

Ninth Line

URBAN DESIGN STUDY

CITY OF MISSISSAUGA

NOVEMBER 2021



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1.0 Introduction

As the last remaining greenfield site in Mississauga, the vision and design objectives for Ninth Line is the result of many years of public consultation and updated provincial, regional, and municipal planning policy direction. In addition to the City's Official Plan vision and the *Ninth Line Neighbourhood Character Area Policies and Zoning*, the *Shaping Ninth Line Urban Design Guidelines* (herein referred to as the Guidelines) have served as the basis for the planning and design of the proposed development described in this study. Six (6) Neighbourhood Character Area Precincts were established for Ninth Line through the consultation process and are defined in the Official Plan policy. The subject lands described in this study are located within Precinct 3 (16.20.3.3 North Britannia/Flood Protection Land Form Area) and shall align with the vision for this neighbourhood, as well as the guiding principles for Ninth Line as an active, diverse, and healthy community, reflecting contemporary best practices in urban design.



Figure 1.0a - Ninth Line will be an active, diverse, and healthy community, reflecting contemporary best practices in urban design.

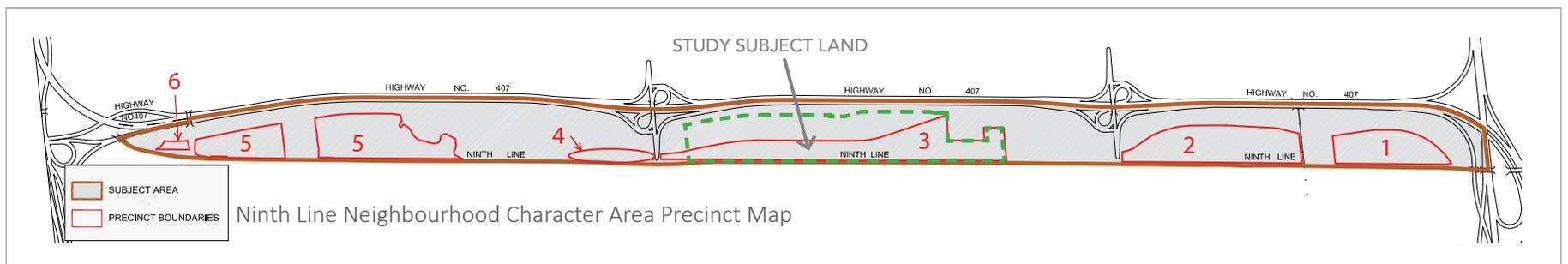


Figure 1.0b - Ninth Line Neighbourhood Character Precinct Map (Source: Ninth Line Urban Design Guidelines) and Location of Subject Land

Study Purpose & Document Structure

The purpose of the Ninth Line Urban Design Study is to demonstrate that the proposed development adheres to Official Plan policies, the City's standards and guidelines, and good urban design practices. It also describes how the proposed development considers the existing context, the surrounding built form, and pedestrian, cycling and vehicular transportation routes, and demonstrates how the design is in line with site specific features demonstrated in each chapter of the Guidelines.

In response to the City's Urban Design Study Terms of Reference and the site specific requirements for the subject lands, this document has been structured in the following manner:

1.0 Introduction - Provides an overview of the goals and objectives for the development, and includes an analysis of the existing site and surrounding neighbourhood.

2.0 Analysis of the Proposed Development - Provides details on site design, built form and uses, access, circulation, parking and services, sustainable design strategies, and any supporting studies.

3.0 Summary and Conclusions - Provides a summary of the main points of the Urban Design Study for consideration.

The area will be planned to support transit and the natural environment to create a healthy and complete community. Existing and future Ninth Line, Lisgar and Churchill Meadows residents will have access to a well-connected and sustainable natural heritage system, multi-use trails, parks and open spaces, higher-order transit, community uses and facilities. A variety of housing choices and employment opportunities to meet their needs will also be accommodated.

Mississauga Official Plan – Part 3, 16.20.2.1 Vision



Figure 1.0c - Shaping Ninth Line Urban Design Guidelines

1.1 Goals and Objectives

The vision for the Ninth Line lands is based upon a corridor that protects the natural heritage system and the stable neighbourhoods to the east, and directs compact development where it will be transit supportive. The natural heritage system is interwoven, with parks and open spaces, into a linked greenway system that connects the entire Ninth Line corridor together, including open spaces, trails, and future transit stops in the neighbourhoods to the east. These safe, healthy, and vibrant parks, trails, and streets enhance the range of sustainable mobility for pedestrians, bicyclists, and transit riders. A street and public space framework directs the location of a diverse series of distinct, well designed neighbourhoods. The massing and scale of the built form in each location is oriented to appropriately transition with neighbourhoods to the east, frame open spaces, and connect the entire community together and to the interregional transit network.

In line with the Guidelines' built form and land use vision for 'Site B' in the Demonstration Plan Site (p.53), the following key goals will be fundamental to developing this complete community in Ninth Line:

- **Support a range of housing choices**
- **Plan for a mix of townhouse, low and mid-rise development with public and private space pedestrian links**
- **Provide trail and open space linkage opportunities**
- **Configure the public street network to achieve efficient connections and reinforce walkability**



Figure 1.1a - Image example of park amenity as neighbourhood focus.



Figure 1.1b - Image example of well articulated architecture with an urban interface to the street.

Guiding Principles

The following summary of the Guiding Principles for the overall development of the Ninth Line lands as an interconnected whole provides a framework for shaping the proposed development concept described in this Study.



Integrate a network of trails, cycling lanes, and/or multi-use paths that link open spaces and key destinations, providing for direct connections to existing networks outside the Ninth Line Lands.

TRAIL NETWORK & COMMUNITY-WIDE CONNECTIONS



The land use concept will promote innovative development strategies which can serve as a model for sustainability within Mississauga.

LOW IMPACT DEVELOPMENT STRATEGIES



Incorporate pedestrian supportive streets, and provide for safe pedestrian crossings of Ninth Line.

PEDESTRIAN SUPPORTIVE STREETS / SAFE PEDESTRIAN CROSSINGS OF NINTH LINE



The concept will promote development that provides a mix of housing to accommodate people with diverse preferences and socioeconomic characteristics, and a diversity of employment opportunities to meet current and future needs.

MIX OF HOUSING & DENSITIES



A system of parks and open spaces for all ages and abilities, that encourage passive and active all-season use, promote unique experiences and educational opportunities, and incorporate natural features, will be well integrated into the community.

ACTIVE & PASSIVE PARKS & OPEN SPACES, WELL INTEGRATED INTO NEIGHBOURHOODS



Key community access points will incorporate gateways to establish a sense of neighbourhood identity and provide appropriate transitions.

GATEWAYS AT KEY COMMUNITY ENTRY POINTS



The existing natural heritage system on the west side of the proposed development will be maintained and protected, with views and visual connections from open spaces provided where possible.

PROTECTED NATURAL HERITAGE SYSTEM



Community nodes and special character areas will promote higher density mixed-use development that is complementary to existing and future transportation facilities, and provides for a diversity of community infrastructure to meet the daily needs of residents, employees, and visitors.

COMMUNITY NODES & SPECIAL CHARACTER AREAS



The proposed concept will achieve appropriate interfaces with the Transitway route and the existing residential community to the east by ensuring desirable transitions, and demonstrating distinct and appropriate design for all buildings, streets, and open spaces.

APPROPRIATE INTERFACES WITH SURROUNDING LANDS



The concept will support transit and active transportation as key components of the transportation network, and promote development which reflects land use planning practices conducive to good public health.

TRANSIT & ACTIVE TRANSPORTATION OPTIONS

1.2 Analysis of the Existing Site and Neighbourhood

Site Context

Located on the western limits of the City of Mississauga, the Ninth Line lands are bounded by 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. The area comprises a total of approximately 370 hectares (914 acres). To the east of Ninth Line, the Lisgar neighbourhood (north of Britannia Road) is an established residential community. This low density residential neighbourhood is an important consideration in the planning of new land uses, built form, connections, and open space linkages.

Within the broader Ninth Line development area, the subject lands are located in the central portion of this development, south of Derry Road and north of Britannia Road, encompassing approx. 111.4 ac (45.1ha). It is bordered by Ninth Line to the east, and the future Transitway to the west, with Greenlands situated on the west side of the Transitway. In the immediate surrounding context, an existing Union Gas plant is situated north of the site. An existing stormwater management pond is located to the immediate northeast of the subject lands. Existing community parks and open spaces to the east of Ninth Line include Cordingly Park, Johnny Bower Park, and Osprey Marsh. These surrounding natural features and open spaces provide an opportunity to integrate a network of parks, open spaces, and trail connections as distinctive features of the proposed development and to the benefit of the overall community area.

Figure 1.2a - Aerial of Ninth Line Character Area and location of the Subject Lands





Figure 1.2b - Southwest view from Ninth Line, South of Union Gas.



Figure 1.2d - Southeast view of existing Cordingly Park from Ninth Line.



Figure 1.2c - East view from Ninth Line at Doug Leavens Boulevard.



Figure 1.2e - Southwest view from Ninth Line, North of Britannia Road.

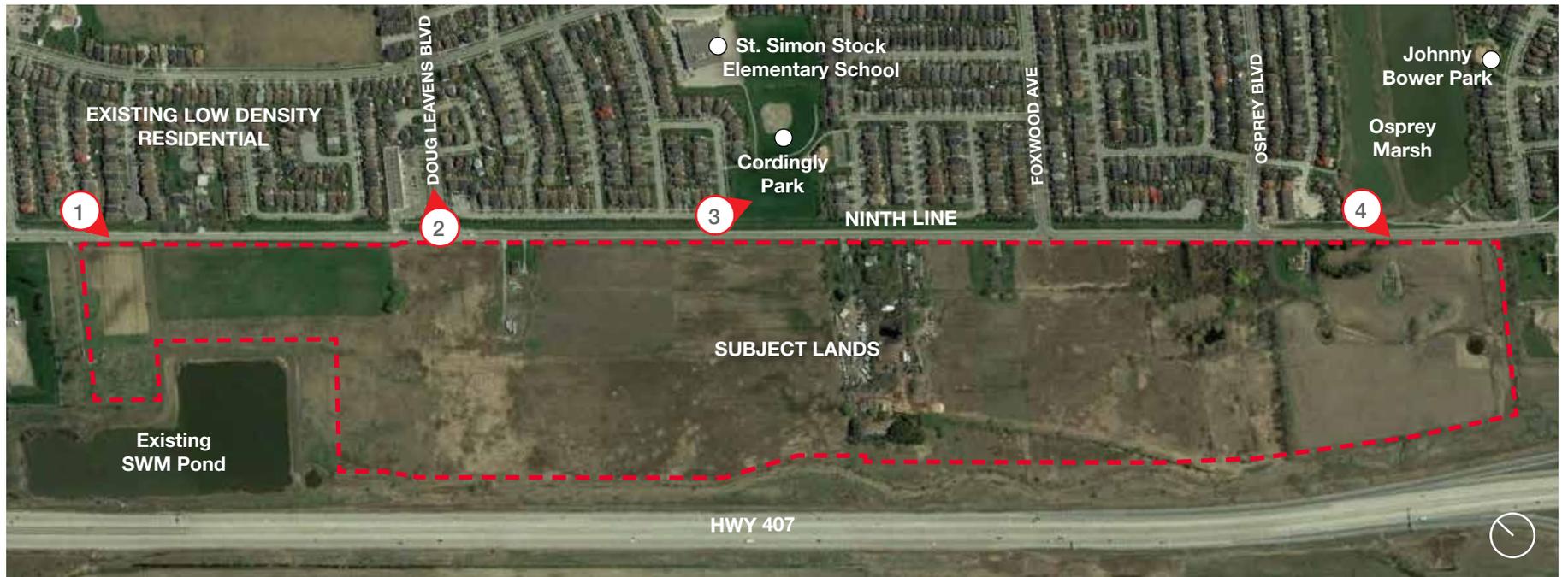


Figure 1.2f - Aerial of Subject Lands and Local Surrounding Context

Surrounding Public and Private Open Spaces

As part of the Official Plan policy, the open space system in Ninth Line, as well as its links to the surrounding community, provides a network of recreational amenities that will encourage walking and cycling connections. Proposed parks, natural open spaces, and the stormwater management pond at the south end of the subject lands shall complement the parks and open space system through the extension of the trail network and the integration of community features, such as play fields, playgrounds, lookouts, and seating areas.

Surrounding open spaces include a network of parks, natural open spaces, stormwater ponds, and schools, and shall be well-linked with the proposed development.



Figure 1.2g - Surrounding Public and Private Open Spaces

Transportation Network

The Ninth Line community is largely influenced by the existing road fabric and active transportation network. The road network is structured by the north-south arterial road (Ninth Line) and east-west regional arterials roads (Derry Road and Britannia Road). Existing minor collector roads to the east also feed into the proposed community. The Ninth Line community is well-connected to Highway 407 directly to the west, Highway 401 to the north, and Highway 403 to the south.

The existing arterial and collector road fabric is expected to carry the majority of cycling and vehicular traffic within the greater area, and will serve

to link the Ninth Line community. The Official Plan identifies a long term cycling plan to connect key City destinations and locations, such as transit stations, with cycling routes. The proposed community will be integrated with these cycling routes, as well as the existing multi-use trails in the adjacent neighbourhoods to the east (refer to figure 1.2h below).

In conjunction with the surrounding open space network, the transportation network establishes the framework for community design and guides the layout of street hierarchy, parks and open space amenities, and built form typologies.

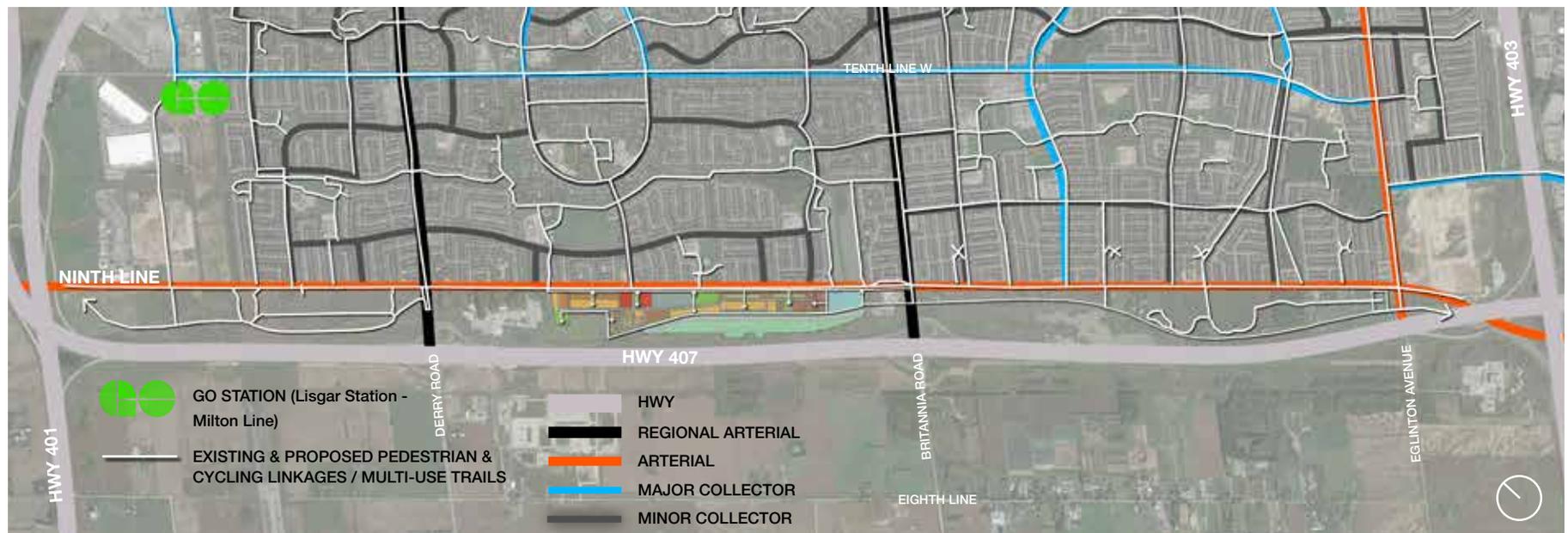


Figure 1.2h - Existing and Proposed Transportation and Pedestrian / Cycling Network

2.0 Analysis of the Proposed Development

Consistent with the vision and principles set out in policies of the Official Plan (Ninth Line Vision and Ninth Line Character Area), the proposed community is designed to be an urban, pedestrian, and transit supportive neighbourhood that will integrate well with the existing residential community to the east. The development will be characterized by predominantly medium density residential units, with higher density residential development concentrated at key locations. It conforms to the Guidelines' Land Use Concept Plan with residential medium density, natural heritage features, and an active transportation link along the entire length of the Ninth Line lands.

With neighbouring future development plans to the north and south, and the proximity of commercial/mixed uses and transit connections, the community constitutes a logical progression in the strategic growth of the Official Plan's Ninth Line Character Area.



Figure 2.0 - Image example of community park framed by built form.

2.1 Site Design

Within the subject lands, the Ninth Line community will be developed with a range of residential and open space uses, consistent with the City's Official Plan and Guidelines. The block layout and organization for the Ninth Line development aligns with Section 3.2.1 of the Guidelines, with specific reference to the following:

- New streets 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 and the broader community.
- To facilitate a well-connected grid network, mid-block connections are frequent and the site design does not include any 180m blocks without connections.

In accordance with Section 3.1.2 of the Guidelines (Public Open Space), the parks and open spaces in the proposed development have been located and designed to ensure safe and active use, walkable distance, and to reinforce a connected network of open spaces.

As per Section 3.1.1 of the Guidelines (Greenlands), the new layout of the development ensures 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.



Figure 2.1a - Ninth Line Community Conceptual Site Plan

Land Uses

The proposed community is planned as a predominantly residential development with medium density apartment buildings, strategically located at a central node intersecting with Doug Leavens Boulevard. Responding to the area's existing urban fabric, land uses have been distributed to respect and complement adjacent uses, support transit and active transportation, emphasize gateways, define important corridors, and comply with City Official Plan policies and the Guidelines for Ninth Line.

The plan consists of:

- Blocks with various styles of low and medium density residential units (single detached rear land townhouses, street townhouses, rear-lane townhouses, back-to-back townhouses, and mid-rise apartments) following a modified grid street pattern with varied block lengths.
- Compact, walkable streets and blocks, with medium density uses mainly concentrated along Street 'B' between Ninth Line and Street 'A', as well a condominium block/building in the southern portion.
- An elementary school integrated within the community.
- Interconnected and accessible open spaces, including the gateway park, the large central park, two neighbourhood parks, a condo amenity area, walkways, and multi-use trails, integrated within the land use fabric.
- A stormwater management pond at the southernmost end of the community, integrating the multi-use trails and amenities



Figure 2.1b - Ninth Line Community Land Use Plan

Structuring Elements

The structuring elements for the community will serve as the main building components for delineating the residential blocks, establishing the street network, and providing a strategic integration with the existing neighbourhood to the east.

The following describes the key structuring elements:

- **Existing Arterial Road** - Ninth Line frames the community on the east side, and the built form should provide a street facing condition that aligns with the Guidelines and other City policies.
- **Proposed Internal Road Network** - Provides the key internal north-south and east-west connections within the community.
- **Adjacent Existing Community to the East** - Helps to form the proposed road configuration and block layout.
- **Open Space & Park Features** - Includes open spaces, the SWM facility, neighbourhood parks, a parkette, walkway blocks, and the multi-use trail, which largely define community interfaces and views.
- **The Elementary School and its grounds** - Serves as a key component of the community.
- **Neighbourhood Gateway** - Consistent with the Guidelines recommendation to recognize gateways at key access points, this street serves as the entrance into the development with the buildings located at Ninth Line and Street 'B' framing the gateway into the community.



Figure 2.1c - Ninth Line Community Structuring Elements Plan

Road Network, Vehicular Access & Circulation

A well-defined, linked, and easily recognizable hierarchy of streets forms the structure of the community. It provides for the safe and convenient movement of pedestrians, cyclists, and vehicles, serves as the main space for social interaction, and establishes the first visual impression of the community. Designed as a modified grid pattern, the road network responds to the site's structural elements, facilitating movement and circulation, supporting accessibility, and promoting a safe, pedestrian-oriented lifestyle.

Vehicular access to the future community will occur from the east side along Ninth Line, with one (1) primary access on Street 'B' at the Doug Leavens Road intersection. Two (2) secondary access vehicular entrances are proposed at locations where they connect with existing streets on the east side of Ninth Line.

Street 'A' (20m R.O.W), serves as the north-south connection and central spine through the community. It will be designed as a 'complete street', serving a variety of functions.

Local roads (17m R.O.W.) are designed to reinforce a pedestrian focus and ensure safe connections within the community, connecting residents to amenities, such as parks and open spaces.

The following street types are located in the development:

- Arterial road - Ninth Line (35.0m R.O.W.)
- Minor collector road (20.0m R.O.W.)
- Local road - Street 'A' (20.0m R.O.W.)
- Local road (17.0m R.O.W.)
- Condominium road (11.0m / 9.40m R.O.W.)
- Condominium rear lane (7.40m R.O.W.)

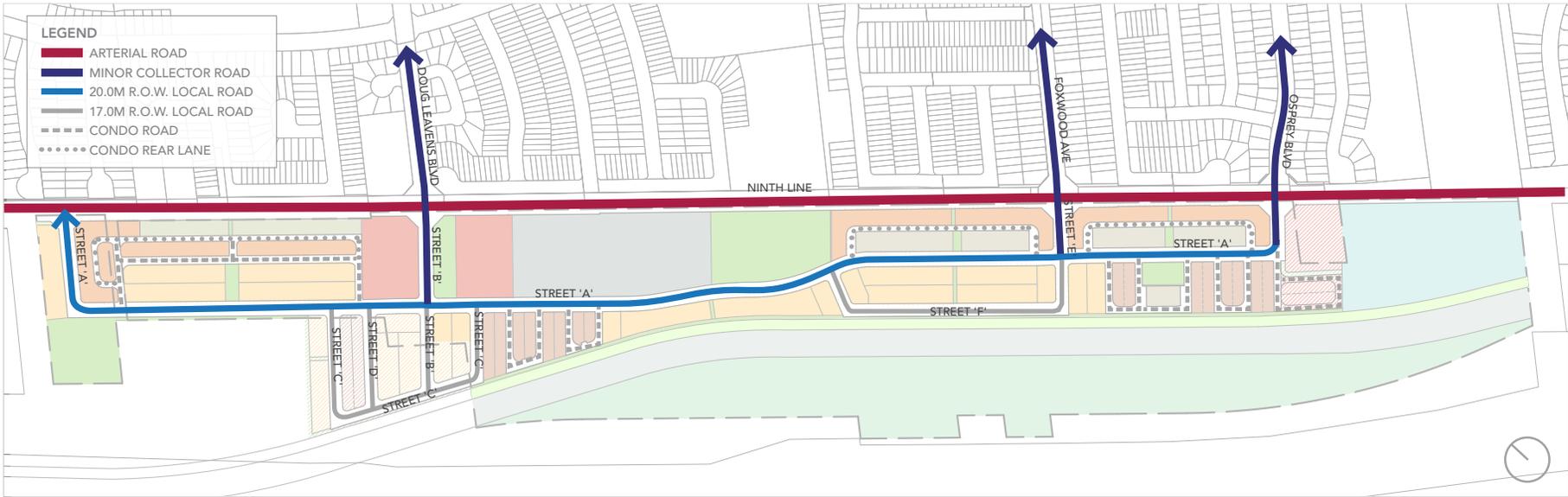


Figure 2.1d - Ninth Line Community Road Network, Vehicular Access and Circulation Plan

Pedestrian Circulation

The proposed pedestrian and vehicular circulation network will form a contiguous system with the existing City network and shall be designed in accordance with all applicable accessibility standards. Development of the Ninth Line lands will provide opportunities for pedestrian and cycling networks that link with the greater community to the east. Safe, direct, and logical pedestrian connections will create a continuous internal pedestrian network that will connect to a proposed multi-use trail system adjacent to the future Transitway and along Ninth Line. Within the development, direct links will be provided from the adjacent sidewalk, laneway, and walkway areas to the front steps of each home. Convenient and effective pedestrian connections to Ninth Line will further establish ease of access to surrounding amenities.

- Safe and logical connections will be provided to the future sidewalks along Ninth Line.
- A direct link with the future Transitway station, south of Britannia Rd. W., is achieved through the provision of trail connections from local streets and proposed parks/open space to the Ninth Line multi-use trail.
- Areas of frequent pedestrian crossings or congregation (such as Street 'B', as well as the portion of Street 'A' adjacent to the central park) may be distinguished by alternative paving materials with colour and/or textural changes to provide visual cues to divert drivers (traffic calming) and reinforce the intent of a pedestrian focused environment.
- The proposed multi-use trail system adjacent to the Transitway shall provide connections to the future Ninth Line development.



Figure 2.1e - Ninth Line Community Pedestrian Circulation Plan

Active Transportation Links

Integrated in these open space features, the proposed multi-use trail adjacent to the Transitway links the community with the future development to the north and south, as well as the existing community to the east. The trail system reflects Section 3.1.3 of the Guidelines (Multi-Use Trail), which proposes that the new multi-use trail and other new trails should connect to each other, and to existing trails, streets, and open spaces, including those along Ninth Line.

In addition to the future multi-use trail along Ninth Line, the multi-use trail along the buffer between the development and the transit corridor provides pedestrians and cyclists with connections and recreation opportunities in the immediate vicinity. This trail will provide an active transportation network between amenities including the central neighbourhood park, north park, school, and SWM pond.

For east-west linkages within the development, pedestrians and cyclists will utilize the street network (sidewalks and road surface) as well as pathways through parks and walkway blocks that connect to adjacent streets and sidewalks.

Refer to Multi-Use Trail section on pg. 32 for further details on proposed locations.

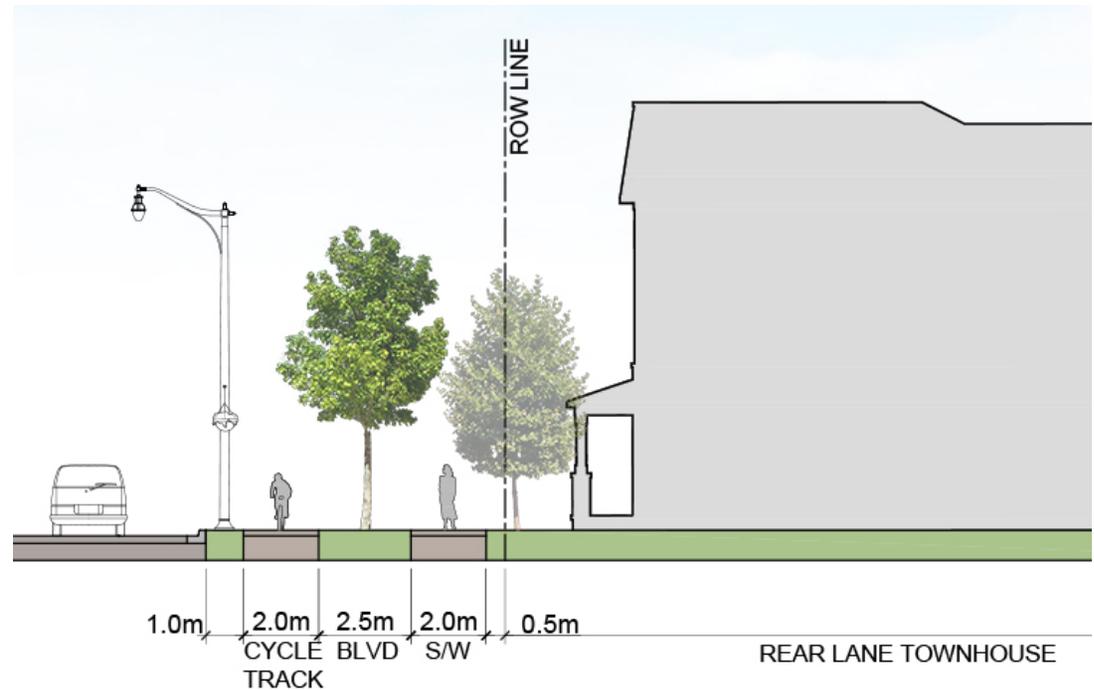


Figure 2.1f - Section of proposed Active Transportation Links along Ninth Line

Ninth Line Interface

The benefits of addressing Ninth Line through a strong built form relationship is a primary tenet of the Guidelines, and it's a principle that has been incorporated into the community in order to achieve an urban character that *"promotes the highest level of design, including attractive buildings that frame and address the street"*. Achieving a more urban condition translates into positive outcomes related to traffic speed and pedestrian and cycling usage. These benefits, intended to serve the proposed community, the existing community (Lisgar neighbourhood) to the east, as well as the streetscape appearance and function of Ninth Line itself, include the following:

- Bringing built form massing to the Ninth Line interface frames the street and reduces the perceived scale of the road, helping reduce excessive speeding and increase pedestrian and cyclist comfort;
- An urban front door relationship with Ninth Line engages the street and provides a more interesting and attractive streetscape environment that will better encourage pedestrian and cycling use;
- Engaging Ninth Line will better activate the street and function for something other than a through-fare for car trips;
- The urban front door relationship increases 'eyes on the street' and results in a safer street environment;
- The arrangement of land uses along Ninth Line, including townhouse dwellings, single detached dwellings, mid-rise condominium apartments, parks and swm pond provides an interesting balance of fronting conditions that helps support an interesting streetscape environment, while still achieving height, massing and land uses that are compatible with the existing Lisgar neighbourhood to the east;
- The existing east side of Ninth Line is somewhat disengaged from the street as it is characterized by suburban conditions that include flankage lotting and window streets. The result is that Ninth Line is seen only as a means of moving vehicular traffic and does little to contribute to an urban character and function. Having front doors along Ninth Line will help alleviate this perception as noted above;
- Key entry points into the community from Ninth Line are effectively framed as gateways by mid-rise apartments, reinforced through street-grade entrances, to help identify these important community access locations.

"Arterial roads, including Ninth Line...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..."

From Shaping Ninth Line Urban Design Guidelines, City of Mississauga, 2017

Figures 2.1g and 2.1h provide conceptual depictions of the proposed Ninth Line urban interface showing a front door relationship with the street. Refer to Figure 2.2b (p. 37) for concept showing proposed mid-rise apartment with street-grade entrances framing the gateway into the community.



Figure 2.1g - Ninth Line facing south - Conceptual view of the proposed rear-lane townhouses.



Figure 2.1h- Ninth Line facing north - Conceptual view of proposed rear-lane single detached built form.

Streetscape Design

Streetscapes support the functional role of the street network by balancing technical requirements with aesthetic and urban design objectives. Along Ninth Line, and within the community, the character of the public realm will be largely influenced by streetscape treatments and planting schemes, which shall correspond with the policies in the Guidelines. Coordinated, consistent, and attractive streetscapes are key to fulfilling the design vision for Ninth Line.

Consistent with City standards, three (3) streetscape conditions are planned within the community, including local streets (17m R.O.W and 20m R.O.W for Street 'A'), and laneways (7.4m R.O.W.).

Design objectives should consider the combination of elements within the street right-of-way and the adjacent built form relationships, including:

- Enhancing the community's image and quality;
- Reinforcing a comfortable pedestrian street environment as the main social gathering space for neighbourhoods; and
- Assisting in way-finding, placemaking, and orientation.

These elements and associated guidelines are discussed in the following section.



Figure 2.1i - Image example of compact built form with minimum setbacks from the street that create a pedestrian-friendly environment.

Streetscape Elements

Street Trees

In compliance with the City's Guidelines, the following guidelines shall be considered selecting and planting street trees:

- Street tree species shall be selected from the City's approved list of street trees and planted as per City Standards.
- Streetscape treatment shall be typified by trees within a grass boulevard between the sidewalk and curb.
- The connection between both sides of the street shall be reinforced by pairing species types on both sides to create a consistent canopy and cohesive streetscape appearance.
- Large canopy, coarse-leaved deciduous trees shall be specified in the boulevard for all streets.
- Trees shall be planted at regular intervals at a distance that allows for continuous canopy and appropriate rooting potential.
- Street trees shall be coordinated with lighting, driveways, and below/above-ground utilities to ensure tree planting opportunities are maximized and trees are grown in optimum conditions.

Street and Site Furniture

Street furniture plays an important role in defining the streetscape and should be consistent with the established vision for Ninth Line. The selection and placement of street furniture shall consider the following guidelines:

- The selection and placement of street furniture shall comply with City of Mississauga standards.
- The style of street furniture shall be selected to complement the proposed architectural style and character of the community.
- The proposed street furniture strategy shall include benches, waste receptacles, bicycle racks, community mailboxes, and signage.
- For publicly accessible areas intended for gatherings, such as park entries or the stormwater pond lookouts, the integration of benches and waste receptacles should be considered.

Street Lighting

Street lighting is an essential element of streetscape design, and the choice of light standards in the community will play a key role in reinforcing the character of Ninth Line's public realm.

- Distinctive specialty lighting, including pedestrian-scale light standards, may be considered for Street 'B' to reinforce the main entrance to the community and create a unique streetscape character conducive to a comfortable pedestrian environment.
- Local street light standards shall reinforce safe, attractive pedestrian connections.



Figure 2.1j - Image examples of street and site furniture reflecting a contemporary style, colour, and material to complement the intended contemporary architectural style of the community.

Concept Street Sections

The following streetscape sections illustrate the relationship between built form and the key street typologies, including local streets, condominium roads and laneways, Ninth Line, and the future Transitway corridor.

Street A

Where appropriate for the land use, the design of Street 'A' will reflect Section 3.2.2.2 of the Guidelines for Collector Roads with enhanced streetscape in selected areas, such as :

- Potential specialty paving at the intersection of Street 'A' and 'Street 'B' as the gateway into the community, and potentially adjacent to the central neighbourhood park.
- Pedestrian scale street lighting in addition to street lighting, as well as benches, and bike racks may be considered at key areas of congregation along Street 'A'.

Street B

As the community's special character avenue, the east-west street will contain land uses designed to generate a higher intensity of usage, support future public transit and encourage increased pedestrian traffic levels. The streetscape shall be designed in a manner that respects its prominence as the primary avenue through the community, including the following features:

- Specialty street paving and pedestrian scale lighting.
- Urban boulevard treatment and street furniture where concentrations of people are anticipated.

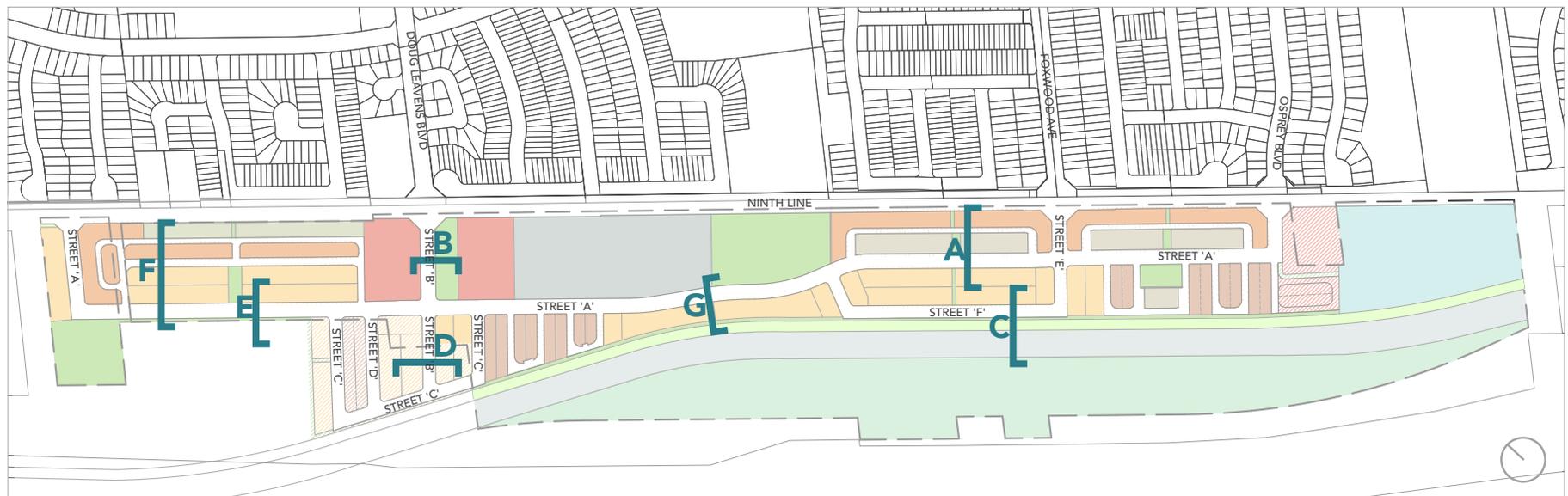


Figure 2.1k - Ninth Line Community Land Use Plan



Figure 2.1l- Section A: Rear-Lane Townhouse Interface with Ninth Line and Street 'A'

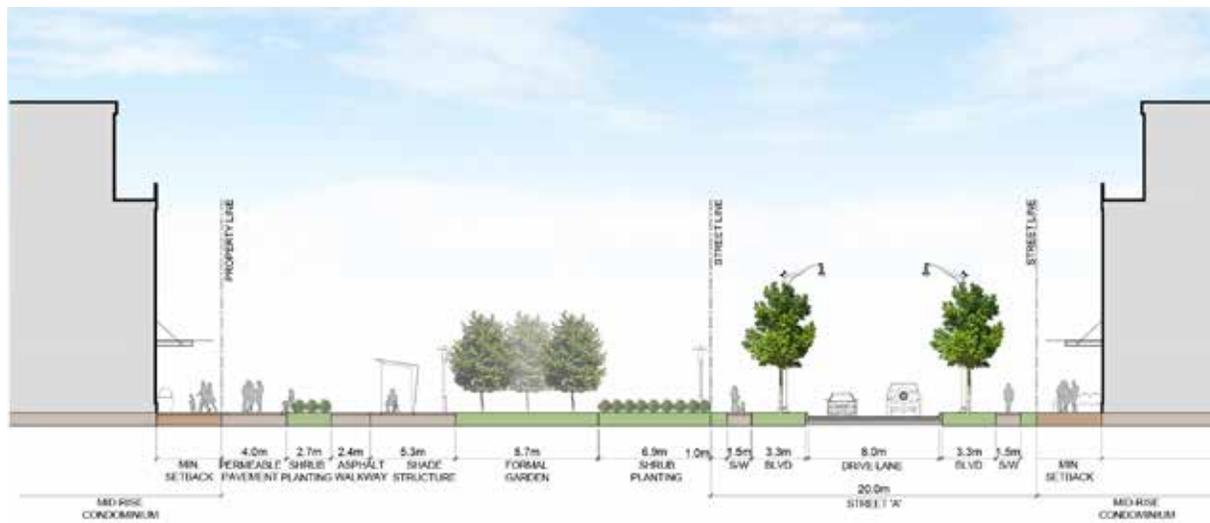


Figure 2.1m - Section B: Gateway Street 'B' Interface with Mid-Rise and Linear Park



Figure 2.1n - Section C: Townhouse Block Interface with Multi-use Trail adjacent to Transitway Corridor Buffer



Figure 2.1o - Section D: Residential Interface with 17.0m Local Street

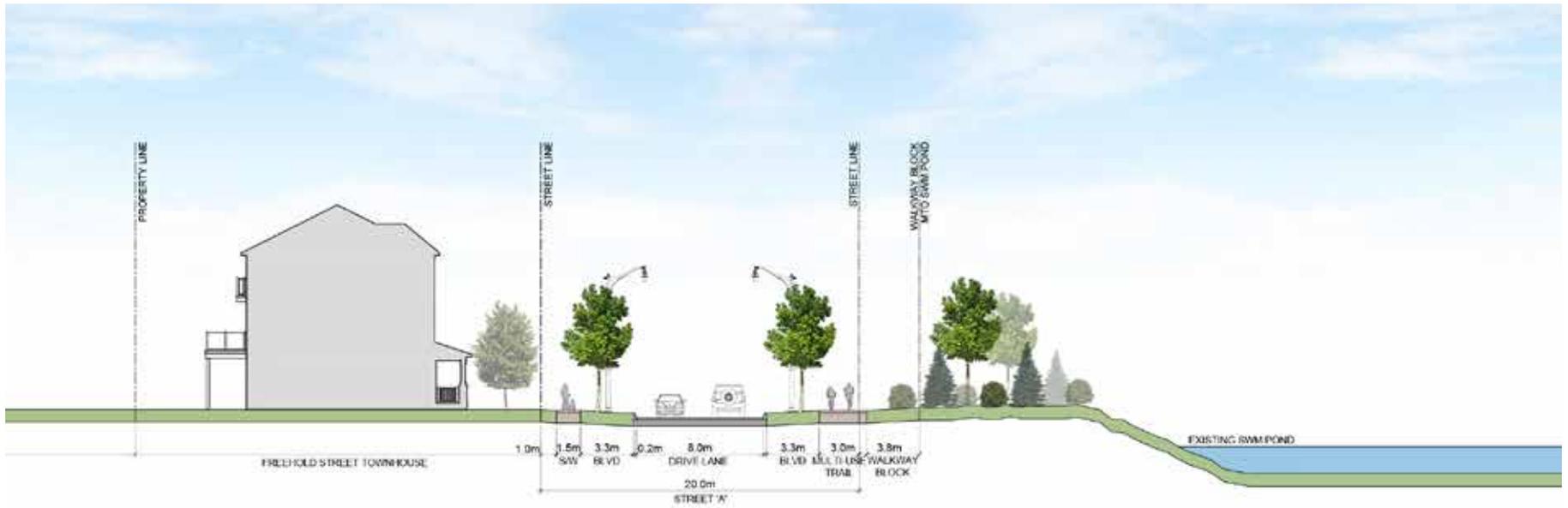


Figure 2.1p - Section E: Street 'A' interface with Existing Stormwater Management Pond



Figure 2.1q - Section F: Condominium Block 1

Proposed Public Open Spaces

Consistent with the vision established in the Guidelines, a network consisting of a series of parks and open spaces are proposed within the community. The parks and open spaces shall be distributed throughout the community and programmed to ensure diversity in the form, function, and appearance of public open spaces. The programming and design detail of individual parks will be determined in consultation with City staff in order to provide a balance of facilities and passive and active recreation opportunities throughout the community. A multi-use trail integrated within these open space features will connect this community with future development to the north and south.

The parks and open spaces consist of the following:

- **Gateway Park** - Oriented east-west from Ninth Line.
- **Central Park** - Centrally located in the community adjacent to the school with an interface on Ninth Line.
- **North Park** - Located at the north end of the proposed community, providing recreation facilities for residents within a 5-min walk.
- **Condo Amenity Area** - Located within the condo blocks in the northern portion of the site.
- **South Park** - A public park located within the condo blocks to the south.
- **Stormwater Management Pond** - Situated at the south end of the development between Ninth Line and the future Transitway.

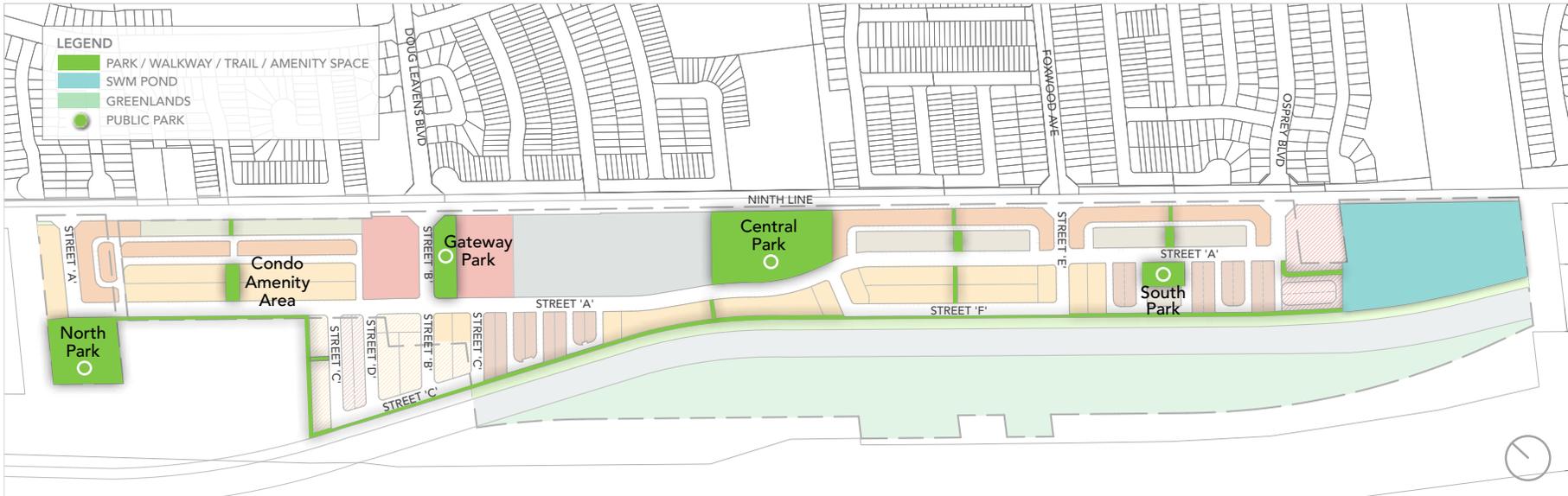
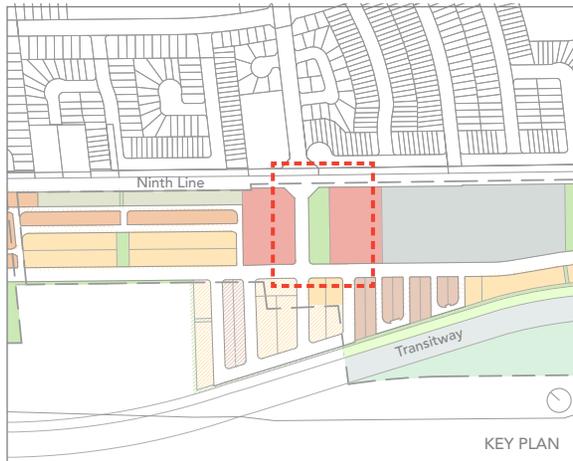


Figure 2.1q - Ninth Line Community Public and Private Open Space Key Plan



Gateway Park

A 0.32ha (0.79ac) linear park is proposed at the gateway into the community at the corner of Ninth Line and Doug Leavens Blvd. The park provides a strong visual element parallel to the entry street, and the concentration of density with the two (2) 6-storey buildings that frame the street further reinforce it as the community entry point. The positioning of a 6-storey building along the park edge offers a well-defined built form presence with at-grade entrances from the park.

Potential features for this park may include:

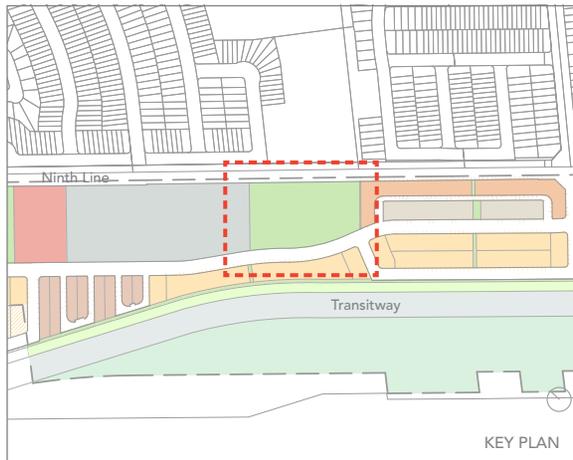
- Formal entries and seating,
- Bicycle racks;
- Shade structures, with seating, and decorative paving;
- Unprogrammed open space;
- Playground facility; and
- Formal planting layout.



Figure 2.1r - Gateway Park Preliminary Landscape Concept



Figure 2.1s- Conceptual depiction of Gateway Park showing the proposed urban boulevard treatment and coordinated street furniture, formal planting layout, unprogrammed open space, and decorative paving that reinforces Street 'F' as the community entry point.



Central Park

Intended as the primary focus for the community, a 1.40ha (3.46ac) neighbourhood park integrates passive and active uses. The park comprises two blocks, east and west of Street 'A', and is designed in a central location that is accessible and highly visible within the community. The location allows for direct connections and views from Ninth Line, adjacent park fronting townhouses, the main collector street through the community (Street 'A'), and to the natural feature buffer and future Transitway to the west.



The park fronting townhouses that define the southern edge of the central park promote “eyes on the park” and strengthen a sense of security, while clearly defining the transition from public to private through enhanced landscape features and direct pedestrian connections.

Park features may include:

- Open grass areas with opportunities for unstructured play and flexible programming;
- Direct pedestrian connections to the street, pedestrian network, and future Transitway;
- Active sports facilities;
- Junior and senior playground facilities;
- Spray pad or hardcourt play; and
- Extensive seating areas with shade structures.



Figure 2.1t- 2.2u - Image examples of facilities in a community park.

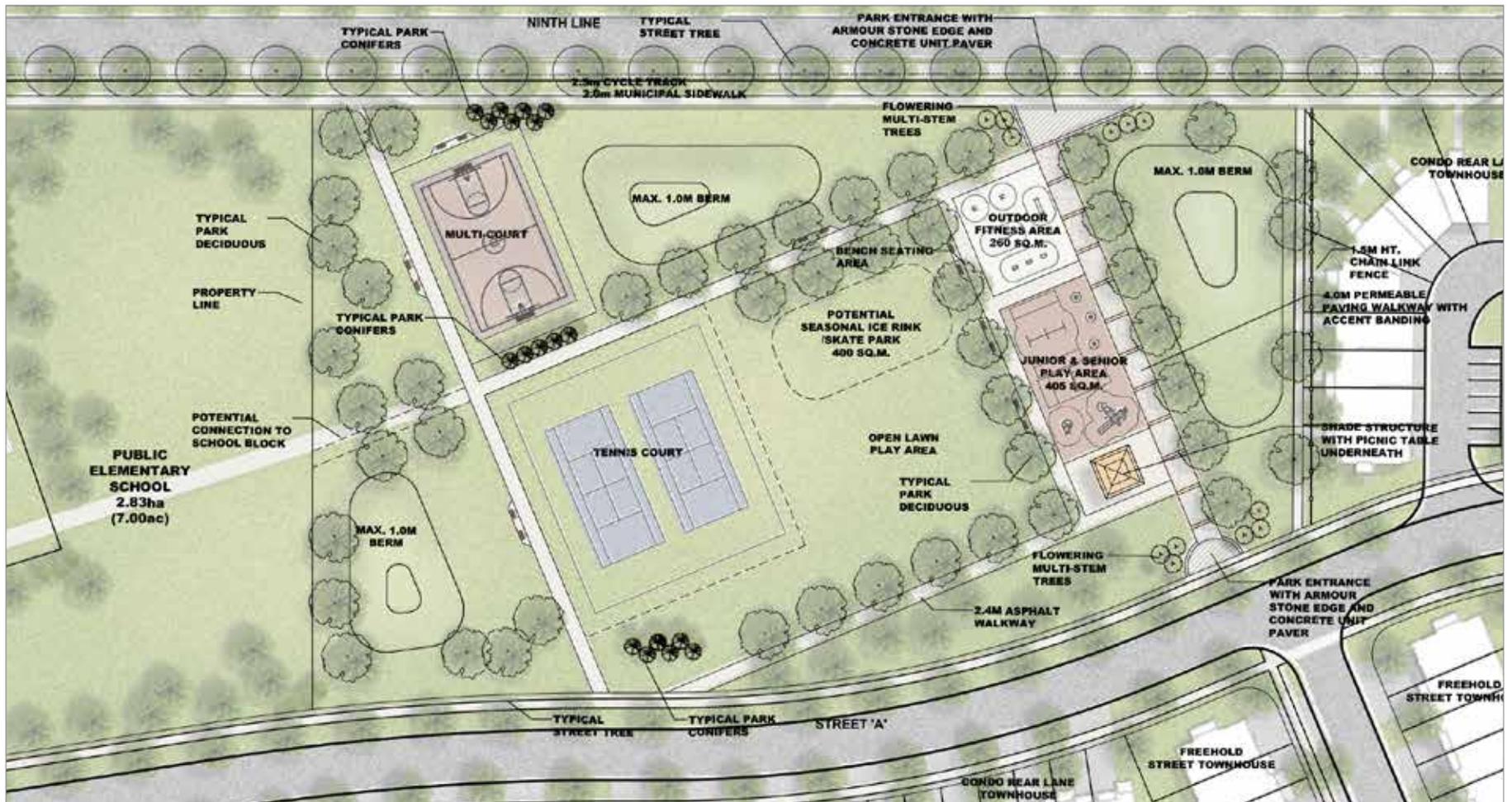
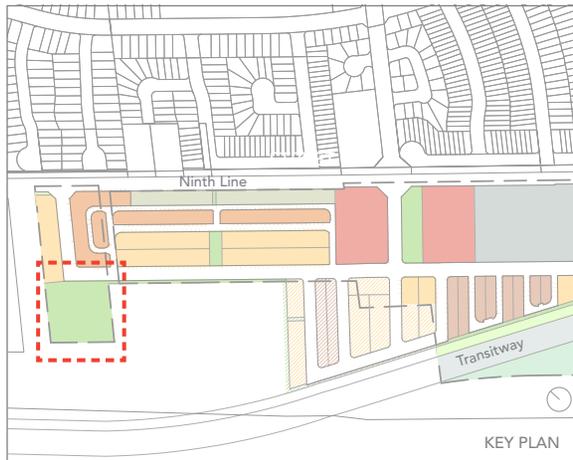


Figure 2.1v- Preliminary Landscape Concept of Central Park to the east of Street 'A' showing proposed decorative paving, active transportation connections, playground and sports facilities, seating and shade structures, and open grass areas with opportunities for flexible programming.



North Park

A 0.80ha (1.98ac) neighbourhood park is provided with passive and active uses for residents at the north end of the proposed development, ensuring that the park network is well-distributed throughout the community.

Park features may include:

- Open grass areas with opportunities for unstructured play and flexible programming;
- Direct pedestrian and cycling connections to the street, pedestrian network, and future Transitway;
- Box soccer and winter skate area;
- Water play;
- Junior and senior playground facility;
- Seating area with shade structure; and
- A potential community garden.

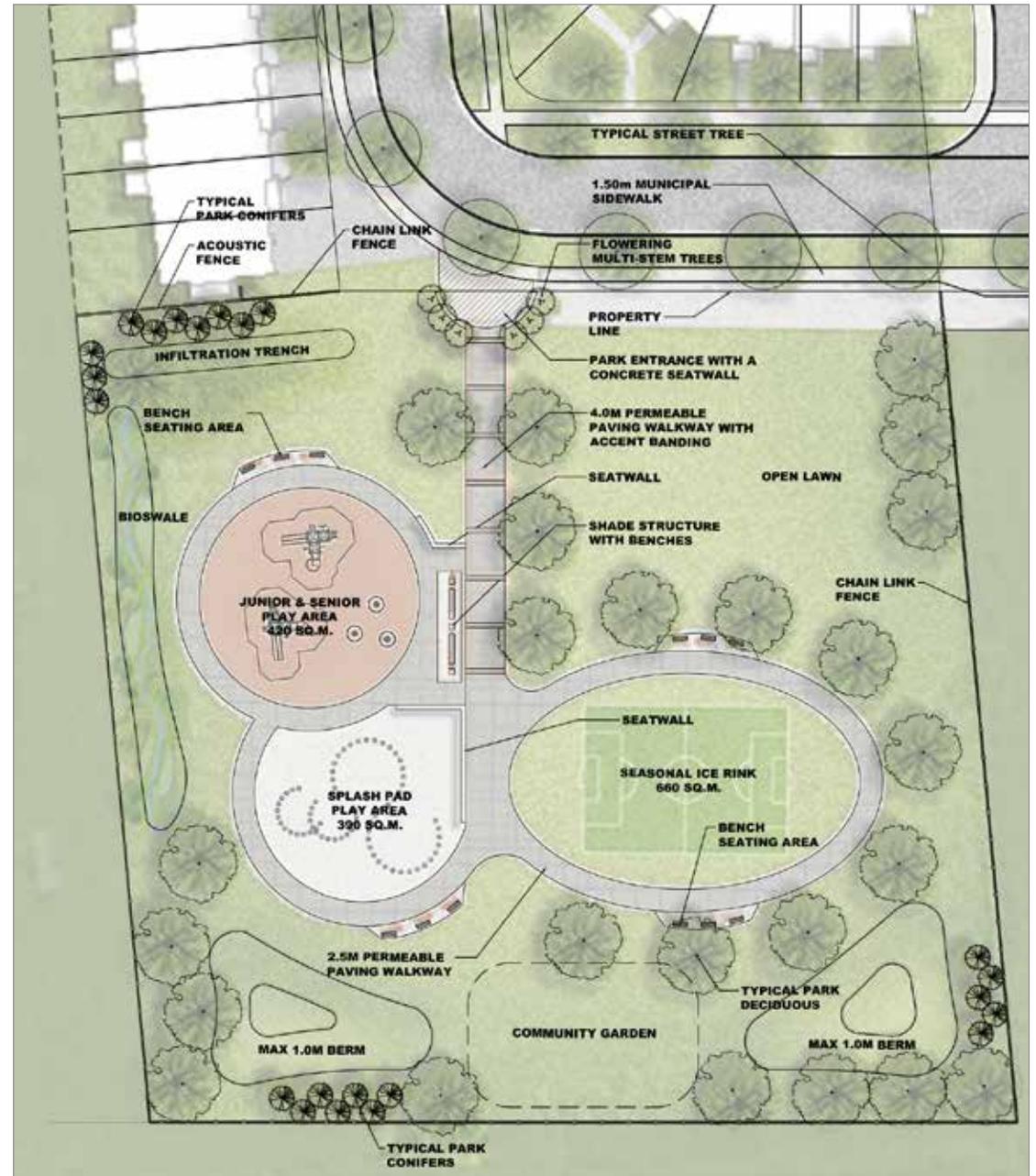


Figure 2.1w - North Park Conceptual Plan

North Park - Low Impact Design Approaches

As outlined in *Section 2.4 Sustainable Design Strategies*, Ninth Line's community design and implementation is encouraged to integrate an appropriate Low-impact design or Low-impact development (LID) program. These approaches help maintain and restore the natural water balance of environments, focusing on practices that promote increased evapotranspiration, infiltration, groundwater recharge, and lower surface runoff volumes and flow rates.

Given the size and location of the North Park adjacent to Greenlands and MTO Stormwater Management Pond, this public open space provides an appropriate location to describe the LID techniques that could be implemented in Ninth Line. With an objective to balance the functional requirements of play and programming with sustainability, accessibility, maintenance and aesthetic considerations, the following describes some of the potential opportunities for integrating LID approaches.

HARDSCAPING

Permeable Paving - the selection of paving alternatives that allow for increased permeability and infiltration. Applications for permeable or porous paving materials in the North Park may include seating areas and pathways.

WATER CONSERVATION AND MANAGEMENT

Infiltration galleries and trenches - used to capture and store rainfall within sub-surface granular trenches, to be released through infiltration between rainfall events. Typically, these may be long linear trenches or wider rectangular configurations lined with geotextile fabric that can receive runoff walkways or other paved areas.

Vegetated swales and filter strips - open grassed or vegetated channels and areas that slow runoff, provide filtration and infiltration for runoff from adjacent paved areas, as either a pre-treatment for downstream infiltration LIDs or as a standalone facility (refer to *Figure 2.4 - Sustainable Design Strategies* for image example of enhanced grass swale).

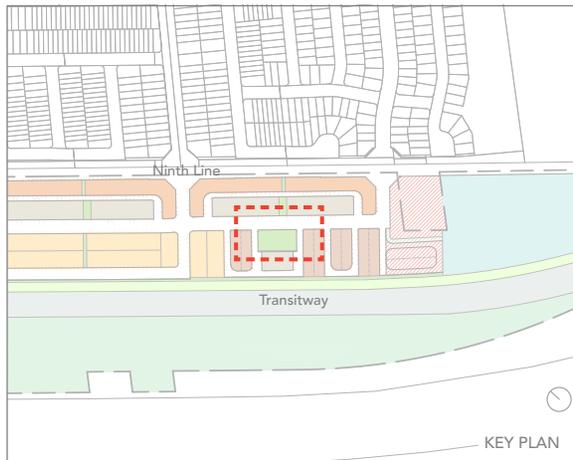
Bioretention cells or rain gardens - utilize vegetation in combination with subsurface infrastructure to effectively provide evapotranspiration and filtration, while also promoting infiltration into the underlying native soil.



Figure 2.1x - Image example of permeable paving materials integrated into the park design as pathway feature.



Figure 2.1y-z - Image examples of bioretention cells and rain gardens as an LID approach in park design.



South Park

A 0.17ha (0.42ac) public park is provided in the southern portion of the community to offer accessible green space for all residents. It may consist of a play structure, and a formal seating area with shade structure, to stimulate social congregation, offer rest and shade, and provide visual landmarks that contribute to the streetscape. The proposed park is well situated with street frontage along Street 'A' and easy access for residents of the community.

The following design features shall be considered:

- Junior and senior playground facility;
- Features, including seating, shade structures, and bicycle parking;
- Safe pedestrian/cyclist connections;
- Hard and soft landscape elements to identify areas of activity and circulation; and
- Lighting provided for pathways and any shade structures, as required.



Figure 2.1aa - South Park Conceptual Plan

Multi-Use Trails

The proposed multi-use trails integrates the Ninth Line community with the future development to the north and south, as well as to the existing community to the east and the future Transitway to the west. Multi-use trails are proposed along Ninth Line, and along the buffer adjacent to the Transitway. The trail system reflects Section 3.1.3 of the Guidelines (Multi-Use Trail), which proposes that the new multi-use trails 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. This active transportation network provides pedestrians and cyclists with connections and recreation opportunities in the immediate vicinity, throughout the wider community, and to the future Transitway station to the south.



Figure 2.1bb - Image example of multi-use trail integrated within a buffer.



Figure 2.1cc - Rendering example of a multi-use trail adjacent to an arterial road with a strong built form relationship.

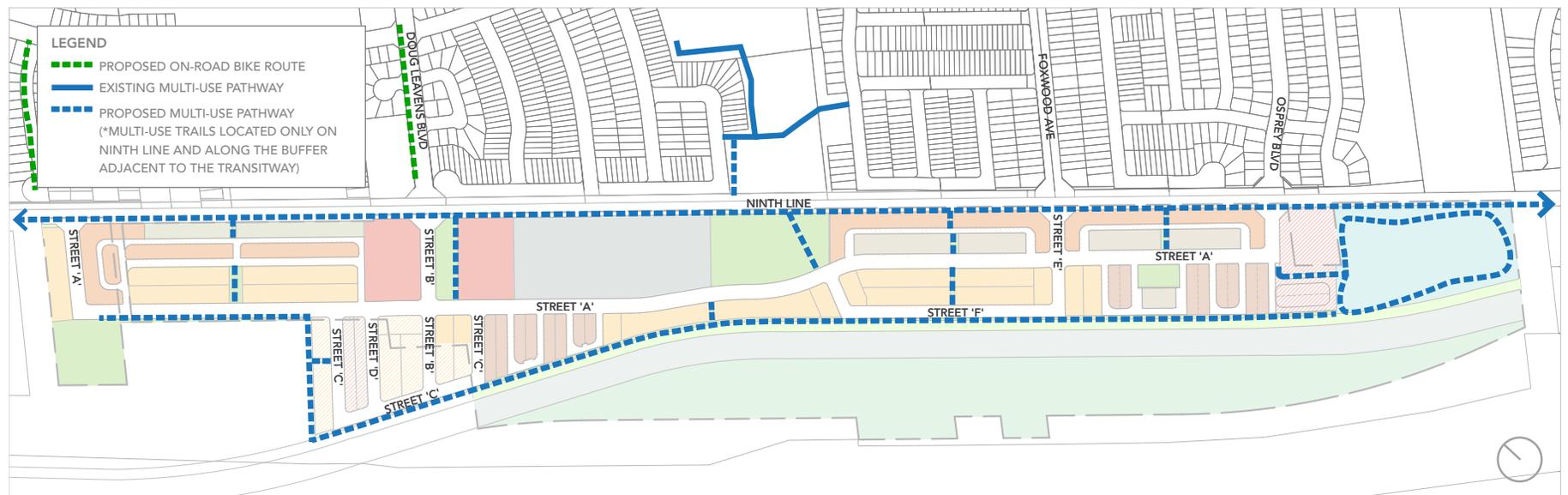
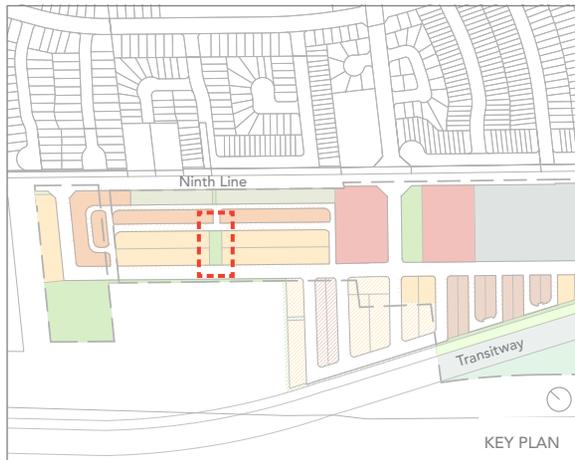


Figure 2.1ff - Proposed Ninth Line Community Active Transportation Connections



Condo Amenity Area

Strategically aligned with a mid-block connection to Ninth Line, an 873 sq. m. condo amenity area is provided in Condo Block 1 between the Gateway Park and North Park. The proposed concept comprises a continuous path surface, ornamental and buffer planting, seating, and a potential play area. With street frontage along Street 'A', this amenity area forms part of the view corridor through three (3) east-west blocks and provides opportunities for an east-west multi-use path and active transportation connections from Ninth Line to Street 'A.'

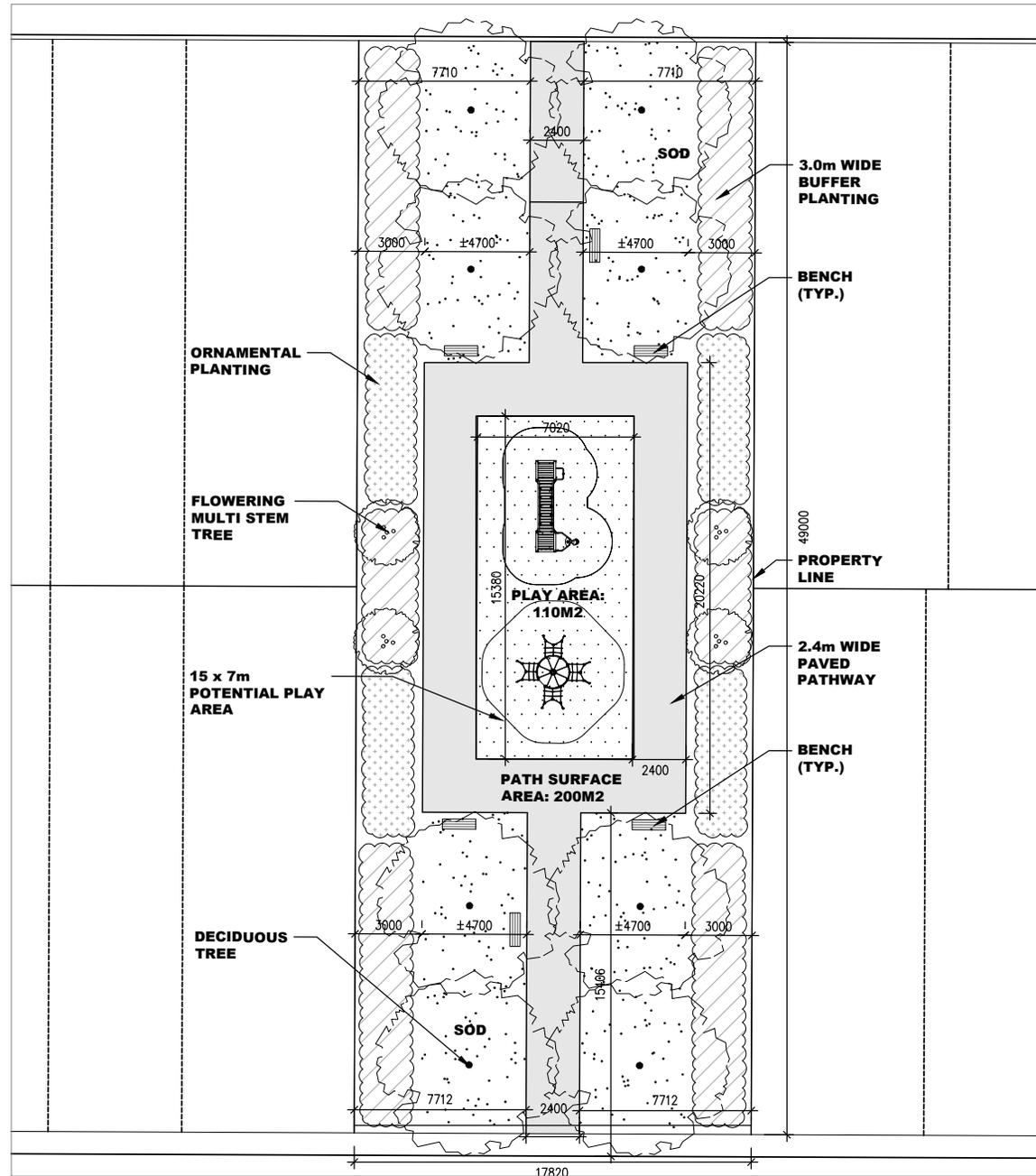


Figure 2.1dd - Condo Amenity Area Conceptual Plan



Open Space / Stormwater Management Pond

In addition to its primary water quality/quantity control and recharge functions, the proposed stormwater management pond located in the southern portion of the subject lands is designed to fulfill a secondary role as a community benefit. By complementing the parks and open space system through integration with the pedestrian/trail network, the SWM pond will provide a key neighbourhood amenity for primarily passive recreational use.

Consistent with Section 3.1.4 of the Guidelines (Stormwater Management Ponds), views and access to the SWM pond have been integrated as an important community amenity, bounded by a combination of road and open space to establish appropriate and safe use, views, and access. The layout in the proposed condominium block adjacent to the SWM pond allows for a continuous unobstructed connection of the multi-use trail extending north-south through the length of the subject lands. A proposed multi-use path surrounding the SWM pond will connect the seating area / lookout structure with the multi-use path network to the north and the future transitway station to the south. The SWM pond landscape treatment shall include naturalized planting and a lookout amenity feature with seating distributed throughout, a shade structure proposed on the eastern side to provide a visibility and easy access from Ninth Line, and potential fitness stations.



Figure 2.1ee- Image example of naturalized stormwater pond planting.



Figure 2.1ff - Image example of a stormwater pond with a lookout amenity feature.

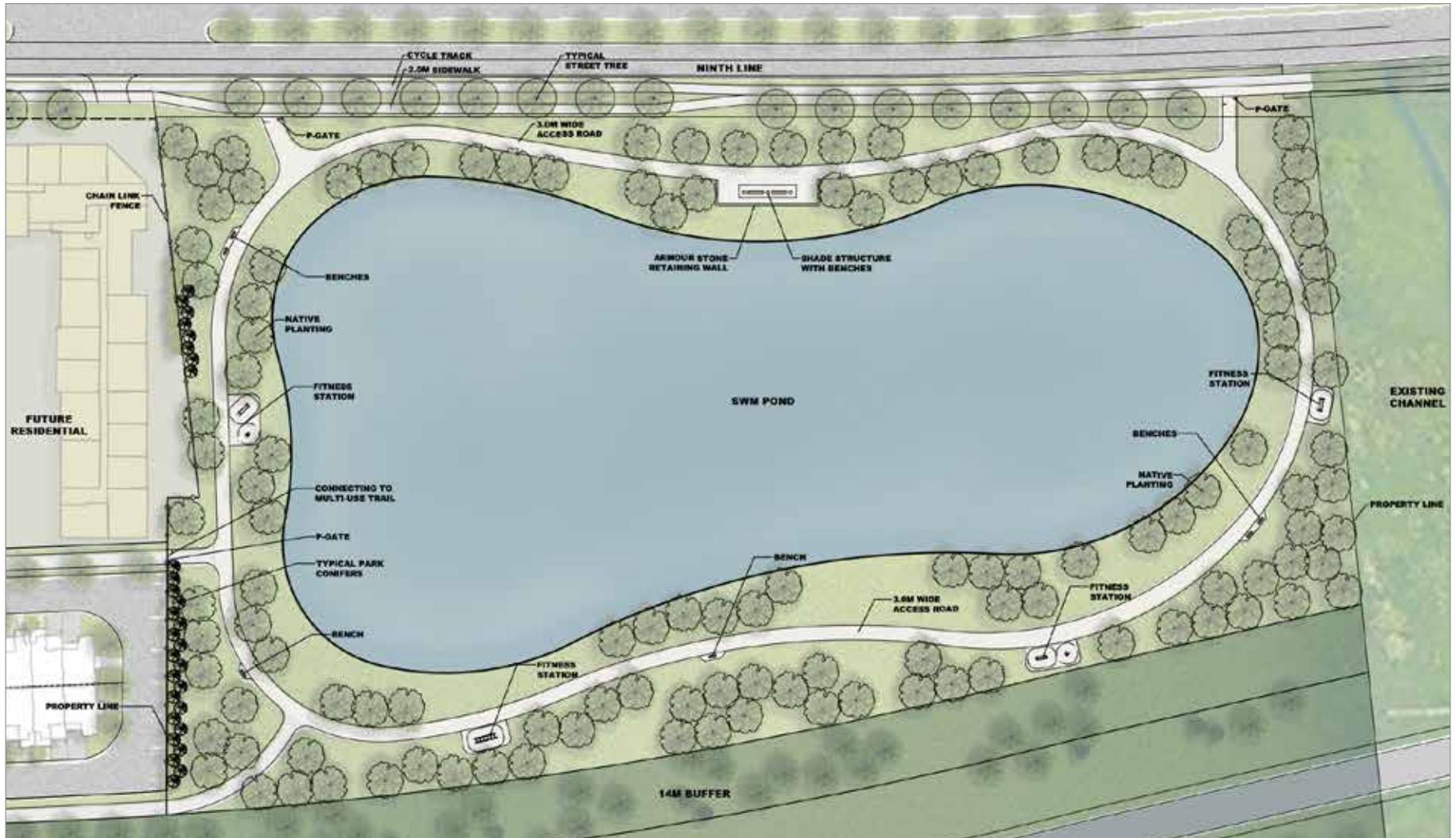


Figure 2.1gg- Stormwater Management Pond Conceptual Plan

Multi-Use Trail - MTO Stormwater Management Pond

Continuing along the northern extent of Street 'A', the proposed multi-use trail is located on the west side of the development adjacent to the buffer and Transitway. The installation of this trail corridor and additional planting can be integrated into top of bank of the existing SWM pond block, supporting the primary objectives of the Guidelines (Section 2.2 / Section 3.1.3). Locating the trail along the SWM pond provides view opportunities to this open space feature for pedestrians and cyclists, with a potential for an amenity feature and shade structure consistent with the proposed SWM pond design to the south. (Refer

to Fig. 2.1cc). Additionally, information signage may be incorporated at key access points along the multi-use or within the shade structure/ lookout amenity features as suitable for the location. As recommended in Section 3.1.4 of the Guidelines, "public education displays should be used to increase awareness and appreciation of the facilities," and will be incorporated at strategic locations along the multi-use trail.

Buffer Block - Interface with Union Gas Facility

Along the northern extent of the subject lands, a 5m landscape buffer is provided between the back of the front-loaded townhouses and the existing Union Gas Facility to the north. This block will not be publicly-accessible as the intent to provide an appropriate visual buffer between the residential development and the neighbouring industrial land use. Planting may include a mix of coniferous and deciduous trees.

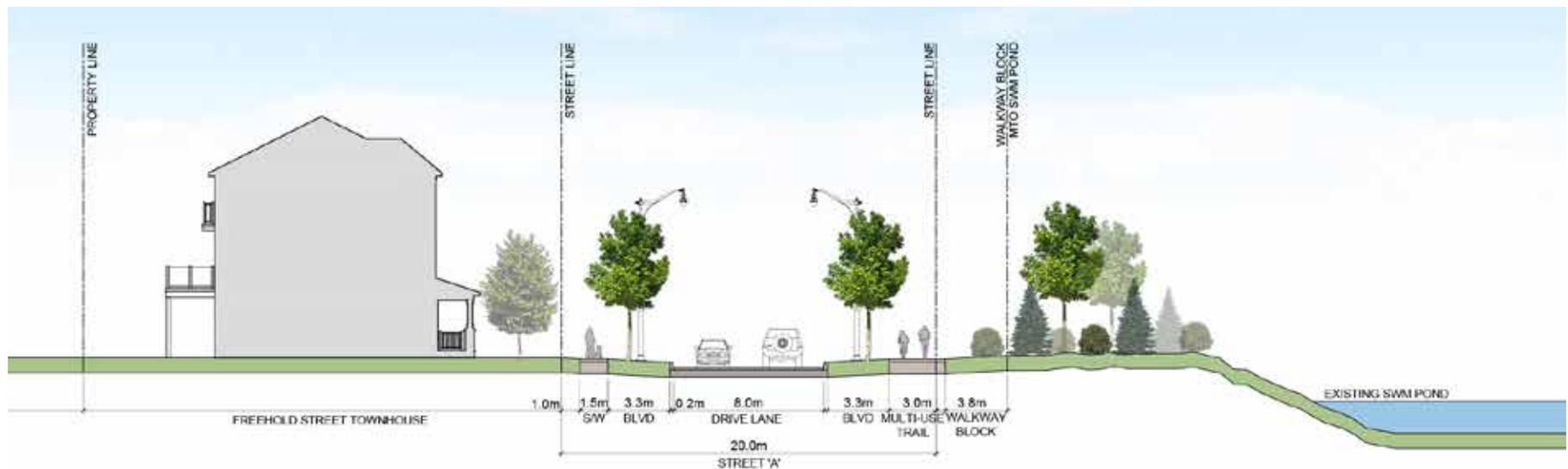


Figure 2.1hh- Section E: Street 'A' adjacent to Existing SWM Pond

Mid-Block Connections

As recommended in Section 3.2 of Guidelines, mid-block connections are frequent and the site design does not include any 180m blocks without pedestrian connections. These mid-block connections provide breaks in the townhouse massing, allow for multi-use connections between Ninth Line and the internal local streets and laneways, providing increased accessibility and permeability, and enhancing overall walkability of the community. The hierarchy of mid-block connections includes 11.0m wide amenity areas where two walkway block connections are aligned in a row, providing a wider break between buildings and variety along the pedestrian path.

Mid-block connections will consist of the following, where appropriate:

- A multi-use path;
- Edge planting appropriate to the built form interface and providing the appropriate safety setback considerations.
- Reinforcing CPTED principles, mid-block connections are aligned through multiple blocks where possible, maximizing site lines and natural surveillance.



Figure 2.1ii - Image example of mid-block connection between townhouses.

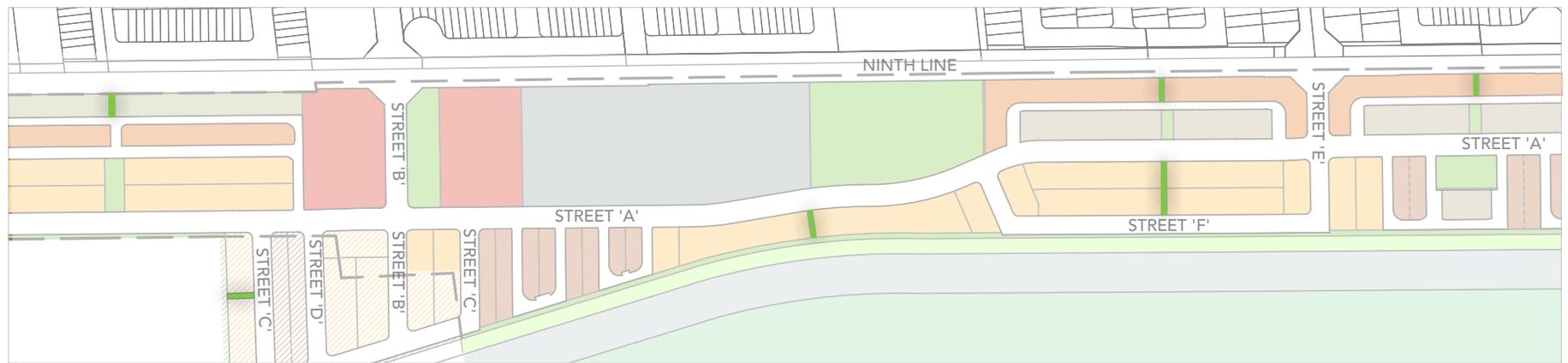


Figure 2.1jj- Locations of 4.8m Mid-Block Connections in the Ninth Line Community

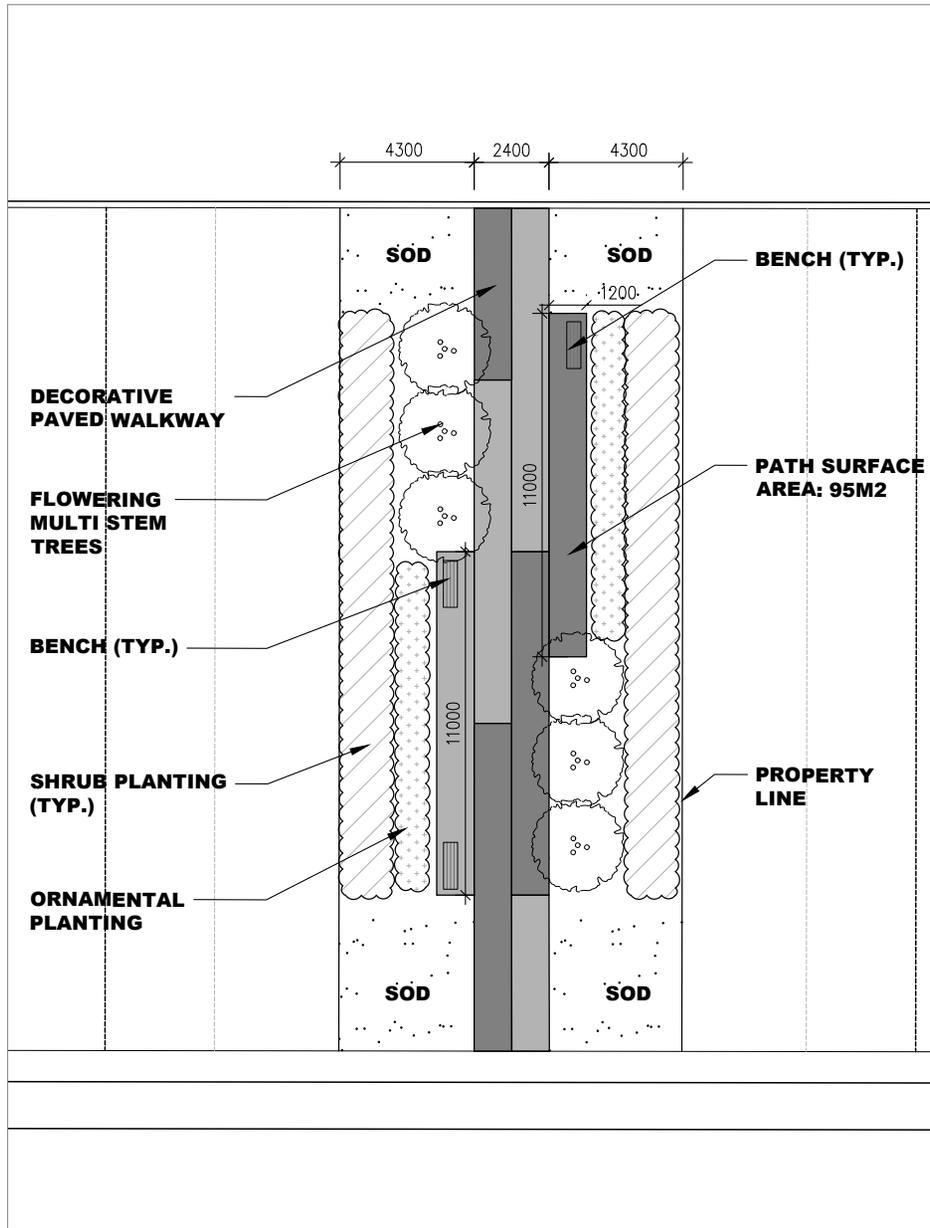


Figure 2.1kk - Preliminary Concept for 11.0m Amenity Area

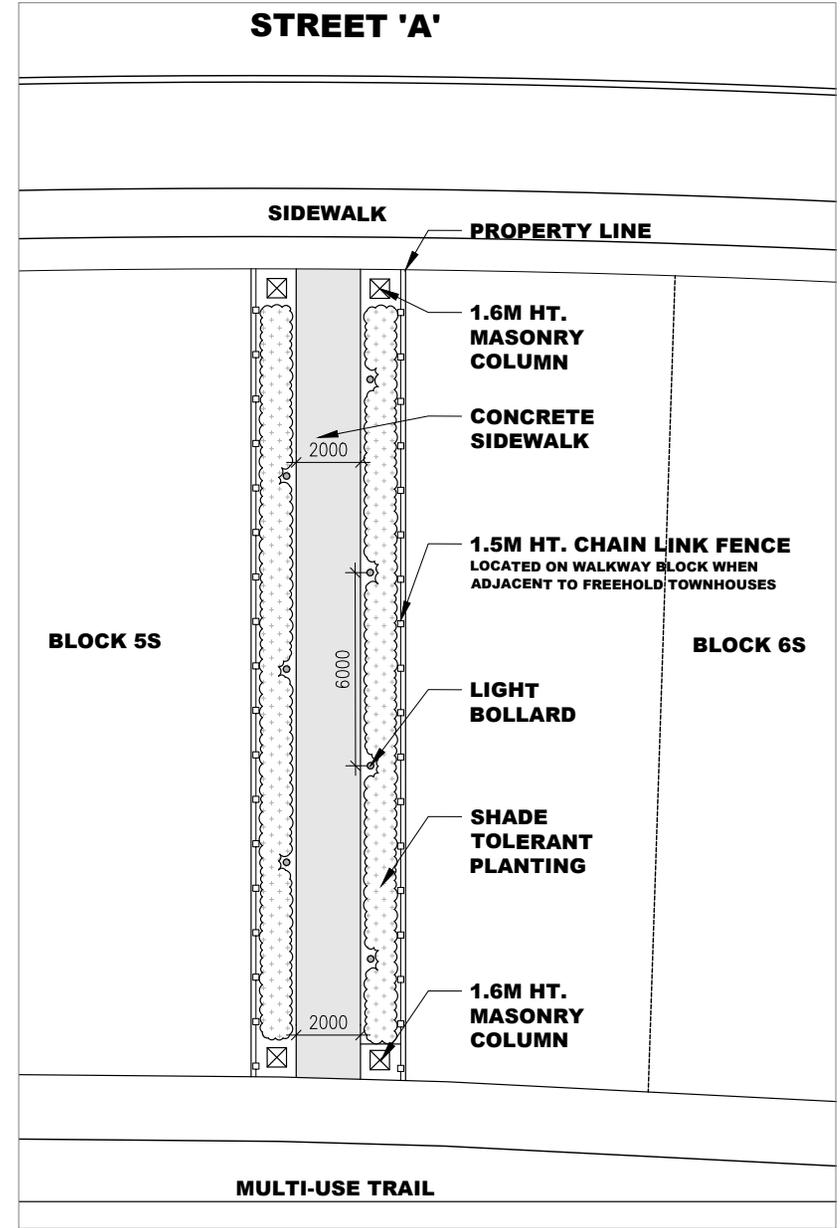


Figure 2.1ll - Preliminary Concept for 4.8m Mid-Block Connection



Figure 2.1mm - Proposed 4.8m Walkway Block between Rear-Lane Single Detached - Aligned View Corridor and Pedestrian Connections.

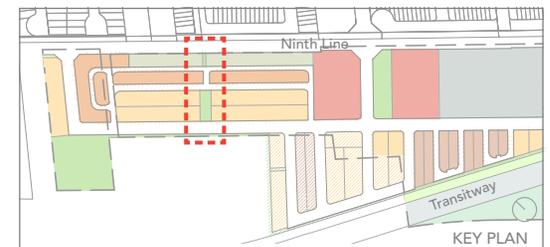
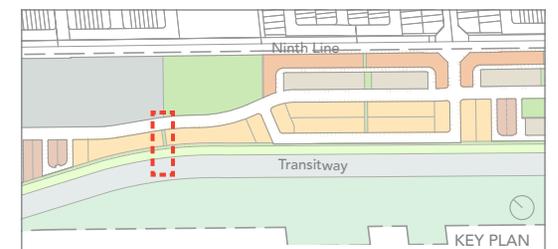




Figure 2.1nn - Section E: Proposed 4.8m Walkway Block between Front Loaded Townhouses along Street A and Multi-Use Trail



Figure 2.100 - Proposed 4.8m Walkway Block between Front Loaded Townhouses with view corridor toward Multi-Use and Transitway Buffer.



2.2 Built Form & Uses

The community's built form has been designed to comply with the City's Guidelines (Section 4.1 - Residential Building Guidelines), as well as 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).

Building Typologies

Within the subject lands, built form ranges from rear lane singles, to medium density townhouses (including 3-storey front loaded, rear lane, back to back, and stacked), to higher density, 6-storey condominium apartments. Townhouses, which may be freehold or condominium, make efficient use of land, reduce energy consumption, increase the diversity of built form within a community, and provide strategic transit supportive density.

A. Residential Built Form

- Medium Density
 - Street Townhouses
 - Rear Lane Townhouses
 - Rear Lane Stacked Townhouses
 - Back-to-back Townhouses
 - Rear Lane Single Detached
- High Density
 - Mid-Rise Condominium Apartments

B. Non-Residential Built Form

- Elementary School

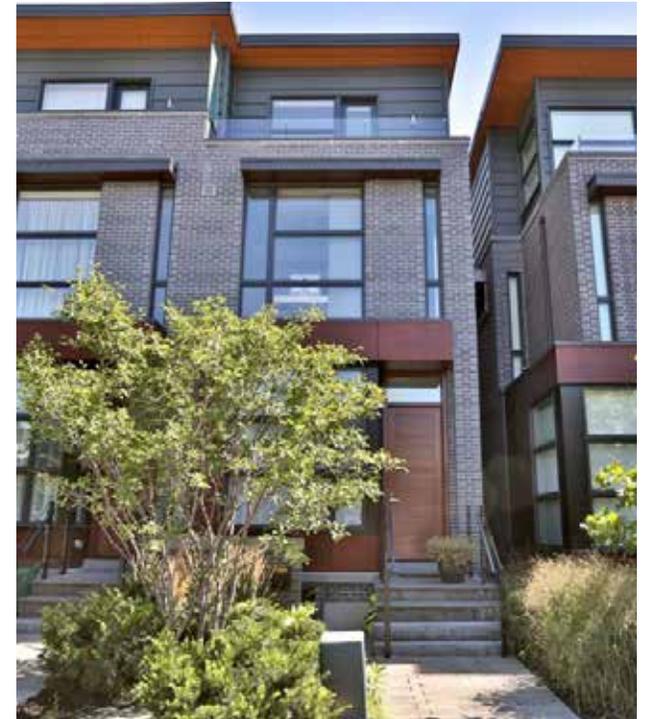


Figure 2.2a - Image example of rear lane townhouses, one of the built form types proposed in Ninth Line that will contribute to the compact development.

6-Storey Apartment Buildings

Mid-rise condominium apartment buildings are proposed at the north and south side of Street 'B', as well as potentially in the south portion of the proposed development. These higher density residential forms are appropriate in establishing an active urban character through an emphasis on building height and massing where intensity of use and a landmark form is desirable. These buildings shall reflect the Guidelines in section 4.1.2 Apartment Buildings and p. 53 - Site B - Complete Communities: Missing Middle Housing Options, which encourages a greater mix of housing options and a demonstration showing mid-rise residential with grade related units at Ninth Line and Doug Leavens Boulevard.

- Ground level floor heights shall be taller than upper floor heights to create a strong street presence and provide opportunities for flexible space.
- Building set-backs shall be minimized to relate well to the adjacent street and park, while allowing sufficient space for a comfortable pedestrian zone and landscaping opportunities.
- Building façades shall provide visual interest through use of materials, colours, ample fenestration, wall articulation, and style-appropriate architectural detailing. All façades exposed to public view shall be well articulated and detailed.
- Corner buildings shall provide façades which appropriately address all street frontages.
- Main entrances shall be designed as a focal point of the building. Typically, these will be recessed or covered and provide visibility to interior lobbies to allow for safe and convenient arrival and departure from the building. Main entrances shall also be ground-related and wheelchair accessible.
- Surface parking areas may be developed as greened parking courts with soft landscape treatment and trees.

Private Front-Yard Amenity Space

- At-grade fronting units should have appropriately minimized setbacks to achieve a consistent urban front door relationship with the street while avoiding unsightly front yard appearances characterized by features more common to backyards (i.e. furniture, barbecues, trampolines, etc.).
- To maintain a high level of visibility and promote casual surveillance while achieving a soft landscape transition to the public and private realm, any proposed fencing shall be consistent throughout and complementary to the architectural style.



Figure 2.2b - Rendering example of mid-rise apartment with a main entrance as the focal point of the building and at-grade fronting units with a soft landscape transition between the public and private realm.

Back-to-Back Townhouses

Back-to-back townhouses will be 3-storey freehold structures with single-car, front facing garages accessed from a public street. A common demising wall is located along the rear of the units, in addition to the traditional interior side walls. The outdoor amenity space is typically located above the garage as a terrace or in the form of a front porch or balcony.

- Façades should be designed to incorporate architectural elements found on lower density residential forms, such as peaked roofs, gables, porches, and roof overhangs unless deemed inappropriate to more modern architectural styles.
- Garages shall not project beyond the front wall of the main building.
- The treatment of balconies facing the street is critical to the overall design quality of the facade. A well-articulated balcony and railing design shall be consistent with the architectural theme of the building and shall integrate high quality, durable, and low maintenance materials.
- Privacy screens, coordinated with the design treatment of the townhouse, shall be considered between neighbouring units to provide privacy.
- Entrances to each unit shall be at-grade, where possible, and accessed with minimal to no stairs, subject to grading constraints.



Figure 2.2c – Example of a corner elevation of back-to-back townhouses.

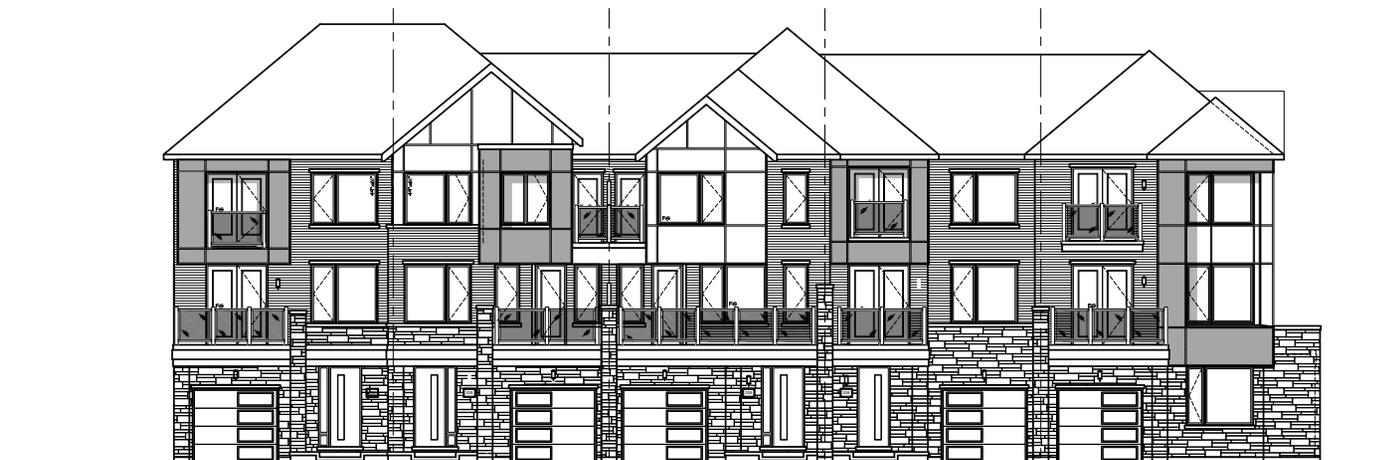


Figure 2.2d–
Example of a front
elevation of back-to-
back townhouses.

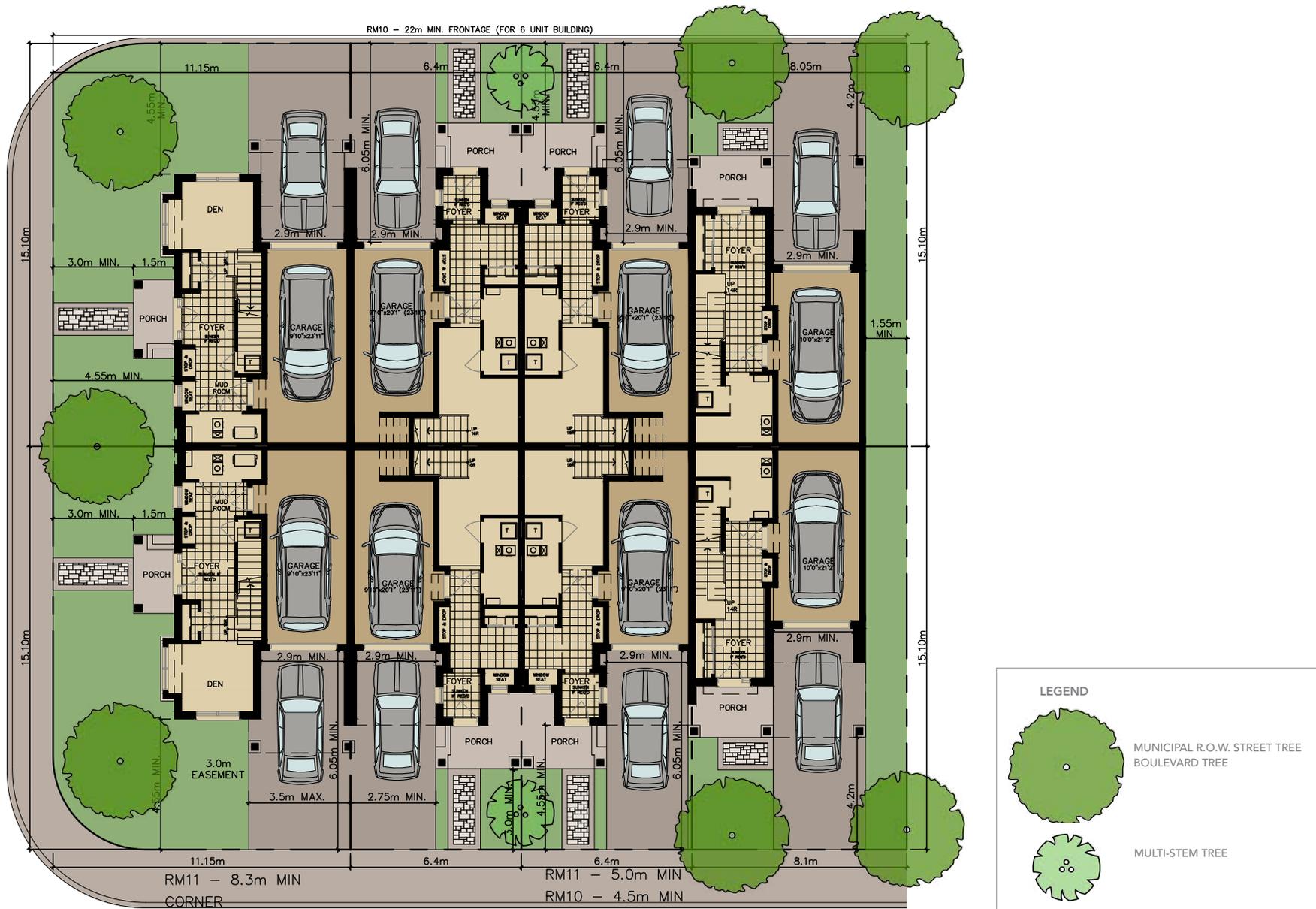


Figure 2.2e – Preliminary Block Site Plan of Back-to-Back Townhouses

Street Townhouses

Street townhouses will be 3-storeys and have a single car, front-facing garage accessed from the street, accommodating 2 cars per unit (1 in garage and 1 on driveway).

- The maximum number of street townhouse units permitted in a row shall be 8, and the minimum number of units shall be 3. Mixing of townhouse block sizes within the street can help provide visual diversity in the streetscape.
- The minimum lot size for street townhouses is 6.0m.
- Townhouse block composition shall display massing and design continuity, while achieving adequate elevation variety, where appropriate to a given architectural style.
- Facade articulation is encouraged to avoid large unbroken expanses of roof or wall planes. For some architectural styles (such as Georgian) simple massing and roof articulation may be preferred.
- The main front entry will be oriented to the front lot line for interior units and to the flanking lot line for corner units.



Figure 2.2f – Example of upgraded side elevation of street townhouse.



Figure 2.2g – Example of street townhouse elevations with a variety of materials.

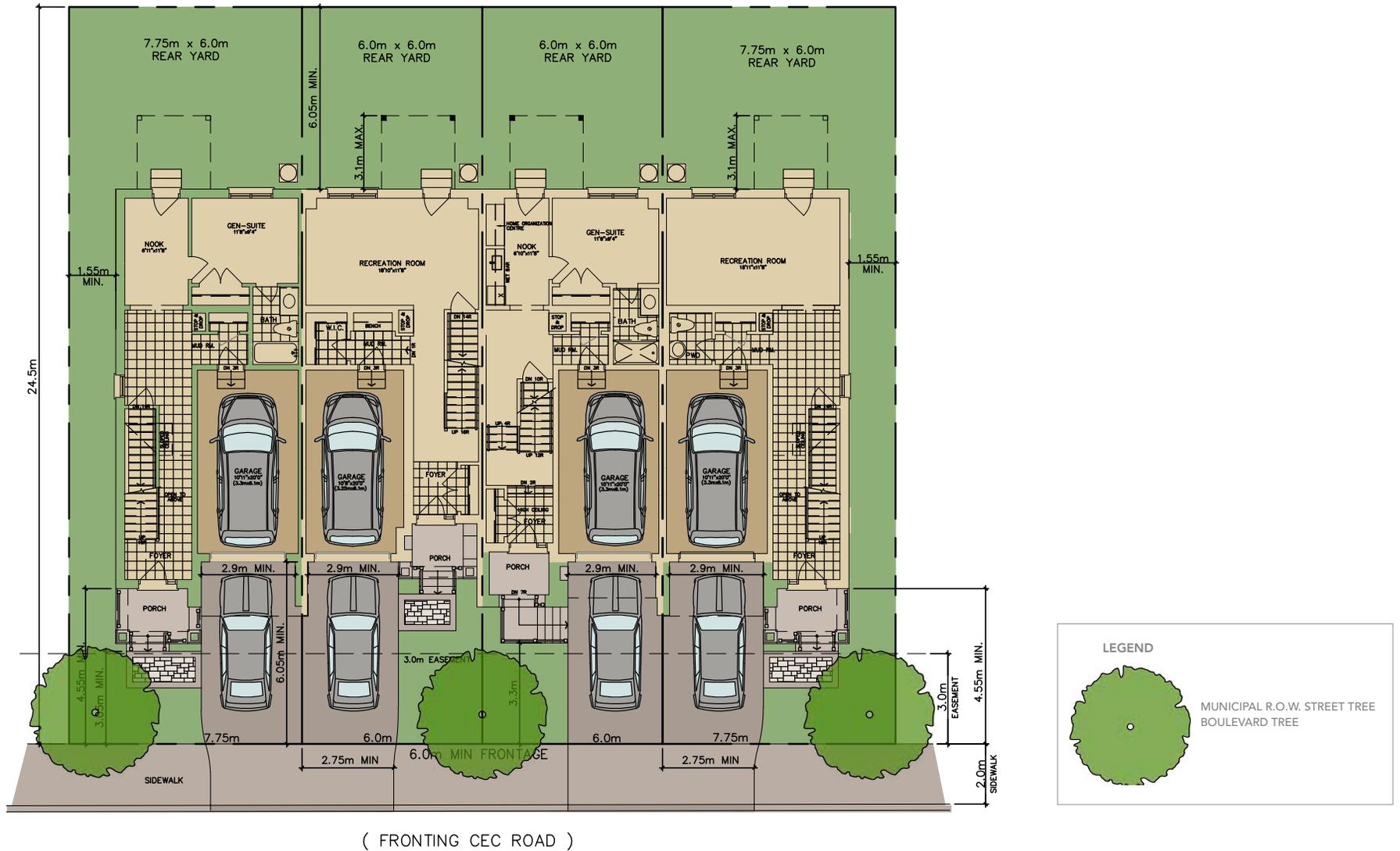


Figure 2.2h – Preliminary Block Site Plan of Street Townhouses

Rear Lane Townhouses

Rear lane townhouses contribute positively to the built form character and streetscape appearance by eliminating garages and driveways and providing a strong uninterrupted streetscape condition that is predominantly urban in character. Rear lane townhouses will have 3-storeys, a rooftop terrace, and a double car, rear-facing garage accessed from the laneway, accommodating 2 cars per unit.

In addition to the design guidelines stated for street townhouses, the following will apply:

- The main dwelling facade should typically be sited no further than 4.0m from the front lot line to create a strong and active street edge.
- Garages will be accessed from a rear laneway and will be attached to the dwelling.
- Garages shall be complementary to the main dwelling in terms of materials, massing, character, and quality. They shall be designed and arranged to provide an attractive visual environment within the rear laneway.
- Front entrances shall be directly linked to the public sidewalk with a walkway.
- Outdoor amenity areas for rear lane townhomes may take the form of a functional raised terrace/balcony (with integrated garages), and rooftop terraces.



Figure 2.2i – Example of a front elevation of rear lane townhouse.



Figure 2.2j – Example of side elevations of rear lane townhouse.

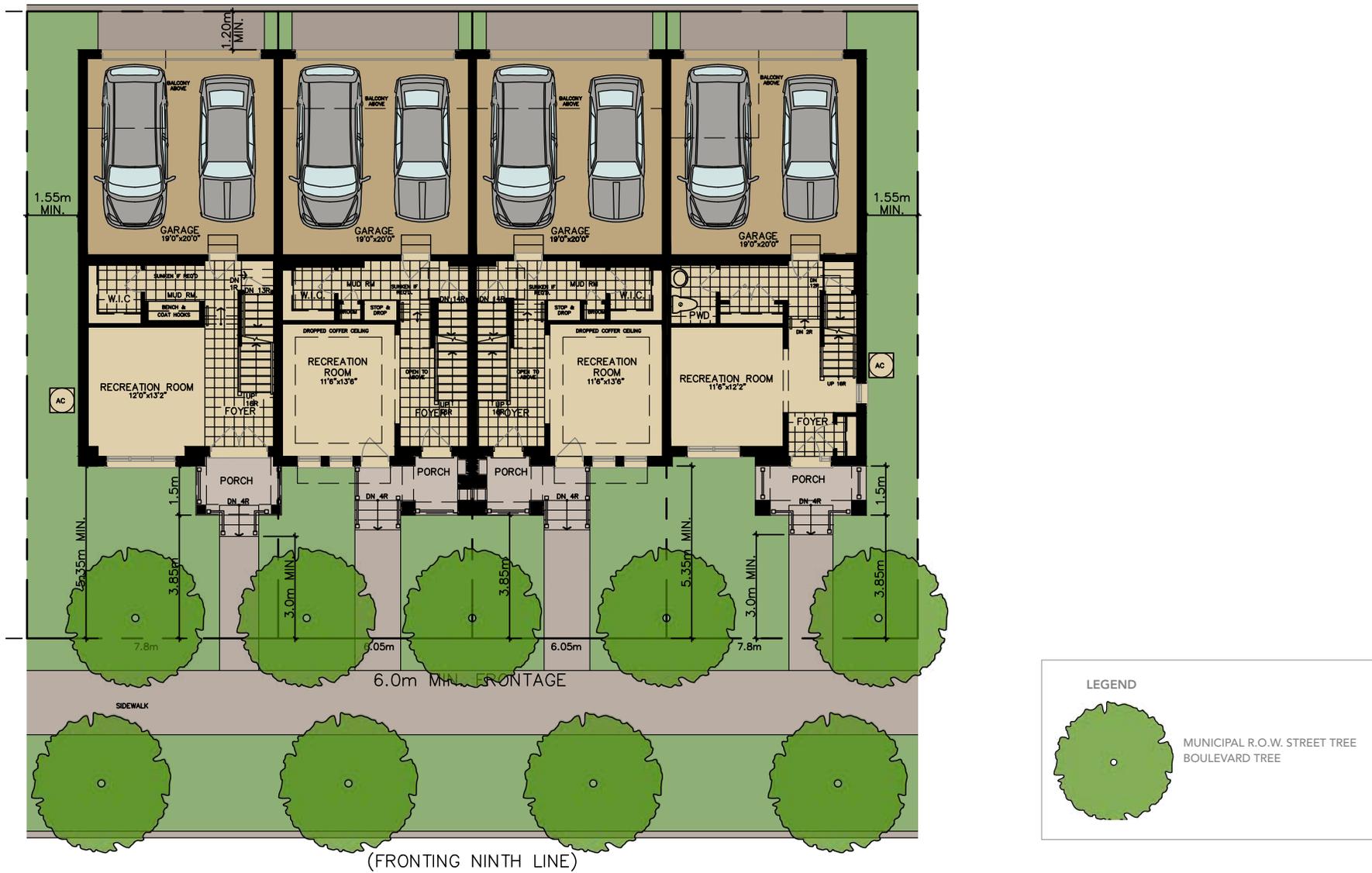


Figure 2.2k – Preliminary Block Site Plan of Rear Lane Townhouses fronting Ninth Line

Rear Lane Stacked Townhouses

Stacked townhouses are usually designed as a multilevel housing form, comprising individual units stacked on or adjacent to one another with rear-accessed garages. They provide a compact built form that yields relatively higher densities. Rear lane stacked townhouses will be 3-storeys and each unit will have a single car, rear-facing garage accessed from the laneway, accommodating 1 car per unit.

In addition to the design guidelines stated for street townhouses and rear lane townhouses, the following will apply:

- Private outdoor amenity space is required for each unit and will typically take the form of a functional balcony or rooftop terrace.
- Main entrances shall be ground-related, requiring minimal stairs to access, subject to site grading conditions.
- Banked and screened utility meters shall be provided and located on internal end units where feasible, subject to compliance with local utility company regulations.



Figure 2.2m – Example of a front elevation of rear lane stacked townhouse.



Figure 2.2n – Example of a side elevation of rear lane stacked townhouse.

Rear Lane Singles

Similar to rear lane townhouses, rear lane single detached dwellings provide a strong uninterrupted street edge presence by eliminating garages from the streetscape. Rear lane singles will be 3-storeys with an additional rooftop access. They will have a double car, rear-facing garage accessed from the laneway, accommodating 3 cars per unit (2 in garage and 1 in driveway).

In addition to the design guidelines for street townhouses and rear lane townhouses, the following will apply to single detached rear lane homes:

- Outdoor amenity areas for rear lane singles may take the form of a functional raised terrace/balcony above the driveway.
- Rooftop access may be permitted to allow for additional outdoor amenity space in the form of a rooftop terrace.



Figure 2.2p – Example of a front elevation of rear lane single detached.



Figure 2.2q – Example of rear elevation of rear lane single detached.

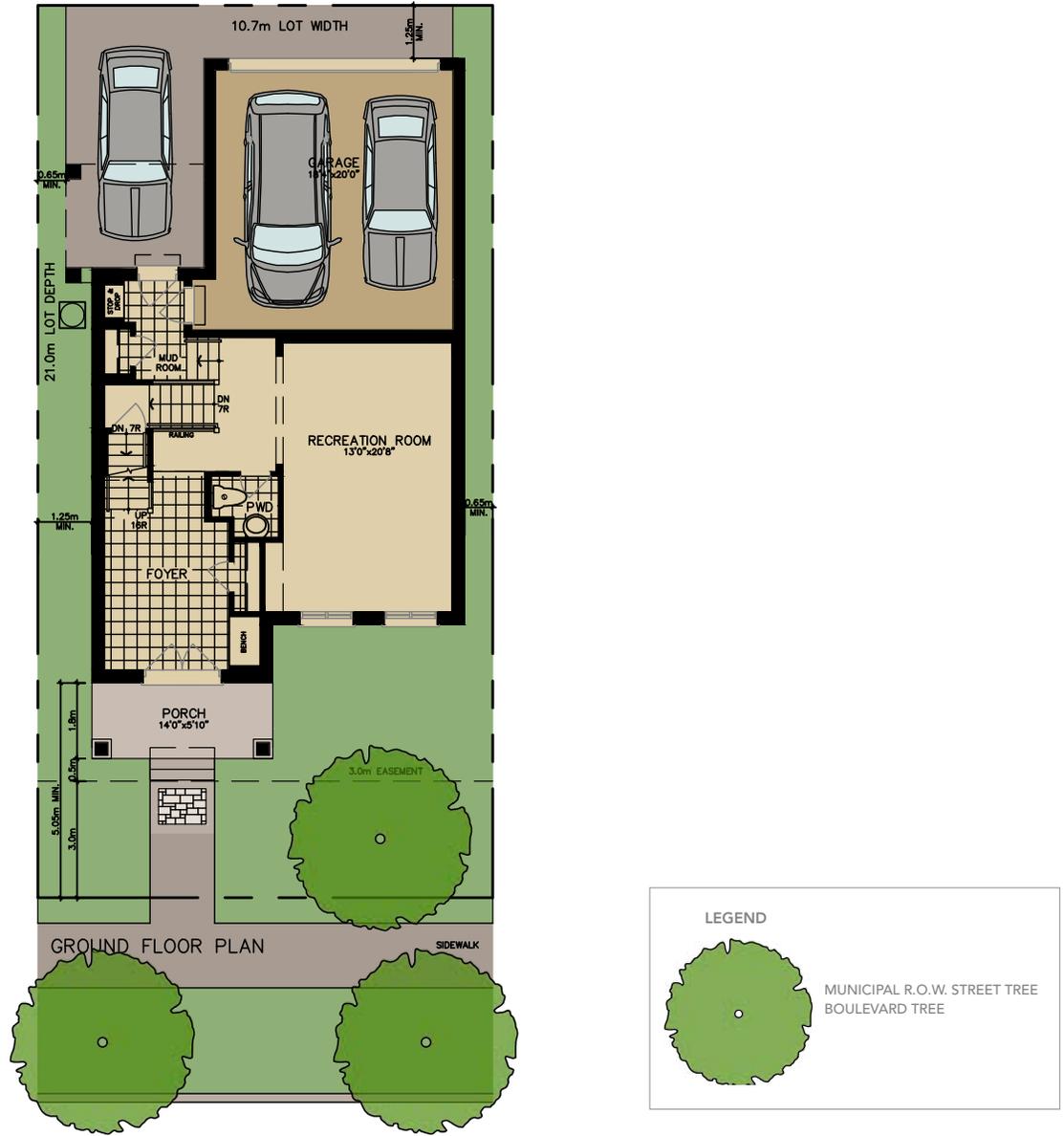


Figure 2.2r – Preliminary Block Site Plan of Rear Lane Singles

Elementary School

A potential school site is proposed for the community in a central location within the Ninth Line development, consistent with the Guidelines. The school shall serve as landmark for the community and, along with the adjacent park, help define the character of the surrounding neighbourhood. Situated adjacent to Ninth Line, this central location for the school site is within walking distance for the entire community and is also well-connected to the parks and open space system with access to safe trail connections.



Figure 2.2s- Image example of a contemporary school building that forms an edge along the street.

The following guidelines for the school block should be considered:

- The layout and design of the school block should allow for the continuation of the multi-use trail through the site to provide connectivity between Ninth Line with the multi-use trail adjacent to the Transitway.
- The building should form an edge along Street 'A' or Ninth Line.
- The architecture should respond to the significance of this prominent location with a high degree of visibility from the streets.
- The impact of parking facilities should be minimized through siting at the rear or side of the school and the use of landscape buffers.

Building Setbacks

Generally, buildings proposed for the community shall have minimal setbacks to the fronting property line to achieve an urban interface and comfortable pedestrian scaled streetscape. Where built form fronts directly onto public parks and open space, setbacks shall allow for sufficient space to clearly delineate between private and public space. This can be achieved through the use of low fencing, garden walls and planting, all of which should be appropriate to the architectural style of the dwelling and reinforce an urban interface with the public space.

Setbacks for rear lane singles and/or townhouses along Ninth Line, Street 'A' and local roads shall be appropriately minimized to achieve a consistent urban front door relationship with the street, while avoiding an unsightly front yard appearance characterized by features more common to backyards (i.e. furniture, barbecues, trampolines, etc.). The primary intent of the front yard design in these instances will be to achieve an attractive transition from public realm to the front door, rather than function as an activated amenity space more commonly seen in backyards and terraces.

The 6-storey buildings shall be sited and designed to provide appropriate setbacks within the development to structure open spaces and amenity areas, and enable an effective streetscape. Fronting onto Ninth Line, entrances or at-grade units should be set back to achieve an appropriate transition and clearly delineate between the public street and the private ground floor use, without creating over-sized 'front yards' that may function as noted above.

Height and Massing

Height and massing that is appropriate to the context of the street is key to achieving a pedestrian-friendly, comfortable scale environment. The proposed development strategically provides 6-storey mid-rise built form at Ninth Line and Doug Leavens Boulevard to create a streetwall that is appropriately scaled at this designated key intersection.

Medium density residential forms planned for the majority of the development help to establish an active urban character throughout the community. The built form shall include three 6-storey apartment buildings, and 3-storey townhouse and single detached units.

Transition to Adjacent Neighbourhoods

In accordance with the City's Guidelines, the development provides appropriate transitions to the existing neighbourhoods to the east by minimizing potential land use impacts, enhancing views from adjacent lands, and demonstrating distinct and suitable design for all buildings, streets, and open spaces. The existing roads serve as a framework to form the entries into the new development. The proposed placement of both public and private open spaces along Ninth Line ensure integration with the existing open space connections and trail networks within the neighbourhoods to the east.

The 3-storey building massing and mix of rear lane single detached and townhouses fronting Ninth Line is proposed to provide a smooth and complementary transition to the existing low density residential. Mid-rise, 6-storey built form is proposed at key entry points to define gateways into the community, establishing a compact, urban character that achieves transit supportive densities.

Priority Lots

Priority residential lots refer to those units and lots that are located within areas of the development that have greater degree of visibility from the public realm. Their visual significance within the streetscape requires that the siting, architecture, and landscaping of buildings on these lots be of an exceptional quality to act as landmarks within the community. Special design consideration is required for the publicly exposed elevations of these dwellings to promote strong visual interest and a sense of place.

Due to the visibility of the buildings on Ninth Line, the front elevation shall be upgraded to complement and enhance the character of the area. With a design that addresses the prominent location, the main elevation shall be upgraded with a greater variety of building materials, and visual interest

and patterns incorporated into the façade. Upgraded elevations are also provided on corner lots along Street 'A', fronting onto the proposed park blocks, the school, and Ninth Line. Given the predominance of townhouse blocks, the requirement of upgraded treatments must be appropriate to the overall composition of the townhouse building. Priority lots for the development include:

- Gateway units
- Corner units
- View terminus units
- Upgraded rear and side architecture
- Park facing units



Figure 2.2.t- Ninth Line Community Priority Lots Plan

Corner Units

Corner units typically have the highest degree of public visibility within the streetscape and are important in portraying the image, character, and quality of the community. Dwelling designs must be appropriate for corner locations, with elevations that address both street frontages.

- Both street frontages for corner units shall reflect similar levels of architectural design and detail with respect to massing, roofline character, fenestration, materials, details, etc.
- Enhanced and/or taller massing should be considered for corner lots, where appropriate.
- Distinctive architectural elements, such as wraparound porches, porticos, bay windows, ample fenestration, window treatment, wall articulation, brick arrangement and colour, etc. appropriate to the architectural style of the dwelling, are encouraged on the flankage side to create an interesting streetscape and emphasize the corner dwelling's landmark function.
- The main entry of the corner dwelling is preferred on the long elevation facing the flanking street. Alternatively, the shorter (front facing) side of the lot may still integrate the main entry for the dwelling.
- A privacy fence shall enclose the rear yard portion of the corner lot dwelling.

Gateway Units

Similar to corner units, gateway units are characterized by a very high profile location within the community that results in a significant impact on the perception of the image, character, and quality of the community from the outside.

- Built form massing, orientation, and detailing shall be the principle component for defining the gateway.
- Associated landscape features, both hardscape and softscape, may be integrated with built form massing to emphasize the gateway function.



Figure 2.2u - Example of corner lots showing distinctive architecture and addressing both street frontages.



Figure 2.2v - Image example of a mid-rise condominium apartment building with built form emphasizing its corner / gateway location.

Park Facing Units

Given the prominence of the Gateway Park and the Central Park, and their roles as the focus and gathering spaces for the community, built form that fronts onto these parks shall be designed in a manner that considers and complements the exposure from these public open spaces.

The following guidelines shall apply to the 6-storey buildings fronting the Gateway Park:

- Building setbacks shall be minimized to relate well to the adjacent park, while allowing sufficient space for a comfortable pedestrian zone and landscaping opportunities.
- The building façades exposed to the park shall be well articulated and detailed, providing visual interest through use of materials, colours, ample fenestration, wall articulation, and style appropriate architectural detailing.
- Main entrances shall be designed as a focal point of the building, with pedestrian connections to the park, and a clear delineation between public and private space.

The following guidelines shall apply to townhouses fronting the Central Park and Parkette:

- Given that these dwellings are very visible from the main gathering spaces within the community, an enhanced built form treatment consistent with the architectural style shall be implemented, such as prominent front porches, pronounced, well-proportioned windows, a projecting bay, articulated wall treatment and other design elements that enhances the front elevation.
- The use of upgraded materials and detailing, such as stone or precast elements, dichromatic brick, quoining, etc. shall be integrated into the elevation design, consistent with the architectural style.
- Dwellings are encouraged to have wider and deeper porches that effectively allow for multiple seating and will promote 'eyes on the street', which results in an informal monitoring of the park and its activities.



Figure 2.2w- Image example of park facing mid-rise building with prominent main entrance.



Figure 2.2x - Image example of park facing townhouse units.

View Terminus Units

View terminus units are situated at the top of T-intersections or street elbows, where one road terminates at a right angle to the other. These units play an important role in defining a terminating long view corridor.

- A prominent architectural element, massing, or material arrangement should be provided to terminate the view, such as a porch or portico.
- Driveways should be located to the outside of the dwelling lot or unit, rather than in-line with the view corridor, to reduce the impact of the garage on the terminus view and allow for front yard landscaping to become the focus, along with the architectural treatment.

Upgraded Rear and Side Architecture

- Upgraded rear and side architecture is required where elevations are exposed to public view, such as lots which back or flank onto roads, parks, walkways, and public open space areas.
- The exposed side and/or rear elevations of dwellings in these locations shall have a level of quality and detail that is more consistent with the front elevation of the dwelling.
- The level of upgrading should be consistent with the level of public exposure.



Figure 2.2y - Image example of a view terminus unit with upgraded side architecture.

2.3 Access, Circulation, Parking & Services

While the Ninth Line community will predominantly comprise freehold built form, three condominium blocks are proposed at two key locations within the subject lands: 1) at the gateway into the community, framing Street 'B'; and 2) at the southern end of the community, overlooking the stormwater pond.

Gateway Condominium Blocks

At the gateway into the community two 6-storey buildings are proposed within condominium blocks on either side of Street 'B'. In compliance with the Guidelines (Section 4.5 - On Site Parking Guidelines and 4.5.1 - Surface Parking), surface parking for the 6-storey buildings has been located at the rear or side of buildings and screened from view, and significant effort has been made to mitigate the impacts of large surface parking lots. Access to the 6-storey apartment buildings shall be provided from the private condo road on the north and from Street 'A' for the south building.

Loading, service, garbage areas, utility meters, transformers, and HVAC equipment should be located to the rear of buildings away from public view and, if possible, screened via landscape treatment.



Figure 2.3a - Gateway Condominium Blocks Conceptual Plan



Figure 2.3b - Conceptual depiction of parking area and underground parking ramp located at the rear of the condominium buildings.

2.4 Sustainable Design Strategies

Sustainable, Compact and Low Impact Development

The proposed Ninth Line development supports and promotes sustainable design, low impact development (LID), and complies with the sustainability policies of the Guidelines, specifically 4.71 Site Design and 4.72 Neighbourhood Design. While the community design and built form will encourage energy efficiency to achieve sustainable living practices, the site plan will also address environmental sustainability principles such as the preservation of natural features, minimizing of hard surfaces, addition of extensive landscape open space, and integration of sustainable stormwater management practices.

As a critical component of a sustainable development, the Ninth Line community has been designed as a transit- supportive, pedestrian friendly community that emphasizes cycling and walking, and supports the adjacent future Transitway and multi-use path system. This interconnected trail system runs along Ninth Line and the west side of the community with internal linkages throughout that provides easy access to the Transitway station located south of the development. These pedestrian and cycling connections and the interconnectivity of open spaces and amenities to the broader community scale are important features that help reduce car dependency and encourage active transportation. In addition to the interconnected active transportation network, establishing a compact urban structure and related higher densities will further reinforce transit supportive objectives for Ninth Line.

Some of the opportunities to implement key aspects of sustainability are listed as follows:

- The community will promote the efficient use of land and develop in a compact efficient built form that promotes walkability and regional transit accessibility.
- Mid-rise buildings shall be strategically located along Street B/Ninth Line with the potential for commercial uses at-grade, promoting a concentration of pedestrian activity and supporting transit.
- Site circulation and parking configurations shall be efficiently designed to reduce excessive drive widths and impermeable surface areas, where possible.
- The community shall minimize the extent of hard surface areas in favour of (vegetated) landscaped areas.
- New buildings should use green building technologies for mechanical systems, energy needs, and construction materials.
- The built form shall be efficient through the use of environmentally responsible design and construction practices.
- Lighting levels should be reduced to minimum requirements to reduce impact on sensitive fauna.
- Bicycle storage facilities, such as bike racks and shelters, shall be provided throughout the community as appropriate to the location to encourage alternative modes of transport.
- Natural drainage networks should be maintained to support stormwater management infrastructure, including the stormwater management pond.
- Existing environmental features will be protected and, where appropriate, enhanced.

As outlined in the *Functional Servicing and Stormwater Management Report* (RAND Engineering, June 2019), the following LID practices related to water quality and erosion control are recommended to be implemented within the development:

- The depth of topsoil on the lots will be increased from the typical 150 mm to 300 mm.
- Provision of enhanced grass swales within the park blocks and buffers.
- A rainwater harvesting program includes the optional provision of rainwater barrels on the individual lots.
- Provision of bioretention areas within the green spaces.
- Runoff from roof leaders not connected to infiltration trenches will be discharged to surface pre-cast splash pads and directed towards lawns.

The proposed storm drainage system and implementation of the LID practices within the development will provide on-site detention of 5 mm runoff from future development.

In accordance with the City of Mississauga and CH requirements, the water balance analysis for the entire development plan will be conducted to evaluate the proposed LID strategy, including the provision of 5 mm rainfall detention and impact on the groundwater resources within the study limits.

To meet the City of Mississauga's water balance targets for the subject lands and enhance groundwater recharge, several LID techniques may be implemented into the design of the community's parks, including the North Park and Central Park. These features may include an appropriate combination of bioswales, raingardens, infiltrations and permeable paving. Refer to Section 2.1 Site Design, North Park - Low Impact Design Approaches, which provides a description of the LID techniques that could be implemented in Ninth Line.



Figure 2.4a - Several LID practices are recommended to be implemented in the development, including enhanced grass swales or bioretention areas within parks and open spaces.



Figure 2.4b - Example of infiltration trenches located in a rear yard.

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3.0 Summary and Conclusions

The purpose of this Design Study was to demonstrate the compatibility of the development proposal with the surrounding context and to address the City's planning and urban design principles and objectives as outlined in relevant policy documents, including the City's Official Plan, the Ninth Line Neighbourhood Character Area Policies and Zoning, and the Shaping Ninth Line Urban Design Guidelines. In response to the City's Urban Design Study Terms of Reference and the site specific requirements for the subject lands, this document was structured to provide an overview of the goals and objectives, followed by a detailed analysis of the proposed development, demonstrating how urban design principles and objectives will be achieved on Mississauga's last remaining greenfield site.

The Ninth Line community described in this study will be a transit-supportive, pedestrian-friendly, sustainable development with a compact urban structure that encourages walking and cycling through an interconnected active transportation network. Reflecting the municipal policy direction, and the built form and land use vision established in the City's Guidelines, the development plan proposes an active, diverse, and healthy community that provides access to multi-use paths, parks and open spaces, and connections to higher-order transit, while protecting the surrounding natural heritage system.



Figure 3.0 - Ninth Line will provide a range of housing choices that achieve transit supportive density and a network of active transportation links and open spaces that will contribute to a healthy, sustainable community.

Supporting the overall goals and guiding principles set out for the Ninth Line community, the proposed site plan includes a range of housing choices from rear lane singles to medium density townhouses, and low to mid-rise development that achieves transit supportive density. It also establishes a public street network with efficient connections that reinforces sustainable mobility options and connects the entire Ninth Line corridor together, providing active transportation opportunities that will result in a more accessible and sustainable environment for all.



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