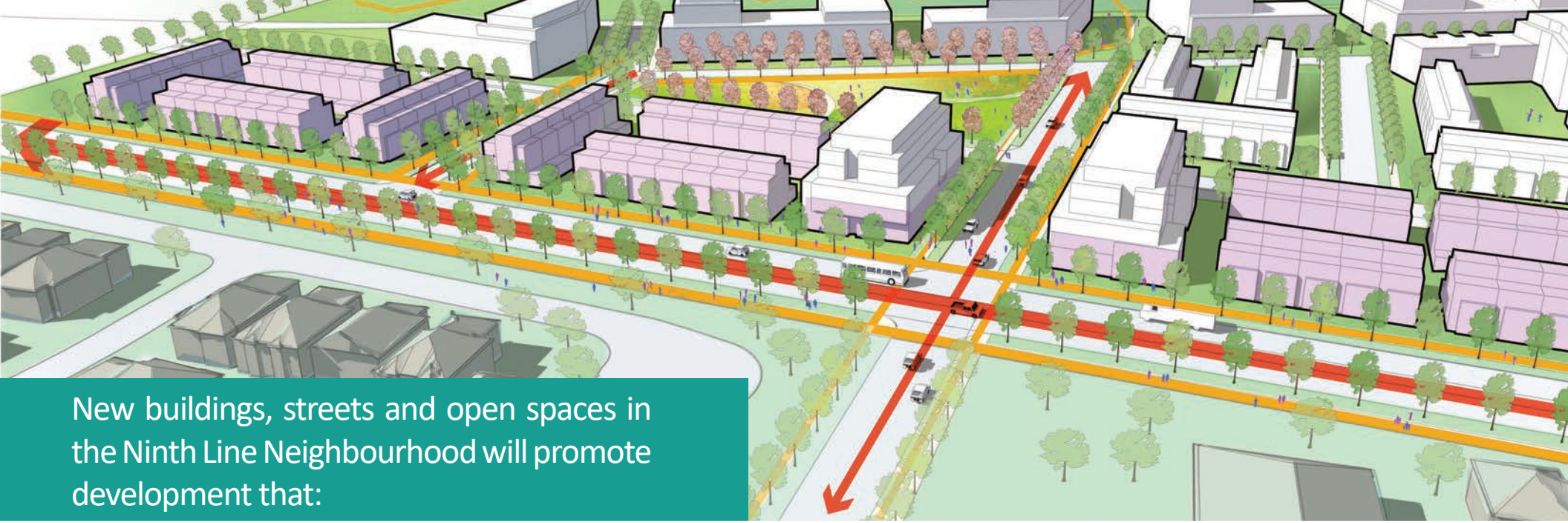
LAND USE AND BUILT FORM

CONNECTIONS

PARKS, HERITAGE & OPEN SPACE



Ninth Line Neighbourhood Character Area Precinct Map



New buildings, streets and open spaces in the Ninth Line Neighbourhood will promote development that:

LAND USE AND BUILT FORM

- Provides appropriate transitions to the neighbourhoods to the east
- Is complementary to existing and future transportation facilities including locating taller mixed use buildings near Transitway stations.
- Provides a mix of housing that accommodates people with diverse housing preferences and socioeconomic characteristics and needs
- Provides a diversity of employment opportunities to meet current and future needs including areas of lowrise employment in a compact campus style format
- Reflects land use planning practices in a way that is conducive to good public health
- Provide for a diversity of community infrastructure and facilities to meet the daily needs of residents, employees and visitors
- Recognizes the significance of cultural heritage sites and landscapes
- Is a model for sustainability within Mississauga
- Demonstrates distinct and appropriate design for all buildings, streets and open spaces

CONNECTIONS

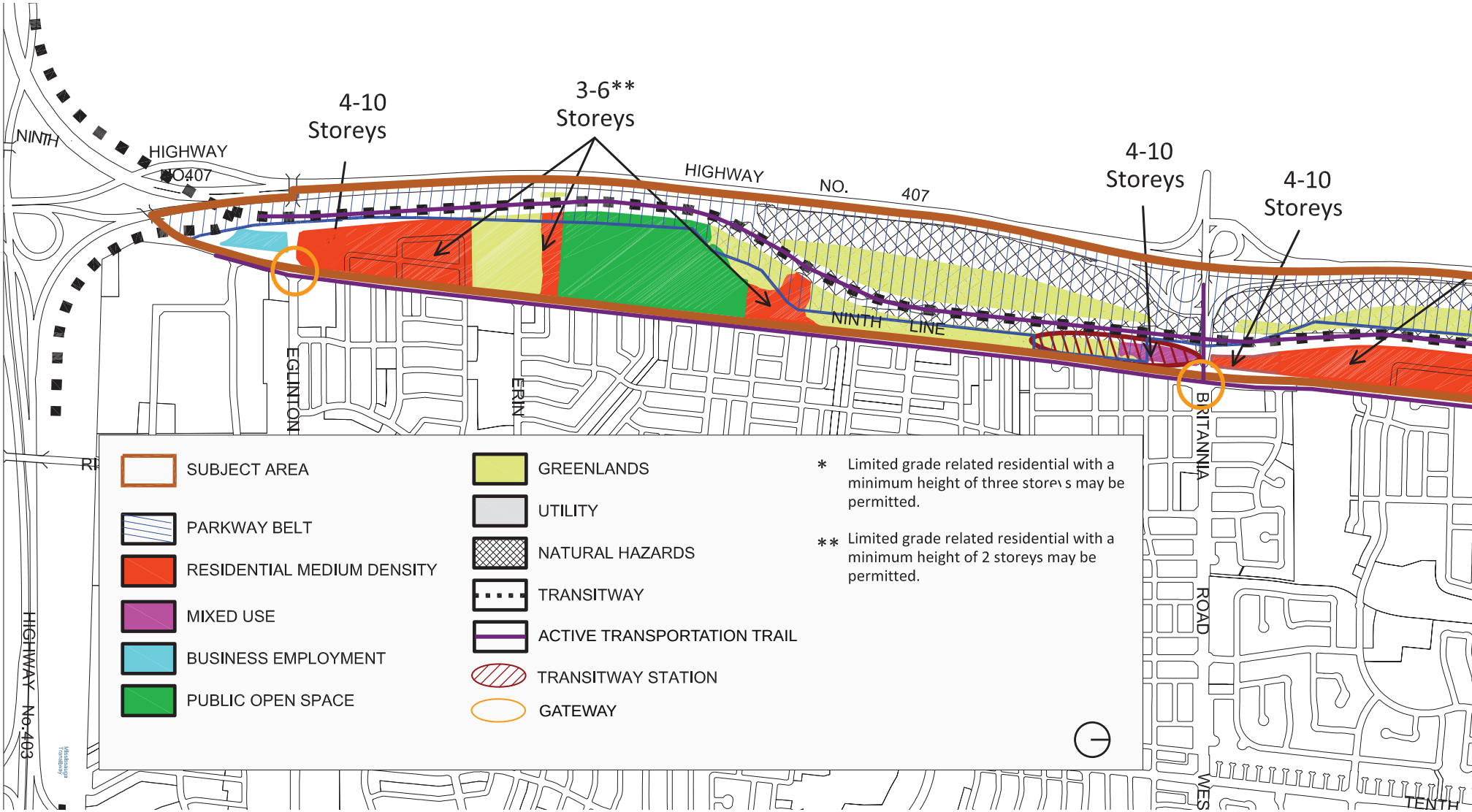
- Integrates a network of trails that link open spaces and key destinations, including to destinations outside the Ninth Line Lands
- Provides for safe pedestrian crossings of Ninth Line
- Recognizes gateways at key access points with prominent intersections
- Reinforces pedestrian supportive streets
- Integrates cycling lanes and/or multi-use paths on or adjacent to Ninth Line and other major roads
- Provides visual/physical connections between open spaces
- Supports a 407 Transitway route that minimizes the area of land used for roadway infrastructure and other potential impacts
- Enhances views from Highway 407 where practical

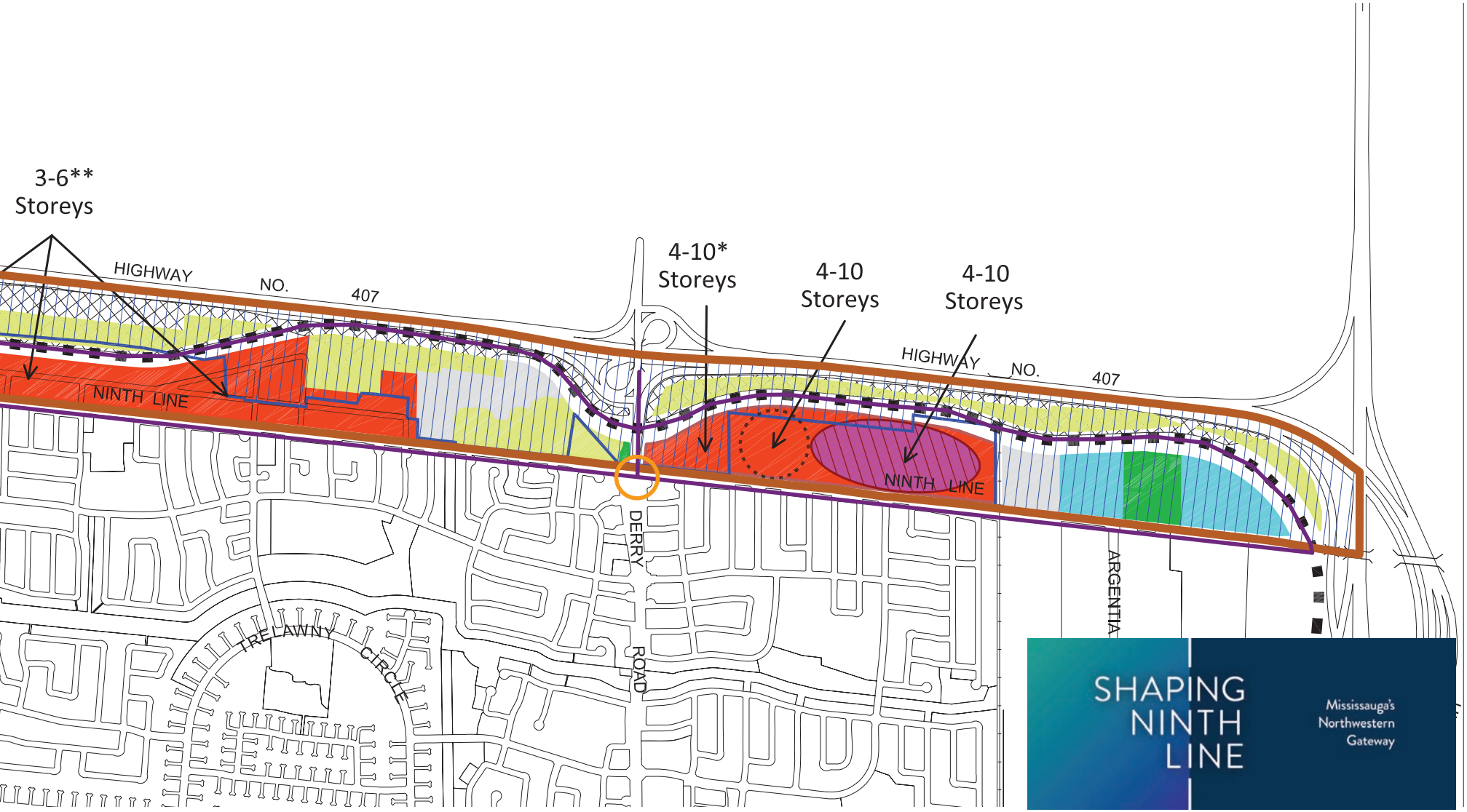
PARKS, OPEN SPACES AND NATURAL HERITAGE

- Creates a linked natural heritage system
- Provides a variety of parks and open spaces for all ages and abilities including those which:
  - Encourage passive and active use in all seasons
  - Promote unique experiences and educational opportunities
  - Protect and enhance natural areas
- Provides parks and open space in close proximity to adjacent neighbourhoods

2.3 LAND USE CONCEPT AND PLAN

The Shaping Ninth Line land use concept below reflects the land use vision for the Ninth Line lands. This area is predominantly Residential, anchored by Business Employment uses at both the north and south end. Around the transit stations, mixed-use development is recommended to create vibrant, active nodes. Two large areas toward the north and south of the Ninth Line lands are identified for "Public Open Space", while the majority of the west edge of the area is identified as "Greenlands". A multi-use trail is proposed along the entire length of the Ninth Line lands.




3-6** Storeys
4-10* Storeys
4-10 Storeys
4-10 Storeys
HIGHWAY NO. 407
NINTH LINE
HIGHWAY NO. 407
NINTH LINE
DERRY ROAD
ARGENTIA
TRELAWNY CIRCLE
SHAPING NINTH LINE
Mississauga's Northwestern Gateway

3 PUBLIC REALM DESIGN GUIDELINES

3.1 GREENLANDS AND PUBLIC OPEN SPACE GUIDELINES

A significant amount of the Ninth Line Neighbourhood is occupied by natural heritage and open space features, including either Greenlands or Public Open Space. If designed and considered as part of the comprehensive development of the area, these features can play an integral role in defining the character of the Ninth Line lands, and in providing connections to the adjacent stable neighbourhoods.

3.1.1 GREENLANDS

Ninth Line's Greenlands include extensive lands which are subject to "Natural Hazards"[1] as well as a stormwater management pond. The Greenlands also provide significant opportunities for unique open spaces and natural areas. New development should ensure that it preserves and enhances these existing and planned Greenlands for the benefit of Mississauga's residents and the environmental and ecological health of the Ninth Line lands.

a. Use of the Greenlands for outdoor education and local recreation is encouraged. However, access should be restricted where necessary to ensure public safety and to protect sensitive natural heritage features. Such features should be adequately buffered and linked to other features to ensure that the natural heritage system is protected, enhanced and restored, and that ecological systems are not negatively impacted.

b. Where feasible and ecologically appropriate, publicly accessible areas within the Greenlands should be highly visible and bordered by streets, multi-use trails, and Public Open Space. This will maximize public access, and significant views while increasing ecological awareness.

c. Development is generally not permitted within the Greenlands. However, smaller pavilion-style buildings (i.e. no foundation) may be appropriate to facilitate the recreational use of this area. Where this is permitted, buildings should have a minimal footprint and be well integrated into the natural landscape.

1 "Natural Hazard Lands means property or lands that could be unsafe for development due to naturally occurring processes. Along the shoreline of Lake Ontario, this means the land between a defined offshore distance or depth and the furthest landward limit of the flooding hazard, erosion hazard or dynamic beach hazard limits. Along river and stream systems, this means the land, including that covered by water, to the furthest landward limit of the flooding hazard or erosion hazard limits." Mississauga Official Plan, Oct.2016 Consolidation, "List of Definitions", p.10.

d. Where development is located adjacent to the Greenlands, medium and higher density buildings should be designed to maximize public access, views and awareness of the landscape, and to promote safety through casual surveillance.

Where built elements are proposed within the Greenlands, they should have a minimal footprint and be well-integrated into the landscape.

3.1.2 PUBLIC OPEN SPACE

Within the Ninth Line Neighbourhood, two significant Public Open Spaces have been identified, including a large park at the south end of the neighbourhood, and a smaller open space at the north end (in association with an existing heritage house. In addition to these identified open spaces, there will be significant opportunities for new public open spaces, as well as private open spaces, associated with new development. These spaces should be designed and located to ensure safe and active use, and to reinforce a connected network of open spaces.

a. Parks should be located along, and at the terminus of major streets to create an attractive public realm.

b. Where possible, parks should be open on the greater of a minimum of two sides to the public street, or in the order of 50% of the park perimeter.

c. Parks and open spaces should be designed to reflect their role and should serve the diverse needs of the community, including facilities for passive (e.g. walking trails, gardens, seating areas, park pavilions, interpretive displays) and active recreation (e.g. sports fields, skating rinks).

d. Parks and open spaces should be visible from adjacent streets to ensure safe, active uses.

e. Buildings fronting onto parks and open spaces are encouraged to enhance safety through casual surveillance. In such cases, clear public pathways and other measures are encouraged to ensure the space is not interpreted as private amenity space.

f. Highly visible connections should link open spaces to adjacent boulevards and cycling facilities, on-site circulation routes, and the proposed multi-use pathway.

g. Vehicular connections through parkland should be limited to emergency vehicle routes and access to major park facilities and parking areas.

h. Parks should be located adjacent to the Greenlands where possible as a means of maintaining a sense of connection with the natural landscape. In addition, parks may be directly connected to institutional sites to encourage joint use of facilities including parks.

i. Natural ecosystems should be protected and enhanced to ensure a sustainable environment for plants and wildlife.

j. Native and naturalized, non-invasive plantings should be used wherever possible, and planting should abide by the Conservation Halton guidelines where applicable.

k. Park entrance design should provide amenities including visitor drop-off, pedestrian scale lighting, and coordinated signage to assist in orientation and use of park amenities.

l. Where possible, playground surfaces and park equipment should consider the use of recycled materials.

m. Playground facilities should feature equipment that incorporates the principles of universal design.

n. Signage, public art and other place making elements should be incorporated to develop a stronger sense of place.

o. Park signage should be coordinated at entrances to avoid unnecessary clutter.

Parks and open spaces should be visible from adjacent streets to ensure safe, active use.

Highly visible connections should link open spaces

3.1.3 MULTI-USE TRAIL

The Ninth Line Neighbourhood Character Area envisions a continuous multi-use trail running parallel to the Transitway from Highway 401 to Eglinton Avenue. This supports alternative modes of transportation (i.e. walking and cycling) for the area's residents, connects people to the Greenlands and Public Open Spaces, and when combined with crossings of Ninth Line, provides the opportunity to provide continuous connectivity to the rest of Mississauga's Greenlands and open space system. The design of multi-use trails will be regulated primarily by Community Services and the Transportation and Works Department.

a. The new multi-use trail and other new trails should connect to each other, and to existing trails, streets, and open spaces including those to the east of Ninth Line to create a linked trail network that provides pedestrians and cyclists with connections and recreation opportunities.

b. Trails should link to core activity areas such as transit stations, community centres, mixed-use areas, and nearby employment areas. They should create strong links between neighbourhoods, open spaces, and natural heritage features, including those to the east of Ninth Line.

c. The design of trails located in the Greenlands or open space areas should reflect the function and nature of the type of open space it occupies. Generally, such trails should be constructed of asphalt. All trails should be designed according to site-specific conditions.

d. Trail widths should range from 3-4m wide, depending on the type of trail, to allow for two way cyclist or pedestrian passage depending on site specific conditions.

e. Where applicable, multi-use trails should be designed to distinguish between walking and cycling/roller-blading areas to minimize conflicts.

f. Multi-use trails should include multiple access points along the network to promote permeability into the system. The design of access points should consider that people arrive by a variety of means, including foot, bicycle, car, or transit. Entrances should also be designed to accommodate persons with physical disabilities and therefore include stable yet permeable surfaces.

g. Where appropriate, multi-use trails should include adequate amenities, such as seating, waste receptacles, lighting, signage, route information, and educational and historic information. Amenities should be designed according to site-specific conditions.

Multi-use trails should connect to each other and to existing trails, streets, and open spaces including those to the east of Ninth Line to create a linked trail network.

3.1.4 STORMWATER MANAGEMENT PONDS

Stormwater management ponds will be required. These ponds provide significant opportunities for passive recreational areas and neighbourhood amenities.

a. Views and access to stormwater management facilities is encouraged, wherever possible, to integrate them as important community amenities. Such facilities should be bounded by a combination of road and open space to allow appropriate and safe use, views and access. The degree of access should be considered on a site-by-site basis through a combination of facility edge treatments. Shallow slopes should be provided for direct access areas and overlooks with railings or densely planted areas should be applied to discourage direct access.

b. The use of fencing should be reserved to mitigate specific safety concerns.

c. A hierarchy of design treatments should be developed to address the various conditions of facility design and locations, including naturalized and urbanized edges. In all cases, stormwater management facilities should be designed as attractive features of the landscape, and should incorporate an arrangement of planting that does not interfere with their function. Where feasible, sitting areas with pathway connections should be provided to encourage use and reinforce safety.

d. Public education displays should be used to increase awareness and appreciation of the facilities.

Views and access to stormwater management facilities is encouraged wherever possible to integrate them as important community amenities.

3.2 GUIDELINES FOR TRANSIT SUPPORTIVE STREETS AND BLOCKS: DERRY 407 TRANSITWAY STATION AND BRITANNIA 407 TRANSITWAY STATION PRECINCTS

New development in the Ninth Line Neighbourhood, including the organization and design of blocks, streets, and boulevards, should support and encourage transit and active transportation. Short, permeable blocks encourage efficient connectivity for all modes, while wide, attractive boulevards support vibrant, active streetscapes.

3.2.1 BLOCK LAYOUT AND ORGANIZATION

With the alignment of the Transitway, and two transit station nodes, the design and layout of streets and blocks in the Ninth Line lands should support transit use and active transportation (i.e. walking and cycling). Transit supportive design will concentrate a mix of land uses and higher densities along Ninth Line, particularly at key nodes, to provide the critical mass to support regular transit service.

a. New streets should reinforce a well-connected grid system, including direct connections to the east side of Ninth Line, to provide convenient connections and promote permeability throughout the Ninth Line lands.

b. To facilitate a well-connected grid network, block lengths in the Ninth Line lands should generally be limited to 180m, and block widths should be limited to 80m. Where blocks exceed 180m, substantial mid-block connections should be provided to encourage pedestrian permeability into the neighbourhood.

c. A mix of land uses and/or higher residential densities should be provided at key locations, such as transit station areas, major intersections (i.e. Eglinton Avenue, Britannia Road and Derry Road), and adjacent to Open Spaces, to generate pedestrian traffic and activity throughout the day, and through all seasons.

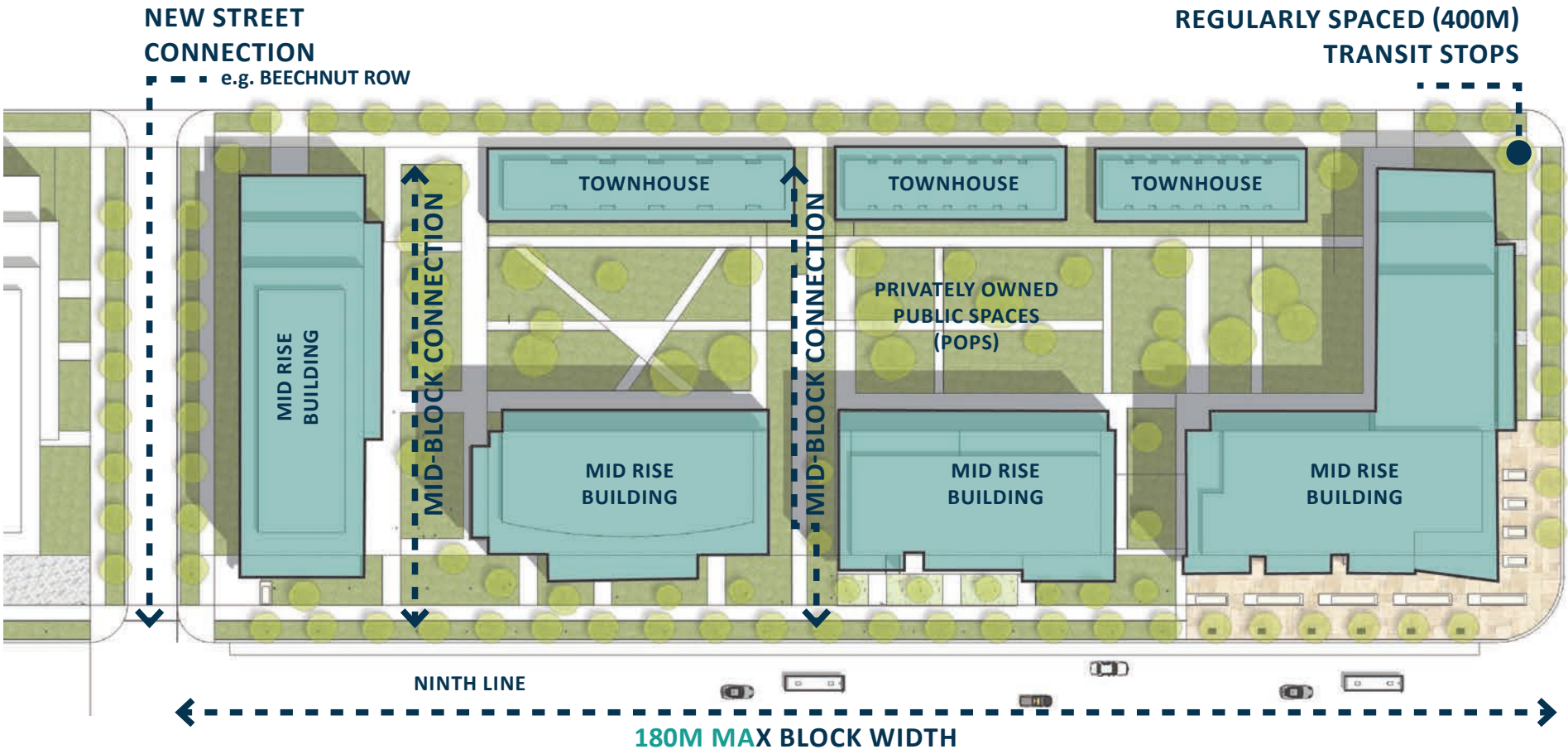
d. Access to transit should be located within a short walking distance of most uses (approximately 400m).

e. The pavement width of vehicular lanes on new streets should be minimized in order to provide sufficient space for cycling facilities and wide boulevards including sidewalks.

f. Transit stops should be located in conjunction with public amenities, where possible, including community centres, parks, schools, and other community facilities (i.e. library, gallery).

g. Auto dependent uses, such as drive through retail and car wash facilities, should be carefully located and designed to minimize impact on the streetscape and pedestrian and cyclist traffic.

Precedent for low to mid-rise transit supoprtive development.



Demonstration Streets/Blocks Diagram

3.2.2 COMPLETE STREETS AND BOULEVARDS

3.2.2.1 ARTERIAL ROADS

Arterial roads, including Ninth Line, Eglinton Avenue, Britannia Road and Derry Roads, and a potential extension to Argentia Road, are high capacity transportation roads that accommodate regional and local travel demands. Arterial Roads also connect nodes and serve as major gateways into Mississauga and through the Ninth Line lands. Arterial Roads should have an urban character and should promote the highest level of design, including attractive buildings that frame and address the street, cycling facilities, and pedestrian-supportive boulevards characterized by wide sidewalks, street trees, consistent paving, lighting and public art. Enhanced streetscape (i.e. additional trees, sidewalk width and street furniture etc.) should be considered along the arterial road in the selected areas depending on the abutting land use and context of the precincts.

a. Arterial roads should be designed as 'complete streets' that serve a variety of functions, including transit, connections between communities, and connections to other roads.

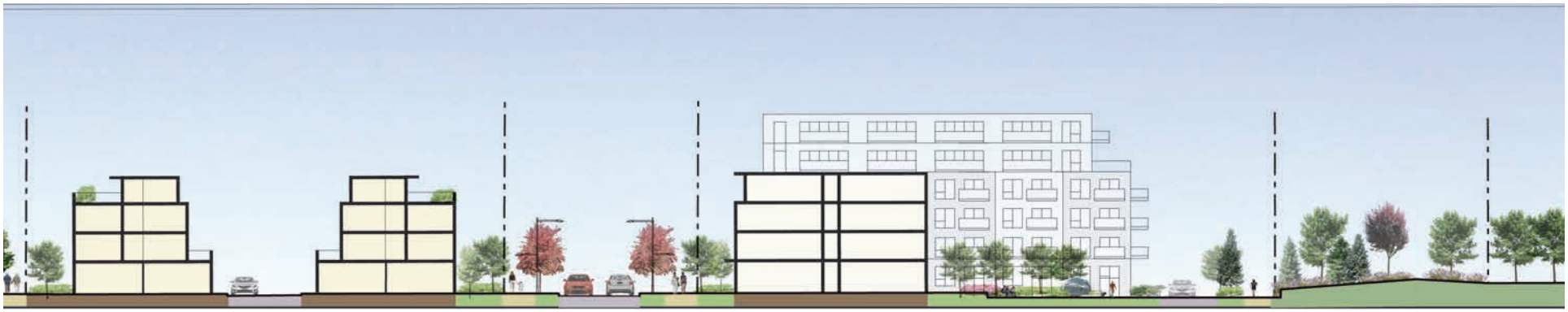
b. Where appropriate, arterial road boulevards should be a minimum of 6m in width to provide opportunities for an enhanced streetscape condition.

c. Street trees are recommended on all arterial roads, and should be offset 1.75-2.0m from the curb to accommodate snow storage with minimal risk to the tree. All street trees should have access to a minimum soil volume of $20m^3$ ($30m^3$ if shared by two trees).

d. A multi-use trail on the east side of Ninth Line will accommodate bicycle traffic. Bicycle parking will be provided at regular intervals, as outlined in section 3.2.5.3.

e. Travel lane widths should be as narrow as possible to accommodate wider boulevards within the smallest possible right-of-way.

f. Curb cuts and disruptions to pedestrian and cyclist movement should be minimized through the use of joint access driveways wherever possible.



Ninth Line Cross Section. Note: Conceptual design to be determined through future Environmental Assessment Study

3.2.2.2 COLLECTOR ROADS

Collector Roads are medium capacity corridors that connect Local Roads to one another, to intersecting Collector Roads, and to Arterial Roads. The design of Collector Roads should be more substantial than Local Roads and should include boulevards with wide sidewalks on both sides, consistent paving, and lighting. Enhanced streetscape (i.e. additional trees, sidewalk width and street furniture etc.) should be considered along the collector road in the selected areas depending on depending on abutting land use and context of the precincts.

a. Collector Roads should be designed as 'complete streets' that serve a variety of functions, including transit and connections to other roads.

b. Where appropriate, collector road boulevards should be a minimum of 6m in width to provide opportunities for an enhanced streetscape.

c. Street trees are recommended on all Collector Roads, and should be offset 1.75-2.0m from the curb to accommodate snow storage with minimal risk to the tree. All street trees should have access to a minimum soil volume of 20m^3 (30m^3 if shared by two trees).

d. Bicycle facilities should be provided on both sides of Collector Roads and are encouraged over on-street parking. Where on-street parking is not possible due to street width constraints, site plans in this area should account for required visitor and short term parking needs on site.

e. Travel and parking lane widths should be as narrow as possible to accommodate wider boulevards within the smallest possible right-of-way.

f. Curb cuts and disruptions to pedestrian and cyclist movement should be minimized through the use of joint access driveways wherever possible.

Collector roads should be designed to serve a variety of functions including transit and connections to other roads.

3.2.3 ON STREET PARKING

On-street parking within the Ninth Line lands should be permitted wherever possible, to animate the street, reduce vehicle speeds and serve as a protective buffer between pedestrians and moving vehicles. On-street parking may be provided through lay-bys and/or bump-outs, and should reflect all appropriate engineering design standards.

a. Parallel on-street parking is preferred over perpendicular or angled parking to minimize the overall width of the street and optimize sight-lines.

b. On-street parking may be situated within bump-outs and/or lay-bys, but should not compromise the minimum recommended boulevard widths (4.8-6m) on collector and arterial roads.

c. Where bump-outs are provided, they should be landscaped with street trees or low level ground cover and be designed to accommodate snow storage.

3.2.4 NOISE IMPACT MITIGATION

Sound buffering techniques should be employed along the east side of the 407 and the proposed 407 Transitway to protect the adjacent residential, public open space and employment where noise impacts are deemed to exceed an acceptable limit. Potential mitigation techniques include:

a. Mounting well designed, acoustical barriers where appropriate.

On-street parking is encouraged to animate the street, reduce vehicle speeds, and serve as a protective buffer between pedestrians and moving vehicles.

3.2.5 STREET FURNISHINGS

3.2.5.1 SEATING AND OTHER STREET FURNITURE

Seating, benches, and other street furniture should be provided along streets throughout the Ninth Line lands, and particularly in high activity areas such as mixed-use areas, transit stations and stops, key intersections, parks and open spaces, and employment areas. Seating should be located within well-landscaped areas to provide comfort and encourage social engagement.

a. Street furnishings should be placed in a coordinated manner that does not obstruct pedestrian or vehicular circulation, or snow removal and other maintenance requirements.

b. Street furnishings should reflect the City's standard palette, as appropriate, but should include elements that are unique to the Ninth Line lands. Furnishing should provide a consistent and unified streetscape appearance.

c. In special areas (i.e. transit stations, nodes, plazas) seating and benches may vary from the City standard to reinforce the unique character of the area.

d. Where raised planters are used in the boulevard, they should be designed to function as alternative seating along the sidewalk edge.

Street furnishings should reflect the City's standard policies as appropriate, but include elements that are unique to Ninth Line Lands.

3.2.5.2 TRANSIT SHELTERS

The design and location of transit shelters will play a significant role in encouraging transit and active transportation in the Ninth Line Neighbourhood.

a. Transit stops should be placed near building entrances and located frequently throughout the community to ensure all residents are within walking distance (400m) of transit service.
b. Far-side stops (after an intersection) are encouraged to enhance safety and efficiency by reducing the number of stops required before proceeding through an intersection.
c. Transit stops should include basic amenities, including seating, waste receptacles, lighting, route information, and a shelter for weather protection.
d. Sidewalks should connect directly to transit shelters to maximize convenience.
e. Transit stops should have barrier-free access and be located in a way that does not interfere with pedestrian movement.
f. Transit shelters located on the sidewalk or boulevard should be located between 1 to 3m from the street curb to facilitate snow storage and minimize potential pedestrian/vehicle conflicts.

3.2.5.3 BICYCLE PARKING

The multi-use trail proposed for the Ninth Line lands, as well as on-street cycling facilities, should establish cycling as a major mode of transportation in the community. The accommodation of convenient bicycle parking is essential to support this and ensure cycling remains a preferred long-term transportation alternative. Bike parking should be incorporated into the public open space near passive and active spaces and incorporated into the locations identified below.

a. Bicycle parking should be provided at regular intervals in mixed-use areas, around transit stations, and in other areas of high pedestrian activity.
b. Post-and-ring bicycle parking, constructed of aluminum or galvanized steel, is preferred as larger units can impede pedestrian movement and snow clearing.
c. Bicycle parking should be located close to building entrances and should be sheltered where possible.
d. Longer-term bicycle storage facilities (i.e. lockers) should be provided at transit stations, open spaces and employment areas, to encourage cycling. They should be weather-protected and conveniently located.
e. In higher density residential buildings, and along commercial corridors, short-term visitor bicycle parking should be provided in a convenient location.

3.2.5.4 PUBLIC ART

Attractive, and well-commissioned public art will enhance the Ninth Line lands, and contribute to the culture and history of the area. Public art is encouraged throughout the Ninth Line lands, particularly at transit stations, key intersections, parks, along the multi-use trail, and in other highly visible locations.

a. Public art pieces should be durable and easily maintained.

b. Public art should explore opportunities to celebrate local cultural diversity, historic events and figures of local, national and international significance.

c. Public art should be both physically and visually accessible and barrier free.

d. Sites with public art pieces should include landscaping that complements and enhances the piece where appropriate.

e. Sites may be reserved for groupings of complementary pieces, including temporary installations.

Public art is encouraged throughout the Ninth Line lands.

3.2.5.5 STREET LIGHTING

Downcast, pedestrian-scaled lighting enhances safety and visibility on streets. In key areas (i.e. transit stations, open spaces), lighting can be used to accent special features, such as public art, landscaping, signage, etc.

a. The design and location of lighting should consider sustainability and the impacts of light pollution, including:
   - energy efficiency;
   - directional lighting that reduces wasted energy;
   - induction lighting;
   - solar power; and,
   - street reflectors and sensors (to help regulate brightness and when lights turn on and off).
b. Downcast pedestrian-scale lighting should be provided in high traffic pedestrian areas.
c. All lighting should be located within a designated area to ensure it does not impede pedestrian circulation.
d. As appropriate, additional pedestrian-scale lighting should be provided in areas with a high volume of pedestrian activity, such as transit stations, mixed-use areas, key intersections, transit stops, trail crossings, mid-block connections.
e. The hight of lighting in active pedestrian areas should be limited to 4.6m as outlined in the Healthy Development Assessment.

3.2.5.6 SIGNAGE

A hierarchy of signage should be implemented uniformly throughout the Ninth Line lands, and should encompass street signs, directional signage and commercial signage.

a. A comprehensive wayfinding strategy should be developed, including mapping at key locations, such as nodes, and key intersections.
b. Street furniture should not include signage (i.e. benches with advertisements) with the exception of small, unobtrusive plaques to indicate the source of funding for the streetscape item.
c. Signage should be unified in design, and should explore opportunities to reflect local cultural diversity and history.

3.2.5.7 WASTE RECEPTACLES

Waste receptacles should be located at key intersections and in highly active pedestrian areas and should reflect the City's standards while ensuring coordination with the overall street furniture palette. The waste receptacles chosen should include slots for recycling as well as litter.

a. Waste receptacles should be located in conjunction with street furniture, pedestrian entrances, parking areas, washrooms, key destinations and at regular intervals along major streets.
b. Receptacle design is encouraged to complement other adjacent furnishings such as benches and transit shelters.
c. All litter and recycling receptacles should be configured as side opening containers for convenient maintenance.

3.2.5.8 UTILITIES

The coordinated design and integration of service infrastructure and utilities will contribute to the visual quality of the Ninth Line lands. For that reason they must be considered as an integrated component in the design of streets, buildings and open spaces.

Developers should contact the City and local utilities early in the development process to coordinate the placement of above-ground utilities to reflect the guidelines below.

a. Wherever possible, utilities should be buried below grade. The use of a joint utility trench is encouraged for access and maintenance benefits, and will free more space to accommodate street trees.

b. Opportunities should be identified for grouping above grade utilities in single locations where feasible (i.e. the flanking yard of the public right-of-way). Such locations should be guided by the location and hierarchy of streets, storm water management facilities, parks and other components of the open space system, as well as utility access considerations.

c. Utility cabinets, transformer vaults, hydro metres and gas metres should be incorporated into building design. Where this is not feasible, utilities should be placed in discrete locations and/or screened from public view.

d. New and innovative solutions for integrated utility services should be explored to minimize street clutter. Products that incorporate street lighting and telecommunication facilities within the same pole are encouraged.

The coordinated design and integration of service infrastructure will contribute to the visual quality of the Ninth Line lands.

4 PRIVATE REALM DESIGN GUIDELINES

4.1 RESIDENTIAL BUILDING GUIDELINES

The developable lands identified in the Ninth Line lands are predominantly residential, providing opportunities for a range of housing types and densities within walking distance of the transit stations and mixed-use nodes. Appropriate housing types may include apartments and condominiums (up to 10-storeys adjacent to transit stations), as well as a range of townhouse forms. This mix will promote a diverse community and accommodates a wide demographic (i.e. couples, families with children, single parents, seniors, people with special needs and others).

4.1.1 TOWNHOUSES

Townhouses provide more compact higher-density housing choices than single or semi-detached dwellings, and may include standard, back-to-back, stacked, or stacked back-to-back variations. Within the Ninth Line lands, townhouses will provide an appropriate transition to the stable residential neighbourhoods to the east, in a form that supports increased density near the transit stations. Townhouses may also provide variation in heights internally within comprehensive developments. Townhouses should be designed and massed to frame streets, while respecting the existing context related to height, setbacks, and built form.

In addition to the guidelines that follow, please refer to the City's Urban Design Handbook for Low-Rise Multiple Dwellings (2015) and the DRAFT Urban Design Guidelines for Back to Back and Stacked Townhouses (March 2017).

a. Townhouses should be limited to 3 to 5 storeys. Stepbacks are generally recommended above the second storey to create terraces, and reinforce a human-scaled public realm.

b. Townhouses should be oriented to address the street. An adequate landscaped buffer should be provided for townhouses facing onto a widened Ninth Line. Where located at a corner, the internal configuration of the building should ensure units front onto both streets.

c. Townhouse units should be a minimum of 6m wide. Townhouse blocks should include no more than 6 units without a break.

d. Townhouses should generally be set back 5m from the property line to accommodate usable front yard space, while providing an appropriate transition between the public and private realm. No encroachments should be proposed within the first 3m of this setback (from the property line). Beyond this, private porches and/or stairs are encouraged.

e. Where trees are proposed within the front yard, they should have access to $30m^3$ of soil.

f. Below grade units are generally discouraged. Where partial basement units are provided, the finished floor

Left: Variations on townhouse design
Below: Precedent image of a townhouse demonstrating the optimal interface between built form and the public realm.

of the ground level unit should generally be no greater than 1.8m from grade. This will accommodate a 1.2m step down to the basement entrance while maximizing visibility from the public realm. External access and windows on the front and rear of basement level units should be provided. Basement level units are not permitted in back-to-back configurations.

g. Private front-yard amenity space should provide a soft transition to, and high visibility between, the public and private realm. Where fencing is proposed, it should be low and highly transparent.

h. Where no windows are provided, townhouse blocks should be separated sufficiently to accommodate a 4.8m mid-block crossing. Where windows are provided, a total separation distance of 11m is recommended.

i. A minimum separation distance of 15m is recommended between facing townhouse units to accommodate 5m front yards, and a 4.8m mid-block connection.

Townhouse units should be appropriately spaced to provide opportunities for mid-block connections.

j. Townhouses should be set back 7.5m from a rear property line to ensure usable rear yard amenity space.

k. All townhouse units should have access to usable outdoor amenity space. On more intense forms (i.e. stacked and stacked back-to-back), where front yards are associated with at-grade (or basement) units, this can be accommodated through outdoor terraces. All terraces should be a minimum of 1.5m deep.

l. Where possible, townhouse developments should provide flexible community amenity spaces for children, adults and seniors, such as community gardening plots.

m. Front yard parking/garages are discouraged. Parking should be at the rear of the site and/or underground (as part of a comprehensive development) and accessed via a rear-lane. If parking is provided in the form of an underground garage, long term bicycle storage should be considered and incorporated into the design of the parking garage.

Flexible community amenity spaces, such as community gardens, promote greater inclusion and social togetherness within townhouse communities.

4.1.2 APARTMENT BUILDINGS

As the most intense residential uses in the Ninth Line lands, apartment buildings will provide an 'in-between' scale that accommodates significant density, while ensuring pedestrian-supportive streets. The design of these buildings should ensure appropriate transitions to adjacent uses through carefully considered massing and stepbacks. Attractive interfaces with the public realm will be achieved through at-grade units and a high level of landscaping. In addition to the guidelines below, Mississauga's Standards for Shadow Study (June 2014) and Pedestrian Wind Comfort and Safety Studies (June 2014) should be consulted.

a. Apartment buildings should be located and designed to frame and address the street. Where located at a corner, the building should frame and address both streets.

b. The siting and location of apartment buildings should balance built form with on-site open space. Open space should be considered an integral part of the development, and should be optimally located to provide connections to adjacent open spaces, public uses, or indoor amenity areas. Consideration of privately owned public spaces (POPS) is recommended.

c. Apartment buildings will generally range between 4 and 10-storeys, subject to the heights outlined in the Official Plan.

d. Depending on the width of the abutting street ROW, a stepback should be applied between the 3rd and 5th-storey to create a pedestrian scaled streetwall, and to minimize the perceived height of the building at street level. Where appropriate, additional stepbacks should be provided to maintain at least 5 hours of continuous sun on the opposite sidewalk throughout the day.

Precedent image of apartment demonstrating the optimal interface between built form and the public realm.

e. All stepbacks should be a minimum of 3m to ensure usable space for terraces and outdoor amenity space.

f. Individual buildings should generally not be greater than 60m in width to encourage permeability (i.e. mid-block connections) through larger blocks.

g. Where multiple buildings are provided on single or adjacent sites, a minimum of 11m separation distance should be provided between buildings. Above the building base, a 3m stepback should be provided to increase views to the sky.

h. The streetwall should be well-articulated through both vertical and horizontal articulation that reflects the interior units. Individual entrances for at-grade units are encouraged to reinforce a vibrant and active streetscape.

i. Apartment buildings should generally be set back 5m from the front property line to accommodate usable front yard space, while providing an appropriate transition between the public and private realm. No encroachments should be proposed within the first 3m of this setback (from the property line).

j. Private front-yard amenity space should provide a soft transition to, and high visibility between, the public and private realm. Where fencing is proposed, it should be low and highly transparent.

k. Where Apartment buildings abut low-rise residential forms (i.e. townhouses), an appropriate transition should be provided. At the rear of the site, a 45-degree angular plane should be applied 7.5m from the property at a height at 10.5m.

l. All apartment buildings should have access to high-quality outdoor amenity space, including balconies, terraces, and rooftop gardens. All balconies and terraces should be a minimum of 1.5m deep.

m. Servicing and loading should be accommodated internally, and should be located at the rear of the site. All facilities should be well screened from the public realm.

n. Parking should be located underground, or at the rear of the site, and accessed via a rear-lane or from a side street. If parking is provided in the form of an underground garage, long term bicycle storage should be considered and incorporated into the design of the parking garage.

Precedent image of a residential building demonstrating the optimal interface between built form and the public realm.

4.2 COMMERCIAL BUILDING GUIDELINES

There will be a variety of opportunities for commercial development in the Ninth Line lands, including mixed-use buildings within the transit station areas, and small-scale commercial uses to serve the neighbourhoods. These uses will be integral to creating active and vibrant streetscapes, while also promoting a walkable and healthy neighbourhood. Where commercial buildings are proposed, they should have a high quality of architectural design and should provide pedestrian amenities (i.e. plazas, public art, seating, patios) wherever possible. Open spaces between buildings, at the street edge, and through parking areas should be well landscaped, to reinforce an attractive and memorable pedestrian experience.

4.2.1 MIXED-USE BUILDINGS

Within walking distance of the transit stations, mixed-use buildings are encouraged to create a strong destination and to reinforce an urban streetscape. Mixed- use buildings should have retail uses at grade with "spill-out" opportunities (i.e. café patios, retail displays) where appropriate. Residential and/or office uses are recommended above to provide "eyes on the street" and enhance safety through casual surveillance.

a. Mixed-use buildings should be located and designed to frame and address the street. Where located at a corner, the building should frame and address both streets.

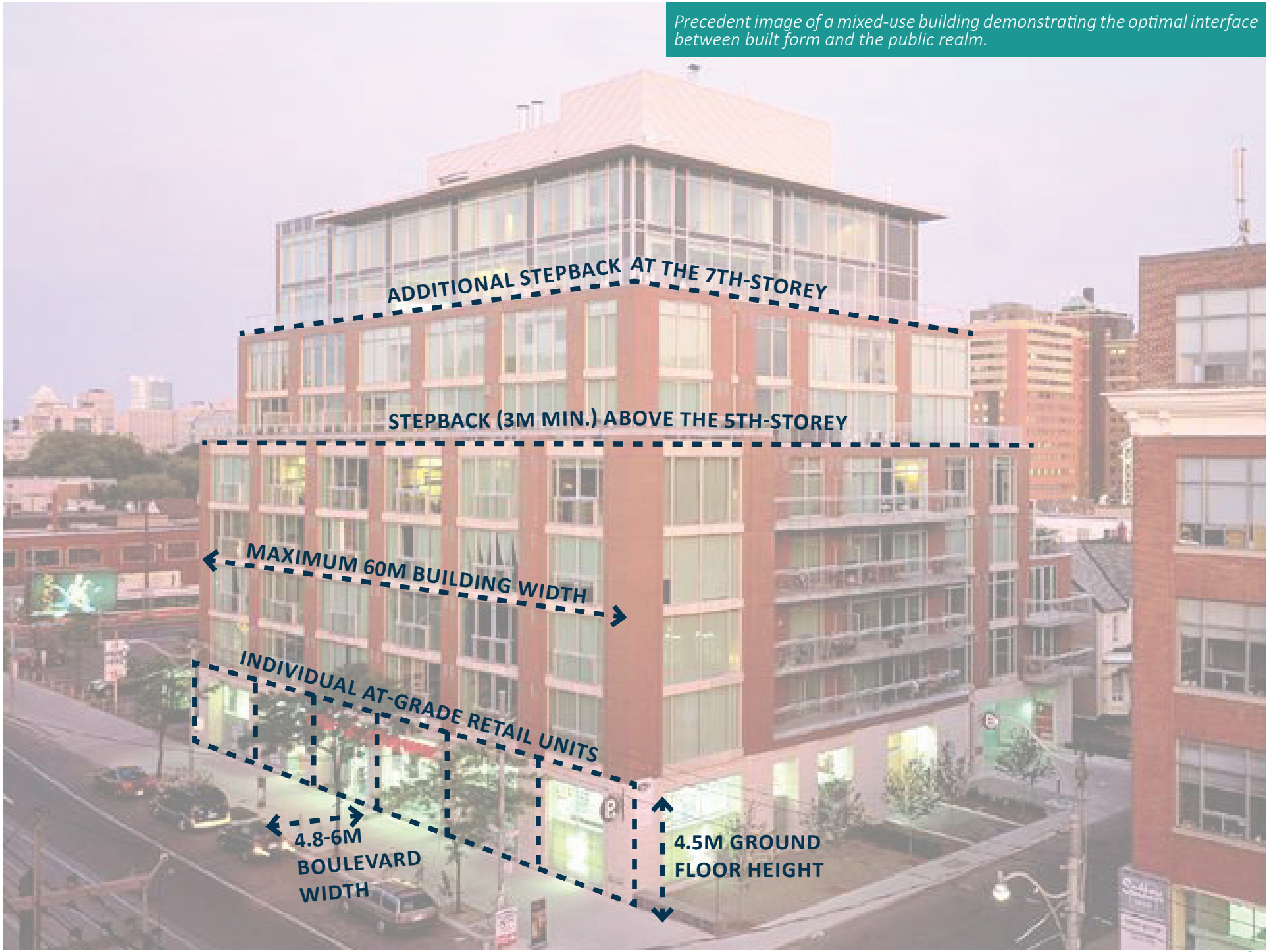
b. Mixed-use buildings should generally be located at the property line, but should be set back where necessary to ensure wide (4.8-6m) boulevards that can accommodate seamless pedestrian movement and the growth of appropriately sized street trees.

c. Buildings should generally be designed with a continuous streetwall, but variations are encouraged to create an interesting streetscape condition, and to incorporate opportunities for plazas, mid-block pedestrian connections, and/or the primary residential entrance.

d. At least 1m should be provided at the front of the building to accommodate "spill-out' uses, such as signage, retail displays, seating.

e. The siting and location of mixed-use buildings should balance built form with on-site open space. Open space should be considered an integral part of the development, and should be optimally located to provide connections to the sidewalk (i.e. plazas), adjacent open spaces, or transit stations. Privately owned public spaces (POPS) are encouraged.

f. Mixed-use buildings will generally range between 4 and 10-storeys, subject to the heights outlined on the Secondary Plan. A 4.5m floor-to-ceiling height



Precedent image of a mixed-use building demonstrating the optimal interface between built form and the public realm.

is recommended at grade to accommodate internal servicing and loading, and to create a strong street presence.

g. Depending on the width of the abutting street ROW, a stepback should generally be applied between the 3rd and 5th-storey to create a pedestrian scaled streetwall, and to minimize the perceived height of the building at street level. Where appropriate, additional stepbacks should be provided to maintain at least 5 hours of continuous sun on the opposite sidewalk throughout the day.

h. All stepbacks should be a minimum of 3m to ensure usable space for terraces and outdoor amenity space.

i. Individual buildings should generally not be greater than 60m in width to encourage permeability (i.e. mid-block connections) through larger blocks.

j. At the side, the base of buildings should be designed to accommodate appropriate spacing (11m) between future building podiums. Where multiple buildings are provided on a single site, a minimum of 11m separation distance should be provided. Above the building base, a 3m stepback should be provided to increase views to the sky.

k. The streetwall should be well-articulated through both vertical and horizontal articulation that reflects the interior uses. On streets which have been established as having the potential for retail uses, buildings will be designed to provide for the option of retail uses on the ground floor. Each unit should be clearly articulated, including individual entrances and signage. At ground level, significant glazing is encouraged to provide a strong visual connection between the public/private realm.

l. Where mixed-use buildings abut low-rise residential forms (i.e. townhouses), an appropriate transition should be provided. At the rear of the site, a 45-degree angular plane should generally be applied 7.5m from the property at a height at 10.5m.

m. All mixed-use buildings should have access to high-quality outdoor amenity space, including balconies, terraces, and rooftop gardens. All balconies and terraces should be a minimum of 1.5m deep.

n. Servicing and loading should be accommodated internally, and should be located at the rear of the site. All facilities should be well screened from the public realm.

o. Parking should be located underground, or at the rear of the site, and accessed via a rear-lane or from a side street. Both long-term and short-term bicycle parking should be provided. Long-term parking should be incorporated into the underground parking and short term should be provided near main entrances, in high visibility areas.

4.2.2 SMALL-FORMAT RETAIL

Smaller commercial retail units may be located at key nodes and intersections to accommodate day-to-day commercial needs in close walking distance to residential neighbourhoods. They should be designed and located to enhance the public realm and reinforce attractive streetscapes throughout the Ninth Line lands.

a. The location of small-format Commercial Retail Units (CRUs) should be used to define street edges, courtyards, terraces and other public open spaces.

b. Where multiple CRUs are provided, they should be located and designed to create a continuous main street shopping environment through their alignment, clear pedestrian connections, and (functional) multi-storey façades.

c. Building entrances should be located on the street side of the building. Where this is not achievable, active uses (i.e. patios, marketing areas) should be provided with significant clear glazing on the building frontage, and direct connections to the public sidewalk.

d. All visible building facades should reflect a high level of design quality. Blank facades are discouraged.

e. CRUs should have continuous pedestrian sidewalks on all sides of the building where public entrances and parking areas are located.

f. Areas between buildings should be well landscaped and programmed (i.e. outdoor seating and dining areas).

g. Parking should be located at the rear of the site. Bicycle parking should be provided near building entrances in high visibility areas.

h. Servicing and loading facilities should be located at the rear of the site, and appropriately screened from view.

i. “Fake front” retail facades (without functioning front doors) should be avoided on street facing retail units.

Smaller commercial retail units may be located at key nodes and intersections to accommodate day to day commercial needs.

4.2.3 AUTO DEPENDENT USES: GAS STATIONS/CAR WASH

Where gas stations are proposed, they should be well integrated into the Ninth Line lands through high-quality site planning and architectural design, and should provide a balance between pedestrian and vehicle traffic.

a. The frontages of a gas station should be occupied by a street oriented building (i.e. convenience store). Vehicle-oriented uses (i.e. gas bar/car wash) should be located at the rear or side of the site.

b. Stacking lanes should be separated from sidewalks, pedestrian pathways and parking areas through the use of well landscaped islands.

c. Stacking lanes should be located such that vehicle line-ups do not impede traffic along public streets or the movement of vehicles on site.

d. Clear sightlines and views should be provided between site areas (i.e. pumps, convenience store and car wash) and the public street to promote public safety.

e. Canopies should be provided over fueling areas. Any lighting provided should be downcast to minimize light pollution on adjacent residential areas.

f. Complementary building materials should be used for the primary building and car wash facilities.

g. Parking should be located at the side and/ or rear of the building, and should ensure pedestrians do not have to cross stacking lanes to enter the building.

h. A landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses.

i. Where the site is adjacent to residential or institutional properties, a noise attenuation fence should be used.

j. Noise-generating areas (such as auto service bays, car wash openings, vacuum stations, outdoor loading areas, garbage storage and stacking lanes) should be located away from adjacent uses.

The frontages of a gas station should be occupied by a street oriented building, and a landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses.

4.3 INSTITUTIONAL BUILDING GUIDELINES

To create complete communities within the Ninth Line lands, a variety of institutional uses are encouraged, including community centres, cultural facilities, libraries, schools, and places of worship. These uses can create strong landmarks, and community anchors, and help to encourage healthy and walkable neighbourhoods.

4.3.1 SCHOOLS

Where required, schools should be located at the centre of a residential area, or between residential areas, to act as a civic anchor of the community. For public schools, the City recognizes that the building of schools will depend on demand and funding identified by the Peel District School Board and the Ministry of Education.

a. School buildings should be designed to reflect their civic role through prominent, high quality architecture.

b. Building design should promote safety and ease of access through well defined entrances and windows facing the public street and primary walkways.

c. Multi-storey school buildings are strongly recommended to maximize the site and services as well as contribute to an urban street condition through building façade proportion that contributes to a sense of enclosure at the street.

d. The main school entrance should be highly visible and distinguished through the building's architecture and detailing (i.e. door size, entry and windows). A recessed entry or projecting canopy can also provide weather protection and promote the prominence of the entry.

e. School façades should maximize the use of operable windows to naturally illuminate and ventilate classrooms, offices, recreational and social spaces.

f. Covered walkways or building edge colonnades are recommended for linking separate school buildings. They are also recommended for providing weather protected building edges fronting school open spaces including forecourts, courtyards, gardens or playing fields.

g. School buildings should examine the possibility for LEED Certification, promote green building technologies and sustainable site design/organization (i.e. LEED Site Planning).

h. Where possible, the site should be organized to extend the street network via internal pedestrian walkways and driveways.

i. Site organization should be designed to maintain view corridors and sight lines in order to further enhance crime prevention opportunities.

j. Bus stops should be incorporated as a lay-by within the public right-of-way where safe and efficient access can be provided.

k. Surface parking areas should be minimized and where required should be developed as “greened” parking courts with landscaping, trees and porous or another permeable materials that promote on-site stormwater run-off and/or biofiltration, where feasible.

l. Parking areas should be designed to accommodate pedestrian movement (i.e. planted edges, medians that incorporate dedicated pedestrian walkways, paving articulation).

m. School sites should incorporate bike racks in convenient locations near building entrances.

n. Schools should be centrally located and easily accessible by pedestrians, cyclists and transit users and from residential areas to support active transportation.

Covered walkways or building edge colonnades are recommended for linking separate school buildings.

4.3.2 COMMUNITY CENTRES / COMMUNITY FACILITIES

A community centre is anticipated in the south section of the Ninth Line lands, and additional facilities are encouraged as necessary. Community Centres support the recreational, cultural and educational needs of local residents and the broader Mississauga community, and can provide a strong link to Greenlands and the multi-use trail.

a. Community Centres should be located to serve as focal points of the community, and may be located either in parks and/or along key streets where they will complement adjacent uses.

b. Community Centres should be located to take into account connections to the multi-use trail network and the greater Mississauga parks system.

c. Community Centres should employ high standards of architectural design.

d. Community facilities, including community centres, should incorporate the highest standards in environmental sustainability, through both site and building design.

e. Community Centres may be combined with other public building uses such as libraries.

f. Community Centres are encouraged to be multi-storey buildings in order to minimize the need for large sites.

g. Community Centres should be located on major transit routes and should be easily accessible by pedestrians, cyclists and transit users.

h. Variations in setbacks should be incorporated for community facilities, where a building forecourt or garden is desirable.

Community centres should be located to serve as local points of the community.

4.4 EMPLOYMENT BUILDING GUIDELINES

The Ninth Line Neighbourhood Character Area generally locates employment uses at the north and south end of the Ninth Line lands, within the Business Employment areas, to provide a strong employment anchor with convenient access to Highway 403 and 407. In addition, there may be opportunities for stand-alone office buildings within the Mixed-Use areas adjacent to the transit stations. These buildings should have a high level of design to attract new business to the neighbourhood and to promote the Ninth Line lands as a significant employment node within Mississauga.

4.4.1 PRESTIGE OFFICE BUILDINGS

Office buildings in the Ninth Line lands should generally be concentrated along Ninth Line and other key streets, and should be designed as prestige buildings that will attract high-quality employment opportunities. Within the Business Employment areas, prestige office buildings are encouraged at the street edge to support a strong streetscape and public realm, and to provide a transition to internally-located light industrial developments.

a. Office buildings should be located and designed to frame and address the street. Where located at a corner, the building should frame and address both streets.

b. When located adjacent to Ninth Line or other main streets, office buildings should generally be located at the property line, but should be set back to ensure wide (4.8-6m) boulevards that can accommodate seamless pedestrian movement and the growth of large, mature street trees.

c. Buildings should generally be designed with a continuous streetwall, but variations are encouraged to create an interesting streetscape condition, and to incorporate

Office buildings should be located and designed to frame and address the street.

opportunities for plazas, mid-block pedestrian connections, and/or primary entrances.

d. The siting and location of office buildings should balance built form with on-site open space. Open space should be considered an integral part of the development, and should be optimally located to provide connections to the sidewalk (i.e. plazas), adjacent open spaces, or transit stations. Privately owned public spaces (POPS) are encouraged.

e. Where office buildings are greater than 4-storeys, a stepback should be applied between the 3rd and 5th-storey to create a pedestrian scaled streetwall, and to minimize the perceived height of the building at street level.

f. All stepbacks should be a minimum of 3m to ensure usable outdoor amenity space for employees.

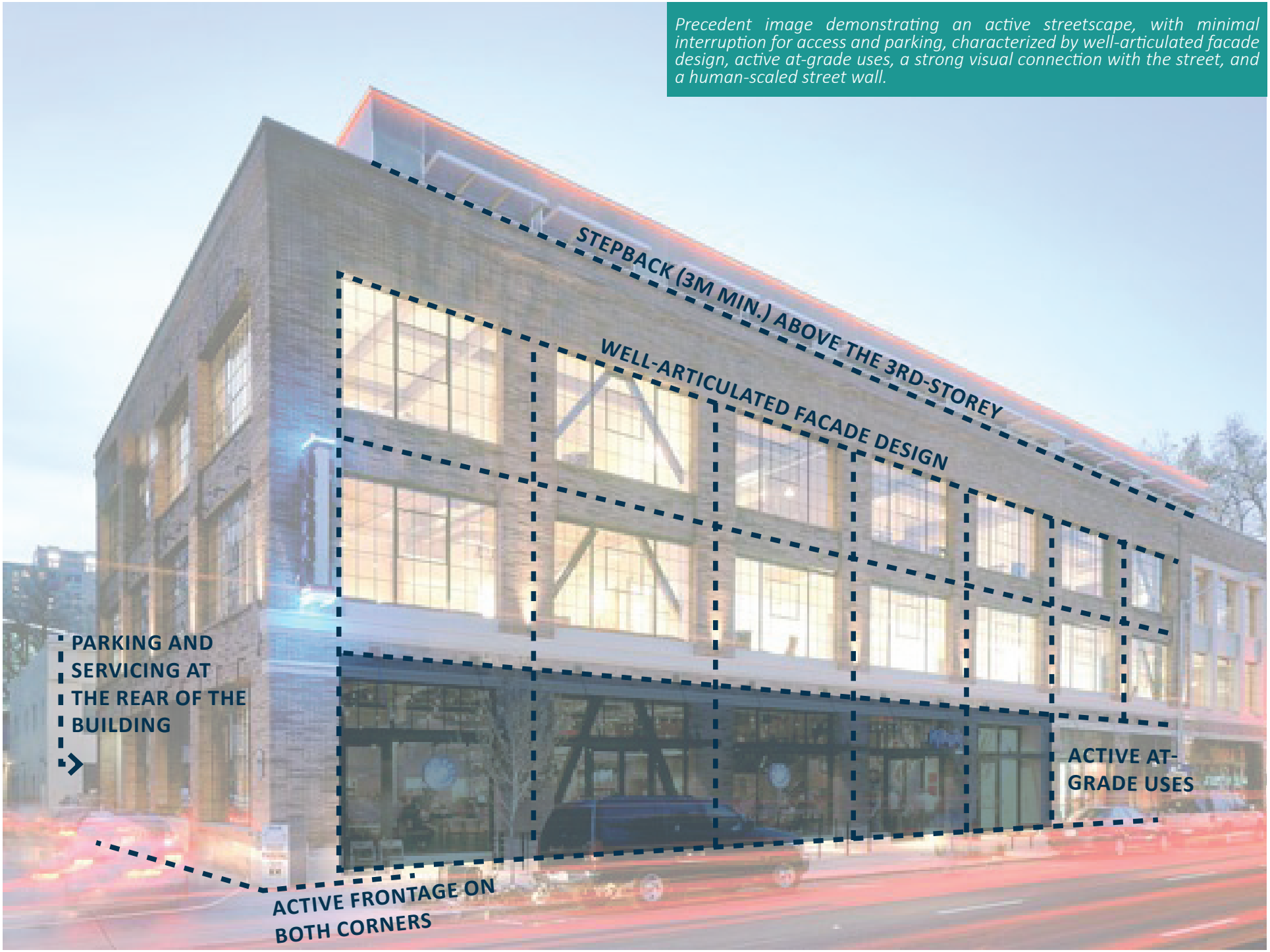
g. Individual buildings should generally not be greater than 60m in width to encourage permeability (i.e. mid-block connections) through larger blocks.

h. At the side property line, the base of buildings should be set back 5.5m to accommodate appropriate spacing (11m) between future building podiums. Where multiple buildings are provided on a single site, a minimum of 11m separation distance should be provided. Above the building base, a 3m stepback should be provided to increase views to the sky.

i. The streetwall should be well-articulated through both vertical and horizontal articulation that reflects the interior uses. At ground level, significant glazing is encouraged to provide a strong visual connection between the public/private realm. Where appropriate, active internal uses (i.e. cafeteria, lobby, amenity space) should be located adjacent to the street.

j. Servicing and loading should be accommodated internally, and should be located at the rear of the site. All facilities should be well screened from the public realm.

k. Parking should be located underground, or at the rear of the site, and accessed via a rear-lane or from a side street. Both long-term and short-term bicycle parking should be provided. Long-term bicycle parking should be incorporated into the underground parking and short term bicycle parking should be provided near main entrances, in high visibility areas.



Precedent image demonstrating an active streetscape, with minimal interruption for access and parking, characterized by well-articulated facade design, active at-grade uses, a strong visual connection with the street, and a human-scaled street wall.

4.4.2 LIGHT INDUSTRIAL BUILDINGS

Within the Business Employment areas, more traditional employment uses (i.e. warehouse, light manufacturing, research and development) may be appropriate to augment prestige office uses and provide a variety of employment opportunities. These uses should generally be located in the interior of blocks and away from Ninth Line and other main streets. These uses should reflect a street-oriented character with more attractive and active uses (i.e. research and development, office, receiving) oriented toward the street, and more intense development forms pushed back to accommodate attractive landscape buffers.

a. The siting and location of industrial buildings should be considered as part of a comprehensive site plan that reflects a more contemporary, campus-style layout. Considerations should include joint access, shared open spaces and amenity areas, and continuous connectivity between Ninth Line and the proposed multi-use trail, and other public spaces.

b. Open space should be considered an integral part of a light-industrial campus. Privately owned public spaces (POPS) are encouraged as part of a larger open space network.

c. Buildings should generally address the street to define a more urban street edge. More attractive indoor uses (i.e. office, research and development, receiving) are encouraged to occupy as much of the street facing frontage as possible. Where more intense forms of development are located along the street, they should be pushed back to accommodate a significant landscaped buffer.

d. The highest quality of building design should be applied to the building façades facing public streets or open spaces.

e. Corner buildings should address both street frontages.

f. Parking should generally be located in the rear yard. Where side yard parking is proposed, it should be well screened from the public realm through attractive landscaping. Front yard parking is discouraged.

g. Where large parking fields are necessary, landscape islands should be introduced to break up large asphalt areas and to delineate clear pedestrian circulation.

h. Outdoor storage should generally not be visible from the public street or open space. Where outdoor storage is required, it should be screened with fencing and/or landscaping.

More attractive indoor uses are encouraged to occupy as much of the street facing frontage as possible.

4.5 ON SITE PARKING GUIDELINES

A variety of parking will be provided throughout the Ninth Line lands, including a mix of surface parking, on-street parking and structured (above and below-grade) parking. Where parking is provided as part of a development, it should be designed to mitigate the visual impacts on the public realm.

4.5.1 SURFACE PARKING

Within the Ninth Line lands, parking should be located underground wherever possible. Where surface parking is required, it should be located at the rear or side of buildings and screened from view. Significant effort should be made to mitigate the impacts of large surface parking lots.

a. Large areas of uninterrupted parking should be avoided. Outside of residential areas, the total amount of parking should be minimized where possible through shared parking between adjacent properties, particularly in the evenings, weekends and other off-peak periods.

b. Surface parking areas should be located at the rear or side of buildings. Where parking areas must be situated adjacent to the sidewalk, a landscaped buffer should be located between parked vehicles and the sidewalk. This buffer should be located within the private realm to not reduce the total sidewalk width.

c. Planting strips, landscaped traffic islands and paving articulation should be used to clearly distinguish between pedestrian and vehicle routes, and to define smaller parking 'courts' that provide pedestrian walkways, improve edge conditions and minimize the aesthetic impact of surface parking.

d. The amount of landscaping should be proportionate to the overall parking lot size.

e. Landscaping, or other parking area screening devices, should not obstruct the primary building façade or total visibility of the parking area.

f. Pedestrian-scaled lighting should be provided along pathways to enhance visibility and security.

g. Preferential parking for bicycles, energy efficient vehicles and carpooling / car-share services are encouraged.

h. Service and drop-off area circulation should not interfere with pedestrian or primary vehicle circulation.

i. Where appropriate, LID technologies should be considered to mitigate the impacts of surface parking.

4.5.2 PARKING GARAGES

Parking structures should have a high level of design which is consistent with and complementary to the development and site as a whole.

a. Parking structures fronting onto streets or open spaces should be developed where possible with an active at-grade use to provide attractive façades, animate the streetscape and enhance pedestrian safety.

b. To help animate the street, public art, street furniture, community display cases or landscape features should be provided at grade.

c. Vehicular access to parking structures should be located at the rear and/or side of buildings away from main building frontages and major streets.

d. Pedestrian entrances for parking structures should be located adjacent to main building entrances, public streets or other highly visible locations.

e. Parking within a structure should be screened from view at the sidewalk level, and the street-level wall should be enhanced through architectural detailing and landscaping.

f. Long-term bicycle parking should be incorporated into parking garage designs.

Top: Parking structures should have a high level of design.
Bottom: Surface parking lots should clearly distinguish between pedestrian and vehicle routes with planting strips, landscaped traffic islands and paving articulation.

4.6 ACCESSIBILITY GUIDELINES

Principles of universal design should be applied to public streets, open spaces, site plan and building design (as per the Ontario Building Code) for new development in the Ninth Line lands. In addition to the Ontario Building Code, accessibility matters shall meet the regulations in the Accessibility for Ontarians with Disabilities Act the Integrated Accessibility Standard Regulations and the City's 2015 Facility Accessibility Design Standards.

a. All public sidewalks should be barrier-free. The design of all buildings should result in accessibility for everyone.

b. In high activity areas such as transit stations and key intersections, the use of multi-sensory visual and audio queues as well as textured paving should be considered to assist in orientation and the existence of potential hazards to disabled individuals. Sensory indicators may be tactile or audible.

c. At a minimum, circulation and building access for pedestrians and vehicles should conform to barrier-free access requirements as set out by the Ontario Building Code (OBC) and the Mississauga Facility Design Standards.

d. Access structures such as ramps should be designed to harmonize with buildings.

e. Barrier-free accessibility should provide access to the ground level of all publicly accessible buildings.

f. Curb ramps should provide barrier-free connections between the driveway and pedestrian walkways.

g. On-site tree planting and other landscaping should not be an obstacle to the barrier free path of travel.

Principles of universal design should be applied to public streets.

4.7 SUSTAINABILITY GUIDELINES

Adjacent to a significant Greenlands system, and providing a gateway to the City of Mississauga, the Ninth Line lands should be a pillar of sustainable development. To minimize adverse impacts on natural heritage features, sustainable design should be at the forefront of all development. Where feasible, on-site stormwater management is encouraged, while other initiatives (i.e. green roofs, rooftop gardens, green walls) are recommended to reduce the urban heat island effect.

4.7.1 SITE DESIGN

a. Site design should minimize impervious hard surfaces. The surface area of driveways and parking areas should be as small as possible within allowable standards.

b. Porous pavement, and landscaped areas with adequate size and soil conditions, should be maximized to capture roof drainage and increase the total amount of water run-off absorbed through infiltration.

c. Existing significant trees and vegetation should be protected and incorporated into site design.

d. Recommended landscape materials should include native and non-invasive species, as well as species that are generally drought resistant and require minimal maintenance. Planting should abide by the Conservation Halton guidelines where applicable.

e. Landscape design should incorporate strategies to minimize water consumption (i.e. use of mulches and compost, alternatives to grass and rainwater collection systems).

f. In larger parking areas, vegetative swales should be incorporated on the perimeter of the site to catch stormwater. These drainage basins should be planted with native plant materials that thrive in wet conditions.

g. Well-drained snow storage areas should be provided on site in locations that enable melting snow to enter a filtration feature prior to being released into the storm water drainage system.

4.7.2 BUILDING AND NEIGHBOURHOOD DESIGN

a. New buildings and neighbourhoods are encouraged to seek Leadership in Energy and Environmental Design (LEED) certification, or an equivalent design standard. The design of neibhourhoods and communities should pursue high standards in neighbourhood sustainability and connectivity and seek LEED for Neighbourhood Development (LEED ND) certification.

b. New buildings are encouraged to reduce the energy

consumption of building and site systems (HVAC, hot water, lighting) through the use of appropriate mechanical and construction technology (natural cooling, light recovery, passive solar design).

c. Mixed-use, commercial and apartment buildings should provide flexibility in the building floor plate, envelope and façade design to accommodate a variety of uses over their lifespan.

d. Vegetated or "green" roofs are recommended, especially in areas with minimal landscaping, to minimize water runoff, improve building insulation, and provide additional outdoor amenity areas or white roofs.

e. Water use reduction technologies are encouraged, including water-efficient appliances, such as aerators, low-flow shower heads, dual-flush toilets, front-loading washers, waterless urinals and high-efficiency dishwashers.

f. Waste water technologies, such as rain barrels or cisterns, are encouraged in new buildings to collect and filter rain water to be recycled for non-potable domestic uses.

Landscape design should incorporate strategies to minimize water consumption.

g. All buildings should have conveniently located waste management facilities to support the separation of waste into different streams according to reuse and recycling regulation (i.e. compost, paper, plastics).

h. Where possible, construction materials should be recycled to reduce the environmental impacts of extracting and manufacturing new materials. If there are no salvageable materials available, efforts should be made to purchase materials from demolition sales, salvage contractors and used materials dealers.

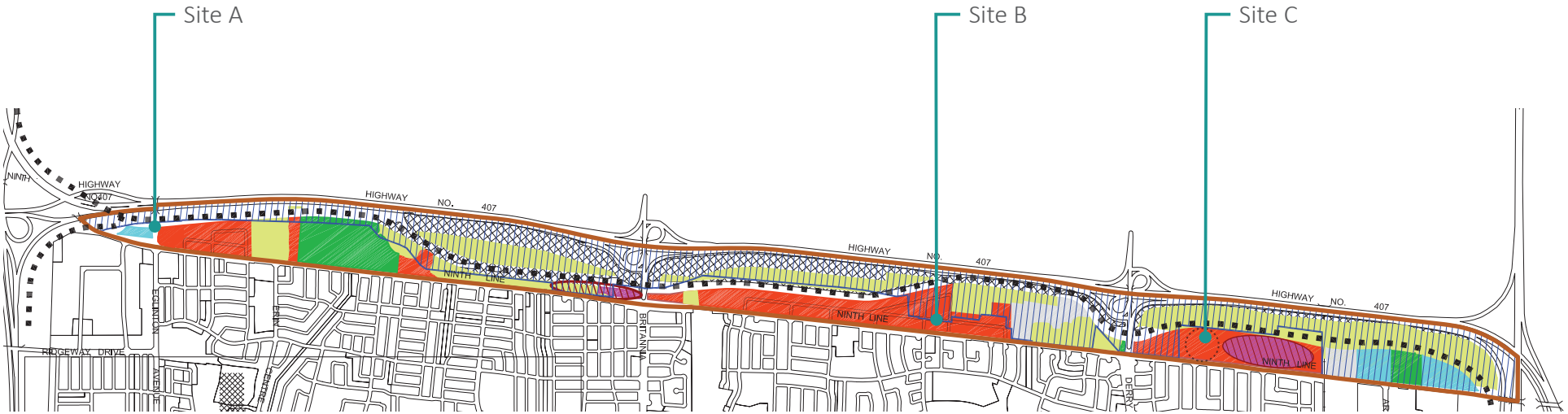
i. New construction materials should be locally sourced to reduce the impacts of transportation. Canadian products are generally designed to withstand our climate.

j. Construction materials should be durable and consider life cycle costing to avoid premature replacement.

Buildings in the Ninth Line Neighbourhood should reflect the highest standards of sustainable development.

APPENDIX: SHAPING NINTH LINE DEMONSTRATION PLANS

BUILT FORM AND LAND USE | DEMONSTRATION PLAN SITES



Shaping Ninth Line Proposed Land Use Concept

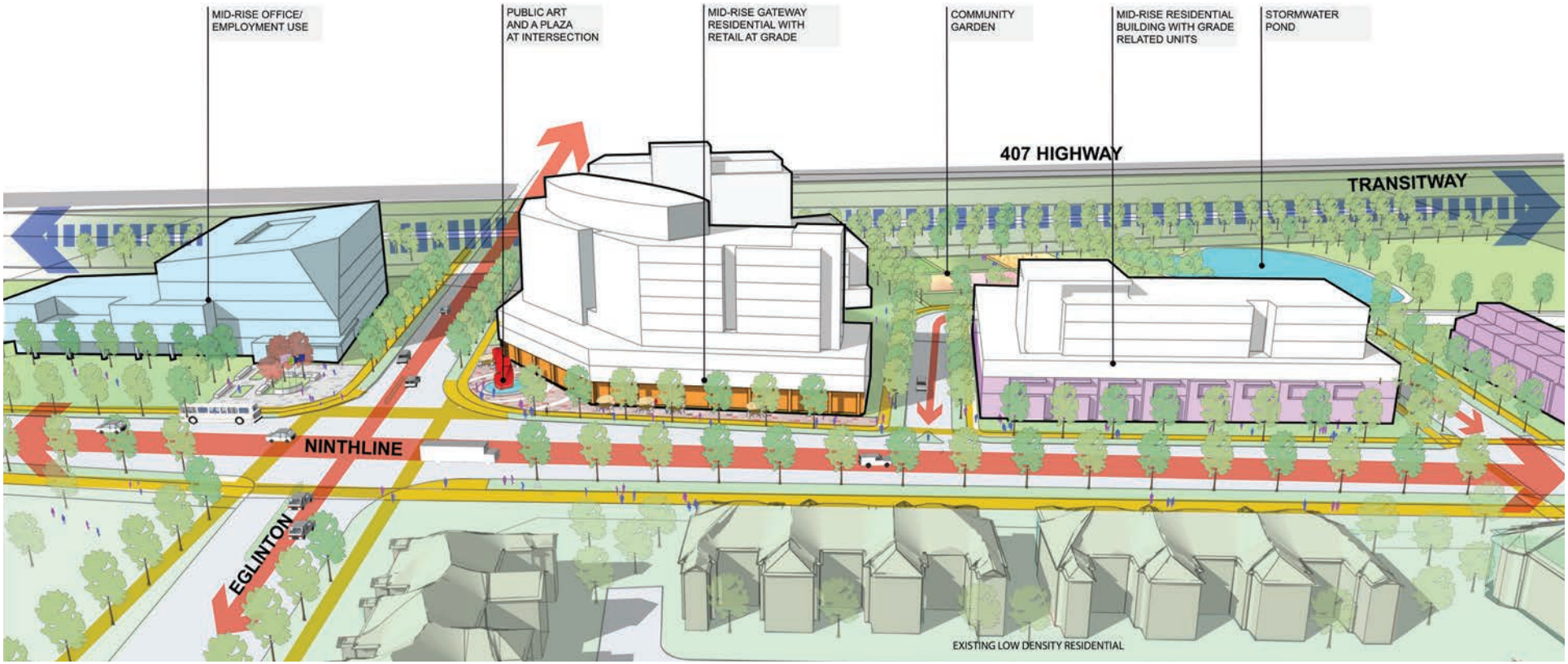
- SUBJECT AREA
- PARKWAY BELT
- RESIDENTIAL MEDIUM DENSITY
- MIXED USE
- BUSINESS EMPLOYMENT
- PUBLIC OPEN SPACE
- GREENLANDS
- UTILITY
- NATURAL HAZARDS
- TRANSITWAY
- TRANSITWAY STATION

* Limited grade related residential with a minimum height of three storeys may be permitted.

** Limited grade related residential with a minimum height of 2 storeys may be permitted.

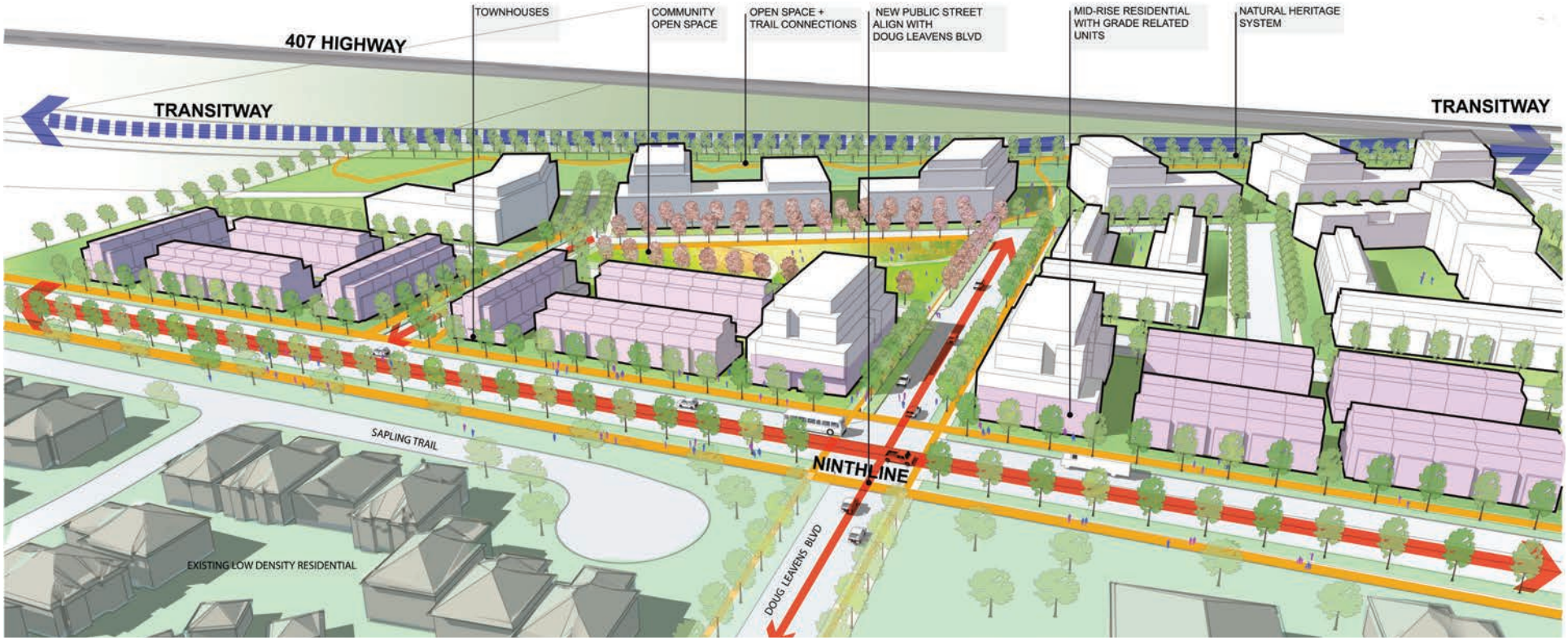
SITE A | MIXED USE COMUNITY WITH EMPLOYMENT FOCUS AND GATEWAY FEATURE

- The Eglinton Gateway Focus area provides opportunity for both residential and employment uses at a key intersection
- Provides a transition of lower heights and densities further north along Ninth Line
- Uses should be integrated with community uses like community gardens and public/private connections



SITE B | COMPLETE COMMUNITIES: MISSING MIDDLE HOUSING OPTIONS

- Support a range of housing choices
- Plan for a mix of townhouse and low-rise development with public and private connections
- Provide trail and open space opportunities
- Establish key local public streets to serve the community and improve safety



SITE C | TRANSIT SUPPORTIVE COMPLETE COMMUNITIES

- Encourage a mix of uses and transit supportive development north of Derry Road
- Create a complete community with a mix of uses to live, work and shop
- Growth should support ridership for the future 407 Transitway