

BLOCK F REZONING APPLICATION PACKAGE

UNIVERSITY ENDOWMENT LANDS, BC MAY 20, 2015



Musqueam Capital Corporation On Behalf Of The
MUSQUEAM INDIAN BAND
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1.0 INTRODUCTION

Block F is a 21.44 Acre parcel of land located within the University Endowment Lands (UEL) fronting University Boulevard to the northwest of the University Golf Club. It is the also the headwaters of the Salish and Cut Throat creeks and streams that flow through the Pacific Spirit Park. Block F as it is known today will develop its identity as the heart of the UEL community which reflects the heritage, its culture and embraces the environment that brings life not only to the natural surroundings but to the people that live within the UEL community and to those who will choose to make UEL their home.

1.1 BACKGROUND

The **Reconciliation Agreement** that transferred these lands to the Musqueam First Nation stipulated that one or more areas within Block F, in aggregate not less than **three (3) acres**, be established and **dedicated as park**, and be recognized as an amenity associated with the development of Block F.

The Agreement also determined that the development of Block F through a **Comprehensive Development** plan would be desirable. The **current** zoning designates these lands as MF-1 which allows for Residential Development within a townhouse or apartment building form up to four storeys in height and a permitted density of 1,027,934 square feet.

1.2 A FUTURE VISION

This application for a Comprehensive Development Zoning provides significant additional **benefits and amenities** for the entire UEL community. It offers a mixed use development with a variety of housing forms along with the shops and services that contribute to a community. In total, this proposal allows for an additional 218,750 square feet.

The Comprehensive Development Zoning allows for the development to be concentrated in higher density formats to allow for the **preservation and enhancement of the wetlands** and the retention of much of the mature forest while providing for **8.03 acres of public open space**.

The Heart of the Community will be centered by the 3 acre Forest Park and surrounded by a 15,000 square foot **Community Amenity Building**, the enhanced and **accessible wetland** and a **village plaza** with its retail shops, restaurant and coffee shops with outdoor patios. The **trails connecting** the community with these amenities will also be enhanced and accessible for all to enjoy.

The intent of the amenities included in this rezoning application is to mitigate the impact the additional density has on the UEL community. The benefits realized from these amenities will provide every UEL resident with a strong identity centered on the richness of community, sustainability and responsibility for their environment.



Figure 1.1 Site Context

We the Musqueam people are united and strong. We have good hearts and work together to do the right thing. We will use our teachings, so the Musqueam people will be alright. We will care about our elders, the little ones and everything on this earth. This way we will be looking after the ones that come after us. Then the Musqueam will continue to be strong.

Musqueam Council Vision Statement



2.0 PRINCIPLES & OBJECTIVES



Preservation and enhancement of open space



Sustainability



Community integration and respect



Housing diversity



Responsible development



Building a community heart

2.1 PLANNING PRINCIPLES

The Project Team initiated the rezoning project by identifying several planning principles and objectives that would guide and inform their work. These principles were shared with the UEL community and others at the first Open House in December of 2012. Subsequently, the preliminary site concepts developed were informed by these project planning principles as well as the findings of the site study along with stakeholder and community input.

Musqueam has been widely recognized nationally and provincially for their leading edge community planning and development projects. Musqueam is proud of its heritage, its culture and its values.

'We are keepers of the river, keepers of the lands, and the waters that continue to sustain us. We intend to care for our territory so that our future generations can enjoy the abundance of our predecessors. Perhaps more than ever, we value Community.'

The Project Team's Key Planning Principles for Block F include;

1. Protect and enhance open spaces and community connections to Pacific Spirit Park.
2. Live sustainably; Musqueam's cultural values are founded on stewardship of the natural world; we have walked the talk of sustainability for a long, long time.
3. Consider community integration and respect; encourage good relationships and strive to be good neighbours.
4. Provide a diversity of housing forms for a mixed community and a variety of housing tenure types for a variety of needs.
5. Provide a range of amenities and services within the community.
6. Engage in responsible development that is economically sound, environmentally progressive and socially respectful.
7. Build a community heart for UEL.
8. Create a neighbourhood focus and a centre of activity and services for both future residents of Block F and the UEL community.

2.2 DESIGN OBJECTIVES

Following from the Planning Principles, the Design Objectives guided the creation of the design and the development of the proposed development plan and the resultant components of the rezoning document.



PRESERVATION AND ENHANCEMENT OF OPEN SPACE

- ✓ Use open space and greenways as guiding features in the design of the community
- ✓ Locate park in the most optimal location
- ✓ Maintain trail networks currently on site
- ✓ Minimize area dedicated to roads and vehicular traffic to maximize green and open spaces
- ✓ Preserve Wetlands



HOUSING DIVERSITY

- ✓ Provide a variety of housing types to address a variety of needs including rental
- ✓ Consider providing larger residential units to accommodate families or existing residents looking to downsize



SUSTAINABILITY

- ✓ Minimize impervious surfaces
- ✓ Maintain off-site flow rates of rain water as much as possible
- ✓ Ensure community walkability
- ✓ Support a mix of land uses



RESPONSIBLE DEVELOPMENT

- ✓ Locate the commercial village to benefit the local surrounding community
- ✓ Explore options that provide and enhance connections with existing and planned cycling, walking and transit routes and facilities
- ✓ Ensure businesses support local needs



COMMUNITY INTEGRATION AND RESPECT

- ✓ Ensure on-site features are accessible to the public
- ✓ Ensure the scale and type of development respects the adjacent neighbours
- ✓ Provide neighbourhood amenities geared for UEL residents



BUILDING A COMMUNITY HEART

- ✓ Create a focus that becomes the heart for the wider UEL community
- ✓ Ensure access to new community services for wider UEL community
- ✓ Provide opportunities for formal and informal gathering places
- ✓ Provide for a "Village Green", a gathering spot for the local community

3.0 THE PROPOSED DEVELOPMENT

This plan proposes a vibrant, diverse, comprehensive neighbourhood that will contribute to other areas of the UEL and to the broader community. It supports the principles of a walkable neighbourhood with enhanced social features and connections.

This application proposes a variety of building types and heights to address a variety of housing needs and to provide for a variety of urban forms. It provides a range of housing that will better address the wide range of needs of current and future residents.

Open space, especially publicly accessible open space, is extensive. More than one third of the site will be comprised of dedicated park and publicly accessible open space, an amount that arguably would not be possible with the current zoning. When semi-private/private open space is considered, this ratio increases to 62.5%. Given the community's preferences for retention of the mature trees and the continuance of the existing trail network system and wetland area, this is one of the strongest arguments in support of this rezoning application.

A key component of the development is the creation of a heart – a village square and a Community Amenity Building as a focus and gathering place. The commercial village, with retail and services, and the adjacent Community Amenity Building are within easy walking access of the residential development on Block F as well as other residential areas in the UEL. The park, playgrounds and open space are located in the centre of the development. Together these features provide indoor and outdoor community amenities for the benefit of those residing in Block F and the larger UEL community.



Figure 3.0 Land Use Plan

3.1 LAND USE

3.1.1 A Mixed Use Community

To fulfill the potential of the property and to create a healthy and sustainable community, this application proposes a mixed use community with a variety of land uses. Commercial/retail will provide employment and local shopping opportunities within walking distance of current and future residents. A mix of residential - townhouses, low-rise apartments and high rise apartments – will provide housing opportunities for a wide range of population, age, income and demographic composition. The residential development will include both rental (at market and below-market rates) and ownership opportunities.

A completely finished and furnished Community Amenity Building will be made available to the larger UEL community. A Childcare Facility will provide 40 childcare spaces for local parents.

3.1.2 Siting of Uses

The proposed land uses are sited to allow for the most direct integration into the surrounding UEL neighbourhoods and with other communities and activities. The commercial and village plaza uses are situated at the northern portion of the site, closest to the other areas of UEL and visible and accessible from University Boulevard. These uses are most directly connected to the rest of the UEL, UBC, Pacific Spirit Park and the University Golf Course.

The Community Amenity Building is located so that it provides convenient access to the UEL community and will operate as an extension of the village plaza. This building is sited adjacent to the Forest Park and was given a very prominent, strategic location within the overall site both for visibility and functionality.

The high rise development sites are located adjacent to the mature stand of trees that will form the new, dedicated park. The trees are a similar height to the high rises and will provide a contextual background to the taller development forms. Lower residential developments are located in the southern portion of the site and will provide a transition from higher to lower forms of development.

The dedicated park space and wetland are located almost mid-point on the site and essentially span between Acadia Road and University Boulevard. The additional parks and open space linkage radiate outward from the park site allowing a range of 'off road' connections throughout the site.

3.1.3 The Commercial Village

A small component of locally-oriented retail/commercial uses is planned for the Block F site. The total size is approximately 30,000 sf and is expected to include a specialty grocery store amongst other local serving retail services. This modest retail village is planned so that its primary function is to serve the needs of local residents living in Block F and in the immediately adjacent area (UEL). The total area is proposed to be split among several buildings resulting in an ultimate limit of a single tenant size with a maximum number of tenants estimated at 12.

The retail village will provide a base array of goods and personal and professional services. It will offer residents an informal gathering place and will be a clear and desirable alternative to traveling by car for regular convenience purchases. Its modest scale and mix will draw primarily from a walkable trade area, thus ensuring that the majority of local resident spending can continue to flow to and support other retail nodes in Vancouver's west side, particularly UBC, Point Grey Village, West Broadway and West 4th Avenue.

The amount of retail proposed relative to the future population of Block F and the existing UEL population is modest and is anticipated to attract quality tenants who appreciate a well planned new community and sophisticated customer base. The focus of the retail village will be a specialty grocer with additional uses such as a coffee shop, full service restaurant and wine & spirit shop.

3.1.4 The Residential

The residential development is geared to a very wide range of housing needs. Both rental and ownership of residential units will be provided. Unit sizes range from affordable one bedroom apartments to expansive three and four bedroom townhouses. Unit types range from ground-oriented with private gardens to high-rise homes. The residential buildings are located so that taller urban forms are closely related to the Forest Park and the commercial components of the proposed development.



1 View North through Village Square



2 View South through Community Green along Road B



3 View Northwest along University Blvd



4 View North along Acadia Road



5 View North through Park towards Community Centre



6 View West through Wetlands

3.2 COMMUNITY AMENITIES

As part of the rezoning application, the following amenities are proposed.

- » A Community Amenity Building for the use of Block F and all other UEL residents.
- » A Childcare Facility that will accommodate a private childcare operation of up to 40 children.
- » An extensive series of UEL parks, greenways and publically accessible passive and active open spaces.
- » Indoor and outdoor amenity spaces that would be located within individual developments.

3.2.1 The Community Amenity Building

A Community Amenity Building will be constructed by the owner/developer at no cost to UEL. The facility will be open to all residents of UEL. The terms of construction, operation, maintenance and related issues will be put into a mutual agreement between UEL and Musqueam Capital Corp.

It is expected that the community will want to provide input into the design. For the purposes of this rezoning application, this facility will be 15,000 square feet and may contain the following uses as shown on the following page:

- » A gymnasium/sport court
- » Fitness centre
- » Social and meeting rooms
- » Indoor gathering space
- » Covered outdoor gathering space
- » A coffee bar/kitchen
- » Office

The maintenance, operations and cost of maintaining this facility will be agreed to by UEL and MCC. The start of construction of the Community Amenity Building will commence at the granting of occupancy of the residential units in first phase of the development so that the opening will roughly coincide with the first group of residents living on the Block F site.

As part of this development, the master developer will be responsible for the design, construction and fit out of the Community Amenity Building at their sole cost. The land parcel on which the Community Amenity Building is located will be the subject of a long term lease between the UEL and the master developer. At the completion of the construction of the Community Amenity Building, the master developer will operate and program the building on an interim basis until such times as either 50% of the occupancy permits have been issued or a maximum period of 4 years, whichever occurs first, at which time the building will be transferred to UEL to own and operate as a Community Amenity Building.

It is intended that a portion of the building will be utilized as a marketing and/or sales centre for the overall development while development is underway. Once the marketing use is complete, the space will be retrofitted and become an integral part of the Community Amenity Building.

3.2.2 The Childcare Facility

A childcare building will be constructed by and at the master developer's cost. This building will accommodate a private facility of up to 40 children, and will be made available to a private operator who will be responsible for the operation, maintenance and other related costs of the facility.

The provision of 40 childcare spaces is on par with the ratio of spaces to the number of residential units in other large rezoning projects in the City of Vancouver.

The childcare facility will be located south of the Community Amenity Building, in a location which receives the most sunlight over the year. The Childcare Facility will consist of approximately 4,000 square feet of indoor space, and approximately 4,800 square feet of outdoor space. The facility will meet the facility requirements of the BC Child Care Licencing Regulation.

With respect to the operation of the childcare and who will have access to this amenity, it is intended that UEL residents will have access to these services with Block F residents given priority because of the proximity of the facility relative to the residents living close by.



Figure 3.2.2 Location of Community Amenities

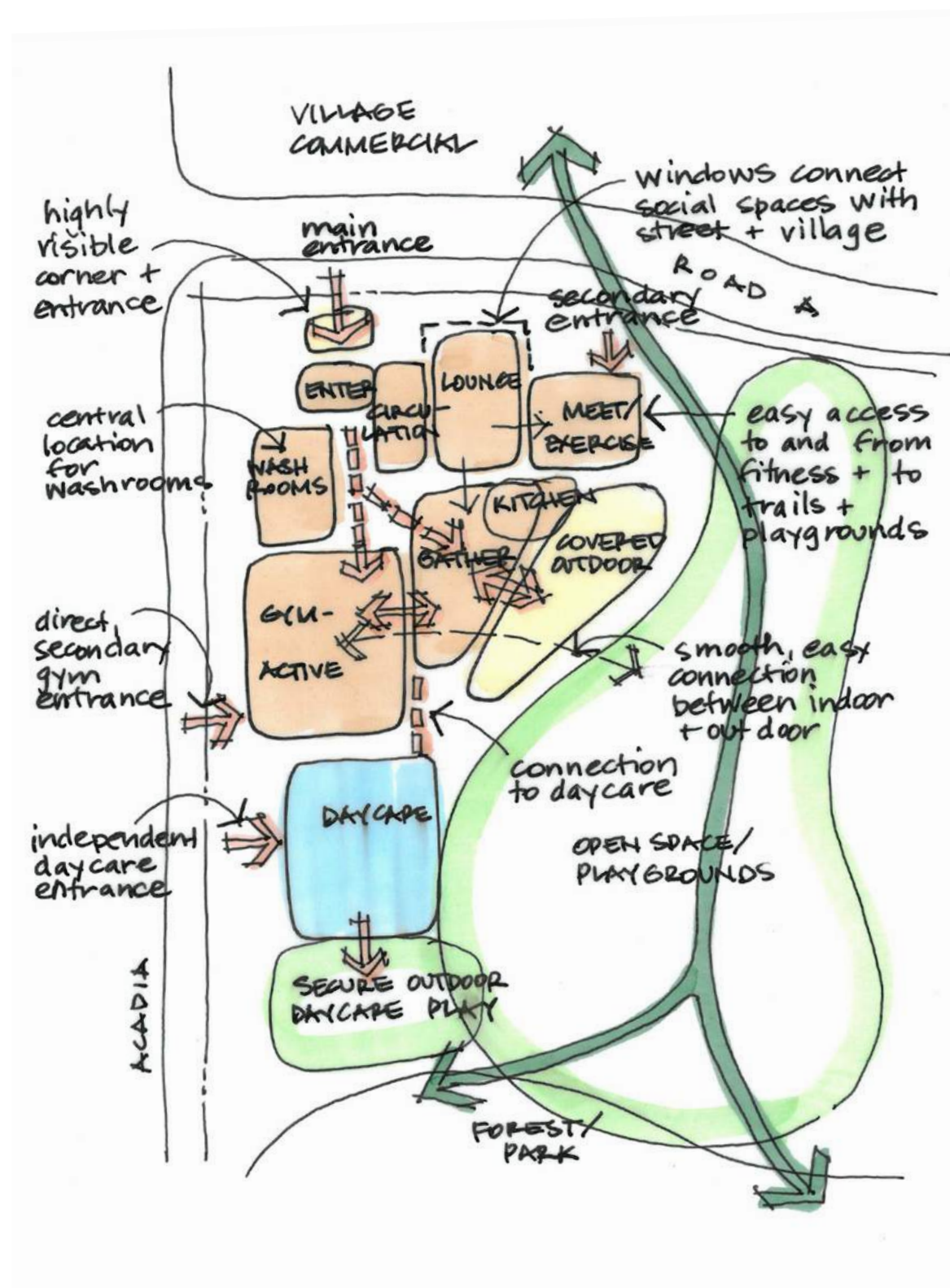


Figure 3.2.1 Community Amenity Building Concept Diagram



Figure 3.2.3 Community Amenity Building Concept - View of Great Porch Looking East



Figure 3.2.4 Community Amenity Building Concept - View of Great Porch Looking South

3.2.3 Parks, Greenways and Publically-Accessible Passive and Active Open Spaces

The Dedicated Park

Musqueam Capital Corp. will dedicate the 3.0 acre park to the UEL as per the Reconciliation Agreement and agreed to by the MCC under the terms specified in the Reconciliation Agreement. MCC, as master developer, will construct improvements to the park as generally shown on the drawings submitted in the rezoning application.

The maintenance and ongoing cost of maintenance of the park will be the responsibility of the UEL.

The Wetland and Other Publically-Accessible Open Spaces

The cost of construction and maintenance of the wetland and other publically-accessible open spaces will be the responsibility of the master developer, individual developers and related strata corporations with no cost incurred by UEL.

UEL residents and the general public will be guaranteed access to these spaces regardless of the underlying ownership.

3.2.4 Park and Open Space Descriptions

One principal of the public realm design is to create a unified sense of place throughout the new neighbourhood. This will be realized by the careful selection and placement of a suite of site furniture in various permutations in all public open spaces. The suite of elements will include street and pedestrian scale lighting, a variety of seating options depending on their location, recycling and waste receptacles, signage and bike racks. The site furniture will be durable and in keeping with the west coast rainforest theme.

The public open space areas that this suite of site furniture will be used in includes:

- 1) Village Square
- 2) Forest Park and the Community Amenity Building
- 3) Constructed Wetland
- 4) University Boulevard Linear Park
- 5) Community Green
- 6) Ortona Trail

The enhanced open space within the street right-of-ways for the internal roads A and B and portions of Toronto Rd. and Acadia Rd. will also include selections of this site furniture.

Parks and Open Space

The Forest Park is the area of Block F that meets the Reconciliation Agreement requirement for a dedicated park area of 3.0 acres. It is seamlessly joined with the Community Amenity Building parcel and the constructed wetland. Through the trail connections these park areas are integrated with the University Boulevard Linear Park. This yields a contiguous park and publicly accessible area of 5.85 acres that grows to 6.27 acres with the north and south portions of the University Boulevard Park divided by roads A and B. This park system in the centre of the Block F development will be a social and community backbone that the development parcels are hinged onto. With fronting residential units on all adjacent development parcels this area will be the front door to many residents helping to animate the spaces and provide visual surveillance for a safe community. As noted earlier, all park and open space areas will have the full range of site furniture including way finding and interpretive signage, pedestrian scale lighting and play features, and will be capable of supporting a wide range of active and passive activities. Numerous social hubs will be created throughout the park system at places where people are going to congregate. The hubs will be of varying scales ranging from whole community gatherings to quiet places to read a book or watch the birds and the associated site furniture will be relative to the intensity of use.

Iva Mann Trail

The development of Block F will include the reinstatement of the Sword Fern trail through the community. Its route and on-site trail heads on the northwest and southeast will be located in relatively the same location prior to construction. This will allow the Iva Mann Walking Loop, which follows the Sword Fern Trail in this area, to be maintained and integrated with the new community and the Forest Park. Signage on Block F and at the trail heads will identify the route and highlight it as an important feature of the neighbourhood

University Boulevard Linear Park

The width of the shoulder on University Boulevard is sufficient to provide a typical sod and tree boulevard and a 1.8m sidewalk. An on-street bike lane exists at the curb edge. While this would functionally meet the requirements for pedestrian circulation it would not meet the objectives of the UEL community, create the sense of arrival to UEL that is desirable or provide meaningful connections between areas of the Pacific Spirit Park to the north and south of the site.

Block F will provide an 8.0m public access right-of-way fronting University Boulevard that will result in a total width of approximately 12m to create a linear park from Toronto Road to the St Anselm’s Church at the Ortona Trail. This park will include trails, robust naturalized plantings, pedestrian bridges over a functional bioswale and naturalized water features, social hubs complete with site furniture, and lawn areas to rest or play. The street tree planting design will reference the original evergreen forest character of the

site’s context and create a strong visual gateway to UEL and Block F. It will be planted with a mix of primarily evergreen with some deciduous trees to create a more diverse and native condition than originally existed.

The full range of site furniture including pedestrian scale lighting, benches and both recycling and waste receptacles will be provided. Bike racks will be located adjacent to public open space areas. Similar to the road design, social hubs will be created in areas of trail intersection, adjacent to open area and at road intersections. Way finding and interpretive signage will be provided to orient people to the Block F amenities as well as Pacific Spirit Park beyond. As a result of the length of the linear park there will be many locations of benches and other amenities.

The main trail through the park will range in width from 2.5m at the narrowest up to 4.0m at its widest. The secondary trail will range in width from 1.5m to 2.5m. Both will be paved with hard surfacing such as concrete or asphalt with safe and sufficient lighting levels at a pedestrian scale.

Constructed Wetland

Traditional approaches to rainwater management include below grade grey-infrastructure that affords no amenities to the community and the environment; or steep sloped and fenced storm water management ponds that are as efficient with land area as possible and have no physical interaction with wildlife or residents.

The constructed wetland at Block F needs to perform as a functional piece of the green infrastructure system to manage the on-site rainwater. It’s size, location and infrastructure connections will ensure this occurs. It also needs to function as a beautiful gateway feature into the new neighbourhood and the greater UEL community. As such it must be of high visual quality and be inviting to pedestrians and cyclists.

Block F will create a naturalized constructed wetland with a permanent water level that fluctuates higher during storm events. Islands and a naturalized form will integrate the wetland into the site context and adjacent landscapes. Riparian and aquatic plantings will beautify the wetland while at the same time creating valuable songbird and riparian habitat. A mix of evergreen and deciduous trees will extend the character of the mature forest stand out to University Boulevard.

3.2.6 Open Space Plan



Publicly Accessible Open Space

1	Forest Park	3.10 ac (1.25 ha)
2	Community Amenity Building Parcels (incl. approx. 0.24 ac of building area)	0.90 ac (0.36 ha)
3	Wetland	0.70 ac (0.28 ha)
4	University Boulevard Linear Park	1.57 ac (0.64 ha)
5	Village Square	1.16 ac (0.47 ha)
6	Community Green	0.45 ac (0.18 ha)
7	Public Access Easements	0.15 ac (0.06 ha)
SUBTOTAL		8.03 ac (3.25 ha)

8	Enhanced Street Open Space ¹ (Road A and B)	1.10 ac (0.45 ha)
9	Ortona Trail ² (Off site)	0.17 ac (0.07 ha)

TOTAL PUBLICLY ACCESSIBLE OPEN SPACE
9.30 ac (3.78 ha)

Public Access Route and Improvements Provided by the Block F Project includes:

¹Enhanced Street Open Space through curvilinear neighbourhood streets with a treed boulevard and naturalized landscaping that connects residents to walking trails and parks.

²New Ortona Trail connection (off site) from the Sword Fern/Iva Mann Trail and Norma Rose Point School to Pacific Spirit Park trail heads at University Boulevard



The Fairview Trail connects with the University Boulevard trails by crossing the constructed wetland over a series of raised boardwalks. As part of the primary trail system Fairview Trail will be paved permitting all ranges of mobility to experience the unique landscape and the headwaters of the Salish Creek. Guardrails with interpretive signage will allow people to look out over the water and learn about this new sensitive landscape and the ecological services it provides. Two social hubs book end the wetland on the west and east. On the east, a sunny open lawn area, part of the University Boulevard Linear Park, will include several benches allowing people to sit and watch the rich wildlife including songbirds around the wetland. A gravel beach on the west side, shaded by the forest stand, will also provide a great vantage point to watch the activity in the wetland. Tables, benches, bike racks and modest pedestrian scale lighting will be provided in both locations. Secondary trails off of Fairview by the wetland will be paved with aggregate and offer a forest character experience.

Forest Park and Community Amenity Building Parcel

A typical suburban municipal park in an average location would provide a large percentage of the 3 acres as flat open lawn area for active and sport play, some purchased play structures catering to younger children, a fringe of street trees along the road frontage and a few discreet areas of planting with trees to identify entry points into the park. Limited site furniture including some seating, possibly some picnic tables and depending on tree cover a shade structure would be provided.

Block F will provide a diverse community oriented public park with amenities and features for all ages, abilities and a wide range of active and passive activities. The park can be divided into five main typologies or areas although they will visually blend together. These are:

- 1) Active sport play
- 2) Forest meadow area
- 3) Forest adventure area
- 4) Retained forest stand and understory
- 5) The Great Lawn

The active sport play areas will include flat natural turf fields, with a medium quality finish with site furniture to support these uses such as benches, water fountains, bike racks and seating. These are places you can play a pick up game of soccer, throw a ball or play touch football. As goal posts and backstop fences do not formalize and restrict these areas they remain highly flexible spaces for other uses. At least one area of hard court play will be provided close to the Community Amenity Building for basketball or other court games. Sport specific lighting is not provided.



Figure 3.2.7 Retained Forest Stand and Understory

The forest meadow also includes areas of rolling natural turf around the retained evergreen trees, a medium quality finish with site furniture that supports some of the more passive activities while not limiting the active uses such as running, playing tag or even disc golf. Paved trails with lighting weave through and around these spaces.

All ages will be drawn to the forest adventure areas in the park located within the evergreen forest stand. West coast themed adventure play structures will blend with the natural environment and support a wide range of play. Younger children will have swings, climbers and slides. Teens and adults will have slack lines, natural park features and an integrated running and fitness loop. Wood fibre fall safe areas will be a complement to the forest setting. Seating and tables, pedestrian scale lighting, paved trails, bike racks, drinking water fountains and recycling and waste receptacles will be located around the areas creating small and large social hubs. The main area is bounded by the Sword Fern/ Iva Mann Trail so it is a central feature in the community and will be highly visible.

Several areas of the forest stand in the park will have the understory preserved and enhanced in order to protect the health of the forest and retain habitat and ecological sensitive areas. These areas will be fenced with a split rail fence. With interpretive signage people will be encouraged to stay out of these sensitive areas. Invasive weeds will be removed and a greater diversity of native understory species will be planted. Small-scale aggregate trails will carefully wind their way through these areas, where appropriate, to facilitate engagement with the natural environment. No lighting or site furniture will be provided along these trails but benches and interpretive signage will be provided at the intersection with higher-level trails.



Figure 3.2.8 Forest Adventure Areas

The Great Lawn is an outdoor adjunct to the Great Porch of the Community Amenity Building. Visible from inside the building it will help create the indoor-outdoor relationship of the building to the forest. Primarily a flat open turf area raised to match the grades of the building it is able to support a variety of community events and celebrations as well as being an informal play area. With supervision from the Great Porch it will be a central place for families with young children. A modest forest themed play structure and play area will be provided as a complement to the busier and more active forest adventure area. Here parents can stop with their young children on their way to (or way back from) the Village Square and shopping. With proximity to the indoor washroom it's an ideal location for parents with children and infants. Trails will be paved so that strollers are easy to push around a short loop with the play area always in sight. Pedestrian lighting, benches and tables, recycling and waste receptacles will be located in this area.

The street frontage of the Community Amenity Building will be an extension of the Village Square to create a unified urban public realm. High level finishes of pavement types including unit paving, stone and concrete will be considered at the entry plaza to the building as well as to the childcare facility. Site furniture will include benches, bike racks, recycling and waste receptacles. Lighting will be a range of pole mounted pedestrian lights as well as bollard and wall lights as appropriate to the design resolution. Native and ornamental planting will be provided around the building to identify it as an important community building.

3.2.9 Trail Plan



2015 PROPOSAL

LEGEND

Primary Trails

- Sword Fern Trail / Iva Mann Trail
- Fairview Trail
- University Boulevard Trail
- Ortona Trail

Secondary Trails

- - - University Boulevard Trail (Secondary)
- - - Public right of way over development parcel
- - - On site trail

Tertiary Trails

- Nature trail
- On street shared bicycle route
- - - On street designated bicycle route (source: Translink)
- Informal bicycle route (source: Translink)
- Trail heads
- ▭ Raised crosswalk

Village Square

Many new developments address their retail program within street fronting buildings with direct on-street parking and often with enhanced street frontages. A sense of character and High Street formality is created. However, these remain vehicle-dominated spaces with little flexibility to support community events. Block F is addressing its retail program with an urban plaza where businesses are primarily inward focused with residential above. There is a strong visual and physical connection with the Forest Park and the Community Amenity Building. The plaza is connected to the community through access to trails, public transit, cycling routes and personal vehicle use. Together these features will create an active public open space fulfilling the principle and objective of creating a community heart. Short-term parking will be provided in the adjacent on-street parking around the parcels as well as in a small surface parking lot.

The Village Square provides 1.16 acres of publically accessible open space that is an urban contrast to the natural conditions of the Forest Park. It will be a highly flexible space capable of supporting a wide variety of community events such as Farmer's Markets, Art Walks or Movie Nights as well as being an active place during day-to-day activities.

The design of the plaza portrays the juxtaposition of the development on the natural environment. The unique paving treatment is reflective of flowing water and identifies the pedestrian walkways through the space. Raised planters with a forest character, complete with evergreen and deciduous trees, provide visual interest, connection with the environment and opportunities to create edges for activity. Integrated seating and tables as well as areas for moveable furniture allow for many different seating arrangements.

Quality level finishes of pavement types including unit paving, stone and concrete will be considered across the plaza. Site furniture will include a variety of benches, tables, bike racks, recycling and waste receptacles. Lighting will be a range of pole mounted pedestrian lights as well as bollard and wall lights as appropriate to the design resolution. Native and ornamental planting will be provided in the planters. A berm with seat walls is proposed to frame the south side of the plaza and create a vantage point to look out over the plaza. A sun/rain shelter combined with parkade entry elevator and stairs will be provided. A spray water feature will be provided to create white noise and a play area. It will be possible to turn the water feature off allowing the area to be used for events or other activities.



Figure 3.2.10 Village Seating

Community Green

The southern portion of the Block F neighbourhood will have its own park space called the Community Green. More traditional than the other open spaces this area will include a flexible use flat lawn area surrounded by a perimeter of trees and planting. With no mature trees around the site it will be a sunny location. The tree planting should preserve this solar exposure.

With a few social hubs of smaller scale, the park will include benches, tables, bike racks, recycling and waste receptacles and pedestrian scale pole lighting. With Sword Fern/ Iva Mann trail crossing through the park on the west it will be an important part of the neighbourhood circulation system so way finding signage will be provided. Flanked on the west and southeast sides by residential units there will be a high level of surveillance making it a safe part of the community. These units will be buffered from the open lawn area by the planted perimeter and trees. Bounded on all sides by trails and sidewalks it will be a great place to learn to ride a bike or take a stroller for a walk.

3.2.5 Below Market Housing

The UEL OCP stipulates that:

“for any development application seeking an increase in the density allowable, require a minimum of 20% of this additional area to be below-market price and/ or special needs housing”.

This OCP requirement will be met through the provision of below market rental housing intended to accommodate moderate income households. The master developer would be responsible for the build out of this housing which would be subsequently operated under a long term lease, by a nonprofit housing provider in accordance with BC Housing's Housing Income Limits. The project will include 10% of the units as accessible units. The construction of this component of the project would occur as part of the development of Parcel A and would be operated by a nonprofit operator including the original rental of the units within the building.

3.3 PUBLIC ART

As part of Musqueam's affiliation with the Block F lands both historically and more recently, there is a desire to leave a Musqueam imprint on the lands in an effort to convey a local story which would be layered overtop of the public parks and open spaces developed as part of the project. The intent is to introduce public art throughout the Block F site in an effort to strengthen the urban fabric and this art would contribute to the identity and character of the Block F neighbourhood. Musqueam will meet with and engage the community in the process.

Public Art can be unexpected moments of beauty, amusement, reflection or intrigue. These works of art might serve as monuments or memorials or represent other creative, innovative and exploratory ideas or expressions for

the area. The creation of the public art pieces would be undertaken directly by Musqueam artists who have historical ties to the lands.

The public art program would be funded through an allocation of the total construction cost of each development which would be collected by Musqueam (MCC) as part of the business terms with the selected development partner. A portion of these funds would be allocated to the ongoing maintenance of the art for both works located on private lands and UEL owned lands. There are a variety of opportunities for Musqueam to implement public art:

- » “On site” contributions where the art is commissioned and installed either on the subject property or the immediately adjacent public lands;
- » “Off-site” contributions are pooled to a fund which allocates public art pieces on publicly owned lands; or
- » “On-site/Off-site” contributions whereby there is a combination of art commissioned and installed on the subject property with the balance of funds collected pooled to a reserve fund which may be used for art pieces on publicly owned lands.

Conceptually the public art could incorporate the following features:

Welcome: Creation of an entry experience(s) to the Block F neighbourhood would serve to welcome all individuals coming to visit or living in the Block F neighbourhood and make all residents and visitors feel comfortable as guests. Introducing a sense of arrival will create an atmosphere whereby visitors may respond with respect and intrigue.

Inform: Opportunities exist to inform visitors, residents and neighbours of the history of the land and the importance to the Musqueam people. This may be told through interpretive signage/storyboards in an effort to share the cultural heritage and archeological history of the site.

Engage: The existing open space features that will be retained, enhanced and newly created open spaces on the site will provide opportunities for all individuals to engage with the natural features and history of the site.



Figure 3.3 Flight Spindle Whorl by Musqueam artist Susan A. Point

4.0 REZONING PROPOSAL

4.1 SITE DESCRIPTION

The property is a 21.4 acre (86,765 m² or 933,926 sf) property located in the UEL bordered by existing roads on its four sides: University Boulevard to the northeast, Toronto Road to the north, Acadia Road to the west and Ortona Avenue to the south. There are two smaller parcels of land that are contiguous with the site without being separated by a road: a three-storey townhouse development (Liberta) in the southwest corner of the property and St. Anselm's Church in the southeast.

The site is currently treed with second and third growth, and contains forested trails connecting UEL and UBC with Pacific Spirit Park. Portions of the site are lower in elevation than the surrounding sites and as such, some stormwater collects on the site and periodically outflows to Salish Creek to the north beyond the University Golf Course and Cutthroat Creek to the south.

4.2 NEIGHBOURHOOD CONTEXT

The site is located at the far south-eastern edge of Area D of the University Endowment Lands. Other than St Anselm's Church and the Liberta townhouse development (Block G), the only other developed part of UEL that is contiguous to the site is a short stretch along Toronto Road on the northern boundary of the site. The majority of the property is bordered across University Boulevard by Pacific Spirit Park, UBC Golf Course, and University Chapel, across Acadia Road by the University of British Columbia and its residential development, and across Ortona Avenue to Norma Rose Point School.

Land uses adjacent to the property include recreational (Pacific Spirit Park and UBC Golf Course, across University Boulevard), assembly use (two churches: St. Anselm's and University Chapel), multi-family residential (a four storey apartment building and two and three storey townhouses), and educational (VSB-Norma Rose Point School). See location and context maps in Section 11 - Background / Existing Conditions.

In discussions with UBC, the land to the west across Acadia Road will be redeveloped over time to include more intensive residential uses and neighbourhood amenities, including residential high-rise buildings. At the time of this updated rezoning application, detailed planning for the future of the Acadia neighbourhood has not commenced and a timeline is not known.

One and a half kilometres to the east of the site is the boundary of UEL and the City of Vancouver. The extension of University Boulevard east of this boundary becomes West 10th Avenue and includes multi-family residential, commercial and retail uses for four blocks.

The property forms a linkage between the northern and southern portions of Pacific Spirit Park although that linkage is interrupted by neighbouring churches, a school and University Boulevard.

4.3 CURRENT ZONING ENTITLEMENTS

The site is currently zoned MF-1 Multiple Dwelling District, and under the OCP is designated as RMF1 Multifamily (low-rise) and included in Area D on both the Zoning and the OCP Land Use and Context Plans. Other legal agreements which have an effect on the development of Block F are those contained within the Reconciliation Agreement which work collectively with the provisions contained in the OCP and Land Use Building and Community Administration Bylaw. The Reconciliation Agreement:

"Will in no event whatsoever be construed to limit or in any way fetter the discretion of any public official who may from time to time be responsible for subdivision, land use, zoning and related matters in the UEL including the discretion held by any local official acting under the University Endowment Land Act, the Land Title Act, the Local Government Act or the Land Use Bylaw to grant, refuse to grant, impose conditions in connection with, or any other matter relating to the issuance of a subdivision approval, building permit or development permit for the development of Block F in accordance with generally applicable procedures and policies in the OCP and the Guidelines in the Appendices to the Land Use Bylaw relating to areas with multi-family development and subject to the requirements of procedural fairness and other requirements of administrative law."

With respect to the aforementioned requirement, Musqueam has followed the planning procedures as set out by UEL Administration.



Figure 4.2 University Blvd.

4.4 THE REVISED PROPOSAL

The revised master plan is a result of input from a series of community information meetings, discussions with the Community Advisory Council Block F Working Group (CACWG) and extensive meetings with UEL Administration.

The resulting masterplan concentrates development onto a smaller proportion of the site than would be the case under the current zoning, and protects a significant stand of trees and creates open space for the direct benefit of the overall community. It also provides outdoor and indoor amenities for the community that would likely not be possible under the current zoning.

The Block F masterplan has concentrated a significant portion of the overall development program into slender tower forms which allows for a greater proportion of parks and open space at grade. The distribution of development density and other features are shown below which results in approximately **62.5% open space/park space** for the overall site inclusive of publicly accessible, semi-private and private space.



Figure 4.4 Proposed Development

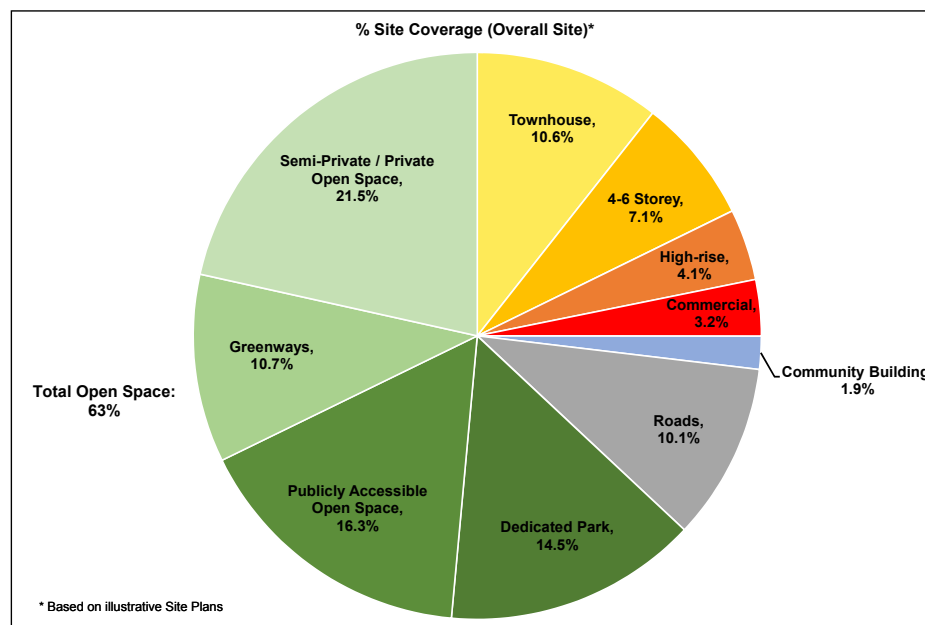


Figure 4.5 % Site Coverage (overall site)

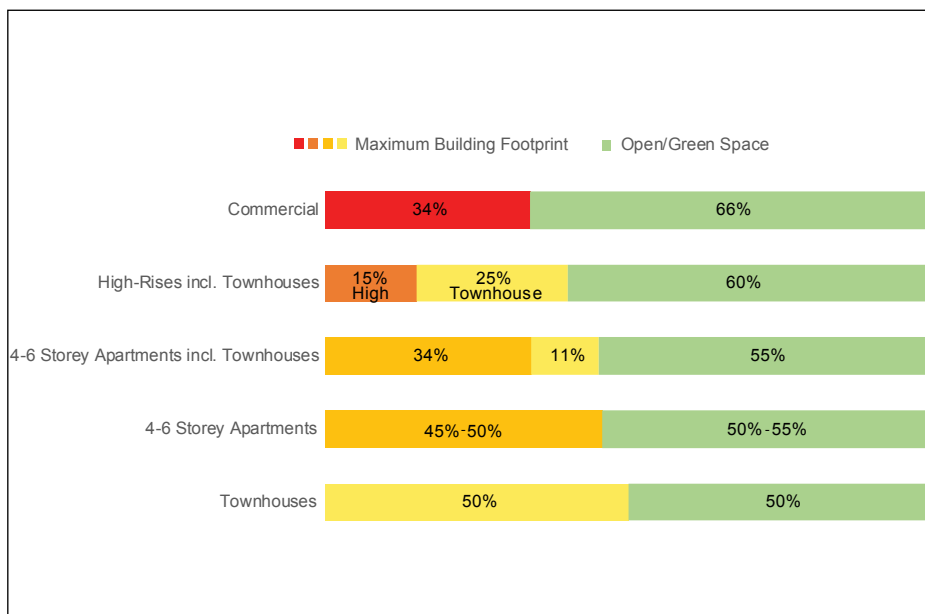


Figure 4.6 Permitted Building Coverage on Development Sites

4.5 REVISION FROM THE INITIAL REZONING APPLICATION

This proposal will require amendments to the Official Community Plan and the Land Use, Building and Administration Bylaw in order to accommodate the unique, site specific nature of the proposed development. (See sections 5.4 and 5.6)

A rezoning package was originally submitted in September 2013. UEL Administration reviewed the application and asked for modifications. These changes were included in the official rezoning application submitted and accepted in December 2013.

Through 2014 and into 2015, the applicants met many times with UEL Administration to address issues and to respond to community concerns such that a revised application could be supported by the community and UEL. The applicants also met with and presented the revised proposal to the Community Advisory Council Block F Working Group and received their comments and opinions, along with other agencies and with other community groups.

Significant changes to the development concept were made as a result of these meetings including:

- » The proposed additional density was reduced from 287,875 sf to 218,750 sf.
- » The maximum height of the taller buildings was reduced from 22 to 18 storeys.
- » The hotel use was replaced with purpose built rental residential uses.
- » Below market, work-force housing was further incorporated in the additional density
- » The Community Amenity Building (previously a shell) was combined with the former Block F clubhouse and is being offered to the entire UEL community as a completed and fully furnished building, with financial contributions to its operation in the first years of opening.
- » The site of the combined community amenity building has been moved to a more central location adjacent to the park and open space and adjacent to the Village Square to create the "Community Heart"
- » The open space has been redesigned to accommodate a broader variety and flexibility of uses.
- » Locations of various forms of residential development have been moved to better support the overall success of the site to be more responsive to adjacent neighbouring uses.

4.5.1 Site Plan & Development Statistics



Figure 4.5.1 Site Plan & Development Statistics

BLOCK F - SUMMARY									
PARCEL	PARCEL NET AREA		USES	GROSS FLOOR AREA (SQ. FT.)	MAX F.S.R.	MAX SITE COVERAGE	MAX HEIGHT (Storeys)	MAX HEIGHT (Meters)	MAX HEIGHT (Feet)
	m²	SQ. FT.							
A	8,269	89,010	Commercial	28,000	1.09	45%	5	17.7 m	58 ft
			Below Market Residential	43,750					
			Market Residential	25,000					
B	3,318	35,716	Rental Residential	85,000	2.44	50%	12	39.6 m	130 ft
			Accessory Commercial	2,000					
COMM. VILLAGE DEVELOPMENT AREA (Parcels A+B)	11,587	124,726		183,750					
D	4,544	48,908	Highrise + TH	146,724	3.00	40%	18	59.4 m	195 ft
E	5,143	55,358	Highrise + TH	152,235	2.75	40%	18	59.4 m	195 ft
F	4,452	47,925	Highrise + TH	143,775	3.00	40%	18	59.4 m	195 ft
G	4,543	48,896	Apartment + TH	105,126	2.15	45%	6	21.3 m	70 ft
H	5,334	57,412	Apartment	100,471	1.75	40%	4 + 6	21.3 m	70 ft
I	3,358	36,141	Apartment	90,353	2.50	50%	6	21.3 m	70 ft
J	3,398	36,575	Apartment	64,006	1.75	50%	4	15.2 m	50 ft
K	4,657	50,130	Townhouse	62,663	1.25	50%	3	10.7 m	35 ft
L	4,394	47,300	Townhouse	59,125	1.25	50%	3	10.7 m	35 ft
M	4,288	46,152	Highrise + TH	138,456	3.00	40%	18	59.4 m	195 ft
RESIDENTIAL DEVELOPMENT AREA (Parcels D-M)	44,110	474,797		1,062,934					
TOTAL DEVELOPMENT AREA (Parcels A-M)	55,698	599,523		1,246,684					

4.6 DEVELOPMENT STATISTICS

4.6.1 Site Area

Total Site Area:	21.44 acres (86,765 m² or 933,926 sf) gross area
Park Dedication:	3.0 acres (12,141 m² or 130,680 sf)
Net Site Area:	18.44 acres (74,624 m² or 803,246 sf)

4.6.2 Developable Area under Current MF-1 Zoning

Density allowed under existing MF-1 zoning:

Net Site Area:	18.44 acre (803,246 sf)
Road Area:	94,326 sf
Net Net Site Area:	708,920sf
At 1.45 FSR:	1,027,934 sf permitted

4.6.3 Proposed Development Areas

(See also 4.5.1 Table)

A. Currently permitted under MF-1:	1,027,934 sf
Plus	
Commercial:	30,000 sf
Market Rental Residential:	85,000 sf
Market Residential:	60,000 sf
Below-market Workforce Residential:	43,750 sf*
Subtotal:	218,750 sf
Total	1,246,684 sf
	1.75 FSR
B. Indoor Amenity Area (not including that in individual developments)	
UEL Community Amenity Building	15,000 sf
Childcare Facility	4,000 sf
Total	19,000 sf

*Under the OCP a minimum of 20% of any additional area is to be below-market and/or special needs housing: 20% of 218,750 = 43,750 sf.

4.6.4 Floor Space Ratios

(excluding indoor community amenity space; based on gross development area and net site area)

A. Permitted Under Current Zone:	1.45 FSR
B. Proposed:	1.75 FSR

4.6.5 Number of Units Proposed and Estimated Population

Estimated number of residential units:	1,250
Estimated population at build-out:	2,150 to 2,500

4.6.6 Parks and Open Space

Dedicated Park	3.0 acres
Publically Accessible Open Space*	5.03 acres
Subtotal	8.03 acres
	(37.5 % of the overall site)

Enhanced Street Open Space	1.10 acres
Ortona Trail (off site)	0.17 acres

Total Publically Accessible Open Space	9.30 acres
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*includes 0.9 ac site for community amenity buildings

4.7 DEVELOPMENT TIMELINE

It is estimated that, under the current economic and development conditions, the overall site would be built out in 10 to 12 years from the start of development in a phased, sequential manner. As Musqueam will partner with residential developers for each component of the project, the overall Block F property will be developed over this time horizon in concert with market conditions.

The park dedication is required to be completed at the time of subdivision of the site. In discussions with UEL administration, a proposal has been made by the Applicant regarding the extent and timing of off-site and on-site servicing, road construction, the Community Amenity Building and Childcare Facility, and the provision of other open and recreational space and the constructed wetlands. The construction of the Community Amenity Building is to start prior to occupancy of Phase 1 and to be completed prior to the occupancy of Phase 2. A phasing plan for utility services and other development features is included in this submission.

4.7.1 Development Phasing

As outlined earlier in this rezoning application, it is anticipated that the entire project would be built out over a 10 to 12 year period. This development schedule is dependent upon a variety of factors and is closely tied to the real estate market cycles. As well it is recognized that other competitive residential product will need to be considered in projecting the absorption of product on the Block F site.

The site plan has been developed to allow for each building to be situated on a separate legal lot, enabling flexibility to develop individual parcels over the anticipated development horizon. As well, a differentiation in product type will assist in offering the marketplace and current UEL residents a variety of housing types over time.

Conceptually, the development phasing would occur starting with the northern half of the site starting with Parcel D, then moving onto Parcel A & B, Parcel C and the park space. Associated with the development of these first parcels would be the implementation of the parks and open space system, Road A, the signalized intersection and offsite service upgrades necessary to accommodate the development in Phase 1.

It is anticipated that once the build-out of the above noted parcels within Phase 1 occurs, development in Phase 2 would be initiated with parcels L & M and further infrastructure, open space and individual residential projects developed over time. The sequencing of road improvements and infrastructure will be coordinated with UEL so as these construction related items coincide with development of specific parcels. The project phasing is intended to proceed to Phase 3 at the south end of the site and then finally Phase 4.

The chart on 4.7.1 Phasing Plan outlines a preliminary estimate of the number of units associated with each development parcel, an estimate of the number of people per unit associated with each parcel and the estimated timing of the associated population being added to UEL's existing population base. It should be recognized that these estimates are based on a number of assumptions and are likely to be reviewed and modified based on the input of future development partners. As such, the timing and priority sequence of parcel development should be considered preliminary only at this time but is put forward so as to see the potential increase in residents on the Block F project over time as well as the increase in tax revenue.



TOTAL COMMERCIAL (Parcel A + B)	30,000 S.F.
TOTAL RENTAL RESIDENTIAL (Parcel B)	85,000 S.F.
TOTAL BELOW-MARKET RESIDENTIAL (Parcel A)	43,750 S.F.
TOTAL RESIDENTIAL GFA (Parcel A + Parcels C - K)	1,087,934 S.F.
TOTAL DEVELOPMENT AREA (Parcels A-M)	1,246,684 S.F.

Commercial Village Parcels

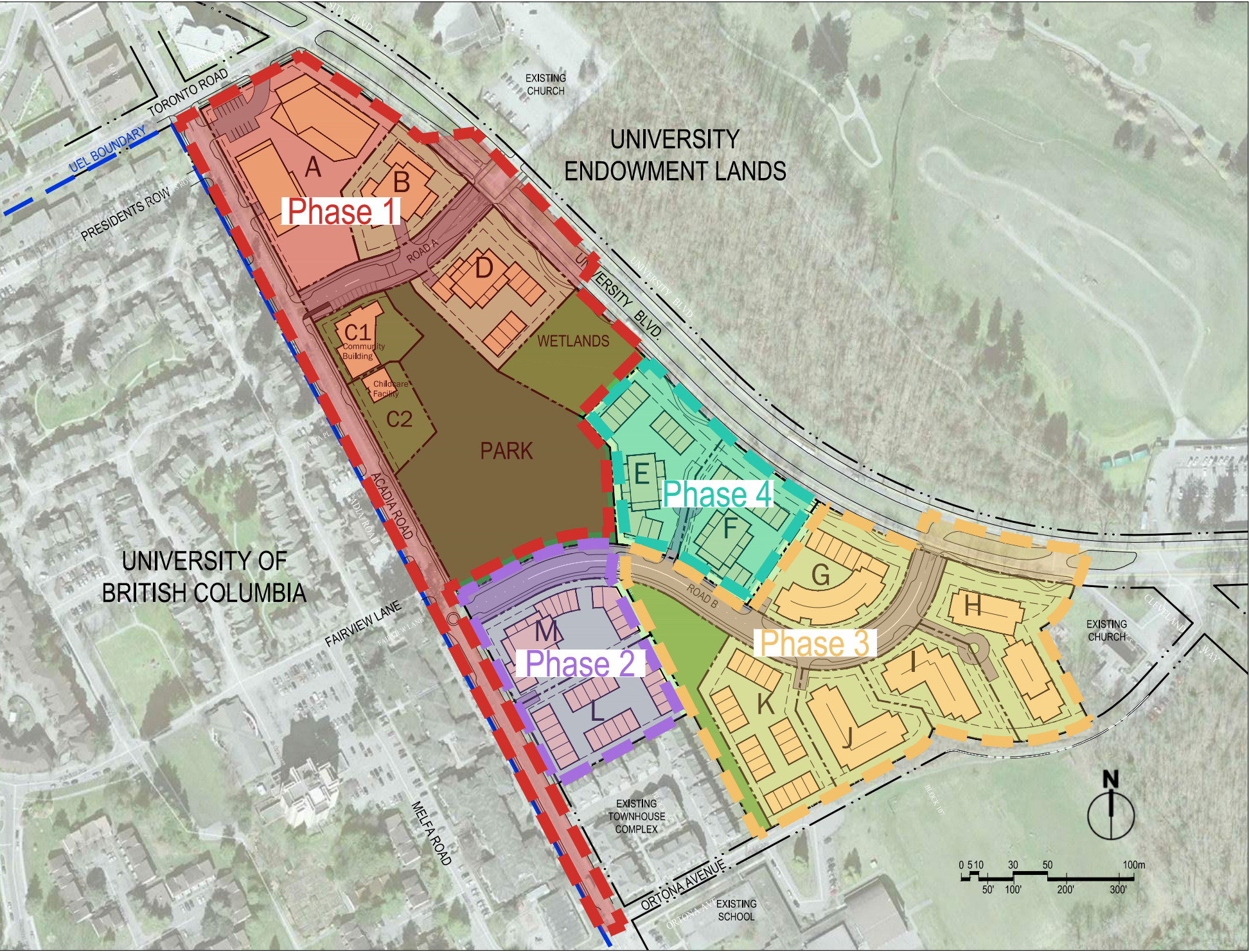
A		USE	No. of Levels	GFA (Sq.Ft.)
	Building 1 - Level 1	Commercial	1	15,000
	Level 2-5	Below-Market Residential	4	43,750
	TOTAL		5	58,750
		USE	No. of Levels	GFA (Sq.Ft.)
	Building 2 - Level 1	Commercial	1	13,000
	Levels 2 - 4	Market Residential	3	25,000
	TOTAL		4	38,000
	TOTAL DEVELOPMENT AREA			96,750
	MAX. HEIGHT	58 ft	5	
B	Level 1 (partial)	Accessory Commercial		2,000
	Level 1 - 12	Rental Residential	12	85,000
	DEVELOPMENT AREA			87,000
	MAX. HEIGHT	130 ft	12	
	PARCEL AREA			35,716
	MAX. SITE COVERAGE	50%		
	MAX. ALLOWABLE FSR	2.44 FSR		

Residential Parcels

D	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	122,724
	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		146,724
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		48,908
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
E	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	126,235
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	26,000
	DEVELOPMENT AREA		152,235
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		55,358
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	2.75	
F	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	119,775
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		143,775
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		47,925
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
G	LOWRISE + TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	6	105,126
	DEVELOPMENT AREA		105,126
	MAX. HEIGHT (ft)	70 ft	
	PARCEL AREA		48,896
	MAX. SITE COVERAGE	45%	
	MAX. ALLOWABLE FSR	2.15	
H	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	4 + 6	100,471
	DEVELOPMENT AREA		100,471
	MAX. HEIGHT (ft)	70	
	PARCEL AREA		57,412
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	1.75	

I	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	6	90,353
	DEVELOPMENT AREA		90,353
	MAX. HEIGHT (ft)	70 ft	
	PARCEL AREA		36,141
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	2.50	
J	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 4	4	64,006
	DEVELOPMENT AREA		64,006
	MAX. HEIGHT (ft)	50 ft	
	PARCEL AREA		36,575
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	1.75	
K	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	62,663
	DEVELOPMENT AREA		62,663
	MAX. HEIGHT (ft)	35 ft	
	PARCEL AREA		50,130
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	1.25	
L	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	59,125
	DEVELOPMENT AREA		59,125
	MAX. HEIGHT (ft)	35 ft	
	PARCEL AREA		47,300
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	1.25	
M	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	114,456
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		138,456
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		46,152
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
RESIDENTIAL GFA (Parcel A)			25,000 S.F.
RESIDENTIAL GFA (Parcels C - K)			1,062,934 S.F.
TOTAL RESIDENTIAL GFA (Parcel A + Parcels C - K)			1,087,934 S.F.

4.7.1 Phasing Plan



Block F Residential Development Anticipated On-Site Population				
Year	Parcel & Unit Type	# Units	Avg. HH Size	Population
2017	D - Highrise	121	1.65	200
	D - Townhomes	12	3.07	37
2019	A - Below Market Residential	50	1.85	93
	A - Apartment	28	1.85	52
	B - Market Rental	90	1.65	149
	C1/C2 - Community Blg/Childcare	n/a	n/a	n/a
2020	L - Townhomes	22	3.07	68
	M - Highrise	110	1.65	182
	M - Townhomes	13	3.07	40
2021	J - Apartment	71	1.85	131
	K - Townhomes	22	3.07	68
2022	G - Apartment	117	1.85	216
2023	I - Apartment	100	1.85	185
2024	H - Apartment	112	1.85	207
2025	F - Highrise	120	1.65	198
	F - Townhomes	12	3.07	37
2027	E - Highrise	125	1.65	206
	E - Townhomes	13	3.07	40
BLOCK F UNIT & POP. TOTALS		1,138	1.85	2,109

Source: Colliers International Consulting. 2015.

Legend

Phase 1

Phase 2

Phase 3

Phase 4

5.0 REZONING RATIONALE

The current MF-1 zone permits medium density residential development up to 1.45 FSR, including townhouses and apartment buildings. The maximum height of a building is restricted to four storeys.

Best planning practices strongly support the development of compact, complete mixed use neighbourhoods. Sustainable planning is predicated on a comprehensive approach to the development of vacant or underutilized land, particularly where servicing and amenities are currently in place and where a range of transportation options are available.

This parcel is ideally located and of an ideal size to contribute to a more complete and healthy community. It provides an opportunity to create a more walkable neighbourhood, to be able to expand the range of types of homes provided and residents accommodated, and to provide services and amenities for the benefit of both Block F residents and the larger UEL community.



Figure 5.0 Artist's Rendering of residential on University Boulevard

5.1 BENEFITS OF THE PROPOSED ZONE AND LAND USE PLANS

This rezoning application proposes to expand the range of housing types, services and amenities that are not currently permitted under the MF-1 zone. It will increase benefits and opportunities for the larger UEL community. It will secure a significant park dedication, and it will also significantly increase the amount of publicly accessible open and green space than may otherwise be provided under the current zoning, as well as providing a significant turnkey Community Amenity Building and Childcare Facility.

Among the many benefits associated with the contemplated change in zoning from the current MF-1 zone to CD Comprehensive zone are the following.

1. The Block F Masterplan has concentrated a significant portion of the overall development program into slender tower forms which allows for a greater proportion of parks and open space at grade. The distribution of development density and other features are shown below which results in approximately 62.5% open space/park space for the site inclusive of publicly accessible, semi private and private space.
2. It will create a wider range of housing opportunities for a wider range of residents. Included are various forms of townhouses, wood frame apartments in four and six storey buildings, and high-rise apartments in concrete buildings. It will augment and expand the range of housing currently available in the UEL by offering market units, rental units and below market rental units.
3. It will focus growth and the corresponding new development on a transit route that is currently very well serviced, and which is a designated stop for a proposed future rapid transit line.
4. It will provide services and amenities that are not currently permitted in the MF-1 Zone, enabling the creation of a more complete neighbourhood and the establishment of a community heart.
5. It will encourage and support residents to walk and bike. Commercial, recreational and community amenities are proposed for this site. The site is located adjacent to forest, recreational, educational and other commercial uses within a short distance.
6. It will provide neighbourhood amenities such as a Childcare Facility and a Community Amenity Building that will add to the well-being and cohesion of the members of the UEL. The Community Amenity Building will be constructed, finished and outfitted with furniture and equipment to be ready for use by all UEL residents.

7. It will provide a park with a variety of outdoor recreational opportunities as well as an urban forest. The open play areas will provide opportunities for healthy activities. The urban forest and wetlands will provide respite, nature and educational opportunities.
8. It will provide dramatically more publically accessible open space than would be achieved under a development permit process under the current MF1 zoning.
9. It will provide a series of pathways, trails, greenways and smaller, intimate open spaces. The greenway along University Boulevard will be an attractive entrance to UEL by expanding the existing green boulevard, adding water features, stormwater streambeds and enhanced landscaping. The trails and other connections will allow for current pedestrian and bicycle routes through the site to be retained.
10. It will provide opportunities to showcase Musqueam Art through the development and implementation of a new Public Art program.
11. It will provide a village plaza that can be utilized for community functions, fairs, gatherings and celebrations.
12. It will retain a significant grove of mature trees in a consolidated area that will facilitate their healthy continuance, as well as other significant clusters of trees on site.
13. It will maintain and enhance the value of the current wetland habitat, and continue its current contributions to offsite streams to the north and the south. The site will manage storm water runoff through best management practices.
14. It will provide an opportunity for upgrading of offsite services, roadways and intersections at the cost of the proponent.
15. It will provide for both a diversified and a larger tax base for the UEL community, which is important to address the aging infrastructure in the community.
16. It will provide uses during and after construction that will contribute to Musqueam's, UEL's and other's employment and training.
17. It will provide new market rental housing as well as rental housing that will be at below-market rents to provide accommodation for those with modest incomes who are working in the area.

5.3.2 Maintaining Neighbourhood Character

a) Building Patterns

Each Local Area in UEL has its own distinctive characteristics. Area D presents a village-like atmosphere of high and low-rise apartments, townhouses and retail development. The development of Block F is consistent with this established character and offers an opportunity for a master-planned development that expands on and improves this established development character.

b) Density Policies

As a higher density neighbourhood within Area D, Block F has been designed to accommodate an expanded population in a focused area with amenities and services immediately adjacent. The human-scaled streetscape, wide boulevards, a new community amenity building, playgrounds, recreational areas, open spaces, tree planting and street furniture support the increased density. Included within this increased density is a component of rental units and 20% of the increased density as below market rental housing.

d) Commercial Development

Consistent with the OCP, commercial uses are located in Local Area D and are oriented so as to be as close as practical to the existing commercial services in the community. It is proposed that a specialty grocery store be located as an anchor for the new small scale commercial village.

The commercial demand study undertaken specifically for the Block F site has considered the UBC commercial expansion plans and allows for considerable opportunities for residents and visitors to purchase goods and services from a variety of locations including UBC and West 10th Avenue. The retail uses are proposed to be small in scale, and would be geared to the local population.

5.3.3 Providing Essential Services

a) Development Cost Recovery Policy

Offsite upgrades will be required as a result of this development. The developer will be responsible for those improvements that are specifically required to accommodate the proposed development.

b) Stormwater Policies

Consistent with the policies of managing stormwater, the Block F development will improve the quality of stormwater leaving the site through the creation of a reconstructed wetland, the creation of rain gardens, and landscaping that minimizes impervious surfaces. The particulars of the stormwater requirement plan have been submitted to DFO/MOE and have received their approval in principle.

5.3.4 Achieving a Compact Metropolitan Region

The intent of the GVRD’s regional plan is to promote growth within the urban boundary zones identified as Growth Concentration Areas. This includes infilling undeveloped areas and growing established commercial centres.

The UEL supports this initiative by:

- a) Focusing and densifying commercial development within established commercial areas;
- b) Densifying existing multi-family residential zones through redevelopment initiatives; and
- c) Supporting growth close to transit lines and promoting public transit use for all UEL residents (such as utilizing off-peak capacity for reduced fares) through discussions with Translink.

The Block F development fulfills all of the above noted objectives by increasing development within an urban area that is currently serviced by transit and will likely be serviced by rapid transit in the future. The master planned neighbourhood builds on the planning principles that are already well-established in the UEL and fulfills many of the regional growth and open space goals.

5.4 AMENDMENTS TO THE UNIVERSITY ENDOWMENT LANDS OFFICIAL COMMUNITY PLAN

The proposed CD rezoning would require the following amendments to the current Official Community Plan.

- 4.3 a) Building Patterns
The inclusion of Block F as a site where mixed-use commercial / residential is encouraged.
- 4.3 c) Density
ii) modify OCP to exclude Block F from optimizing density levels established in “current By-Law”
- 4.3 d) Commercial Development
Modify OCP to include Block F in the description of where commercial uses are permitted and do not limit the areas to the Village

- 6.3 Building Complete Communities
 - 6.3 b) modify OCP to not require this provision on Block F
 - 6.3 c) modify OCP to add Block F to this paragraph
 - 6.3 d) modify OCP to allow development on Block F as per CD By-law
- 6.4 Achieving a Compact Metropolitan Region
 - 6.4 a) modify OCP to add Block F as a mixed-use commercial area.

Figure 2 Current designation modified to allow commercial on Block F

Figure 3 modified to include new public roads

It should be noted that in the OCP, item c) in Section 6.2 Protecting the Green Zone, “Placing restrictions on the use of Block F ... to preserve as publicly accessible parkland,” has already been modified in Section 6.03 Block F Zoning of the Reconciliation Agreement, which states, “...and the OCP is amended so that Block F is designated as RMF1 and included in Area D on the OCP Land Use and Context Plans...”

5.5 MODIFICATIONS TO CURRENT ZONING DEFINITIONS FOR THIS APPLICATION

For the purposes of development on lands included in this CD rezoning application, definitions shall be as per the University Endowment Lands Land Use, Building and Community Administration Bylaw except for the following.

- (19) “area of the floors of the buildings on a site” means the enclosed area of the buildings, but shall exclude areas used for parking and vehicular circulation; storage areas, stairs, elevators, elevator lobbies, vestibules and similar within a parking garage; mechanical and electrical rooms and spaces; storage areas including bicycle storage, and similar; and amenity areas within buildings to a maximum of 5% of the gross building area.
- (30) “height of buildings” means the vertical distance between the average grade and the highest point of the habitable portion of a building, excluding non-habitable space, elevator shafts, mechanical rooms, chimneys, antennae, screening and similar features.
- (59) “site coverage” means the percentage of the site covered by buildings based on the projected areas of the outside of the outermost walls of all buildings, including accessory buildings, but does not include patios, porches, covered decks, steps, retaining walls, gazebos, parking garages that do not extend higher than 3’-6” above finished grade, and similar features.

6.0 PROJECT DEMOGRAPHICS

6.1 PROJECT DEMOGRAPHICS

The planning behind the Block F project is to include a variety of housing forms that would appeal to a wide range of the marketplace and offer opportunities for a mixed population to live in the new mixed use neighbourhood. The site's geographic location lends itself to a number of different residential segments including young professionals, singles, families and seniors/ downsizers. As well, the project will offer a number of tenure opportunities, including market rental and below market rental. These future residents may currently live in the UEL or adjacent west side neighbourhoods or alternatively be drawn to the new neighbourhood given the appeal of the site offerings and/or adjacent amenities.

Given the uncertainty of projecting future purchasers/residents, it would be impractical to design the new neighbourhood with a narrow focus or a singular resident subset in mind. Rather, the approach taken in preparing the Masterplan and rezoning application was to create a neighbourhood that would house a wide range of residents as well as providing for onsite amenities that would appeal to a broad range of future residents. These onsite amenities combined with amenities currently available either within UEL, UBC or the west side of Vancouver would provide for a comprehensive range of opportunities for the future residents of Block F.

6.1.1 Future Population

Current urban thinking often refers to great neighborhoods as “urban magnets”. Urban magnets are unique, vital and authentic urban places that attract and hold the emotions and interest of groups of people. These groups animate a place and give it vitality, a sense of place and economic success. Animation includes the after school energetic activities of children who attend school in surrounding areas and frequenting the shops along Arbutus, in Kerrisdale and Dunbar, along West 10th, West Broadway and 4th Avenue and at UBC.

People live in the UEL because it is a mature, safe and attractive Westside community. It provides reasonable access to education and social and recreational activities and a range of amenities. It can be enjoyed on foot, by bicycle or car.

The Block F project may appeal to the following groups, notwithstanding that the project has been designed to be entirely inclusive mixed use community, one that is designed to accommodate a wide range of residents including:

- » Those considered **Baby Boomers** (50 to 65 years of age), married or divorced “downsizer” looking to sell a single family home and purchase a less capital intensive, easier to maintain condominium home in the immediate area.
- » **Maturing families** those in their early 30's to late 40's - single, divorced or married with some prior connection with the area. They may have children living with them or have extended family in the area.

- » **Young white collar professionals** aged 26-36. Young couples and first time home buyers who plan to occupy their units upon completion and may wish to start a family. May currently be renting in the area with an eye to buying but unsatisfied with re-sales options on the market.
- » **Seniors** 65 to 85 years of age, married, divorced or widowed “downsizer” looking to sell a single family home, town home or condominium and purchase a less capital intensive, easier to maintain condominium home in the immediate area.
- » This group may have raised a family in the area and may have extended family nearby.
- » May still lead relatively active lifestyles and would consider moving to a new neighbourhood that is located in a geographic area that is amenity rich, safe, offers retail amenities and transportation alternatives.
- » They will have concerns about “aging in place” and will prefer the single floor living offered in apartments instead of the multi-floor living offered in most townhouses or the single family homes they have left.
- » **International** typically between 30 and 55 years old, many are buying for the first time in this country and are linking their purchase to immigration.
- » Couples with one child aged 4 - 24 looking to educate their child in Canada and/or immigrate for lifestyle.
- » All of the above resident profiles and more who would prefer to **rent** in a new, purpose built rental building in an amenity rich geographic area.

- » **Young families** who have children who prefer to live in an urban mixed-use neighbourhood provided that the residential units provide enough space for their family as well as having good access to the outdoors and the neighbourhood in which they reside offers a range of indoor and outdoor amenities.
- » Those who prefer to rent in a purpose built rental building for a variety of reasons and can afford market rents.

6.1.2 Product/Unit Mix

At the present time no decisions with respect to unit mix have been made given the fact that in due course, Musqueam and their development partners will undertake detailed planning, construction and marketing of individual residential projects. As such, these future decisions will be influenced in part by the future development partners and the real estate market dynamics at the time of future marketing efforts. In general, based on the work done to plan the Block F site to allow for a wide range of residents, the project team has formulated a preliminary opinion with respect to deriving a future population estimate at build-out.

- » The proposed unit mix of each building will vary based on the market dynamics and demand exhibited for earlier phases. A variety in unit sizes will ensure the individual buildings and the larger Block F development will appeal to a wide range of residents.
- » While larger product is appealing in this market, particularly to affluent families and downsizers, realistically attainable multifamily sales pricing will naturally restrict the outer limit of sizes. More specifically, demand for product larger than 1,000 to 1,500 square feet is present, however, demand for 1,500+ square feet products is much less.



- » Smaller units may be located in the retail village including the below market and market rental housing components of the development.
- » Townhouse offerings in locations such as this remain popular and contribute to the supply of larger units appropriate for families. It is believed there is sufficient demand to support the proposed number of townhouses and possibly more in this geographic location.

The size of units will range from bachelor suites of approximately 500 sq.ft. to three bedroom suites of approximately 1,200 sq.ft. Townhomes will be larger in size estimated at between 2,000 sq.ft. and 2,200 sq.ft. Each development parcel will be fully designed as part of the Development Permit/Building permit processes.

The intent is to develop housing choices suitable for families of all types, ages and incomes. Where possible, the number of ground oriented units will be maximized and overall the residential units will define, animate and overlook streets and public spaces.

6.2 PRELIMINARY POPULATION ESTIMATES

In an effort to provide an estimate of the future population of Block F, a number of variables need to be considered including the number of overall units, the size of units and the estimated absorption of units over time as this can affect the pace of population growth.

Based on the current market dynamics, it is anticipated that the build-out of the entire Block F neighbourhood would occur over a 10 to 12 year period. Over the course of this time period there could be changes to the real estate cycle which could have an impact on the absorption of the residential product. The purpose of this exercise is to estimate the population of the Block F project at complete build-out. It is recognized that projecting future population over a ± 10 year horizon is challenging and, as such, the estimates outlined below should be viewed with this in mind.

6.2.1 Population Statistics

Given the current makeup of the UEL population it is anticipated that future population of Block F (the average people/dwelling unit (ppl/u)) would be less than that which currently exists in UEL given the makeup of the housing stock associated with the existing community. The tables below outline statistics for the UEL community based on 2011 Census data and statistics provided by UEL based on May 2014 statistics.

Population by Age Profile

UEL	
Total Population (May 2014)	4,009
0 to 9 years	7.1%
10 to 19 years	17.2%
20 to 29 years	22.1%
30 to 39 years	8.4%
40 to 49 years	19.0%
50 to 59 years	11.6%
60 to 69 years	7.4%
70 to 79 years	4.0%
80 years and over	3.3%
Median age	34

Household Size Profile

UEL	
Total Households (May 2014)	1,610
Total number of persons in private households	4,009
Average number of persons in private households	2.49

Household Type Profile

UEL		
Total Households (May 2014)	1,610	
Single-detached house	446	27.7%
Row house	56	3.5%
Apartment, duplex	68	4.2
Apartment, building that has fewer than five storeys	820	50.9
Apartment, building that has five or more storeys	220	13.7
Movable dwelling	0	0.0%
Other single-attached house	0	0.0%

Data provided by UEL

6.2.2 Household Size by Dwelling Type

The UEL average number of people living in all unit types is 2.5 ppl/u which is consistent with the BC average. The Metro Vancouver average number of persons in private households is 2.6 ppl/u while the City of Vancouver average is 2.2 ppl/u. The Greater Vancouver Area inclusive of the City as well as Electoral Area A and UBC is also 2.5 ppl/u based on all unit dwelling types.

	Electoral Area A ¹	Vancouver	Metro Vancouver
Single-detached house	2.91	3.11	3.13
Semi-detached house	3.11	2.65	2.70
Row house	3.07	2.63	2.70
Apartment, duplex	2.73	3.00	3.09
Apartment, < 5 storeys	2.29	1.78	1.93
Apartment, ≥ 5 storeys	2.22	1.63	1.73
Movable dwelling	3.00	1.77	1.80
Other single-attached house	0.00	2.12	2.25
Total	2.46	2.23	2.56

When single family, duplexes, movable dwellings and others are excluded from the data set, the remaining household types of row house, apartments less than 5 storeys, and apartments greater than 5 storeys yield the following average number of persons in private households:

	Electoral Area A ¹	Vancouver	Metro Vancouver
Row house	3.07	2.63	2.70
Apartment, < 5 storeys	2.29	1.78	1.93
Apartment, ≥ 5 storeys	2.22	1.63	1.73
Total	2.39	1.76	2.02

6.2.3 Estimating Build-out Population

Based on the above, these ppl/u ratios were utilized to estimate the total future population of Block F at build-out.

The first method involves utilizing the gross developable area of the multifamily area excluding townhouses and applying an average unit size (750 sf) to the net developable area which would exclude things such as hallways, stairwells, elevator shafts etc. This net area could potentially be available as residential units, housing a future residential population. The townhouses would be a separate subset and are more easily defined as to the total number within the project. Based on the proposed development program, this would result in the following unit count inclusive of the market rental and below market rental components:

Multifamily	1,122 units
Townhouses	105 units
Total	1,227 units

Applying the average ppl/u rates of Vancouver (1.76 ppl/u) would result in an estimated Block F population of 2,159 people at build-out. Conversely, applying the Metro average number of persons in private households (2.02 ppl/u) would result in a total population of 2,478 people at Block F build-out.

¹ Electoral area A includes: UBC area; UEL; lands along Howe Sound; Bowyer and Passage Islands (Howe Sound); northern portion of Indian Arm; Boulder Island and Carraholly Point (southern end of Indian Arm); west side of Pitt Lake; and Barnston Island.

An alternative method of estimating future population involves analyzing the aggregate developable area by dwelling type and then applying the above noted average number of people in private households based on unit type. In this instance, the breakdown of estimated dwelling units at build-out on Block F would be 1,227 with a corresponding estimated population at build- out of 2,275 people as per the table below:

Dwelling Type	Gross Developable Area	Net Developable Area	Estimated Total Units	Average ppl/u	Estimated Population
Row house / townhouse	210,000	210,000	105	2.70	283
Apartment, ≤ 6 storeys	428,700	364,400	485	1.85	897
Apartment, > 6 storeys	566,190	498,247	664	1.65	1,095
	994,890	1,072,647	1,254		2,275

In summary, it is estimated that the build out of the Block F project would add between 2,159 to 2,478 people over a 10 to 12 year time horizon.

6.3 PROPOSED PARKING SUPPLY

Parking requirements for the proposed Block F development have been carefully planned, taking into consideration relevant planning policies, current trend on vehicle ownership levels, as well as anticipated built-form and expected parking demand for the proposed Master Plan.

Excessive provision of parking would undermine the urban design and promote unnecessary vehicle trips. It is imperative that parking be provided at a level that meets the broad sustainability objectives, while ensuring the development is commercially viable.

The table below shows the proposed parking supply ratios for various land uses proposed in the Master Plan.

Use	Proposed Parking Supply Ratios (Minimum)
Residential	
Low-rise (up to 6 storeys)	1.1 per unit
Condominium (7-16 storeys)	1.0 per unit
Townhouse	1.4 per unit
Market Rental	0.75 per unit
Non-Market Rental	0.65 per unit
Visitors	0.1 per unit
Commercial	
Office	1.5 per 1,000 sf ft. GFA
Retail	2.5 per 1,000 sf ft. GFA
Restaurants	6 per 1,000 sf ft. GFA
Childcare Facility (Staff Parking)	1 per 15 children

The proposed parking supply ratios for various uses in the Master Plan are proposed to differ from the parking requirements outlined in the UEL Land Use, Building and Community Administrative By-Law (1999) so as to fall in line with more contemporary practices. While the UEL by- law provides minimum parking requirements for Apartments, Condominiums and Townhouses, they are approximately 10% to 35% higher than what have been previously applied for other comparable communities. The suggested parking supply ratios for residential uses are also supported by the survey findings in the Metro Vancouver Apartment Parking Study (September 2012).

For the commercial uses, the current UEL by-law does not provide much guidance with regards to the appropriate parking supply levels. This could partly be explained by the fact that the existing community at UEL can access the commercial facilities easily by walking or cycling hence reducing the need of parking for the commercial uses. For the proposed Block F Master Plan, some provision of parking would be appropriate to ensure the viability of the commercial uses in the community. Shared parking opportunities may also be available recognizing that future office and retail have different peak parking demand periods. MCC will also be exploring car/ ride share programs as the detailed planning proceeds.

It is also proposed that there will be additional on-street parking spaces crated along Acadia Rd, Road A and Road B which will add short term spaces in close proximity to the community and commercial uses providing opportunities for short term visits to the Block F community.

The proposed Block F development aims to promote non-auto travel through the introduction of a number of sustainable transportation features such as Bicycle Parking and End-of-Trip Facilities, Car-Share Vehicles, Ride-Share Programs, and Multi-Modal Access Guide.

Accessible Parking

A minimum of one accessible parking stall will be provided in the surface parking lot on Parcel A. In addition, 2 accessible parking stalls will be provided in the 90 degree parking in front of the Community Amenity Building. It is noted that parallel parking stalls function equally as regular or accessible stalls.

For underground parking, 2% of all parking stalls shall be designated as accessible stalls.

Electric Charge Stations

A minimum of 5% of the underground parking stalls shall have access to electric charging.

Bicycle Parking and End-of-Trip Facilities

Bicycle parking is planned for residents and employees in secure locations, while short-term visitor bicycle parking will be provided at building entrances or in the public realm.

In addition to bicycle parking, end-of-trip facilities such as showers and lockers will be incorporated into the community building for use by Block F commercial tenants and employees.

Car-Share Vehicles

Car-sharing clubs have developed significantly in the last 10-15 years in the Lower Mainland and allow people to have access to a car in their area without having to buy or maintain their own vehicle. Members are usually charged on a “pay-as- you-go” basis. Car share programs are encouraged for the Block F development as are car plug-in stations for electric vehicles.

Multi-Modal Access Guide

A Multi-Modal Access Guide (also called a Transportation Access Guide) is a document or set of documents that provide concise, customized information on how to access a particular destination by various travel modes, with special consideration of sustainable modes such as walking, cycling and public transport.

This guide will be disseminated to all residents at Block F, and could be posted to the residents’ website(s), or be made available at a kiosk or bulletin board in the proposed community facility.

Finally, in light of the potential opening of the UBC Line rapid transit service, parking supply ratios may be revised in the future to account for the potential reduction in parking demand due to proximity to a rapid transit service.

7.0 COMMUNITY CONSULTATION

Leading up to the preparation of the rezoning initial application for Block F, in 2013, the Project Team held three community consultation events (“Open Houses”) to involve the public during each step of the preliminary planning process. The feedback received from these events played a significant role in the development of the Block F planning vision. The following summary provides an overview of the pre-application consultation process spanning from September 2012 to April 18, 2013. Since that time, additional community consultation has occurred and it is anticipated UEL administration will guide the community consultation process in the future given the Block F rezoning is “in progress” and falls under the UEL planning process.

7.1. CONSULTATION PROCESS

Block F is a unique opportunity for the Musqueam Indian Band to build a legacy; as such, it was important to engage with and involve the public at an early stage of the planning process. The diagram below illustrates the consultation process undertaken to date, with the timing of the three pre- application Open Houses represented by orange dots. There are additional legislative requirements for community consultation as part of the UEL Planning Process; these consist of a “Neighbourhood Meeting” and “Public Meeting” once an application is received and reviewed by UEL and are represented by “blue dots”. It is anticipated additional stakeholder consultation would occur, such as meetings with the CAC Block F Working Group, which occurred on March 3, 2014 and Jan 29, 2015.

The Project Team began examining preliminary studies and research in Summer 2012, and hosted the first community Open House in early December 2012. This event provided an introduction to the Block F site, the 2008 Reconciliation Agreement which gave rise to this parcel being returned to Musqueam Indian Band, the current planning entitlements for the parcel and an outline of the pre-application communication process. In addition, six preliminary Planning Principles were presented to initiate conversation on the development vision. One important goal of this event was to clearly outline the planning process and to communicate methods to ensure all feedback is received and analyzed for consideration in the development concept for the site.

Based on the feedback from the first Open House, the Project Team proceeded to the next stage of the preliminary planning process. Additional studies were conducted; which, together with the public’s feedback, allowed the Project Team to develop three general site layout options. These options were presented at the second Open House (Feb 2013) where detailed feedback on each of the design elements and the respective merits was collected. After analyzing and considering all the comments received (both positive and negative), the Project Team moved towards developing a preferred site development concept which was developed for the third Open House.

In April 2013, the Project Team hosted the third Open House to present the preferred site development concept in greater detail which set out the land use plan, internal site road layout, preliminary traffic findings, parks and open space plan and community amenities. To better illustrate the development concept, a more detailed site plan was presented along with character sketches depicting what the ultimate development may look like. A summary of the most recent community feedback as well as additional study findings were presented in support of the site concept. Public feedback was collected again at this Open House which was considered in the development of the preferred site concept that forms part of the rezoning application.

7.2 CONSULTATION FORMAT

Over the course of the early consultation with the community and specific stakeholders, the project team have considered this input and the masterplan and vision for Block F has continued to evolve so as to reflect the community’s input to the plans, Musqueam’s goals for economic sustainability, along with the creation of a high quality mixed use neighbourhood.

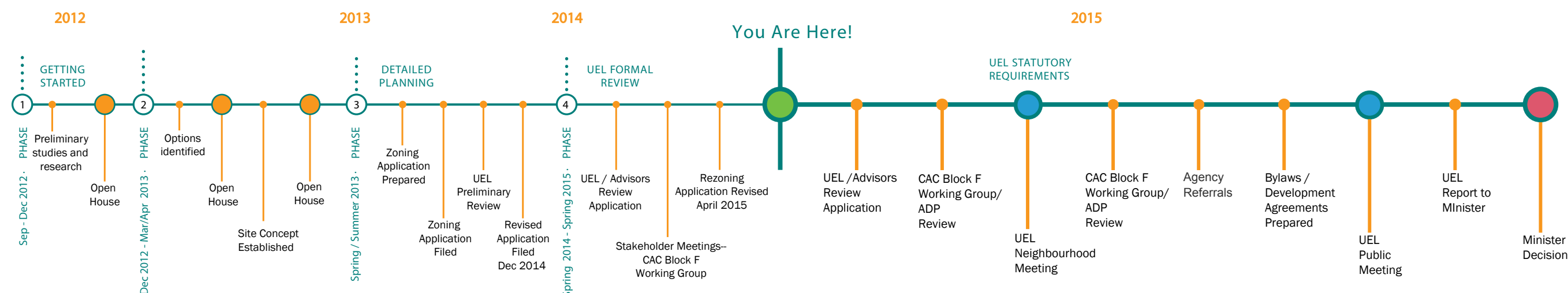


Figure 7.0 Community Consultation Process

8.0 CONSULTATION WITH OTHER AGENCIES AND ORGANIZATIONS

At the request of UEL Administration, Colliers /MCC undertook to meet with many of the agencies which will formally receive a referral notice from UEL as part of the Rezoning Application review. Specifically these agencies were:

- » RCMP – University Detachment
- » Fortis
- » BC Ambulance Services – Station 262 UBC
- » Vancouver Fire Rescue Services – University Fire Hall No. 10
- » BC Hydro
- » Pacific Spirit Park Society
- » Ministry of Transportation Infrastructure
- » CAC Block F Working Group
- » Vancouver School Board
- » University of British Columbia

The current revised application has considered any early comments from these referral agencies and in many instances the plans have been amended and updated to reflect the early input. Based upon the submission of this revised application, it is the Applicant's understanding that a formal referral process will be undertaken by UEL shortly, and will allow them to respond formally to UEL with respect to any comments/issues they may have regarding the rezoning application.

8.1 RCMP

A meeting was held on October 15, 2013.

Issues discussed included the following:

- » Typically the police service is provided at a 1 officer per 800 people ratio.
- » RCMP aware of growth at UBC over the next 10 years.

8.2 FORTIS BC

A meeting was on October 18, 2013.

Issues discussed included the following:

- » Currently Fortis has a service which runs along University Blvd. passes through the Block F site then splits and services Acadia on UBC.
- » As there is currently no development on Block F, services to the site do not exist. The road network was reviewed and Fortis was satisfied

that future gas network could align with current and proposed roads.

- » Based on a preliminary review, Fortis believes capacity is available for the project but will provide a more detailed review once specifics are known about the project.

8.3 BC AMBULANCE SERVICES

A meeting was held on October 21, 2013.

Issues discussed included the following:

- » Previously there were 3 ambulances stationed at Station 262 UBC (beside Hospital) but currently there is one in addition to a patient transfer vehicle.
- » Unlike RCMP ambulance service is provided over a wider distribution area based on calls and is not based on a specific ratio of ambulance/ population. Ambulance at UBC could go as far as Richmond/Burnaby and in one instance Mission.

8.4 VANCOUVER FIRE RESCUE SERVICES – UNIVERSITY FIRE HALL NO. 10

A meeting was held on October 21, 2013.

Issues discussed included the following:

- » Fire advised that prior to 1995 UEL had its own service but this was amalgamated with UBC where now the Province contracts with the City of Vancouver for a 99 year contract.
- » Currently Station 10 (UBC) has one fire engine, one tower truck and one hazmat response truck.
- » Fire confirmed that addressing on UBC is difficult and that sequential addressing for Block F should be implemented.
- » Fire services are set up in the City on a total citywide plan, not necessarily on a population based approach. The City Fire Department continually updates their fire safety plan which looks at response times of 2 to 3 minutes across the City.
- » If at some point in the future additional fire service was required, they would look to set up a second station on the peninsula and not an expansion of the existing station 10.
- » Fire Department is aware of growth at UBC over the next 10 years as well as Block F plans.

8.5 BC HYDRO

BC Hydro (Meeting 1)

An introductory meeting was held on July 3, 2013.

Issues discussed included the following:

- » Once the project overview was provided, Hydro advised that they needed the following info to assess the future loads of the project; total connected load, average operating load and date for energization.
- » Hydro asked about project phasing and energization dates for the various components of the development.
- » Hydro would like to see a conceptual streetlight layout as this would requires its own service assuming UEL would own these.

BC Hydro (Meeting 2)

A second meeting was held with Hydro on November 6, 2013 to review the projected electrical loads and servicing concept prepared.

Issues discussed included the following:

- » Hydro asked about project phasing and energization dates for the various components of the development.
- » Conceptually, the distribution plan was reviewed and while Hydro design will require more analysis, common approaches of Hydro distribution were presented by Hydro. Hydro was advised all development sites would be independent lots.

BC Hydro (Meeting 3)

A third meeting was held with Hydro on January 7, 2015 to review the projected electrical loads and servicing concept.

Issues discussed included the following:

- » MCW outlined their assumptions regarding future electrical loading and were requested to update their loads based upon the current development program (this was subsequently done on March 18/15)
- » Hydro is planning on servicing the Block F project by bringing a new single circuit from Wesbrook through UBC to arrive at Acadia Rd./ Toronto Rd. and running south along Acadia Rd. to Road B.
- » Hydro will require two Vista switches: one at Acadia Rd. /Road A and the second at Acadia Rd. /Road B.
- » Individual properties will be serviced by the new hydro service which

feeds individual parcels from Road A and Road B either with surface mount transformers or below grade vaults all on private property. A transformer to service new street lights will need to be located on the public ROW.

- » The Acadia Rd. above grade pole line will need to be addressed in future detailed design as this services facilities south of the Block F property.

approval of the lots. For approval of subdivision, a site servicing plan would have to be finalized. A subdivision application can be made prior to receiving the rezoning.

- » University Boulevard is owned and maintained by MOTI. Translink has little input into the Boulevard.
- » A transportation impact analysis will be part of the rezoning and subdivision application.
- » Parking standards would be according to Institute of Traffic Engineers.
- » The site has been designated as a future rapid transit station location.

8.6 PACIFIC SPIRIT PARK SOCIETY

On three separate occasions the Block F design team and members of the Pacific Spirit Park Society have met together, generally coinciding with the three community consultation events or when plans have progressed. These meetings provided an opportunity for PSPS to review the Block F project in more detail and for the Block F team to receive input and thoughts. PSPS expressed appreciation for the input allowed them and the modifications made by the design team in response to PSPS's comments.

8.7 MINISTRY OF TRANSPORTATION INFRASTRUCTURE

MOTI (Meeting 1)

The applicants met with the Ministry of Transportation, with reference to their responsibility for University Boulevard, early on in the process to ensure that the site planning approaches being considered were feasible and to obtain direction from MOTI on upgrades, intersection designs.

At a meeting on January 14, 2013 the following issues were discussed.

- » Internal roads would be dedicated to the UEL. If they are dedicated to the UEL, sidewalk, curb and road design would need to meet UEL standards and, in the absence of such standards, to MOTI standards. Typical ROW widths are 20m, with an 8m paved travel section.
- » A centralized access point for the site from University Boulevard would be good. A signalized intersection on University Boulevard would be fine. A round-about would also need to be considered for this intersection as part of the standard analysis required.
- » Any lot created would need to have road frontage and be completely serviced. MOTI will be the approving authority for the subdivision

MOTI (Meeting 2)

The applicants met with the Ministry of Transportation again on January 14, 2015, with UEL representatives to provide an update with respect to the approval status, the modifications to the overall masterplan/development program and the subdivision approval process.

The following issues were discussed/reviewed, primarily focused on the subdivision process:

- » MOTI is the Subdivision Approval Officer for the UEL. He is prepared to review an application for subdivision on a preliminary basis at any point in the approval process.
- » MOTI will require that UEL confirm zoning has been fully enacted prior to him signing the subdivision.
- » In order for the zoning to be enacted, UEL will require detailed design and bonding securities for the new Roads A & B in addition to other servicing related items. The review of design for Road A & Road B will fall to UEL.
- » The Block F team confirmed that no street lighting upgrades are currently proposed along University Blvd. although pedestrian scale lighting is proposed.
- » MOTI will review the proposed improvements that involve University Blvd. in particular the improved intersections at Road A (signalized intersection) and Road B (unsignalized intersection) and will issue separate Permits for the works and include bonding which will be held by MOTI, not UEL.
- » While MOTI has received a complete TIS from Bunt they have not provided any detailed review but have sought clarification questions to which the Block F team has responded.

8.8 CAC BLOCK F WORKING GROUP (CACWG)

CACWG (Meeting 1)

The Applicant including additional members of the project team met with the CACWG on March 3, 2014, to provide an update of the project as it was initially submitted and deemed to be a "complete" application. The purpose of this meeting was to share the vision of the project with the Working Group, to clarify issues and to respond to questions that were raised in the meeting. The CACWG subsequently issued their comments to the Applicant which included the following main issues:

- » The application is difficult to assess given the OCP is outdated
- » CACWG supports adjusting zoning to create more flexibility in the design approach. In particular CACWG supports the provision of a variety of building forms.
- » Many would like to see what a development under the MF-1 zoning would look like.
- » CACWG agrees many of the statements of philosophy and goals are agreeable but plan needs work to achieve these goals.
- » The goal of rezoning to achieve higher financial return is not acceptable unless the increase is modest and community gains a substantial component of the increase.
- » Any increase in density should conform to the OCP 20% of increase floor area as below market rental housing.
- » Tower heights should not exceed what is currently allowed in the UEL.
- » Lower buildings appear too bulky.
- » CACWG does not support 65% site coverage.
- » CACWG appreciates the continuity of trails in the application.
- » CACWG seeks further clarification on tenancy.
- » Suggests Applicant bring together some of the component community features to provide a "Community Heart"
- » Need more outdoor active recreation spaces.
- » CACWG supports the Wetlands and retention of mature trees.
- » CACWG would like to see one indoor facility for all residents of UEL.
- » Concerned about student oriented retail/restaurant facilities.
- » CACWG does not support the Hotel use.
- » Design Guidelines need more work to achieve goals.

CACWG (Meeting 2 and 3)

The Applicant including additional members of the project team and UEL and their advisors met with the CACWG on January 29, 2015 to provide an update of the project as considerable revisions had been undertaken after approximately 13 months of workshop meetings with UEL Administration. The purpose of this meeting was to share the contemplated revisions to the project with the Working Group on a draft basis, to clarify issues and to respond to questions.

A subsequent meeting with a UEL representative, the Applicant and the CACWFG occurred on February 17, 2015 and was intended to provide additional clarifications surrounding some of the design features.

The CACWG subsequently issued their comments to the Applicant on which included the following:

- » CACWG's main concerns are height and density (too high)
- » CACWG acknowledged many improvements to the development plans including:
 - Proposal for one single community building in the location proposed
 - Layout and flow of Open Space much better and active areas appreciated
 - Continuity of trails good
 - University Blvd. layering landscape concept and will provide better experience for those driving
 - Storm water management (bioswales) as part of University Blvd. landscaping is good
 - WG commends the replacement of the hotel use with a residential building
 - Commercial Village more likely to create a 'heart'
 - Townhouses along Acadia/University will help soften the streetscape and prominence of towers
 - Better adjustments to lower scale buildings at the south end
 - Building heights going in the right direction
 - Adjustment to additional density going in the right direction

- » CACWG would like further adjustments to building height with max. of 15 storeys
- » CACWG would like density decreased – the above height reduction would assist in achieving this
- » Community centre should be increased to 15,300 sq.ft.
- » Community centre parking a concern given seniors etc.
- » Possibly expand size of gym in the Community centre
- » CACWG would like further clarification on how the Village plaza would be programmed/used
- » CACWG looks forward to receipt of Design Guidelines, detailed development stats for each parcel
- » CACWG seeks clarification of the size of childcare facility as they feel 2,500 sq.ft. too small
- » CACWG expressed interest in the following issues as the plans become more detailed;
 - Working model would be helpful to understand the project
 - Outdoor street furniture particulars
 - Clarification of Community Centre use/operation in the first few years
 - Traffic patterns/traffic calming
 - Building height calculations
 - Operations of the rental housing
 - Commercial uses – outright and conditional
 - Parking as it relates to uses and provision of adequate parking
 - Noise mitigation of rooftop equipment
 - Are disabled units included?
 - Limitations of future rezonings
 - Breakdown of unit types
 - Provide landscape buffer between Liberta and future development

8.9 VANCOUVER SCHOOL BOARD

The Applicant has contacted the VSB to advise of the project status and to seek verification of the projected school age children estimate as outlined in the rezoning application. VSB has been following the project evolution and as recently as March 2015 received a project status update. VSB does not release their child yield rates publicly so they will be reviewing the application in detail once a formal referral from UEL is received. They have advised that for secondary school, children from Block F will attend the new University Hill Secondary School in Wesbrook however the Block F project has not currently been assigned a school catchment area yet for grades K to 8. While it would seem logical that children would attend Norma Rose Point School, VSB indicated that they will need to review their schools and the associated catchment areas. This additional analysis will be undertaken once a formal referral has been received from UEL.

8.10 UNIVERSITY OF BRITISH COLUMBIA

The applicants have met numerous times with senior staff at the University of British Columbia. Included were Campus & Community Planning, Sustainability and General Services. The first meeting was in January 2013 to describe the site planning options being considered and to obtain feedback from UBC on their plans and what they thought the issues were. A second meeting was held in July 2013 to show UBC the final version of the planning prior to making a formal application to UEL. A third meeting was held in November 2014 specifically to clarify the amount of future retail on the UBC campus.

9.0 RESPONSES TO PUBLIC AND RELEVANT AGENCIES

As stated in Section 1.2, the Project Team has considered the input of the public and has considered these in development of a final master plan as outlined in this submission. This responsibility is balanced with a concurrent responsibility to design a community that is best conceived for its future success as an extension of Area D, will be beneficial for those who will reside there as well as providing Musqueam the ability to become more economically sustainable.

Changes made in response to consultation efforts to date include:

1. The site of the 3.0 acre park has been located to best preserve the stand of mature trees on the site, one of the strongest requests made by the community. The area of the park has been expanded and incorporates and preserves an important wetlands area.
2. The principles and integrity of the current trail system through the site is maintained, again at the strong request of the community. The appearance of the trail system will be modified to fit into the new community, but the trail locations and connections to adjacent trails will be maintained.
3. Building heights have been reduced from a maximum of 22 stories to a maximum of 18 stories.
4. The overall density inclusive of the 20% below market housing has been reduced from the original application.
5. The hotel has been replaced with a rental residential building.
6. A new turnkey Community Amenity Building and Childcare Facility space located in the most prominent location on the site to serve all of UEL residents.
7. Open play and active green areas accessible to all have been incorporated. The amount of publically-accessible open space encompasses more than a third of the overall site.
8. A village plaza, creating an opportunity for a heart in the UEL community, has been incorporated. It will be a multiple use area allowing passage through and community events and outdoor gatherings within. The village is located to be closest to and most easily accessed by the overall UEL community. The plaza has been aligned to orient with one of the Pacific Spirit Park trailheads and is co-located with the Community Amenity Building.
9. A variety of housing types supporting a variety of types of residents, ages and incomes is incorporated, inclusive of market and below market rental.
10. Lower forms of development have been located next to the existing townhouse development (Block G), school and church. Taller buildings have been located adjacent to the mature trees and have been designed relative to the height of trees.
11. The amount of roadways on the site has been reduced and the roadways have been located to reduce impacts while allowing connectivity through the site.
12. The commercial village and rental buildings have been located close to the location of a planned rapid transit station and adjacent to a current major transit line.
13. Offsite servicing upgrades will be constructed to the benefit of the entire UEL community

1 Pre-Application Open Houses #1/#2/#3 Community Engagement/Input (Dec. 2012)

1



2

Meeting 2



3

Meeting 3



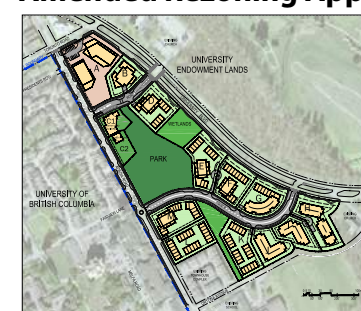
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Rezoning Application (Dec. 2013)



5

Amended Rezoning Application (April 2015)



10.0 IMPACT OF THE PROPOSED DEVELOPMENT

10.1 SERVICING AND INFRASTRUCTURE IMPROVEMENTS

The proposed development consists of a 22-acre parcel of land, Block F, bounded by Acadia Road to the west, University Boulevard to the east, Toronto Road to the north and private lots to the south. The site is planned to be divided into 13 parcels which will be developed over the next 10 to 12 years. The proposed development will be mostly residential consisting of a mixture of townhouses, high rise residential, and a community centre. A small portion of the development is planned for commercial occupancy.

The development of Block F and the resulting densification will require various improvements to the existing infrastructure in the area as well as new infrastructure to support the development.

10.1.1 Roads and Pathways

Two new road connections (Road A and Road B) are proposed between University Boulevard and Acadia Road through the site. These roads will be aligned in a dedicated road right-of-way to be ultimately owned by UEL. They will be designed to UEL standards, incorporating Canadian TAC standards and good engineering practices. The northern connection, Road A, will be built to a commercial standard with two 3.3 m travel lanes plus a separate right-turn lane at University Boulevard. On-street parking and new sidewalks with boulevards will also be provided. The southern connection, Road B, will be built to a residential standard with two 3.0 m travel lanes, on-street parking and new sidewalks with boulevards. Both roads will have 1.8 m and 2.3 m wide separated sidewalks, as well as connection pathways, and will enable pedestrian movement throughout the site. Signalized crosswalks will be included as part of the new fully-signalized intersection at University Boulevard and Road A and will allow pedestrians to safely cross for access to transit and facilities east of the site. The roads will have streetlights and native trees within the large landscaped boulevards. Curb articulations along Road A and Road B will act as traffic calming measures.

Many of the roads adjacent to the project site are proposed to be upgraded as part of this development. Full road construction is proposed for Acadia Road including road widening and a new sidewalk with landscaped boulevard on the east side, upgrades to the curb and sidewalk on the west side, and street-lighting and on-street parking on both sides. Half-road construction including a new curb, sidewalk and front and rear boulevards is proposed for the Toronto Road frontage, as well as a driveway access to the commercial area of the site. Upgrades to University Boulevard include left turn bays at Road A and Road B for access into the site and removal of the existing left turn bay at the south end of the site. The intersection of University Boulevard and Road A will include a fully-signalized intersection complete with pedestrian crosswalks. The University Boulevard frontage will be upgraded to include a meandering pedestrian path and a landscaped boulevard with

a rain garden. Geotechnical review of the existing road structures has been undertaken and will be relied upon during detailed design to determine the extent of road upgrades required to support the proposed increase in volume and usages.

Vehicular access within the individual building parcels will be designed to the British Columbia Building Code standards and good engineering practices. The roads will allow for fire access and safe vehicular and pedestrian movements. The detailed design will be carried out as part of the Development Permit / Building Permit process.

10.1.2 Sanitary System

To provide gravity sewer service for the proposed development, new sanitary mains will be required along Acadia Road, Road A, and Road B. Sanitary sewer mains will generally be 250mm with some sections of 200mm diameter on Road A and Road B. The proposed sanitary system will tie-in to the existing manhole just north of the intersection of Toronto Road and Acadia Road. Sanitary sewers within the dedicated road right-of-way and statutory right-of-ways would be designed to MMCD standards and would become part of UEL's infrastructure. Preliminary pipe sizing calculations are included in Technical Appendix H.

A downstream analysis of the sanitary sewer system conducted by Urban Systems on behalf of the UEL has determined that the proposed development will exceed the capacity of the downstream sanitary infrastructure and upgrades will be required. Recommended downstream upgrades include upgrading the existing sanitary sewers on Acadia Road between Wycliffe and McMaster Road, Acadia Road between Toronto Road and University Boulevard, and to redirect flows from the sanitary sewer on University Boulevard east of Allison Road.

Sanitary sewer upgrades would be phased to suit the proposed development. Phase 1 of the development will require the adjacent proposed sanitary sewers on Acadia Road and Road A. Downstream upgrades are not expected for Phase 1 of the development. Phase 2 of the development will require the adjacent proposed sanitary sewers on Acadia Road and Road B as well as the downstream upgrades as outlined above.

10.1.3 Storm System

The proposed development will be serviced with a gravity storm sewer system. A new 200mm storm sewer on Acadia Road between President's Road and Yalta Place will collect storm water from the existing catch basins that currently drain into Block F. Another 200mmØ storm sewer will be built on Acadia Road between Fairview Lane and north of Ortona Avenue to intercept the existing catch basin leads that currently drain into Block F. A new 300-375mm storm sewer will be required on Road A as well as a 250-450mm storm sewer along Road B, servicing the new roads and parcels. The

storm sewers will outlet into a proposed roadside bioswale along University Boulevard connecting them to the proposed constructed wetland near the centre of the site. The constructed wetland would be a landscape feature for the park and would detain flows from the development and release them at pre-development rates and volumes. See Section 10.1.4 below for further details on the proposed storm water management plan for the development. The existing 300mm culvert across University Boulevard is currently undersized and will be upgraded to a 600mm pipe as recommended by Urban Systems on behalf of the UEL. The storm sewers within the dedicated road right of ways and statutory right of ways are designed to MMCD standards and good engineering practices and will become part of UEL's infrastructure. Preliminary storm sewer calculations for the site plus a review of the storm water criteria and downstream conditions are included in Technical Appendix H.

Parcels H, I, and J, located at the south east corner of the site, currently discharge to an existing watercourse adjacent Ortona Road. The proposed drainage for these parcels will continue to connect to the existing watercourse however small on-site detention measures, such as constructed wetlands, will be required as part of the detailed design of the individual parcels to limit the discharge rate and volume to the pre-developed condition for those parcels.

Storm sewer upgrades would be phased to suit the proposed development. Phase 1 of the development will require the proposed storm sewers on Road A and the adjacent portions of Acadia Road and University Boulevard. Phase 2 of the development will require the proposed storm sewers Road B and the adjacent portions of Acadia Road and University Boulevard.

10.1.4 Stormwater Management

To mitigate the impact of the proposed development on the existing watershed, a preliminary storm water management plan has been developed to ensure the existing site hydrology is maintained. The goal of the stormwater management plan is to limit the storm water rate and volume of site runoff to that of the un-developed site to ensure there are no impacts to the downstream ecosystems in Pacific Spirit Park. Additionally, the plan incorporates measures to ensure the quality of the water leaving the site is as high as possible. Storm water design criteria from the UEL and DFO are included in the proposed plan. Preparation of a detailed stormwater management plan will be required as part of the detailed design to ensure the objectives are achieved.

A major implementation of the stormwater management plan is the proposed constructed wetland near the centre of the site. Site runoff will be conveyed via storm sewers and roadside bioswales to the constructed wetland. The constructed wetland will provide both detention and retention capacity in accordance with the design criteria. A flow control outlet will ensure that site runoff is limited to the release rates and volumes of the undeveloped site.

The extensive roadside bioswales will provide further opportunity for filtration and infiltration as well as peak flow attenuation. Furthermore, curb bulge rain gardens will be included in the road design to improve water quality of runoff from paved surfaces.

10.1.5 Water

The proposed development will be serviced from an extension of the existing UEL water system. Water services for the development include three new connections to the UEL water system along Toronto Road and University Boulevard. The new mains would run beneath Acadia Road from Toronto Road to Road B, and east-west on Road A and Road B to the existing 660mmØ main on University Boulevard. The new mains would become part of UEL's infrastructure. Block F is located just inside the UEL and borders UBC-owned land along the Acadia Road frontage. The existing 150-300mmØ water mains along the west side of Acadia Road are owned and operated by UBC and cannot be connected to for servicing the proposed development. Pressure booster pumps may be required in individual parcels to provide adequate water pressure.

There is an existing 400mm water main bisecting the proposed development from University Boulevard to service the existing UBC water system on Acadia Road. The existing main will need to be removed and a new connection provided from the proposed water system. Coordination between UEL, UBC and the developer will be required for the timing and location of the reconnection of the existing water main.

Water system upgrades would be phased to suit the proposed development. Phase 1 of the development will require the proposed water mains on Road A and the adjacent portions of Acadia Road. Phase 2 of the development will require the proposed water mains on Road B and the adjacent portions of Acadia Road.

10.1.6 Hydro Electric, Telephone, Gas

Hydro, telephone, and gas utilities are planned for the site. The utility companies have been contacted and are currently working with the team reviewing the requirements for the development. The proposed utilities will run underground along the boulevard areas of the proposed roads. The services vaults and junction boxes will be placed to accommodate the boulevard features such as access driveways, landscape trees and sidewalks.

The existing overhead hydro lines on Acadia Road will need to be undergrounded as part of this development. This will require coordination between BC Hydro and UBC as the utility poles on the east side of Acadia Road serve sites south of Block F and UBC. There is also an existing gas main bisecting the site within the proposed Road A right-of-way. The existing gas main will either be retained in its current location or modified as part of the proposed gas main design as part of the proposed development.

10.1.7 Waste Management

The new developments on Block F will not place any net incremental demand on UEL's waste management services. Currently, all strata and commercial developments in UEL provide their own waste collection system. Similarly, developments in Block F will rely on their strata and/or property management company to contract their own waste collection, including garbage pick-up, recycling, and organics and food scraps. Yard waste is not anticipated to occur as the landscape companies retained by the individual strata properties would be responsible for yard waste and landscape removal.

10.2 ECONOMIC IMPACT ANALYSIS

Property Tax Value Creation

Block F represents a significant expansion of the local tax base. When the project is complete, the total property tax revenue generated by the development is estimated to be almost \$2.5 million per annum, an increase of \$2.3 million over the 2013 tax assessment value. The portion of the projected property tax revenue collected directly by the University Endowment Lands (UEL) per annum is estimated to be \$742,000: \$714,000 from the residential component of the development and \$28,000 from the commercial uses.

As the UEL’s levy for the property in 2013 was \$68,000, the revenue generated by the proposed development at full build-out will increase the University Endowment Lands’ levy by more than \$673,000.

These figures represent the total build-out of the project (estimated build out of 10 to 12 years) and are based on the 2013 tax mill rates. The 2013, instead of 2014, tax mill rates are used because they were indicated by UEL to be a more typical annual rate.

As is typical with most municipalities/electoral districts, taxes generally increase over time so the above figures could be considered conservative as the mill rates are assumed constant over time in order to provide a conservative estimate of tax increases for UEL.

Annual Block F Property Tax Revenue	
2013 Taxes to UEL	\$ 67,918
At Build Out	
Residential	\$ 714,068
Business	\$ 27,767
Total	\$ 741,835
Net Increase	\$ 673,917
*based on 2013 tax mill rates	

Table 10.2.1 Property Tax Creation

Block F Property Tax Revenue									
	General UEL	School	BC Assessment	Municipal Finance	Metro Vancouver Area A	Translink	Police Tax	Total	Total
2013 Taxes	\$ 67,918	\$ 109,423	\$ 4,859	\$ 16	\$ 8,339	\$ 25,902	\$ 7,017	\$ 223,474	\$ 223,474
At Build Out									
Residential	\$ 714,068	\$ 1,150,447	\$ 51,083	\$ 167	\$ 87,678	\$272,329	\$ 73,777	\$ 2,349,549	\$ 2,349,549
Business	\$ 27,767	\$ 82,406	\$ 2,407	\$ 7	\$ 3,409	\$ 19,790	\$ 2,868	\$ 138,654	\$ 138,654
Future Tax	\$ 741,835	\$ 1,232,854	\$ 53,490	\$ 174	\$ 91,087	\$ 292,118	\$ 76,645	\$ 2,488,203	\$ 2,488,203
Net Increase	\$ 673,917	\$ 1,123,431	\$ 48,631	\$ 158	\$ 82,748	\$ 266,216	\$ 69,628	\$ 2,264,729	\$ 2,264,729
*based on 2013 tax mill rates									

Table 10.2.2 Property Tax Comparison

Job Creation

The Block F project will act as an employment generator both throughout the development period and during ongoing project operations. In developing the retail, commercial and recreational components of the development, it is estimated that 1,900 jobs in diverse employment sectors including construction, professional services and sales/marketing will be created annually. With an estimated development horizon of approximately 10 to 12 years, this equates to 19,000 to 22,800 person years of total employment.

Once the commercial phases of the development and the community facilities are complete, permanent jobs will result from ongoing operations. It is estimated that the Commercial Village component of Block F will generate 75 full-time equivalent (FTE) jobs. In addition, operation of the amenity space and the childcare facility is estimated to generate an additional 12 to 15 FTE jobs. In total, 87 to 90 full-time permanent jobs offering employment in a range of sectors will be created by Block F. These jobs are important considerations for Musqueam as they may provide valuable jobs and training for Musqueam members as well as other members of the community.

Job Creation	
Annual Jobs During Construction	1,900
Permanent Jobs	
Commercial Village	75
Childcare Facility	8
Community Centre	4
Total	87

Table 10.2.3 Job Creation

10.3 SCHOOLS

Future Youth Population at Block F, UEL

Projecting school enrollment levels is challenging, given the many variables that are at play. The generally-accepted method for school planners is to look at the enrollment from the last school year, and the number of children in the community who are school-age (kindergarten) and about to enter the school system. That number of potential students is then increased or decreased based on factors such as private school enrollment ratios, new residential construction, out of catchment transfers, and so on. In this exercise, school planners try to determine approximately how many children, and in turn public school students, are likely to be on Block F in newly-built residences.

Calculating population and future student numbers based on dwelling units is accomplished using yield rates. Yield rates can either be for the gross population, for school-aged population, or for public school students.

In order to compare the results directly between methodologies, we utilized 1122 apartments and 105 ground-oriented multi-family units (townhouses) at neighbourhood build-out which is projected to be 10 to 12 years after project initiation. The first building occupancy is anticipated to be in spring 2017.

Census Data

The following table shows the estimated child yields using census data of population in occupied private dwellings by age and by dwelling type for Metro Vancouver as a whole.

Based on an estimated number of units at build-out (1,227), Block F will have approximately 294 school-age children, with an additional 105 just entering school-age. This number is reduced by 11% because the data provided is for occupied dwellings and approximately 10%-11% of dwellings in this area are anticipated to be unoccupied. Therefore, there could be 243 school-aged children living in a built-out Block F. Using the ratios of a low of 60% or a high of 80% of school-aged children enrolling in public school (the rest would attend private school or alternative); the future student enrollment would be between 146 and 195 students at full build-out.

There are a number of factors that contribute to calculating the future population of a project; which in this case focuses on the child yields which can assist in informing school age child population for the Vancouver School Board.

Child Age	Apartment, ≥ 6 Storeys	Apartment, < 6 storey and townhouse	Built Out Student Enrollment
0 - 4	0.08	0.17	105
5 - 9	0.06	0.18	92
10 - 14	0.07	0.2	98
15 - 18	0.07	0.2	104
Total 0 - 19			399
Total 5 - 19			294
Minus unoccupied units		-11%	243
VSB Enrollment		@ 60%	146
		@ 80%	195

Vancouver School Board (VSB) has been made aware of the Block F proposal so as to incorporate the prospective students from this development into their enrollment projections, particularly given the new Norma Rose Point School immediately southeast of the site. It is also believed that VSB will apply their own factors for children enrollment projections given the many precedents within the City of Vancouver for new mixed use developments. VSB elects to review development applications independently from the applicant so it is anticipated that VSB will provide UEL with their own projections of children based on their experience once a formal refferal from UEL has been received

10.4 RECREATION AMENITIES

The issue of what impact the new population of Block F will have on the existing amenities offered either by UEL directly or other jurisdictions is difficult to gauge given there are currently very few amenities owned and operated by UEL. As a comparison, UBC assesses a ratio of 0.15 sm per new resident when they look to provide community centre space. Based on this same ratio and assuming the upper range of future population, the Block F project would be required to provide approximately 375 sm (4,036 sf) of indoor community recreation space.

With the projected minimum 15,000 sf Community Amenity Building contemplated for the use of all UEL residents, this more than provides three times the warranted demand of the Block F project. In addition to this facility, individual development partners could incorporate a range of amenities within specific projects available to specific owners of the residential units within the project.

A wide range of parks and open spaces are also anticipated to be built and available to new and existing residents, most notable the 3.0 acre dedicated park. Similar to other existing residents of UEL and UBC, Pacific Spirit Park, UBC and Norma Rose Point School are additional amenities which could be utilized off-hours by the general public. VSB has indicated that there will be a variety of rental opportunities at Norma Rose Point School which could include multi-purpose meeting rooms and gym space subject to the regular school activities which would be given priority. It is anticipated that the parks and open spaces in Block F will offer the community a wide range of flexible passive and active play areas including:

- The Community Amenity Building and associated outdoor amenities;
- Community lawn/flexible play fields;
- Forest meadow;
- Forest Park;
- Constructed wetland;
- Community Green;
- Iva Mann Trail;
- University Boulevard Trail with rain gardens; and
- Ortona Trail

It is also anticipated that any new residents would be offered the same opportunities to participate in City of Vancouver recreation facilities, UBC facilities all on a pay as you go basis as these facilities are generally open to all members of the public. The City of Vancouver Library facilities are also open to members of other jurisdictions on a pay basis.

Neighbourhood Amenities

1. Trails and Access to Nature were the highest valued amenities that were identified in the planning process through the public engagement. Trails and access to nature are featured amenities within and surrounding this project and we anticipate this will be a marketing and valued attraction for future residents. The adjacent and designed trail connections to Pacific Spirit Park have been carefully addressed and fully integrated and offer significant trail connections to over 750 hectares of forest trails.
2. Children’s Play Areas. There are two (2) children’s play areas proposed on the project site, one informal play area in the forest area and one in close proximity to the Community Amenity Building. There are two (2) other children’s play area located within a 10-minute walk at the East Neighbourhood Park and Jim Everett Park as well as a third at Norma Rose Point School.
3. Exercise and Fitness Opportunities. An informal outdoor exercise circuit is proposed in the forest area on site. As well, the green lawn and Village Square can be utilized for Tai Chi and outdoor exercise / yoga programs. The Community Amenity building will provide a gym and / or fitness centre. We also believe that there could be a number of additional exercise and gym amenity rooms built within the development site parcels.
4. Indoor Basketball / Sports Courts. With the adjacent Norma Rose Point School within a 2 - 5 minute walk, indoor amenities of sports courts after school hours, for intermural activities are available by rental through the Vancouver School Board. An outdoor sport court is proposed near the Community Amenity Building. The Community Amenity building will also allow for court play (volleyball, badminton, basketball).
5. Outdoor Sports Courts and Informal Fields. With the adjacent Norma Rose Point School within a 2 - 5 minute walk, informal access during non school times of the informal fields and outdoor basketball courts are available for informal use, which is typical in most Vancouver neighbourhoods. Flexible fields will also be available in the central park area of Block F.
6. Golf. Access to Golf is within a 5-minute walk across University Boulevard at the University Golf Club, which is a public golf club. This amenity will provide a quality golf and social amenity for future residents as well as existing UBC reisidents.

10.5 CONTAMINATED SITE REGULATIONS

The Ministry of Environment sets out requirements for when a development proposal triggers the requirements for submitting a Site Profile under the Environmental Management Act (Contaminated Sites Regulation). Generally the Site Profile clarifies the previous industrial activities that have occurred on the site, which in some cases may have led to contamination and would result in environmental testing and analysis. The requirement to submit a Site Profile is determined by the presence of any uses that have occurred on the site as set out under Schedule 2 of the Contaminated Sites Regulation and include chemical industries and activities, metal processing and smelting, mining milling or related industries, petroleum and natural gas drilling, production and processing, transportation industries, and wood, pulp and paper products and related industries.

The Block F site has never been developed as the only prior use was open space/park. As such a Site Profile is not required to be submitted under the Contaminated Sites Regulation.

10.6 ENVIRONMENTAL SETBACKS

BACKGROUND

The proposed reconstructed wetlands project has been reviewed by Fisheries and Oceans Canada and they determined that the “project is not likely to result in a contravention of the habitat protection provisions of the Fisheries Act.” This review confirmed that the proposed stormwater-management measures, including the upgrade to the culvert under University Boulevard; do not pose a risk to downstream fish habitats.

The proposed upgrade to stormwater management of the site was also reviewed as a notification under Section 9 of the Water Act by the provincial Ministry of Forests, Lands and Natural Resource Operations, who determined that the project could proceed “subject to the proposed works being consistent with the objectives, standards and the planning, design and operational best practices outlined in our Standards and Best Practices for Instream Works.”

The proposed development of the Block F Parcel includes construction activity within the riparian area of proposed stormwater management infrastructure (a constructed wetland) that will be connected via surface flow to Salish Creek, a known fish-bearing watercourse. As such, environmental setbacks will be required to protect the fish habitat values of the constructed wetland. Please note that fish are not present at or near the site.

The proposed development will take place in and adjacent to the existing drainage ditch at the east end of the Block F parcel. As the existing drainage ditch is not connected to fish habitat, there are no requirements for environmental setbacks.

PROPOSED RIPARIAN SETBACKS

The proposed average riparian setback width of 10.4m (from the high-water mark) for the constructed wetland is presented in PWL Partnership Drawing Figure 10.6 on the following page.

DISCUSSION

The riparian area, alongside natural and man-made aquatic areas, is intended to protect aquatic habitat. To test whether the proposed setback discussed above will adequately protect aquatic habitat, the functions of a leave strip as outlined in the Department of Fisheries and Oceans’ (DFO) “Land Development Guidelines” can be reviewed:

- » Large organic debris source: mature trees in the riparian zone are required to provide an ongoing source of large organic debris that provides stability, cover from predators, and habitat for young fish. It is our opinion that a tree/shrub setback zone, averaging 10.4m in width, for the constructed wetland will provide adequate stability. Cover and habitat for juvenile fish are not relevant here, because there are no fish present at the site;
- » Food source: the vegetation of the riparian corridor is habitat for terrestrial insects that, in turn, are a major food source for rearing juvenile fish. Leaves and other organic matter falling from proposed native riparian vegetation to be planted at the site (see below) are also an important food source for aquatic insects. The vegetation in the proposed setback (averaging 10.4m in width for the constructed wetland), adequately protects this source of food for fish populations downstream of the site;
- » Regulation of water temperature: summer water temperatures cannot exceed approximately 20°C without causing stress and eventually mortality in downstream salmonids. One of the most important functions of riparian vegetation is to provide shade to keep water temperatures as cool as possible. It is our opinion that the riparian shrubs/trees to be included in our proposed setback area will provide adequate shade; and
- » Filtering of runoff: this final function of leave strips is perhaps one of the most important, yet one of the most difficult to quantify and assess. The riparian vegetation forms a physical barrier to surface runoff, slowing down flow and trapping sediment and pollutants carried by the flow. This prevents these materials from flowing into the watercourses and the fish habitat. There will be no direct runoff of dirty stormwater from future site development to the constructed wetland. The combination of our proposed average setback width discussed above, and plans for treatment of dirty stormwater appear to be sufficient to achieve this filtering objective.
- » It is the opinion of Pottinger Gaherty that the fish habitat functions of the proposed constructed wetland are adequately protected with the proposed setback and implementation of native riparian restoration, as described below.

PROPOSED NATIVE RIPARIAN RESTORATION

Restoration concepts to be implemented in the riparian areas of the constructed wetland will be based on natural successional strategies and involve a two-phased approach. The first phase of planting will include a simple, high-density planting strategy dominated by young, fast-growing, native primary woody plant species, including:

- » Red alder (*Alnus rubra*);
- » Black cottonwood (*Populus balsamifera*);
- » Red-osier dogwood (*Cornus stolonifera*);
- » Willow (*Salix* sp.); and
- » Bracken fern (*Pteridium aquilinum*).

The second phase of planting will occur after the primary woody plant community has successfully established (i.e., roughly three growing seasons). This phase will supplement the pioneering woody species with pioneering coniferous trees to assist the successional process, and begin to establish long-term conditions less favourable for some unwanted invasive species. Tree species to be included in the second phase of planting will include:

- » Douglas-fir (*Pseudotsuga menziesii*);
- » Western redcedar (*Thuja plicata*);
- » Western hemlock (*Tsuga heterophylla*); and
- » Sitka spruce (*Picea sitchensis*).

10.7 OTHER ENVIRONMENTAL ISSUES

SPECIES AT RISK

Although there is some potential for species at risk (SAR) to occur on the Block F parcel, based on the types of species likely to occur (i.e., small mammals, amphibians, birds and plants), we do not feel that further species-specific studies are warranted based on the following rationale:

- » Potential impacts of the Block F development on environmental values, including SAR, have been partially mitigated through site design, including the preservation of high-value forest habitat and proposed construction of functional wetland habitat. The environmental assessment took a habitat-based approach and identified these habitats as having the greatest value and potential for providing habitat to SAR;
- » Potential impacts on environmental values, including SAR, will be further mitigated through the implementation of the Best Management Practices (BMPs) proposed in PGL’s Overview Environmental Assessment for the project. For example, if clearing occurs within the breeding bird window, a nest survey will be completed prior to clearing activities. Similarly, if construction occurs when there is potential for

amphibians to be inhabiting the existing wetland, then an amphibian salvage and relocation plan will be implemented. These measures take a precautionary approach to development to mitigate potential impacts to all environmental values that occur, or could potentially occur onsite, including impacts to SAR. Furthermore, project development will take a phased approach which will allow BMPs to be implemented and monitored more effectively on smaller portions of the site. Environmental monitoring will be carried out on each parcel as it's developed.

- » The results of further studies may be inconclusive and are not likely to change the type of mitigation or BMPs suggested for the project. For example, even if SAR are not detected through targeted surveys, there is still some potential that they may occur on the Block F parcel (i.e., the results of surveys indicate that either species are present or they are not detected, and one can never be certain that a species is absent if suitable habitat is available). Furthermore, there is also potential for small mammals, birds and amphibians to move into the site after targeted surveys are completed. Considering the latter, further studies will not likely change the type of mitigation suggested for the project which already considers the potential for SAR to occur onsite; and
- » Potential impacts to environmental values, including SAR, largely depend on the timing of construction (e.g., clearing within the breeding bird window could impact potentially occurring bird SAR), therefore effective mitigation of potential impacts to environmental values will be closely linked to construction timing. In addition, all site works will be monitored by a qualified environmental professional who will have the ability to halt construction and implement additional situation or species-specific mitigation measures should the need arise (i.e., if a species is in immediate danger of injury or mortality. This pertains to all wildlife protected under the Wildlife Act).

Based on the rationale provided above we feel that potential impacts of the Block F development on potentially occurring SAR will be effectively mitigated and that further species-specific studies are not necessary at this point in time. The approach outlined above is consistent with the development of Greenfield sites in the Lower Mainland.

CONSTRUCTED WETLAND

- » The current plans for the constructed wetland include a pond liner. This liner, in combination with relatively impervious clay soils will ensure that there should always be water in the wetland area, except under extreme weather conditions (as is the case with the current wetland area).

WILDLIFE CORRIDORS

- » Wildlife corridors remaining in the central portion of the site will be augmented by the rebuilding of the University Boulevard frontage with native plantings which will provide habitat and a corridor for species looking to move through the Block F site to the Pacific Spirit Park to the southeast of the site.
- » Improvements to the Ortona Road ROW/ trail will allow for wildlife to access the Block F site and leave via the improved Ortona Rd trail.
- » The retention and enhancement of the trail system on the Block F site will also provide a wildlife corridor allowing easy passage for wildlife through the site.



Figure 10.6 Proposed Riparian Setbacks



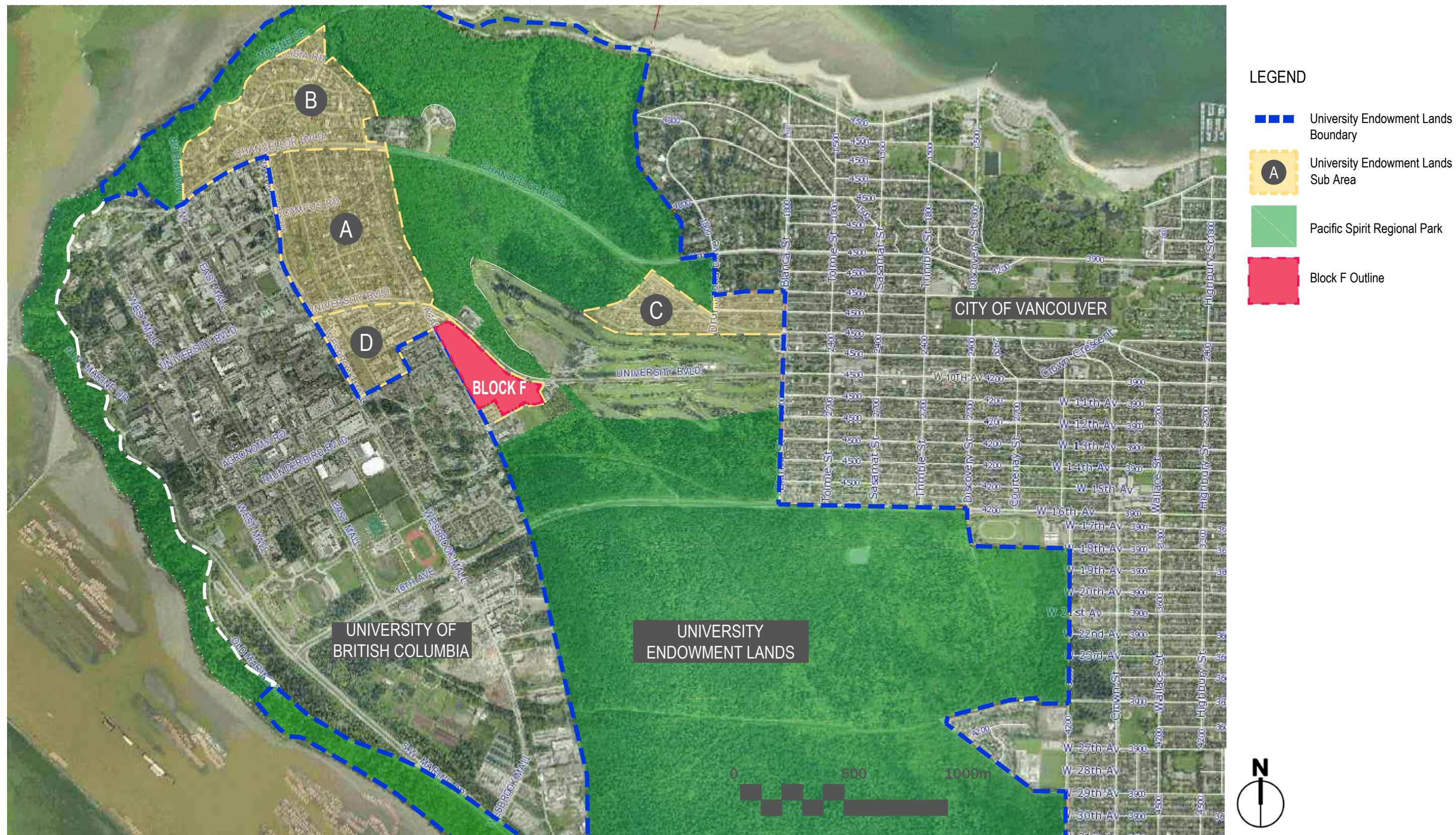
Figure 11.1.1 Context Plan

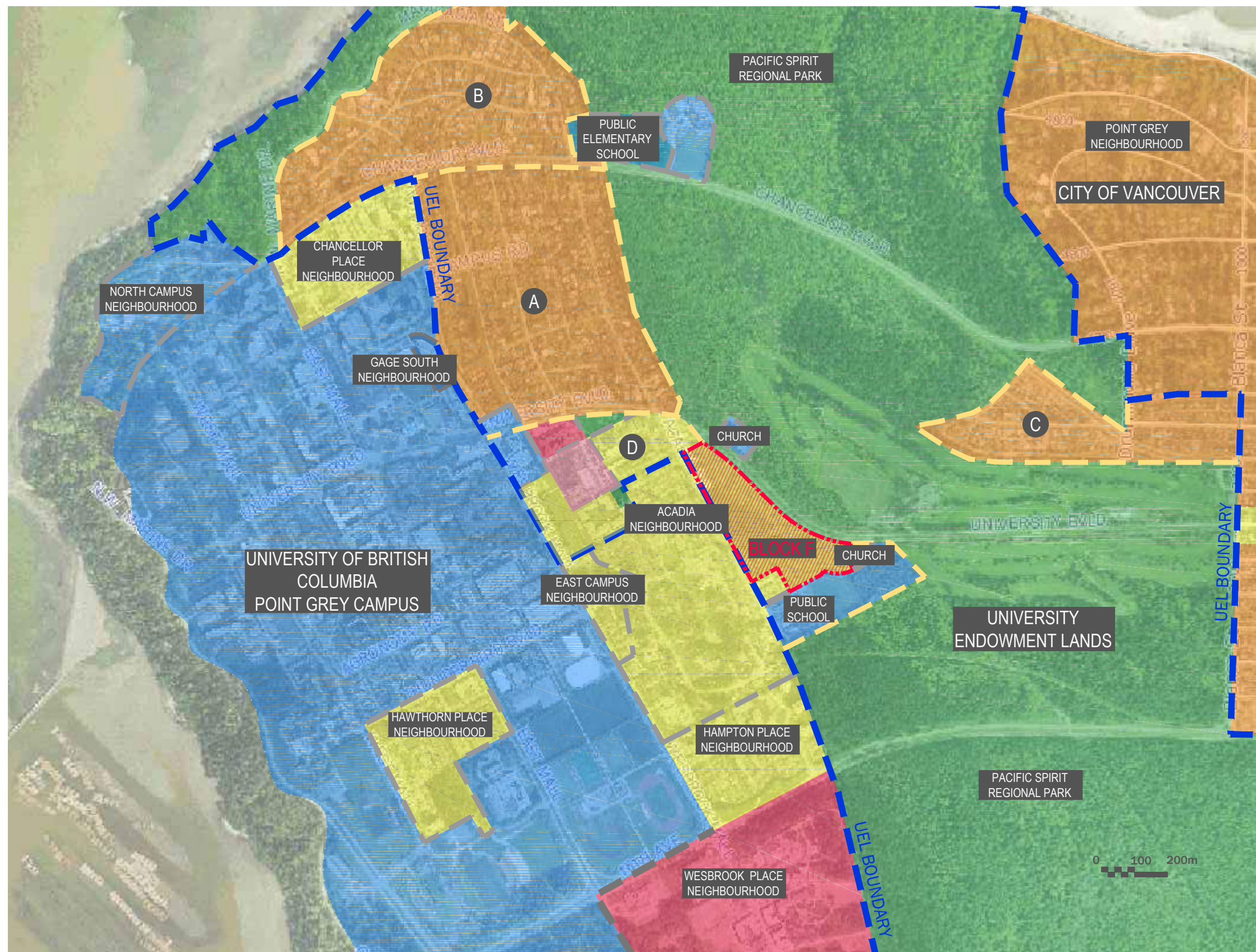


Figure 11.1.2 Land Use Plan



Figure 11.1.3 Vehicular Circulation Plan





LEGEND

- University Endowment Lands Boundary
- University Endowment Lands Sub Area
- Pacific Spirit Regional Park
- Block F Outline
- Single Family Residential
- Multi Family Residential (Low Rise)
- Multi Family Residential (High Rise)
- Commercial / Mixed Use
- Institutional
- Green Space



Social Connections - Community Scale

LEGEND

- Site
 - UEL Boundary
 - Forest Character Open Space Parks
 - Parks (source:UBC Campus Map)
 - Golf Course
 - Sports Fields (source:UBC Campus Map)
 - Recreation Centres etc. (source:UBC Campus Map)
 - Beaches (source:Google Map)
 - Public Schools (source:UBC Campus Map)
 - Churches
- Walking Distance Radii
- 10min
- 5min

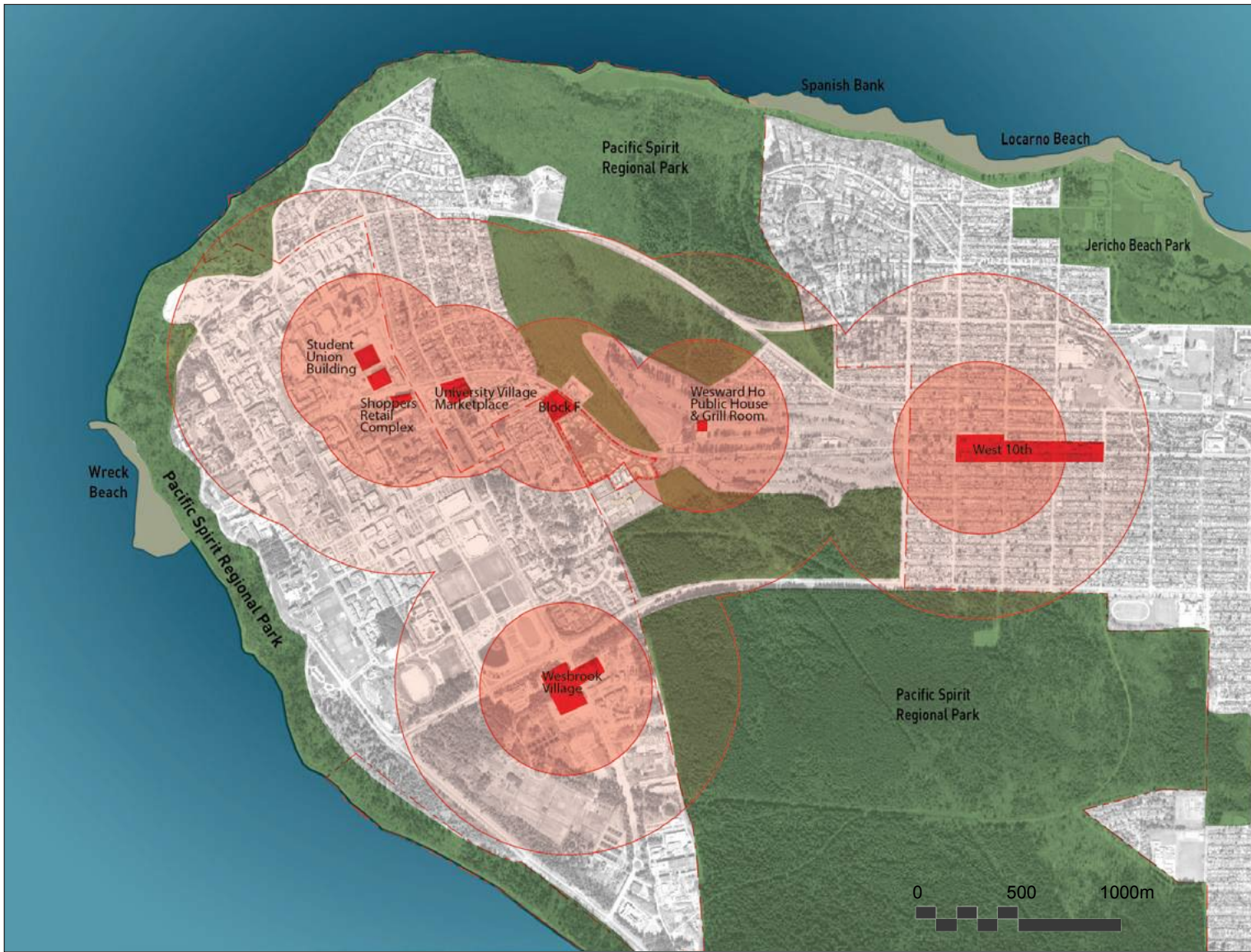


Social Connections - Neighbourhood Scale

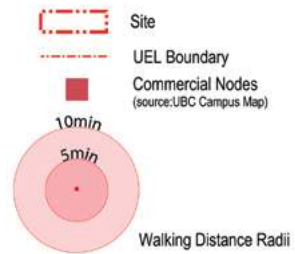
LEGEND

- Site
 - UEL Boundary
 - Forest Character Open Space Parks
 - Parks (source:UBC Campus Map)
 - Public Schools (source:UBC Campus Map)
 - Churches
- Walking Distance Radius
- 5min





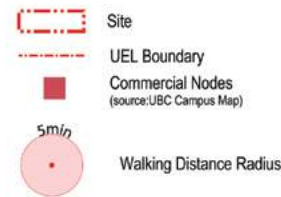
LEGEND



Economic Connections - Community Scale



LEGEND



Economic Connections - Neighbourhood Scale

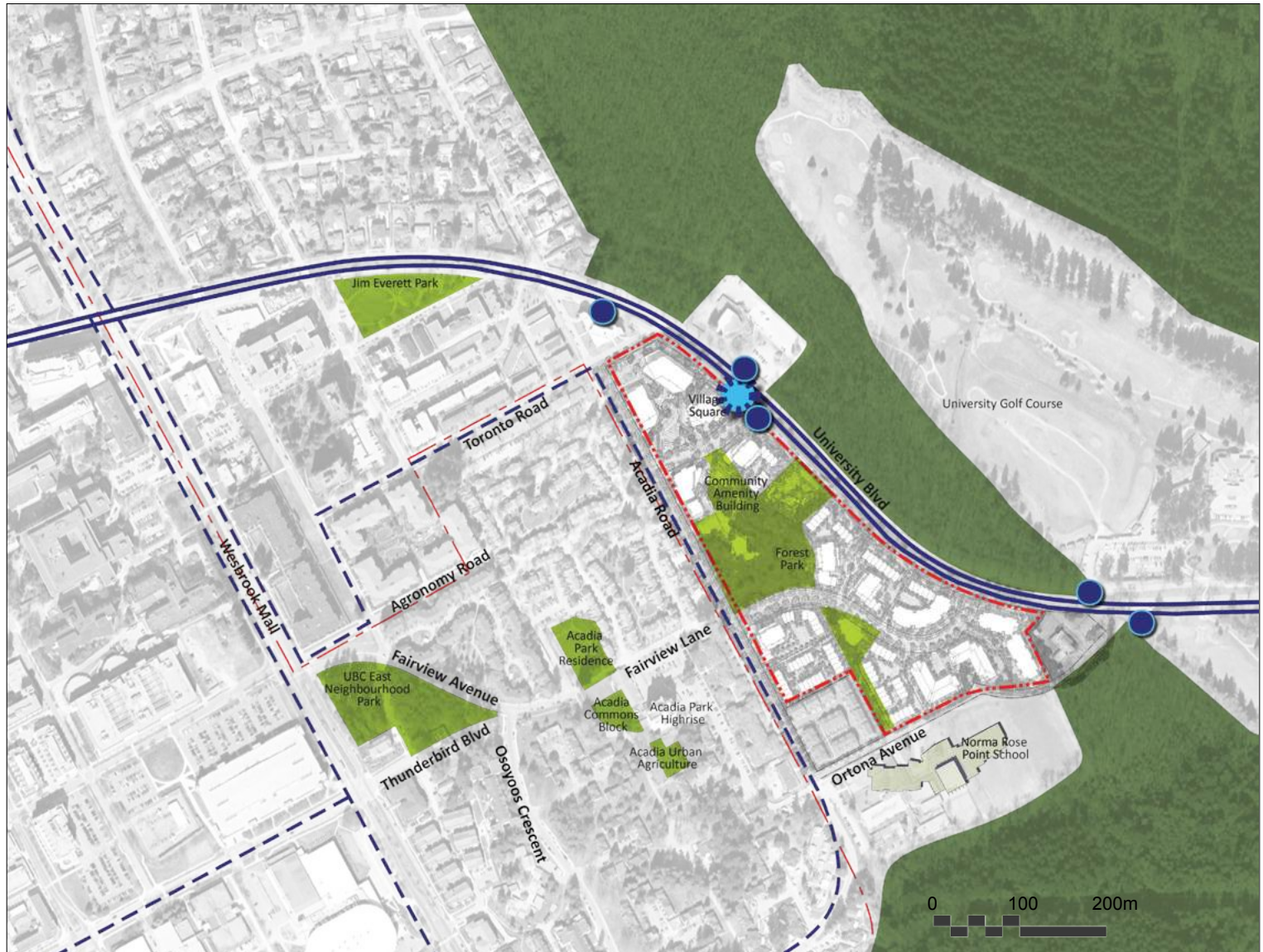




LEGEND

- Site
- UEL Boundary
- Bus B-Line (source:Translink)
- Bus Line and Shuttle Buses (source:Translink)
- Proposed Rapid Transit Stop (source:Translink)
- UBC Bus Loop
- Bus Stop (within 1000m Radius)

Public Transportation - Community Scale



LEGEND

- Site
- UEL Boundary
- Bus B-Line (source:Translink)
- Bus Line and Shuttle Buses (source:Translink)
- Proposed Rapid Transit Stop (source:Translink)
- UBC Bus Loop
- Bus Stop (within 1000m Radius)

Public Transportation - Neighbourhood Scale

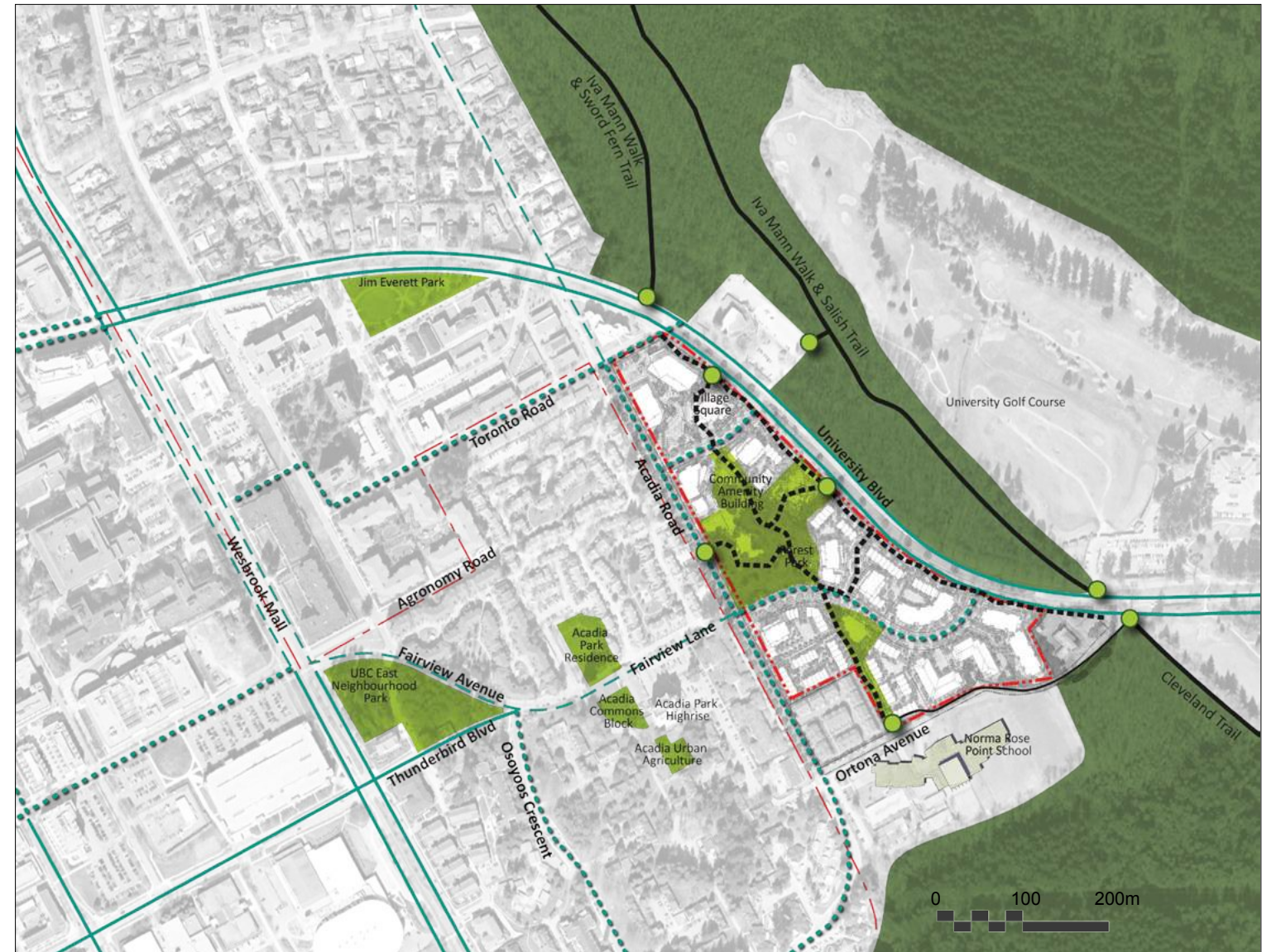




LEGEND

- Site
- UEL Boundary
- On-Street Designated Bicycle Route (source: Translink)
- Pacific Spirit Regional Trails (source: Pacific Spirit Regional Park Map)
- Informal Trail
- On Site Trail (proposed)

Trails and Bikes Connections - Community Scale



LEGEND

- Site
- UEL Boundary
- On-Street Designated Bicycle Route (source: Translink)
- On-Street Shared Bicycle Route
- Informal Bicycle Route (source: Translink)
- Pacific Spirit Regional Trails (source: Pacific Spirit Regional Park Map)
- Informal Trail
- On Site Trail (proposed)
- Trail Heads

Trails and Bikes Connections - Neighbourhood Scale





LEGEND

- Site
- UEL Boundary
- Watershed
- Creeks

Hydrology - Community Scale



LEGEND

- Site
- UEL Boundary
- Watershed
- Creeks
- - - Covered Section of Creek (Approximate Location)
- - - Wetlands
- Surface Flow

Hydrology - Neighbourhood Scale



Neighbourhood Sustainable Design Principles

Sustainability: The Musqueam cultural values are founded on stewardship of the natural world and they have walked the talk of sustainability for a long, long time.

Planning Principles:

1. Protect and enhance open spaces and community connections to Pacific Spirit Park.
2. Live sustainably. Musqueam's cultural values are founded on stewardship of the natural world, living in harmony with their surroundings and all living creatures.
3. Foster community respect, building relationships and neighbourhood values.
4. Provide a variety of housing for the mixed community that responds to a diversity of needs.
5. Provide a range of amenities and services within the community.
6. Engage in responsible development that is economically sound, environmentally progressive and socially respectful.
7. Build a community heart for UEL.
8. Create a neighbourhood focus with a centre of activity and services for both future residents of Block F and the UEL.

Green Infrastructure and Buildings:

1. Situate majority of parking in below grade parking structures, in order to maximize open space and minimize impervious paving.
2. Minimize site area dedicated to vehicular traffic in order to maximize open space and green space.
3. Create "green streets" with treed boulevards, landscape bump-outs and integrated rainwater management facilities that provide a high quality pedestrian experience.
4. Explore the use of pervious paving within on-street parking areas to minimize surface runoff and sediment transport.
5. Minimize private open space on development parcels, favouring functional and publicly accessible open space for community use.
6. Design green and sustainable buildings to a LEED Gold standard.
7. Design buildings and open space areas to be water efficient.
8. Adopt rainwater management best practices for the site design and urban fabric to:
 - Minimize impervious paving and maximize absorbent landscapes that can aid in maintaining flow rates off-site.
 - Maintain pre-development off-site flow rates at the University Boulevard culvert to minimize impact to off-site wetlands and habitat.
 - Build a constructed wetland in the vicinity of the existing lowland area. The wetland will connect to rainwater management facilities from the new neighbourhood, treating on-site rainwater, creating habitat and a showcase gateway feature.
9. Incorporate solar orientation factors into the site design.
10. Utilize durable and natural building materials, where appropriate.
11. Design building mechanical systems to minimize noise impacts to neighbours.
12. Provide bike facilities, car coop and access to public transit to reduce car dependency.
13. Locate Village Heart and retail use by public transit.

Ideas:

"COMMUNITY WITHIN A PARK"

"FOREST EXTENDING THROUGH THE COMMUNITY"

"INTEGRATION OF THE NATURAL ENVIRONMENT THROUGH THE NEW BUILT ENVIRONMENT"

"CREATION OF A TRUE VILLAGE HEART"



General Site:

1. Organize the project development form around a village heart that provides connections to, and services for, the whole neighbourhood and UEL community.
2. Create a new trail network in the community reinstating the Sword Fern and Fairview trails, connecting the neighbourhood in a north-south and east-west direction to its surrounding context of Pacific Spirit Park and the greater UEL.
3. Explore options to integrate the new community into the surrounding community with emphasis on pedestrian and cycling routes, while also providing vehicular linkages.
4. Create a walkable community through a quality public realm and provide opportunities to walk and cycle to preferred destinations.
5. Ensure development respects frontages on University Boulevard, Toronto and Acadia Road.
6. Enhance open space areas by proposing natural vegetation to attract songbirds and their habitat.
7. Maintain, to the degree possible, the mature stand of evergreen trees in a large contiguous assembly.
8. Provide safe bicycle routes and storage.

Neighbourhood Pattern and Design:

1. Site design respects natural features such as forest and wetlands:
 - Minimize site area dedicated to vehicular traffic in order to maximize open space and green space.
2. Site design respects and connects to surrounding neighbourhood:
 - Provide strong connections to the neighbourhood school/Childcare Facility.
 - Respect pedestrian, vehicular, and cycling network.
 - Encourage Future Transit Station at the Village Square.
3. Site design provides a mixed use compact community:
 - Create a neighbourhood focus / heart and a centre of activity and services for both future residents of Block F and the UEL community.
 - Provide short-term at-grade and on-street parking that supports retail businesses but situate majority of parking in below grade parking structures.
 - Provide a variety of housing types for a variety of needs.
4. Site design preserves connections to Pacific Spirit Park and retains existing features such as trails:
 - Improve the quality and sense of safety on the new on-site trails while matching the experience of the off-site trails.
 - Maintain on-site trailheads in close proximity to existing off-site trailheads.
5. Site Design creates an accessible open space approach to meet the diverse needs of the present and future community.



1 View North through Village Square



2 View South through Community Green along Road B



3 View Northwest along University Blvd



5 View North through Park towards Community Centre



4 View North along Acadia Road



6 View West through Wetlands



2015 PROPOSAL

LEGEND

Primary Trails

-  Sword Fern Trail / Iva Mann Trail
-  Fairview Trail
-  University Boulevard Trail
-  Ortona Trail

Secondary Trails

-  University Boulevard Trail (Secondary)
-  Public right of way over development parcel
-  On site trail

Tertiary Trails

-  Nature trail
-  On street shared bicycle route
-  On street designated bicycle route (source: Translink)
-  Informal bicycle route (source: Translink)
-  Trail heads
-  Raised crosswalk





PUBLIC REALM OPPORTUNITIES

LEGEND

1 Village Square / Public Plaza

- Urban plaza character
- Sword Fern/Iva Mann trail crossing
- Cafe seating and retail spill out areas
- Farmer's Markets
- Community celebrations
- Public art
- Art walk

2 Community Amenity Building Parcels

- Outdoor covered areas
- Outdoor day care area
- Informal gathering
- Young children's playground

3 Forest Park

- Integrated adventure / nature play areas for a variety of age groups
- Flexible open free play areas and play fields
- Multi-use trails
- Fitness circuit
- Seasonal outdoor movie night
- Public art
- Dog walking
- Trail hiking
- Outdoor community gathering space / Outdoor education
- Bird watching
- Iva Mann Trail with lighting
- Community celebration
- Open flexible green space
- Picnic areas

4 Wetland

- Viewing platforms
- Boardwalk
- Educational signage
- Public art
- Outdoor education
- Casual cycling
- Trail hiking
- Bird watching
- Seating

5 Community Green

- Flexible open space / lawn space
- Outdoor tai chi or yoga space
- Outdoor frisbee or catch
- Seating around the perimeter with associated planting areas
- Lighting
- Public art
- Trail connections

6 Greenways & Easement

- Walking and running
- Casual cycling
- Dog walking
- Trail hiking
- Seating

7 University Boulevard Linear Park

- Multiuse trails: walking, running, cycling
- Flexible open spaces/lawns
- Bridges over bioswale
- Birdwatching at wetland
- Seating and lighting

8 Ortona Trail (Off Site)

- Iva Mann Trail connection to Pacific Spirit Park
- Lighted walkway
- Seating
- Cut Throat Creek viewing

1 Forest Park

The Forest Park is centrally located in the new Block F community. It includes a significant area of mature evergreen trees with many measuring up to heights between 40 to 50m tall with a few reaching 60m tall. The park has frontages on both University Boulevard and Acadia Road, as well as Roads A and B, allowing it to be visually and physically accessible to the surrounding community.

A mix of open understory areas and retained vegetation will allow for a series of experiences and activities in addition to the ecological functions the forest provides.



4 Village Square

The Village Square is located at the north corner of the site and is framed by University Boulevard, Road A, Acadia and Toronto Road providing a high visibility and easily accessed location for the proposed retail services. Public transit and cycling routes are immediately adjacent.

Primarily a hard surfaced area with large forest character planters and integrated seating with various edges to promote daily use and activation it will have a strong relationship to the Community Amenity Building and the Forest Park through adjacencies and public realm finishes. Space for outdoor seating and retail spill out will be provided. The Sword Fern trail will connect from the Forest Park through the area and link to the public transit stop on University Boulevard.

Underground parking will be provided to meet the majority of the parking needs however a small surface parking for short-term needs is also included at the corner of Toronto and Acadia Road. Adjacent on street parking will further support the short term parking needs so vital to retail success.



6 University Boulevard Linear Park

This linear park extends from Toronto Road in the north to south of Road B along the frontage of University Boulevard. A combination of area from the road right-of-way and a public access right-of-way on the development parcels, the 12m wide park will include a significant bioswale with naturalized wetland areas, trails, mixed forest planting areas and open lawn with sunny exposure. Adjacent residential units will front the park creating a sense of engagement and safety for the park. A full suite of site furniture including benches and lighting will be provided. This park will connect with Sword Fern and Fairview trails ensuring a close integration with the surrounding open spaces and the community.

2 Constructed Wetland

The constructed wetland will manage the majority of surface rainwater runoff directed there via bioswales from other areas of the site. As such the water will have received a high level of treatment prior to, resulting in higher water qualities and improved habitat values. It will be designed in a naturalized form to complement the west coast forest theme and thus visually connect to the Forest Park and Pacific Spirit Park across the street. A Community Trail Head at the intersection of the University Boulevard Trail and Fairview Trail will be an entry point to the community for pedestrians and cyclists. A set of bridge structures are proposed to bring people into the Forest Park over the water and crossing the islands to promote a connection with the land and water. A crushed stone "beach" is proposed on the south side to afford views over the wetland from the park side.



3 Community Amenity Building Parcels

The open space around the Community Amenity Building will be designed as an uninterrupted continuation of the Forest Park. The new Block F trail system will bring people to the building from the park and surrounding area. Public realm amenities will be focused on community related activities and the close proximity to the retail area. A great lawn area and children's play area will further connect the building to the public open space of the park and Village Square.



5 Community Green

Located in the southern part of the site the Community Green offers a different park and open space experience than the Forest Park. Primarily a sunny open lawn surrounded by new trees and vegetation buffers it is bounded on two sides by townhouse residential units. The Sword Fern trail crosses the park on the west providing a connection to the Forest Park and beyond to the Ortona Trail and the elementary school.



7 Ortona Trail

The Ortona Trail will be fully contained within the off-site Ortona Road SROW. It will be an extension of the Block F trail network with similar finishes and site furniture. An important riparian area related to the Cut Throat Creek will be enhanced and preserved. It will connect to University Boulevard on the north and the Pacific Spirit Park trail heads in that area. A new organization of the existing parking is considered to resolve potential pedestrian and cycling conflicts with the vehicles.

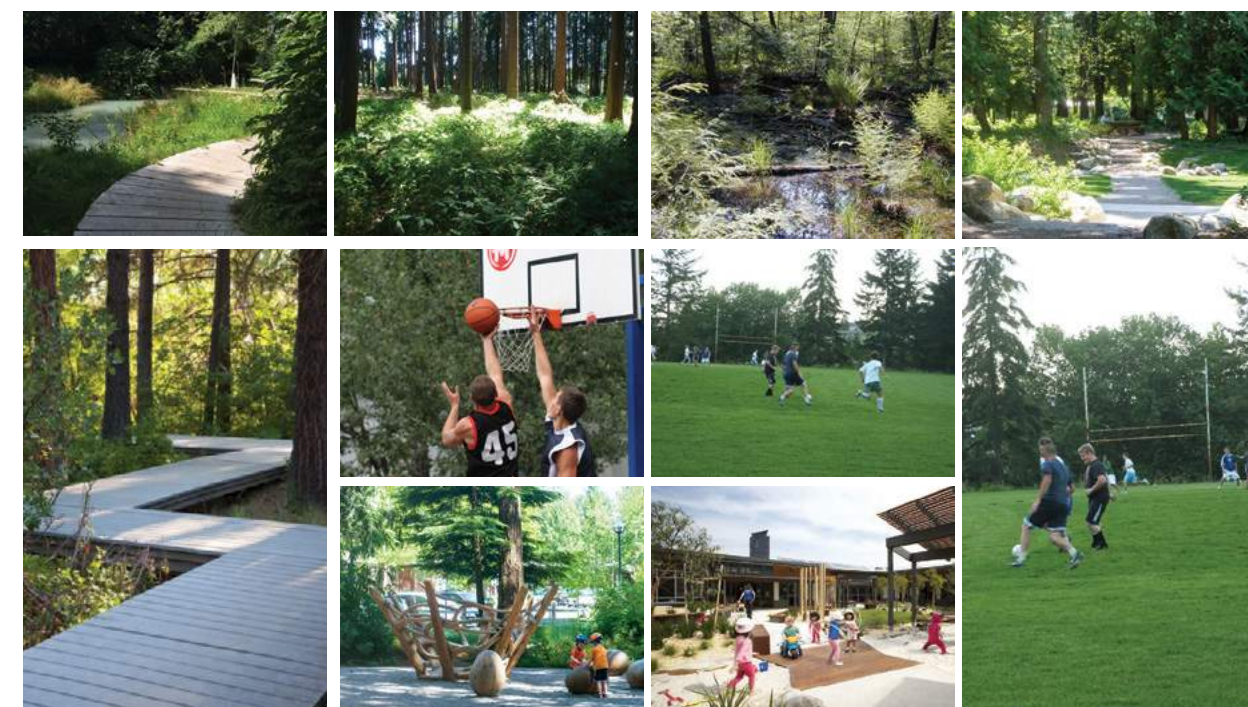
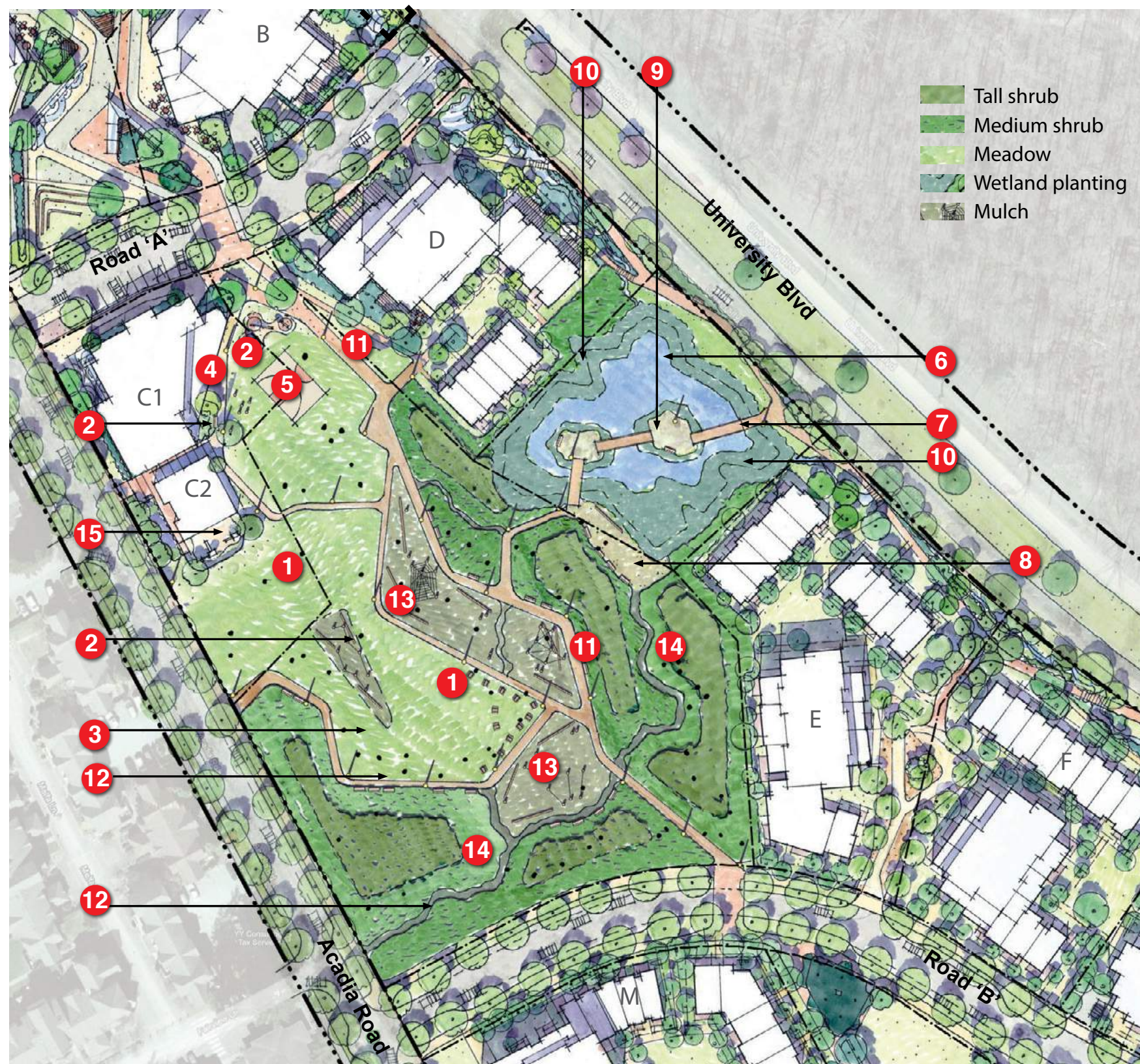




LEGEND

- 1 Public plaza
- 2 Seating and raised planters
- 3 Event lawn
- 4 Cafe seating
- 5 Surface parking
- 6 Residential accessible roof areas
- 7 Proposed bus stop
- 8 Parallel street parking
- 9 Perpendicular parking
- 10 Raised cross walk
- 11 Enhanced width sidewalk
- 12 Parkade driveway

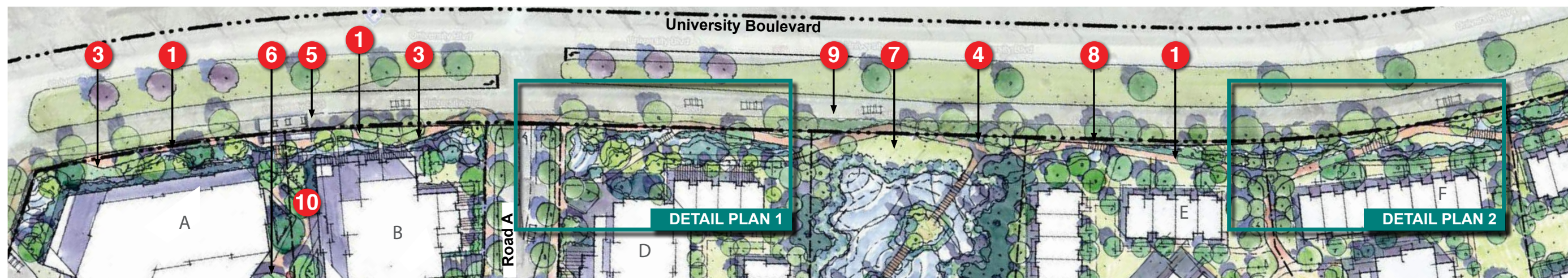




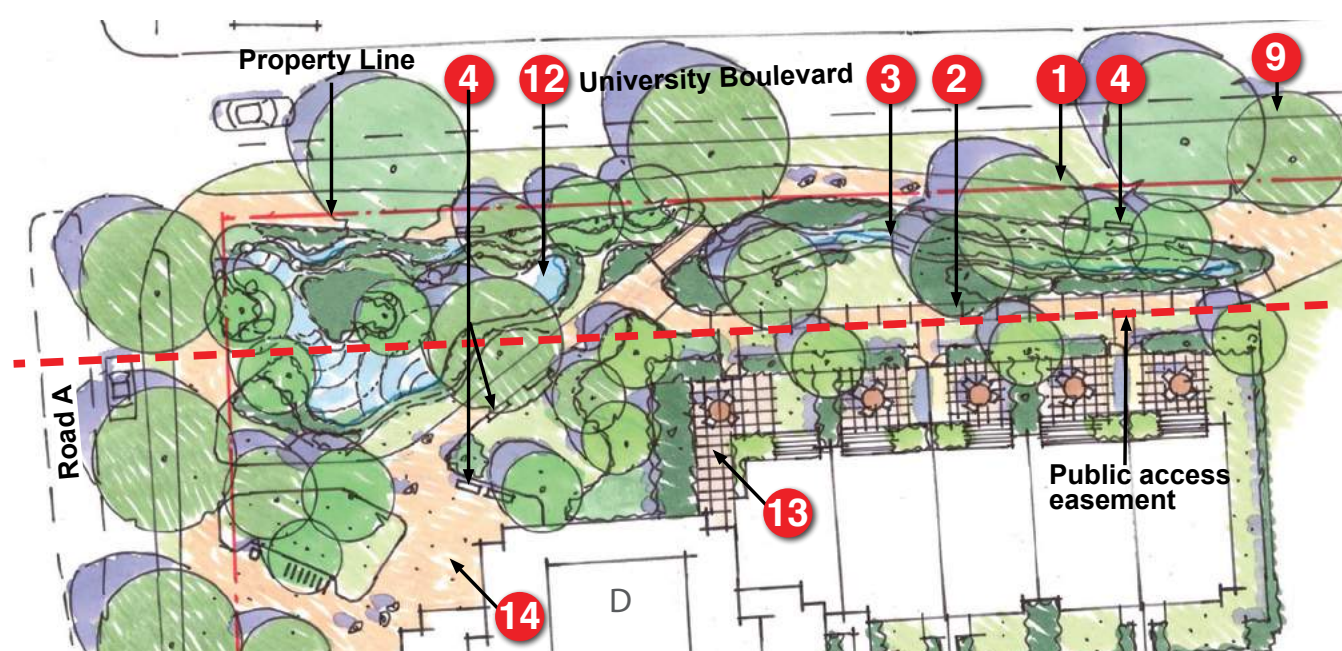


LEGEND

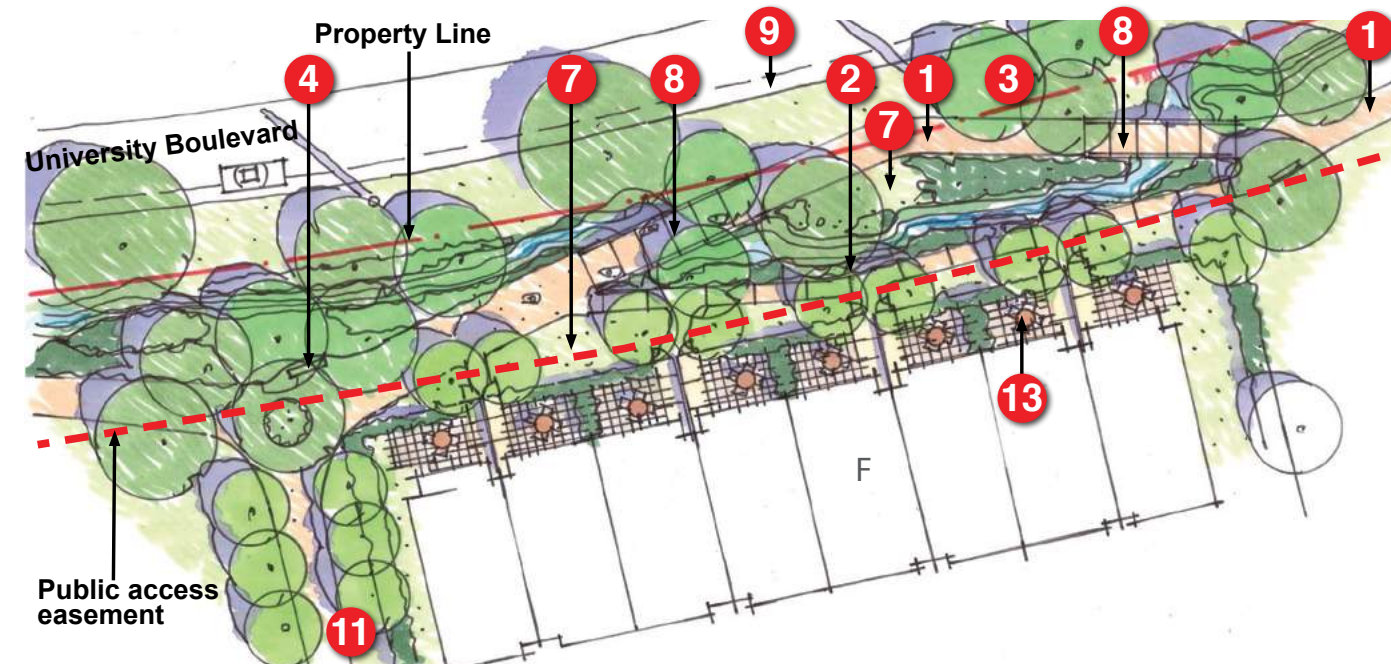
- 1 Lawn /flexible Space
- 2 Seating
- 3 All weather sport fields (on VSB grounds)
- 4 Continuous sidewalk at driveways
- 5 Parallel on-street parking
- 6 Raised pedestrian trail crossing
- 7 Sword Fern / Iva Mann Trail
- 8 Ortona Trail
- 9 Multi-use trail
- 10 Community connection / public access
- 11 Riparian buffer and Cut Throat Park
- 12 University Boulevard Linear Park



DETAIL PLAN 1



DETAIL PLAN 2



LEGEND

- | | | |
|-------------------|--|---|
| 1 Primary trail | 6 Retail patios | 11 Connections into Block F from University Boulevard |
| 2 Secondary trail | 7 Lawn | 12 Naturalized water feature |
| 3 Rainwater swale | 8 Bridge / Boardwalk | 13 Private patios with gates |
| 4 Seating area | 9 Bike lane | 14 Tower Entry Plaza |
| 5 Bus stop | 10 Pedestrian access to Village Square from bus stop | |



Dockside Green Development



Boardwalk Crossing Over Bioswale



Publicly Accessible Open Space

1	Forest Park	3.10 ac (1.25 ha)
2	Community Amenity Building Parcels (incl. approx. 0.24 ac of building area)	0.90 ac (0.36 ha)
3	Wetland	0.70 ac (0.28 ha)
4	University Boulevard Linear Park	1.57 ac (0.64 ha)
5	Village Square	1.16 ac (0.47 ha)
6	Community Green	0.45 ac (0.18 ha)
7	Public Access Easements	0.15 ac (0.06 ha)

SUBTOTAL 8.03 ac (3.25 ha)

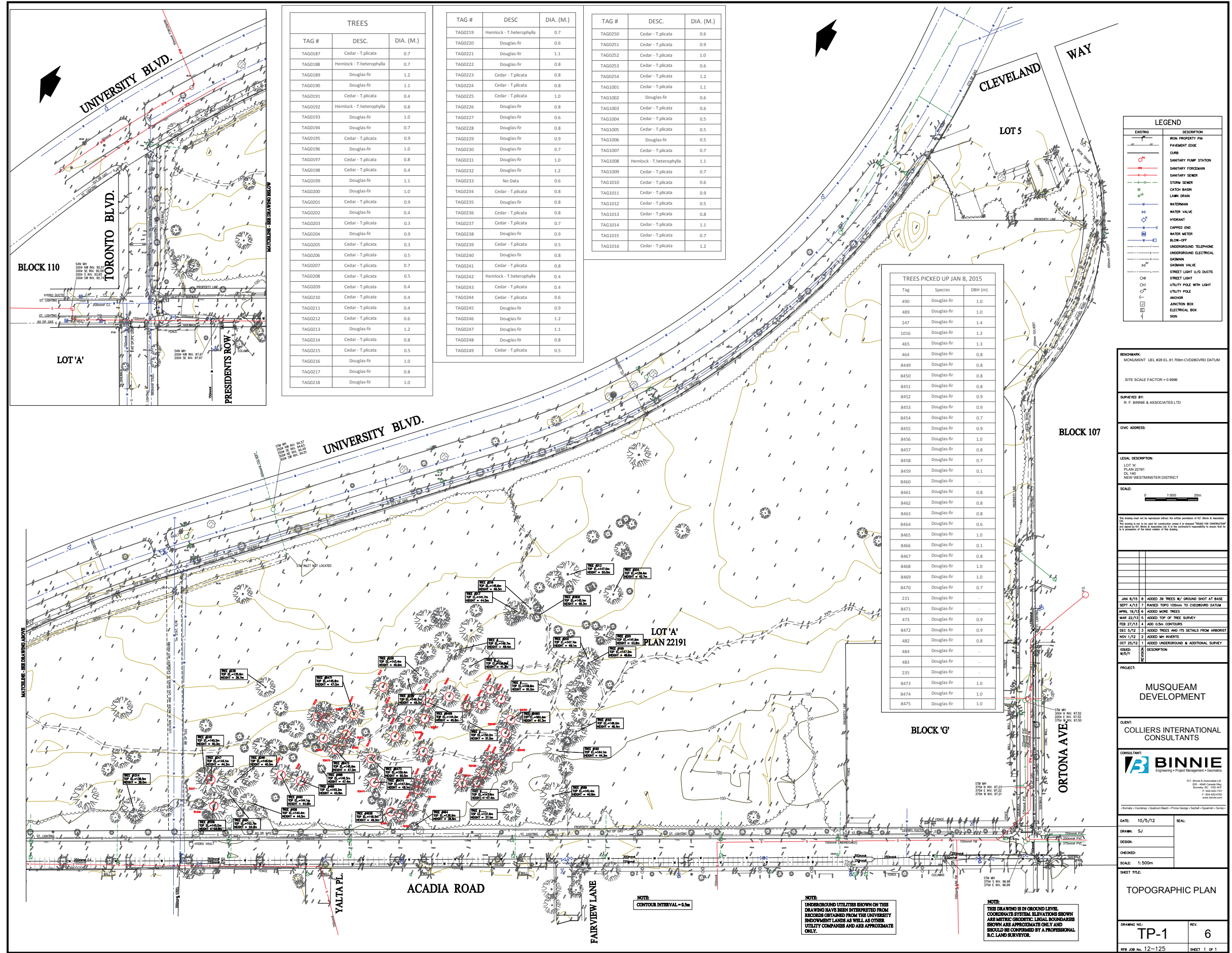
8	Enhanced Street Open Space ¹ (Road A and B)	1.10 ac (0.45 ha)
9	Ortona Trail ² (Off site)	0.17 ac (0.07 ha)

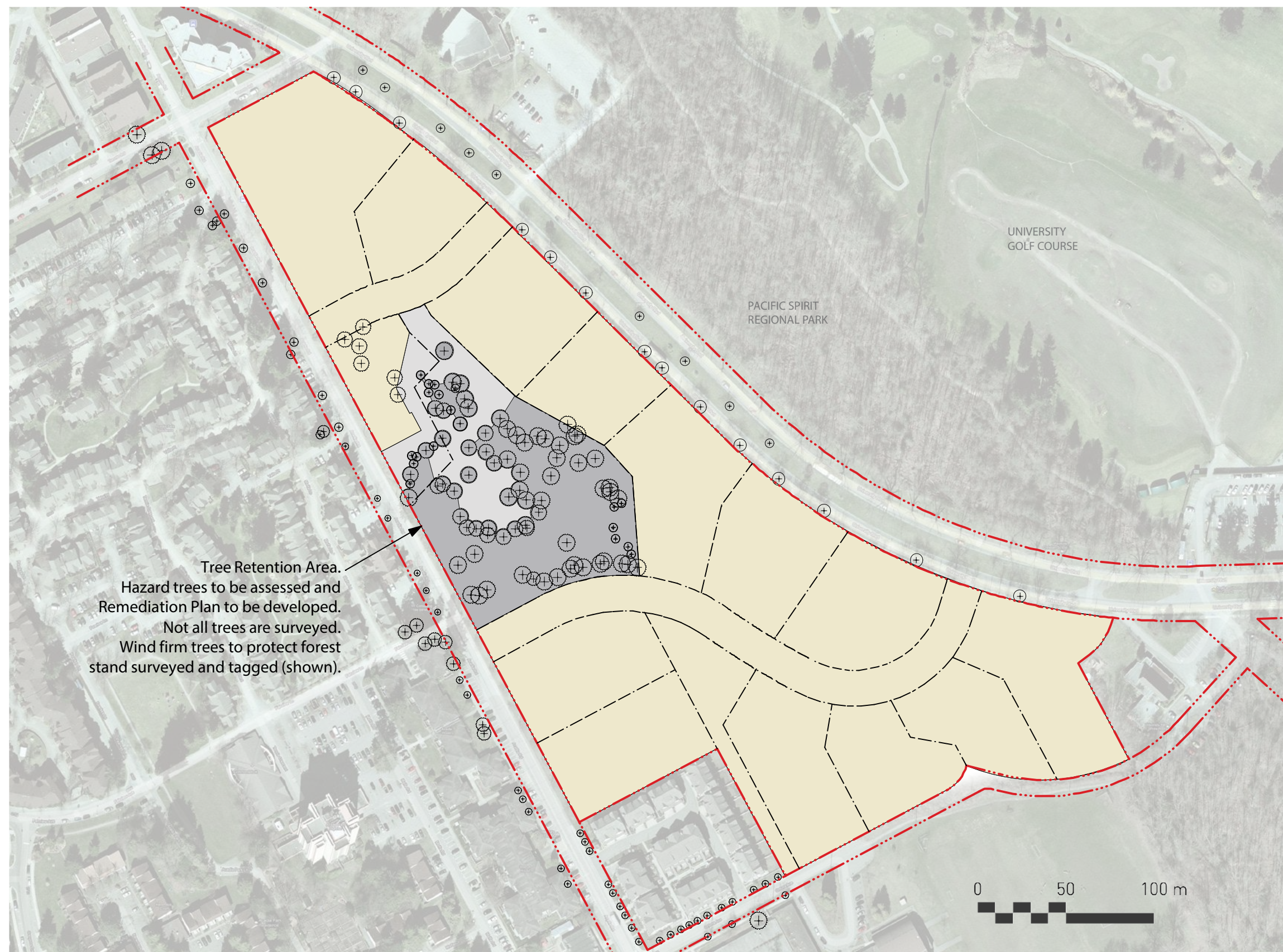
TOTAL PUBLICLY ACCESSIBLE OPEN SPACE 9.30 ac (3.78 ha)

Public Access Route and Improvements Provided by the Block F Project includes:

¹Enhanced Street Open Space through curvilinear neighbourhood streets with a treed boulevard and naturalized landscaping that connects residents to walking trails and parks.

²New Ortona Trail connection (off site) from the Sword Fern/Iva Mann Trail and Norma Rose Point School to Pacific Spirit Park trail heads at University Boulevard





LEGEND

-  Existing evergreen trees to remain (surveyed)
-  Existing deciduous trees to remain
-  Tree retention area
-  Tree thinning area
-  Remove all deciduous and evergreen trees and understory in this area due to development footprints

Habitats

We seek to strengthen the community’s connection with nature and foster a sense of stewardship of the land by integrating wildlife habitat into the community. We hope that through daily exposure residents will value the landscape and the animals and birds that inhabit it and take steps to ensure its vibrancy and success in their neighbourhood.

1 Wetland Habitat

The constructed wetlands and bioswales will provide wetland habitat within the open space systems of the site. Our goal is to improve the habitat value through a diversity of plants suited to the riparian conditions and through the design of the ponds.

These will be located throughout the community and may also be provided on the development sites.

An enhancement area adjacent to the Cut Throat Creek at the Ortona Avenue Right-of-Way will improve the habitat areas on site as well as off-site.

Consideration of the specific and desirable species of amphibians and other riparian creatures and off-site fish habitat will help guide the design of the wetlands.

2 Forest Habitat

The forest stand provides habitat for a variety of species within the large mature evergreen trees, snags standing in the forest, as well as in the forest litter, fallen trees and the understory plants.

The retained forest stand is adjacent to a proposed wetland. It helps to buffer and support the adjacent wetland and working together they form a significant and valuable habitat area.

The retained forest and the proposed vegetation buffers will function as a movement corridor for wildlife ensuring habitat connectivity with the off-site habitat areas.

3 Bird Habitat

The site will continue to offer high value habitat to the many species of birds that are known to be in the area. Plant species that enhance the bird habitat will be proposed in the Parks and Open Spaces.

Habitat areas including mature trees and understory planting areas will be provided.

We will look for opportunities to encourage habitat creation on the development sites through the development of design guidelines.

Bird Species	Seasonal use, * indicates likely breeding
Mallard	year round
Bald Eagle	Winter, spring
Cooper's Hawk	Year round
Sharp-shinned Hawk	Year round
Red-tailed Hawk	Year round
Glaucous-winged Gull	Year round
Band Tailed Pigeon	Year round, rare
Barred Owl	Year round
Anna's Hummingbird	Year round*
Rufous Hummingbird	Spring, summer*
Red Breasted Sapsucker	Year round*
Downy Woodpecker	Year round*
Hairy Woodpecker	Year round*
Northern Flicker	Year round*
Pileated Woodpecker	Year round*
Five-sided Flycatcher	Spring, summer, rare
Western Wood-Peeve	Spring, summer, rare
Willow Flycatcher	Spring, summer
Pacific-slope Flycatcher	Spring, summer*
Hutton's Vireo	Year round*

Warbling Vireo	Spring, summer*
Stellar's Jay	Fall, winter
Northwestern Crow	Year round*
Common Raven	Year round
Tree Swallow	Spring, summer*
Violet-green Swallow	Spring, summer*
Barn Swallow	Spring, summer*
Black-capped Chickadee	Year round*
Chestnut-backed Chickadee	Year round*
Bushlitt	Year round*
Red-breasted Nuthatch	Year round*
Brown Creeper	Year round*
Bewick's Wren	Year round*
Pacific Wren	Year round*
Golden-crowned Kinglet	Year round*
Ruby-crowned Kinglet	Fall, winter, spring
Swainson's Thrush	Spring, summer*
Hermit Thrush	Fall, winter, spring
American Robin	Year round*
Varied Thrush	Fall, winter, spring
European Starling	Year round
Cedar Waxwing	Spring, summer, fall*
Orange-crowned Warbler	Spring, summer*

Yellow Warbler	Spring, summer*
Yellow-rumped Warbler	Year round*
Black-throated Gray Warbler	Spring, summer*
Townsend's Warbler	Spring, summer*
Wilson's Warbler	Spring, summer*
Western Tanager	Spring, fall, rare
Spotted Towhee	Year round*
Fox Sparrow	Fall, winter, spring
Song Sparrow	Year round*
White-crowned Sparrow	Year round
Golden-crowned Sparrow	Fall, winter, spring
Dark-eyed Junco	Year round*
Black-headed Grosbeak	Spring, fall, rare
Brown-headed Cowbird	Spring, summer*
Purple Finch	Year round*
House Finch	Year round*
Red Crossbill	Winter, rare
Common Redpoll	Winter, rare
Pine Siskin	Winter, spring
American Goldfinch	Year round*

The seasonal use column indicates which birds winter, migrate through or reside year round. In addition the * indicates which birds are likely to nest and raise young within Block F.

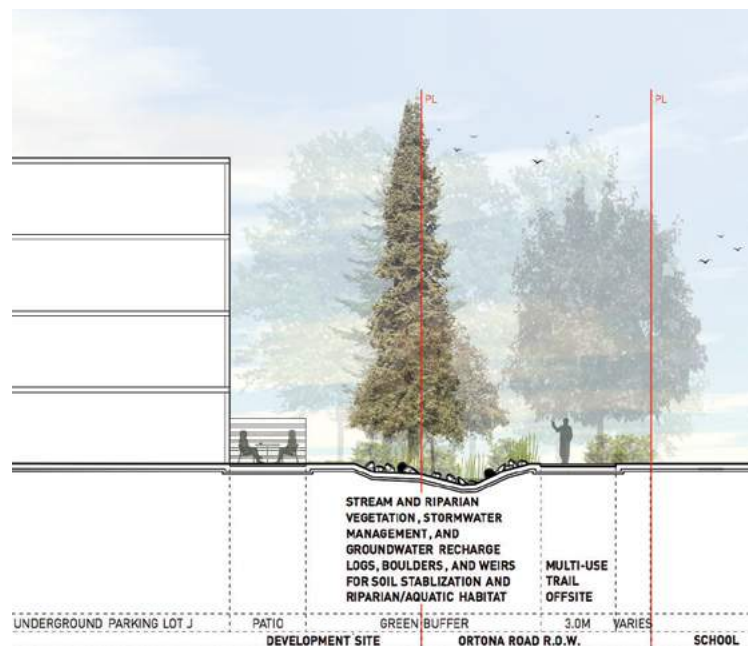


Bird Species

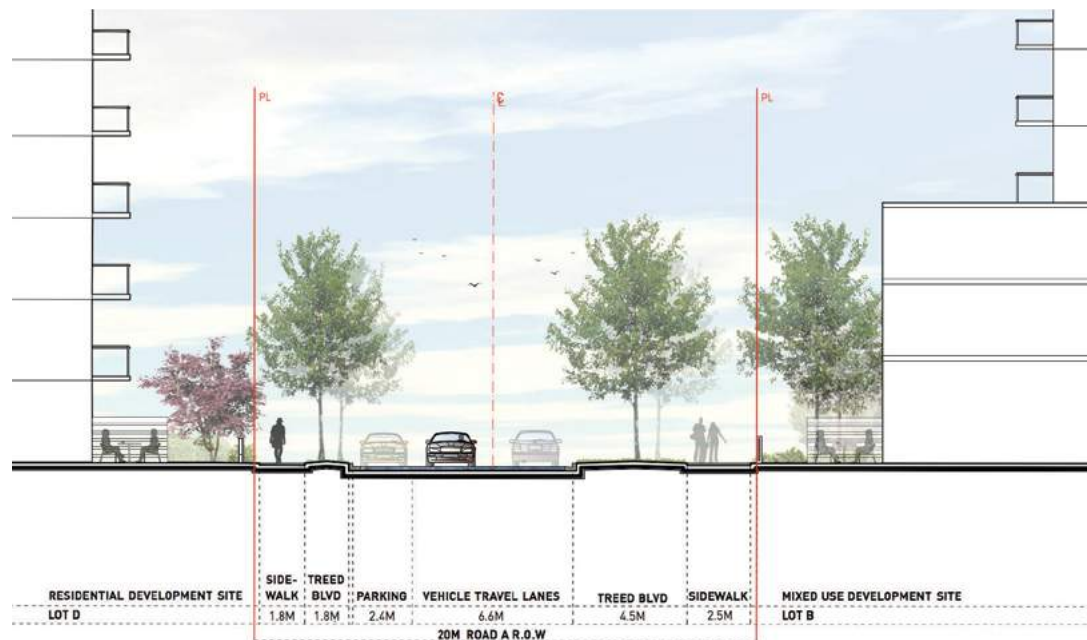


Site Plan: Habitat Types

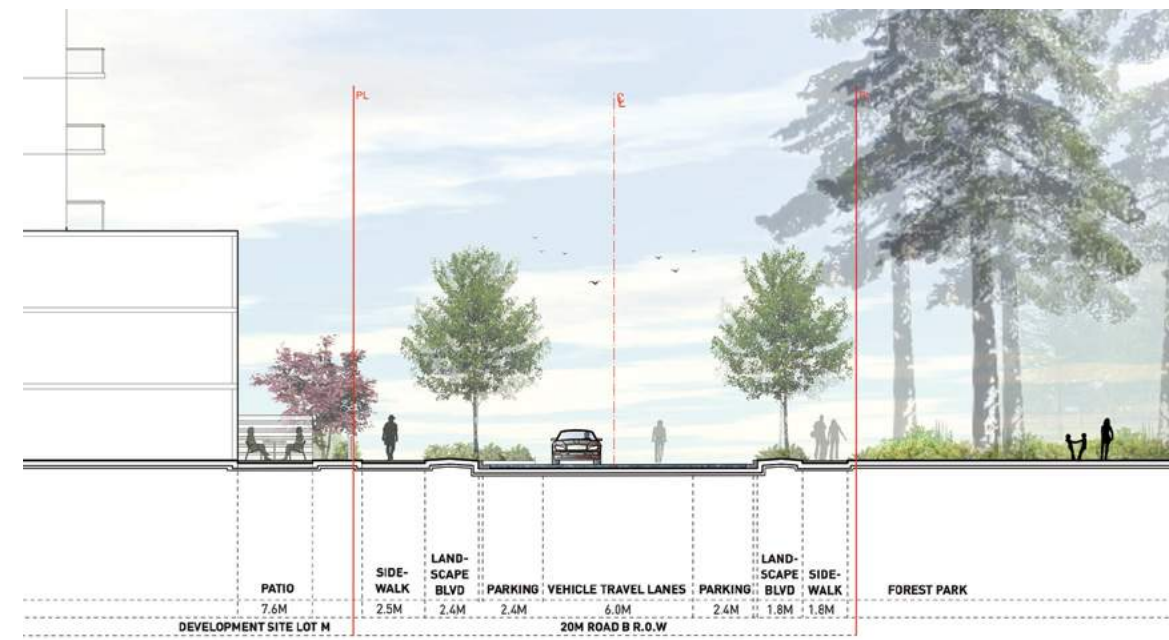




Section 1: Enhancement area at Ortona Ave R.O.W.



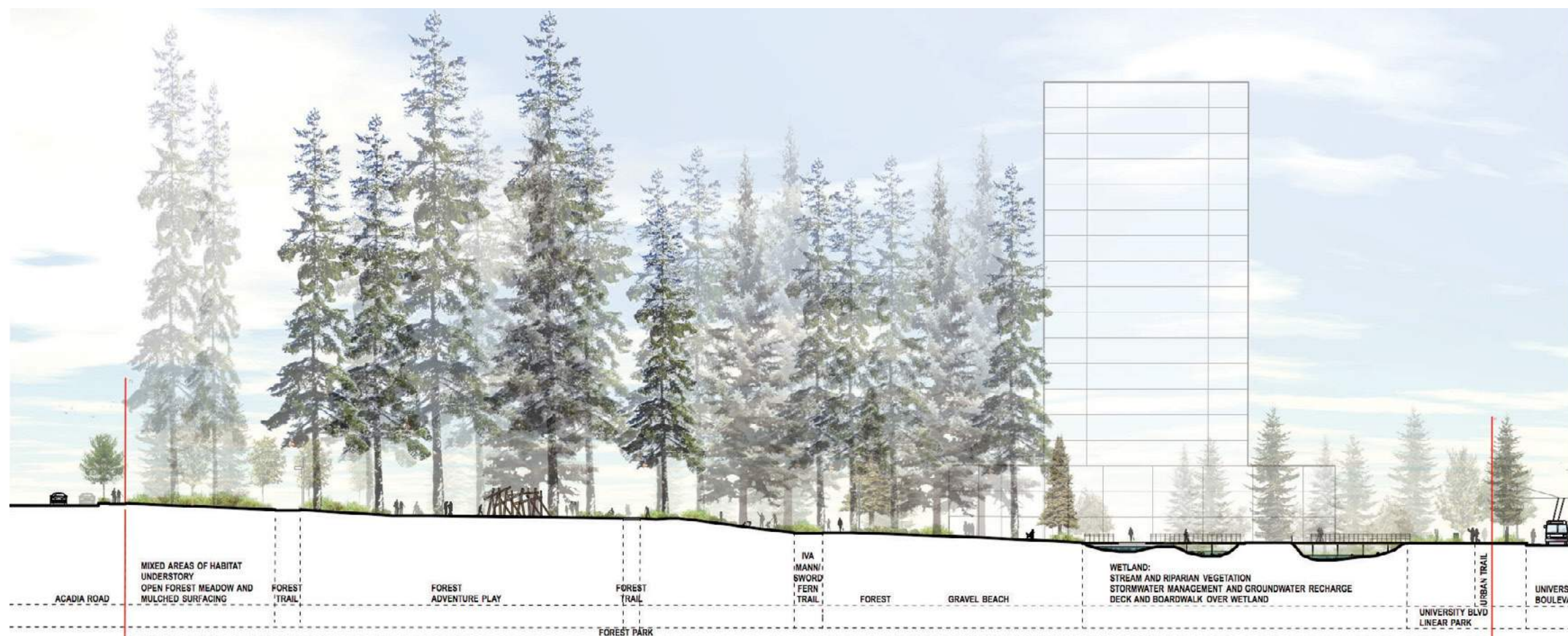
Section 2: Road A at Parking Aisles



Section 3: Road B at Landscape Bump Outs



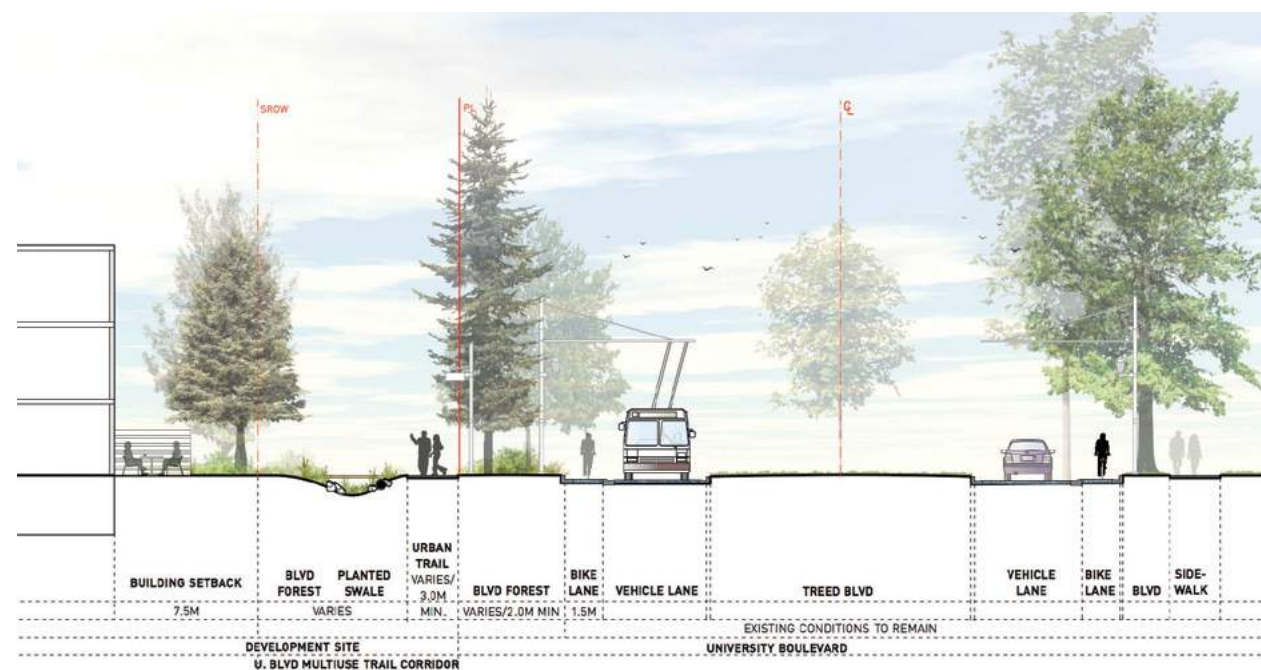
Key Plan



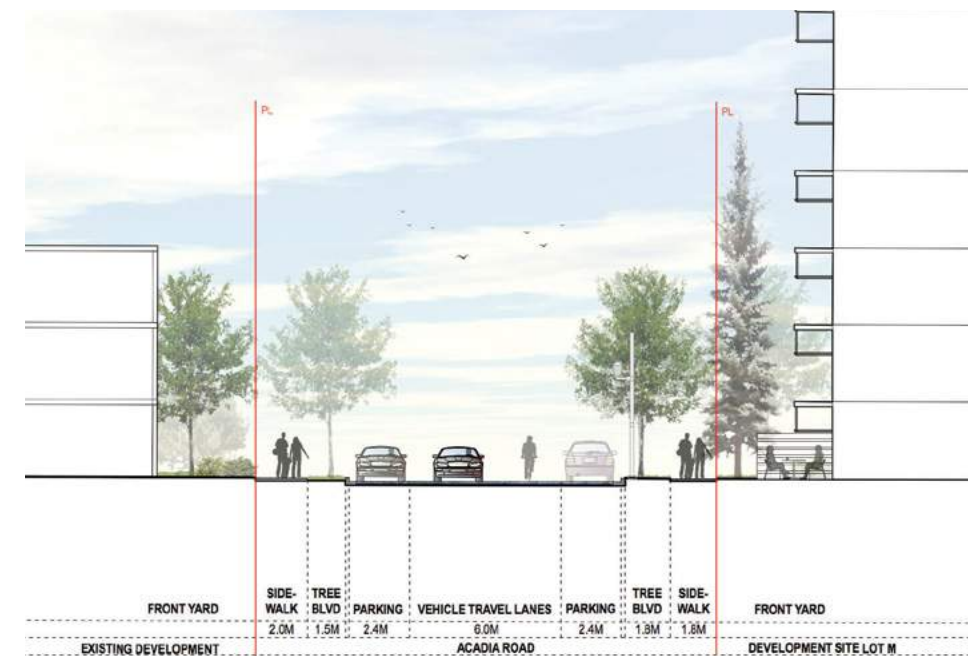
Section 4: Longitudinal Section through the Forest Park and Wetland



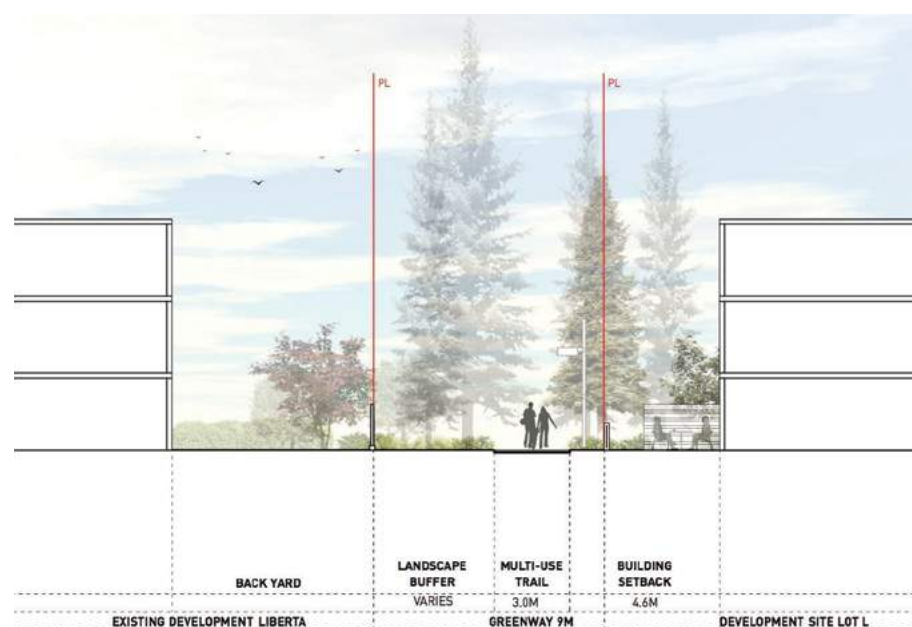
Key Plan



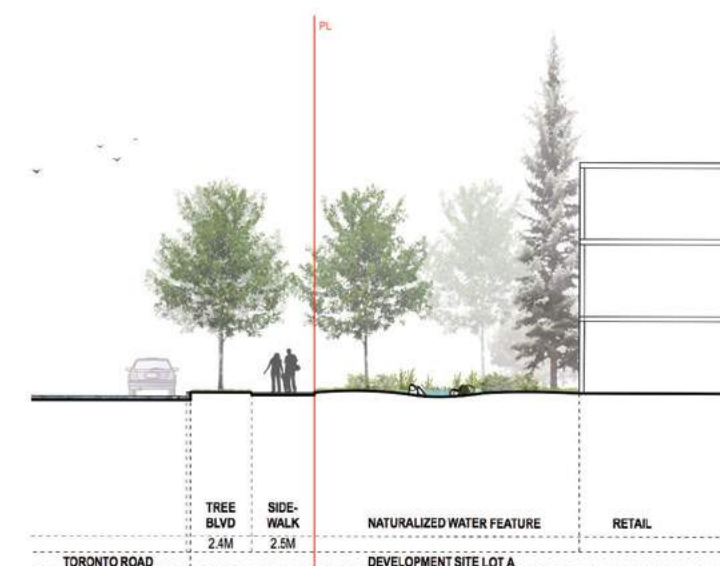
Section 5: University Boulevard



Section 6: Acadia Road



Section 7: Greenway North of Existing Townhouses



Section 8: Toronto Road





BLOCK F - SUMMARY									
PARCEL	PARCEL NET AREA		USES	GROSS FLOOR AREA (SQ. FT.)	MAX F.S.R.	MAX SITE COVERAGE	MAX HEIGHT (Storeys)	MAX HEIGHT (Meters)	MAX HEIGHT (Feet)
	m²	SQ. FT.							
A	8,269	89,010	Commercial	28,000	1.09	45%	5	17.7 m	58 ft
			Below Market Residential	43,750					
			Market Residential	25,000					
B	3,318	35,716	Rental Residential	85,000	2.44	50%	12	39.6 m	130 ft
			Accessory Commercial	2,000					
COMM. VILLAGE DEVELOPMENT AREA (Parcels A+B)	11,587	124,726		183,750					
D	4,544	48,908	Highrise + TH	146,724	3.00	40%	18	59.4 m	195 ft
E	5,143	55,358	Highrise + TH	152,235	2.75	40%	18	59.4 m	195 ft
F	4,452	47,925	Highrise + TH	143,775	3.00	40%	18	59.4 m	195 ft
G	4,543	48,896	Apartment + TH	105,126	2.15	45%	6	21.3 m	70 ft
H	5,334	57,412	Apartment	100,471	1.75	40%	4 + 6	21.3 m	70 ft
I	3,358	36,141	Apartment	90,353	2.50	50%	6	21.3 m	70 ft
J	3,398	36,575	Apartment	64,006	1.75	50%	4	15.2 m	50 ft
K	4,657	50,130	Townhouse	62,663	1.25	50%	3	10.7 m	35 ft
L	4,394	47,300	Townhouse	59,125	1.25	50%	3	10.7 m	35 ft
M	4,288	46,152	Highrise + TH	138,456	3.00	40%	18	59.4 m	195 ft
RESIDENTIAL DEVELOPMENT AREA (Parcels D-M)	44,110	474,797		1,062,934					
TOTAL DEVELOPMENT AREA (Parcels A-M)	55,698	599,523		1,246,684					



TOTAL COMMERCIAL (Parcel A + B)	30,000 S.F.
TOTAL RENTAL RESIDENTIAL (Parcel B)	85,000 S.F.
TOTAL BELOW-MARKET RESIDENTIAL (Parcel A)	43,750 S.F.
TOTAL RESIDENTIAL GFA (Parcel A + Parcels C - K)	1,087,934 S.F.
TOTAL DEVELOPMENT AREA (Parcels A-M)	1,246,684 S.F.

Commercial Village Parcels

A		USE	No. of Levels	GFA (Sq.Ft.)
	Building 1 - Level 1	Commercial	1	15,000
	Level 2-5	Below-Market Residential	4	43,750
	TOTAL		5	58,750
		USE	No. of Levels	GFA (Sq.Ft.)
	Building 2 - Level 1	Commercial	1	13,000
	Levels 2 - 4	Market Residential	3	25,000
	TOTAL		4	38,000
	TOTAL DEVELOPMENT AREA			96,750
	MAX. HEIGHT	58 ft	5	
B	Level 1 (partial)	Accessory Commercial		2,000
	Level 1 - 12	Rental Residential	12	85,000
	DEVELOPMENT AREA			87,000
	MAX. HEIGHT	130 ft	12	
	PARCEL AREA			35,716
	MAX. SITE COVERAGE	50%		
	MAX. ALLOWABLE FSR	2.44 FSR		

Residential Parcels

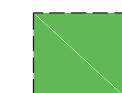
D	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	122,724
	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		146,724
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		48,908
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
E	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	126,235
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	26,000
	DEVELOPMENT AREA		152,235
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		55,358
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	2.75	
F	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	119,775
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		143,775
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		47,925
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
G	LOWRISE + TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	6	105,126
	DEVELOPMENT AREA		105,126
	MAX. HEIGHT (ft)	70 ft	
	PARCEL AREA		48,896
	MAX. SITE COVERAGE	45%	
	MAX. ALLOWABLE FSR	2.15	
H	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	4 + 6	100,471
	DEVELOPMENT AREA		100,471
	MAX. HEIGHT (ft)	70	
	PARCEL AREA		57,412
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	1.75	

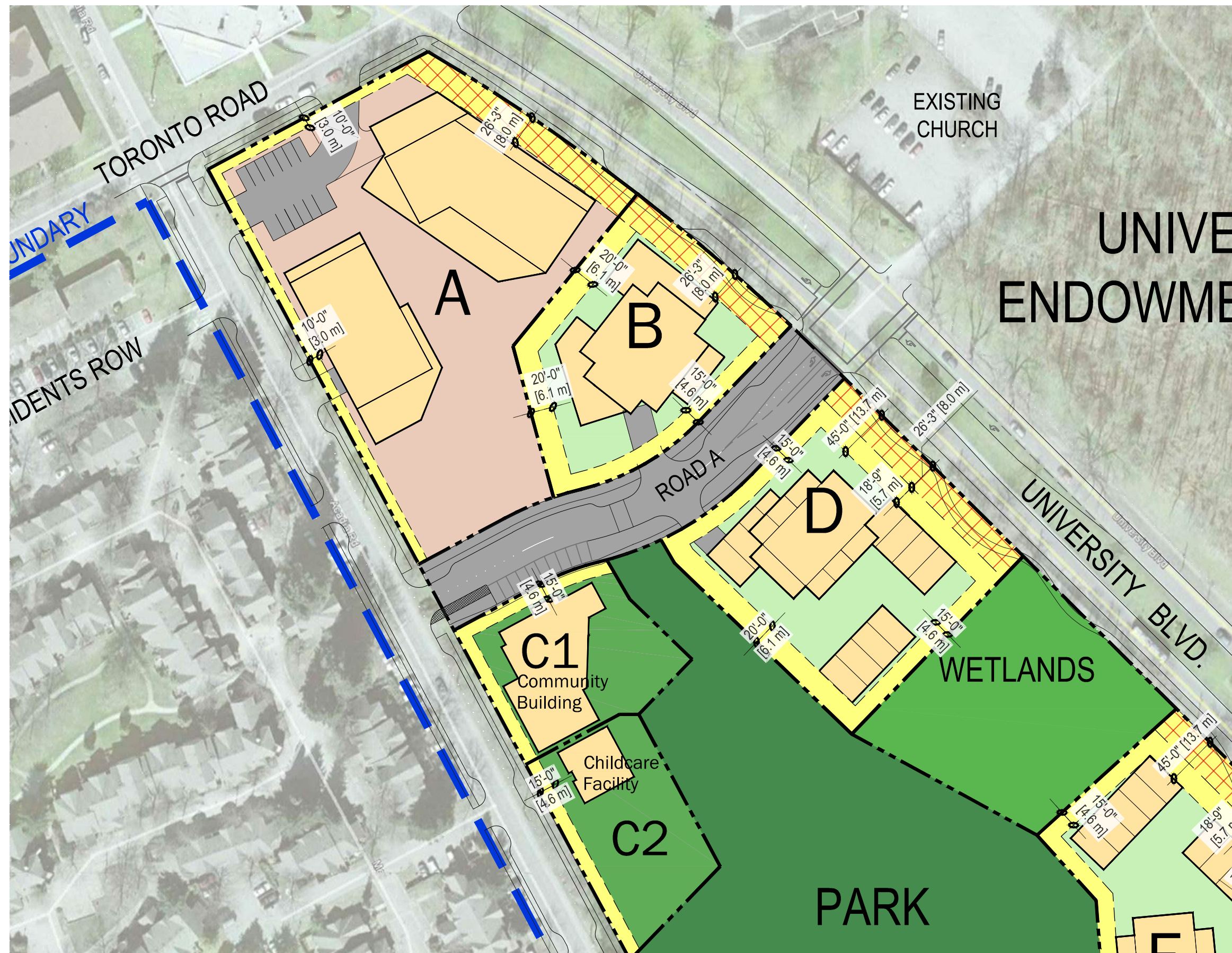
I	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 6	6	90,353
	DEVELOPMENT AREA		90,353
	MAX. HEIGHT (ft)	70 ft	
	PARCEL AREA		36,141
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	2.50	
J	LOWRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 4	4	64,006
	DEVELOPMENT AREA		64,006
	MAX. HEIGHT (ft)	50 ft	
	PARCEL AREA		36,575
K	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	62,663
	DEVELOPMENT AREA		62,663
	MAX. HEIGHT (ft)	35 ft	
	PARCEL AREA		50,130
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	1.25	
L	TOWNHOUSES	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 3	3	59,125
	DEVELOPMENT AREA		59,125
	MAX. HEIGHT (ft)	35 ft	
	PARCEL AREA		47,300
	MAX. SITE COVERAGE	50%	
	MAX. ALLOWABLE FSR	1.25	
M	HIGHRISE	No. of Levels	GFA (Sq.Ft.)
	Levels 1 - 18	18	114,456
	TOWNHOUSES	No. of Levels	Area (Sq.Ft.)
	Levels 1 - 3	3	24,000
	DEVELOPMENT AREA		138,456
	MAX. HEIGHT (ft)	195 ft	
	PARCEL AREA		46,152
	MAX. SITE COVERAGE	40%	
	MAX. ALLOWABLE FSR	3.00	
RESIDENTIAL GFA (Parcel A)			25,000 S.F.
RESIDENTIAL GFA (Parcels C - K)			1,062,934 S.F.
TOTAL RESIDENTIAL GFA (Parcel A + Parcels C - K)			1,087,934 S.F.



LEGEND

Public Access

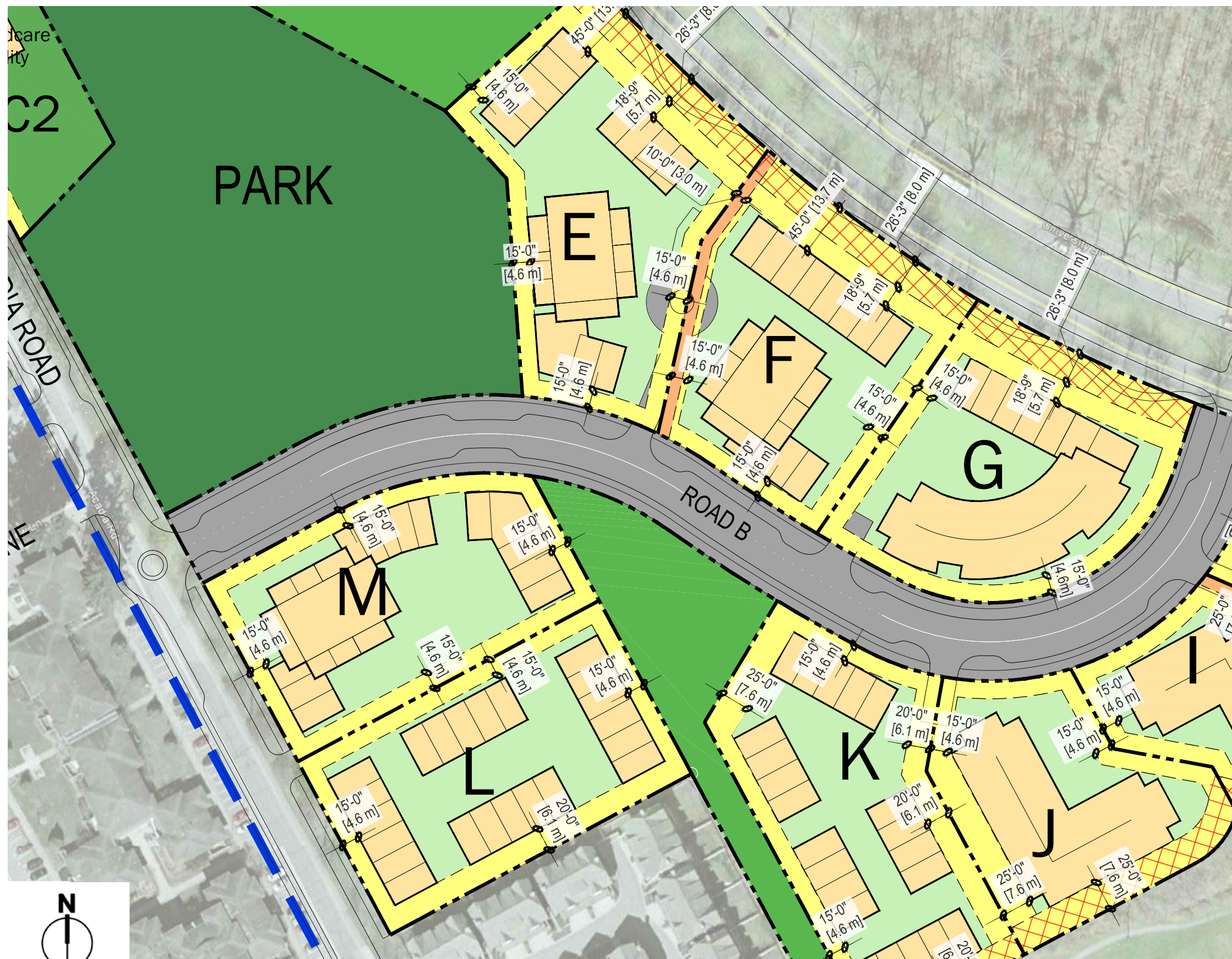
-  Dedicated Park
(Public Land)
-  Open Space
(Private Land Subject to
Lease or Easement)
-  Public Access
(Private Land Subject to
Lease or Easement)



LEGEND

- Easement through Private Property
- Building Setback
- Underground Parking Structure Not Permitted
- UEL Boundary

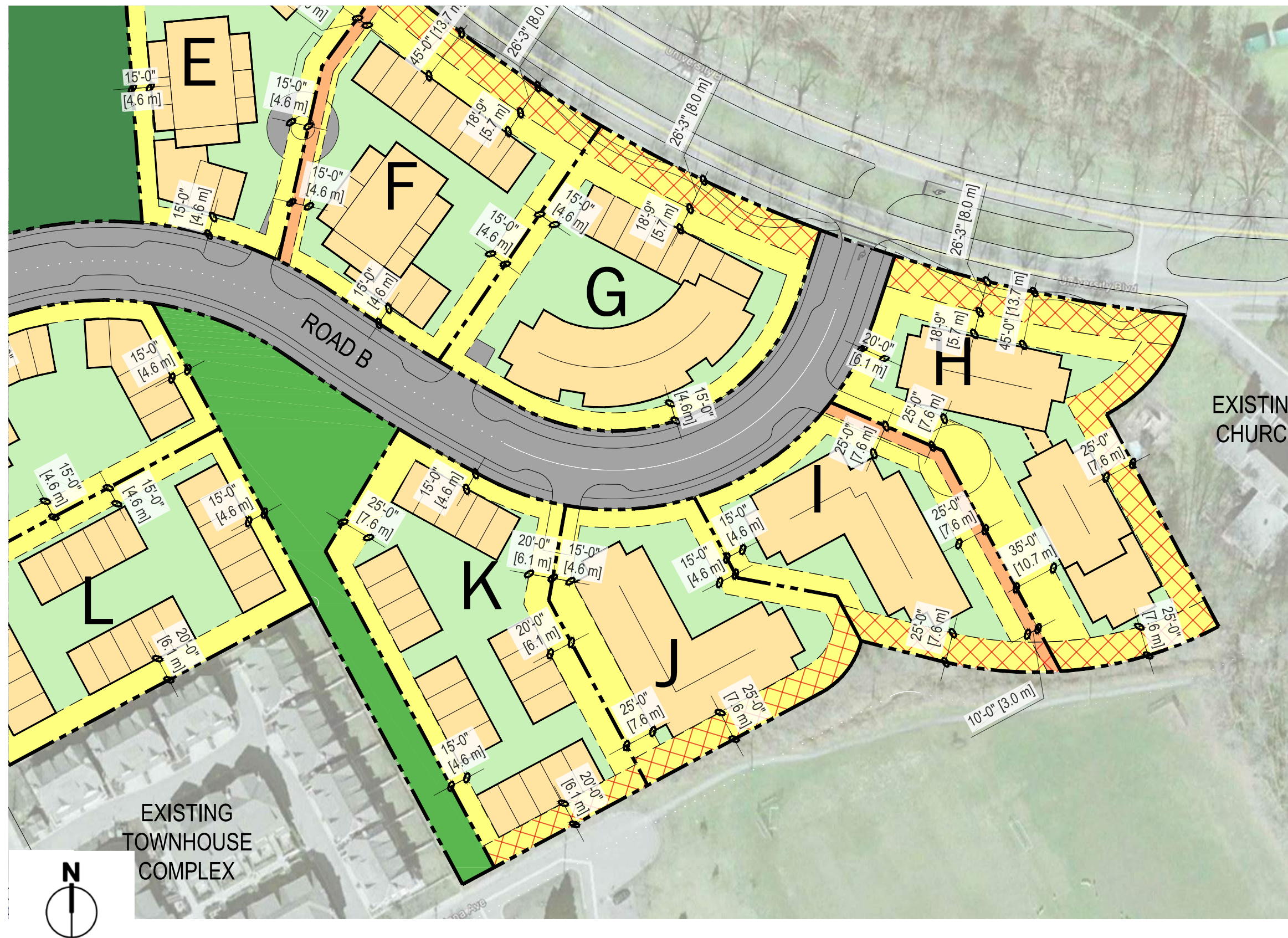




LEGEND

- Easement through Private Property
- Building Setback
- Underground Parking Structure Not Permitted
- UEL Boundary

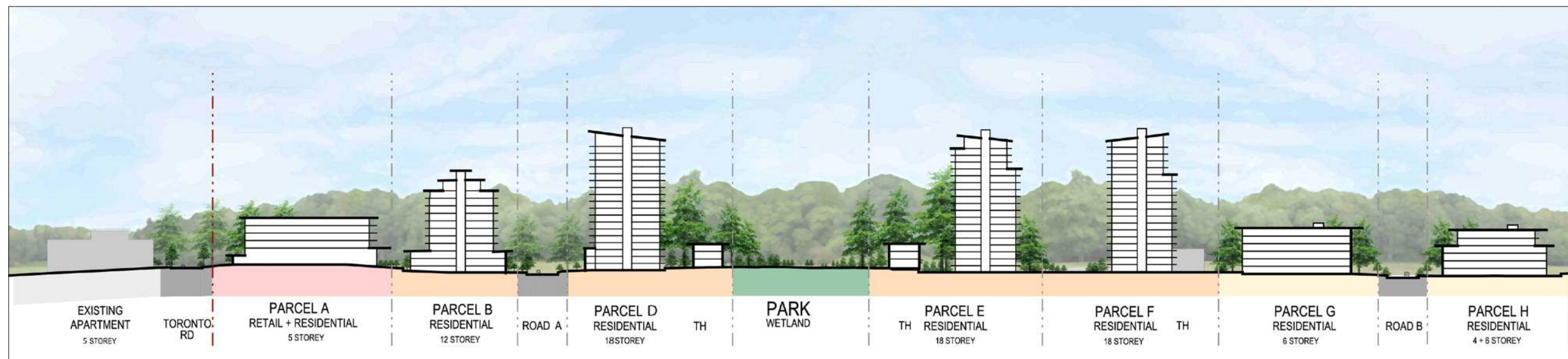




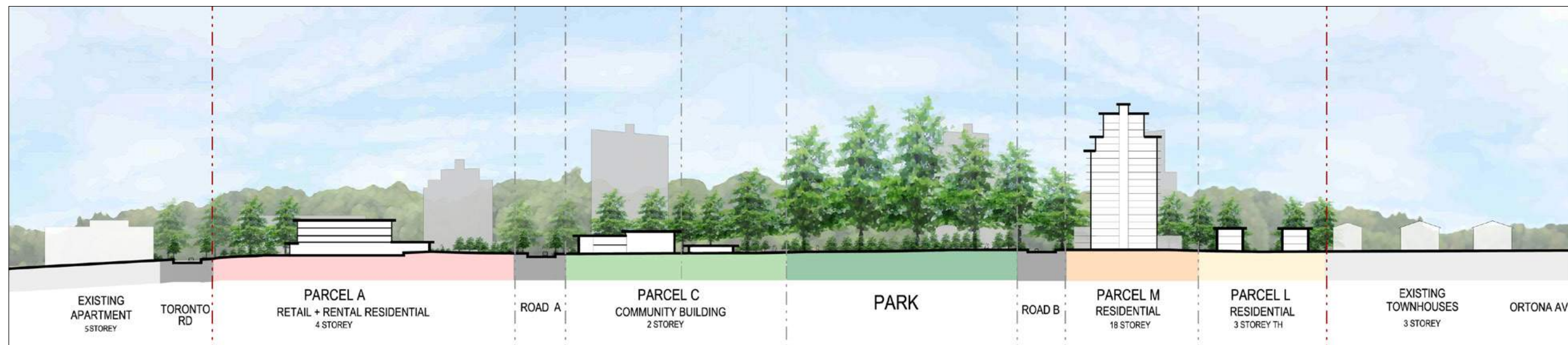
LEGEND

-  Easement through Private Property
-  Building Setback
-  Underground Parking Structure Not Permitted
-  UEL Boundary



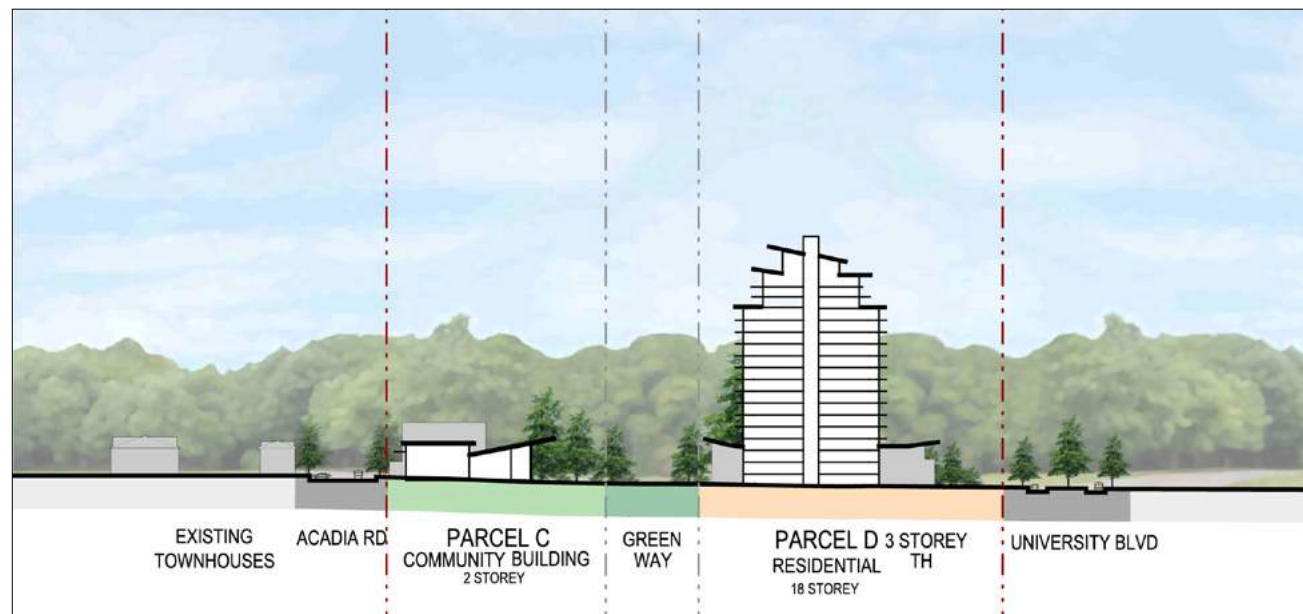


Section A

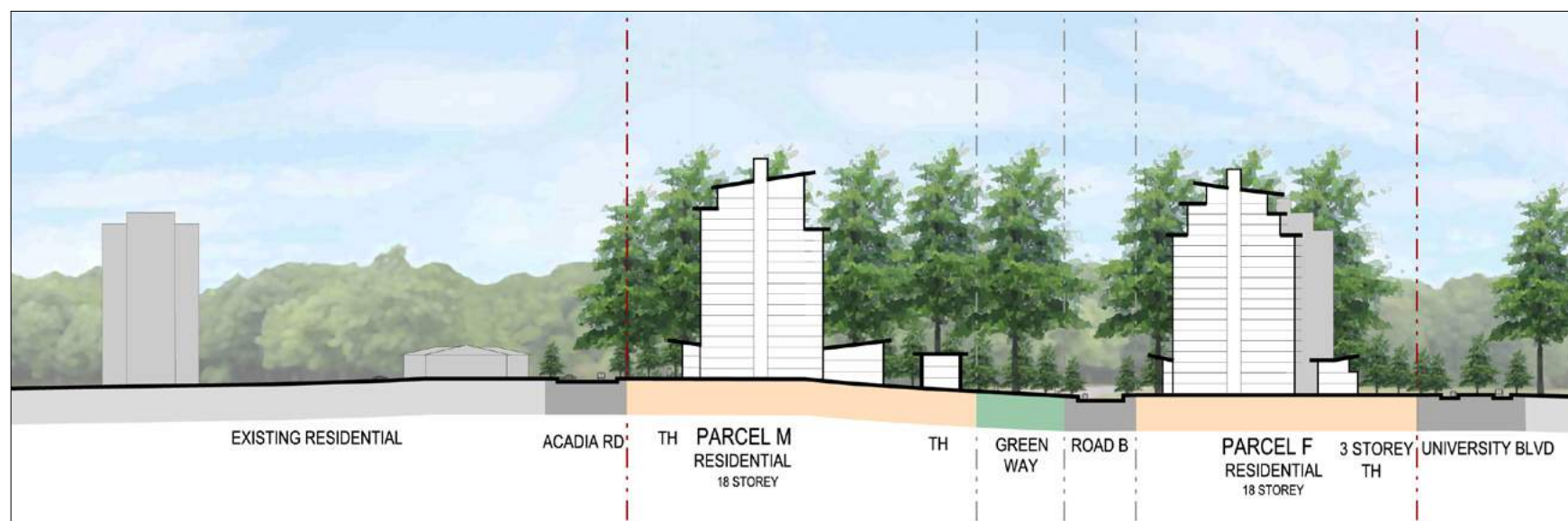


Section B

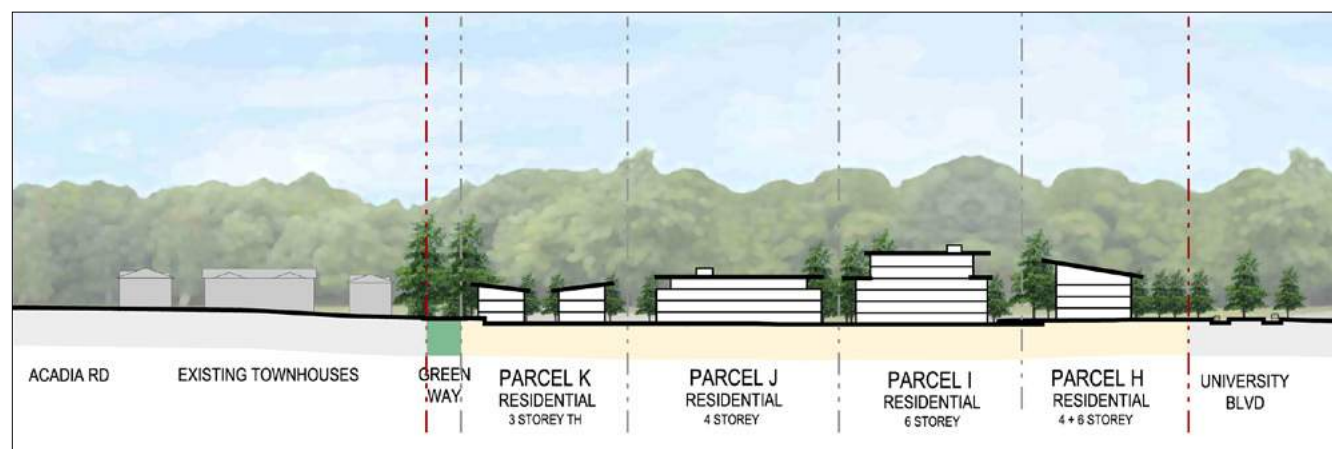




Section C



Section D



Section E

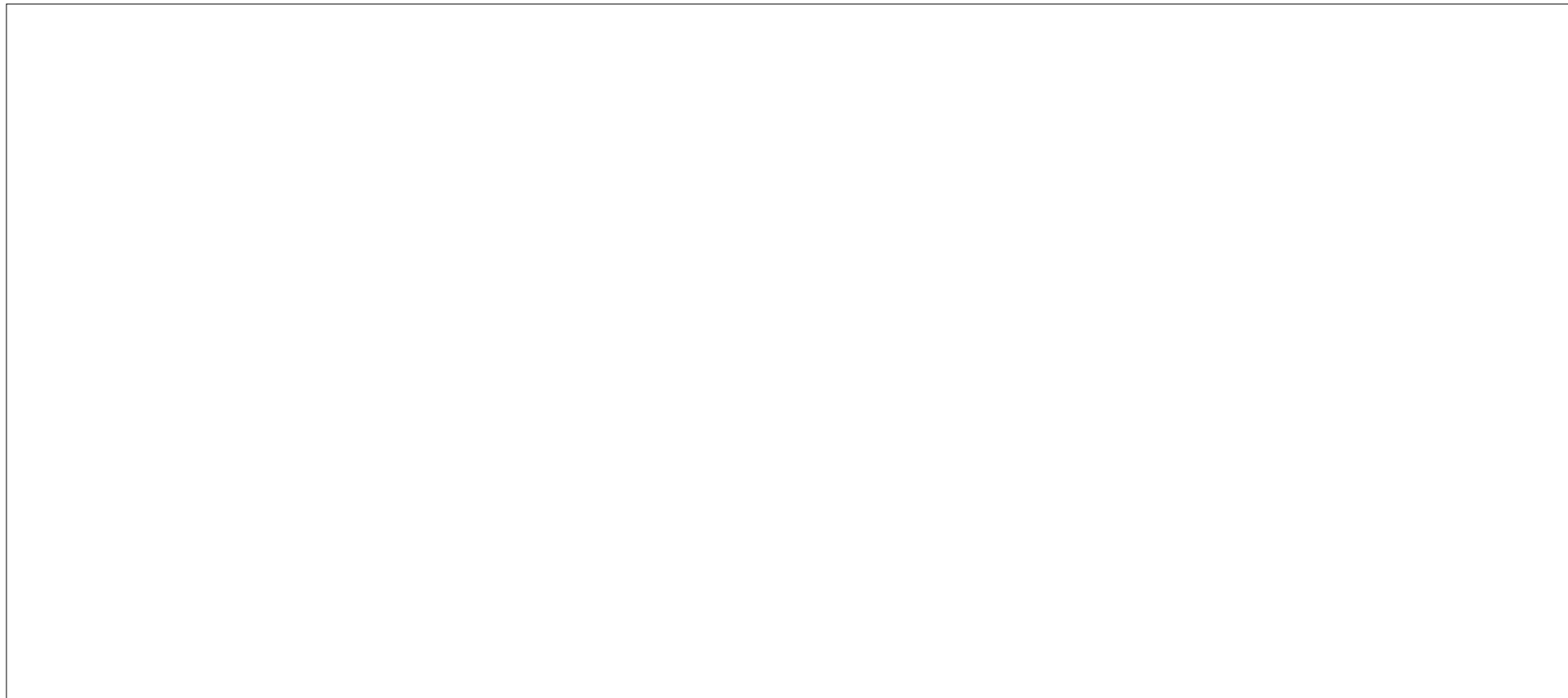




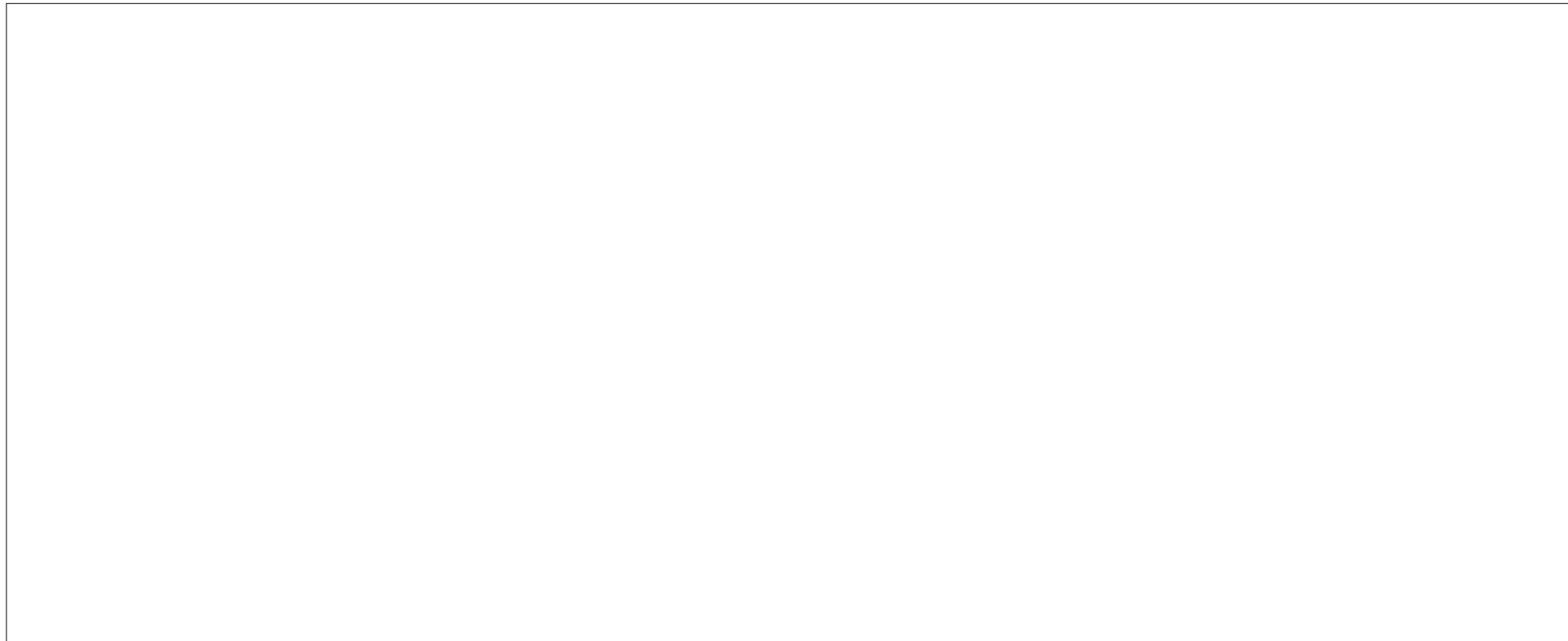
View looking North



View looking Southeast along University Blvd and Acadia Rd



View looking West towards UBC



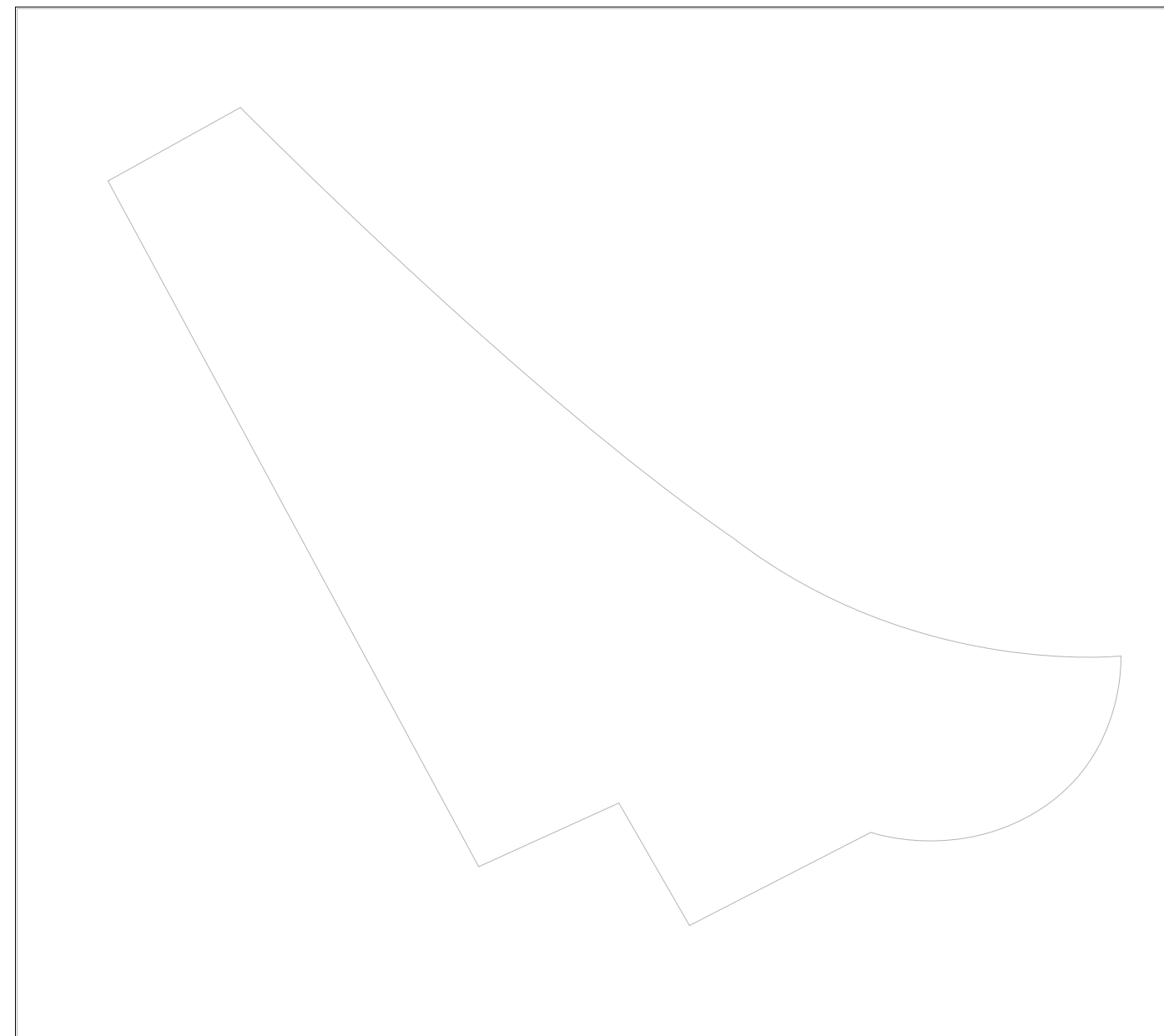
View looking Southeast towards Toronto Rd and Acadia Rd

SPRING/FALL (MARCH/SEPT. 21)



10 AM

SUMMER (JUNE 21)



10 AM

SPRING/FALL (MARCH/SEPT. 21)



12 PM

SUMMER (JUNE 21)



12 PM

SPRING/FALL (MARCH/SEPT. 21)



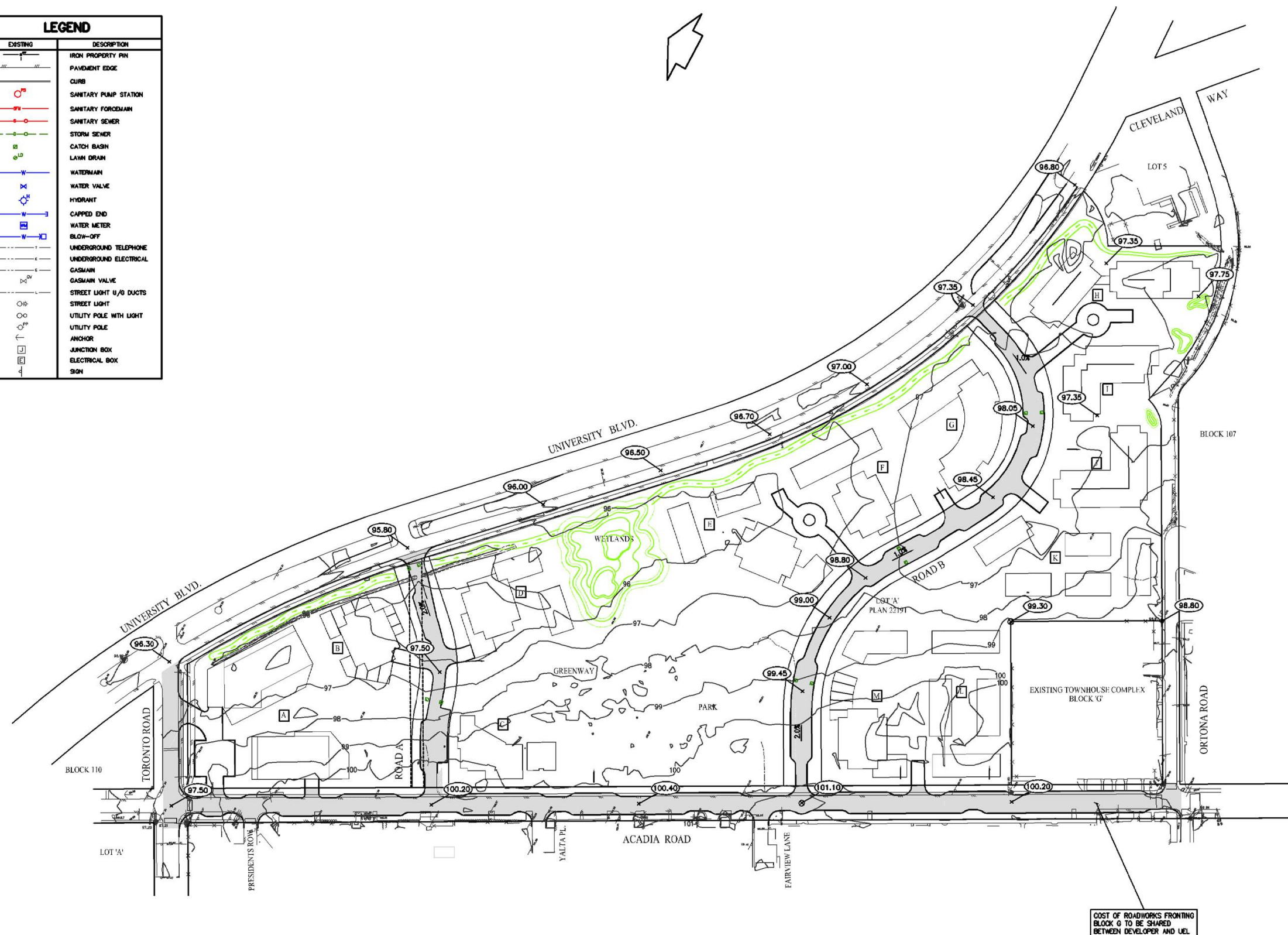
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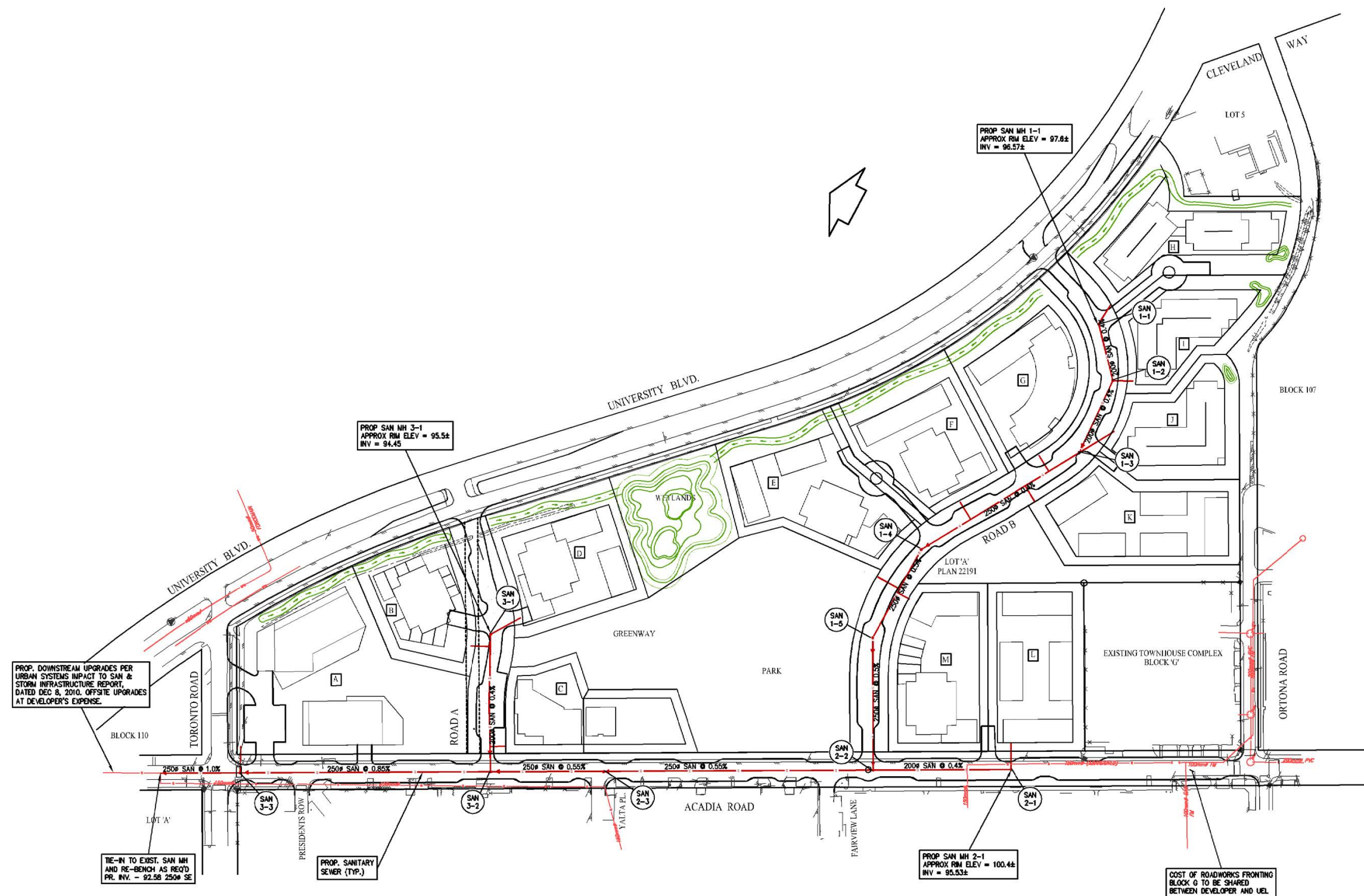
SUMMER (JUNE 21)

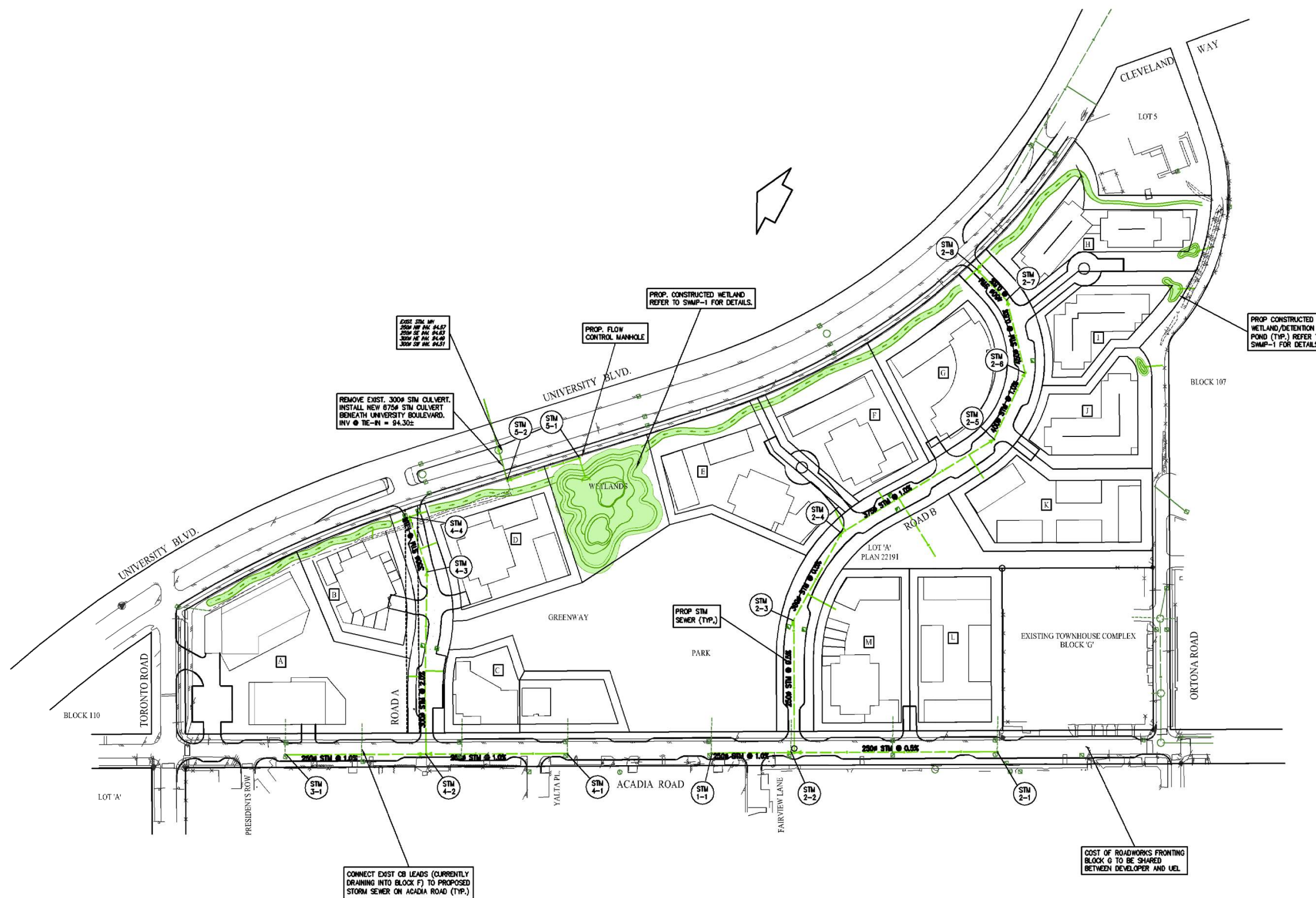


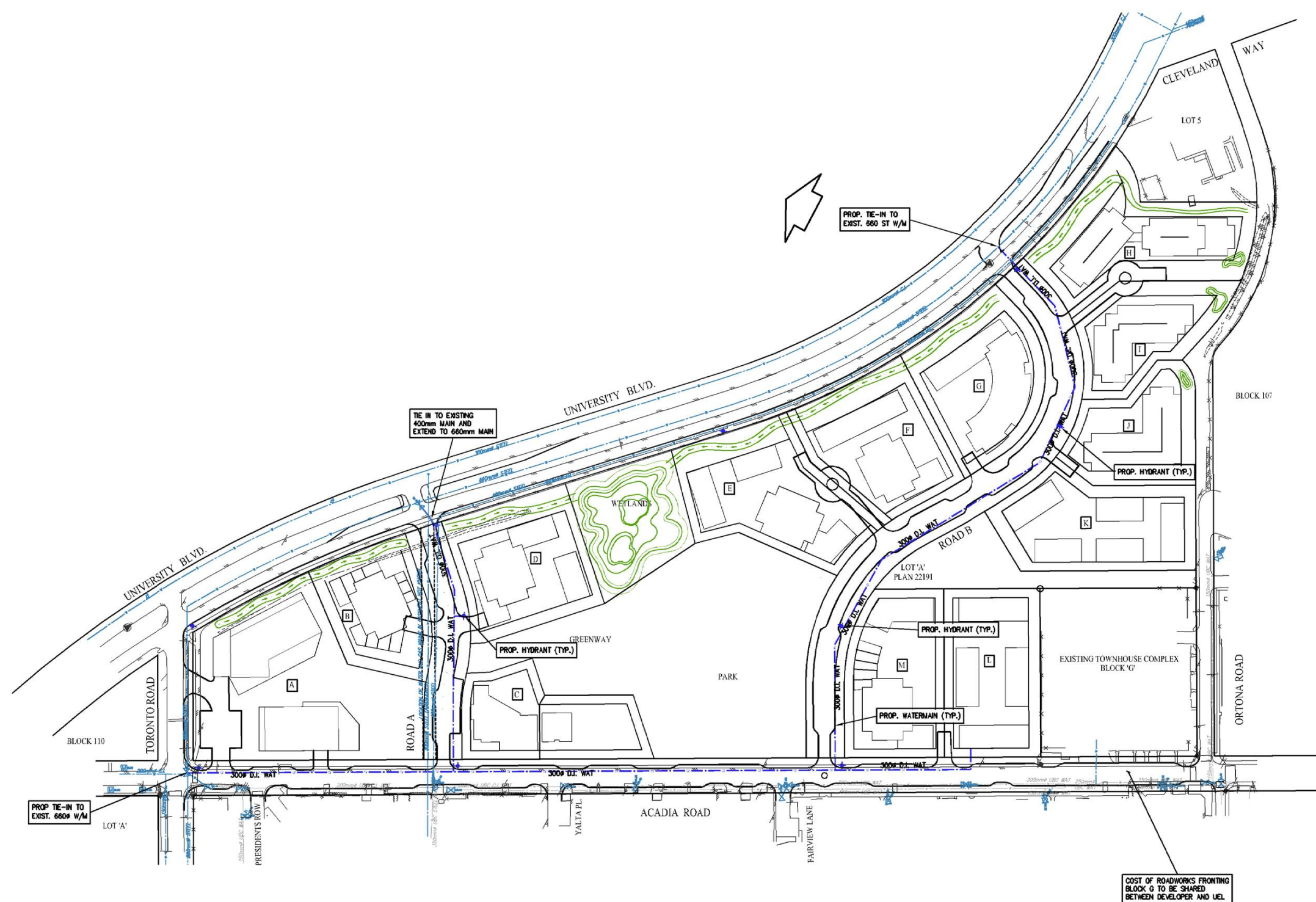
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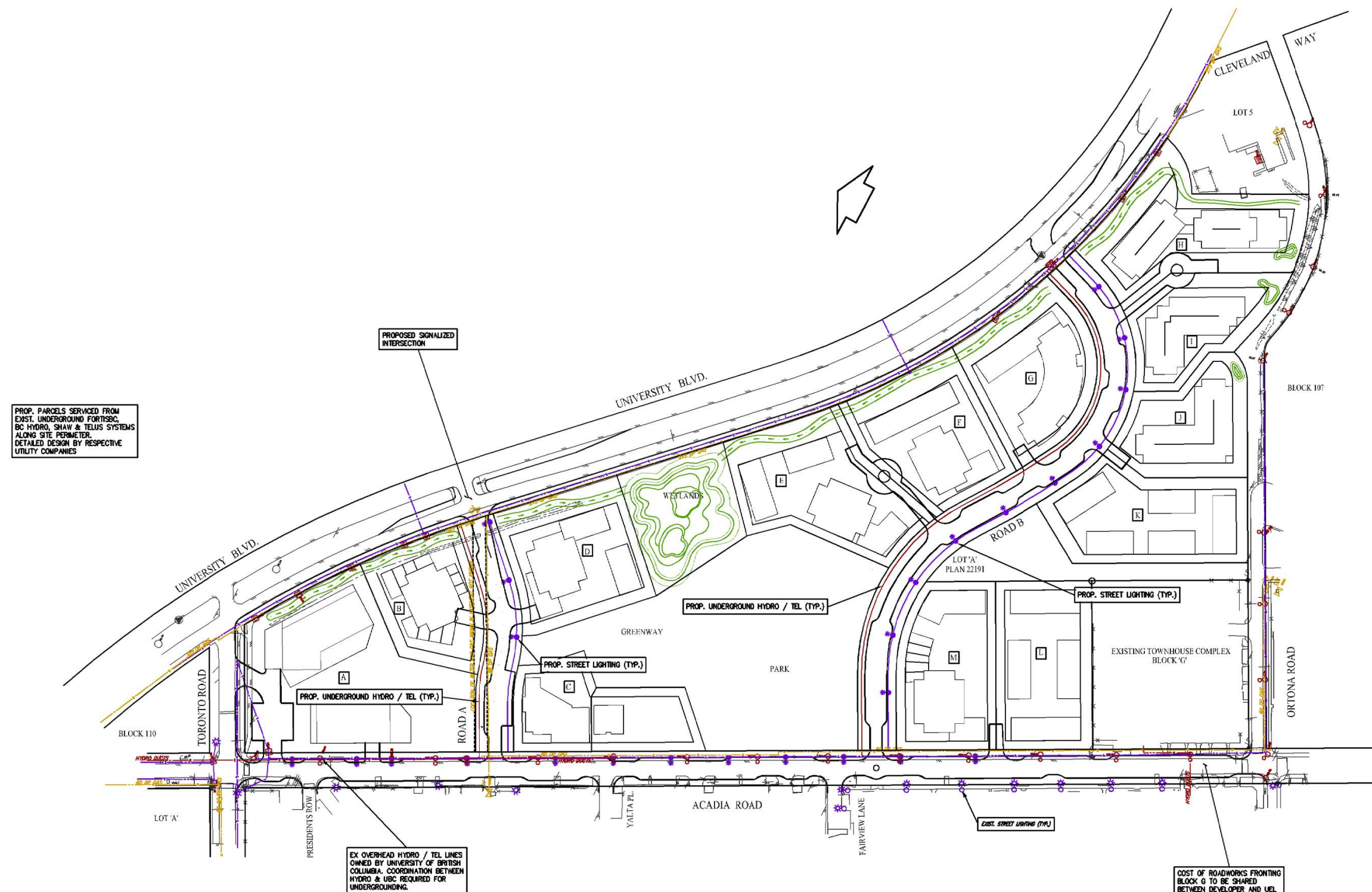
EXISTING	DESCRIPTION
	IRON PROPERTY PIN
	PAVEMENT EDGE
	CURB
	SANITARY PUMP STATION
	SANITARY FORCE MAIN
	SANITARY SEWER
	STORM SEWER
	CATCH BASIN
	LAWN DRAIN
	WATERMAIN
	WATER VALVE
	HYDRANT
	CAPPED END
	WATER METER
	BLOW-OFF
	UNDERGROUND TELEPHONE
	UNDERGROUND ELECTRICAL
	GASMAIN
	GASMAIN VALVE
	STREET LIGHT U/G DUCTS
	STREET LIGHT
	UTILITY POLE WITH LIGHT
	UTILITY POLE
	ANCHOR
	JUNCTION BOX
	ELECTRICAL BOX
	SIGN

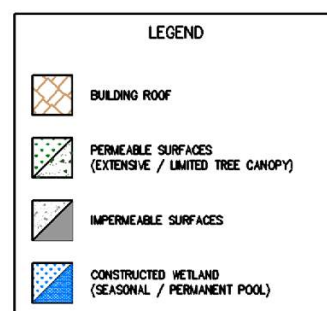
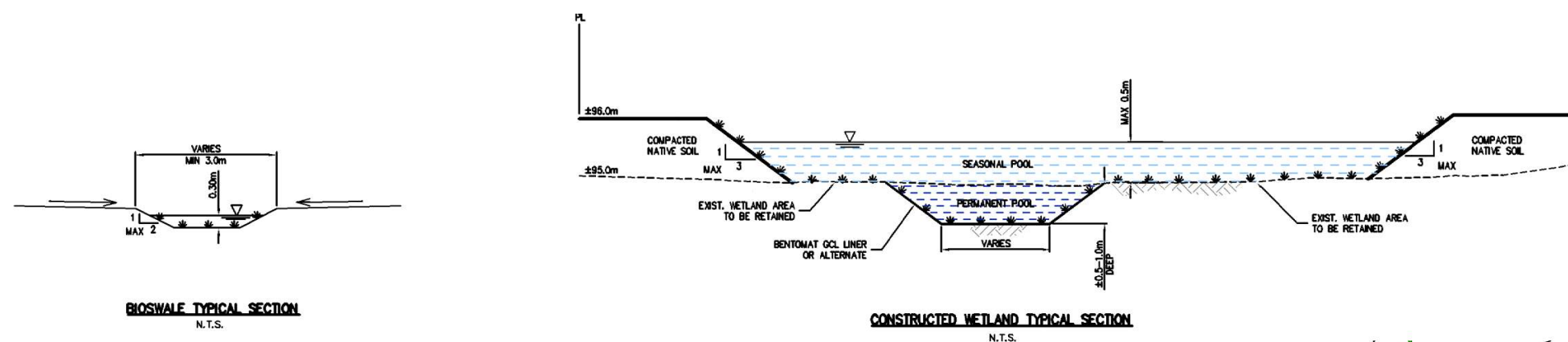






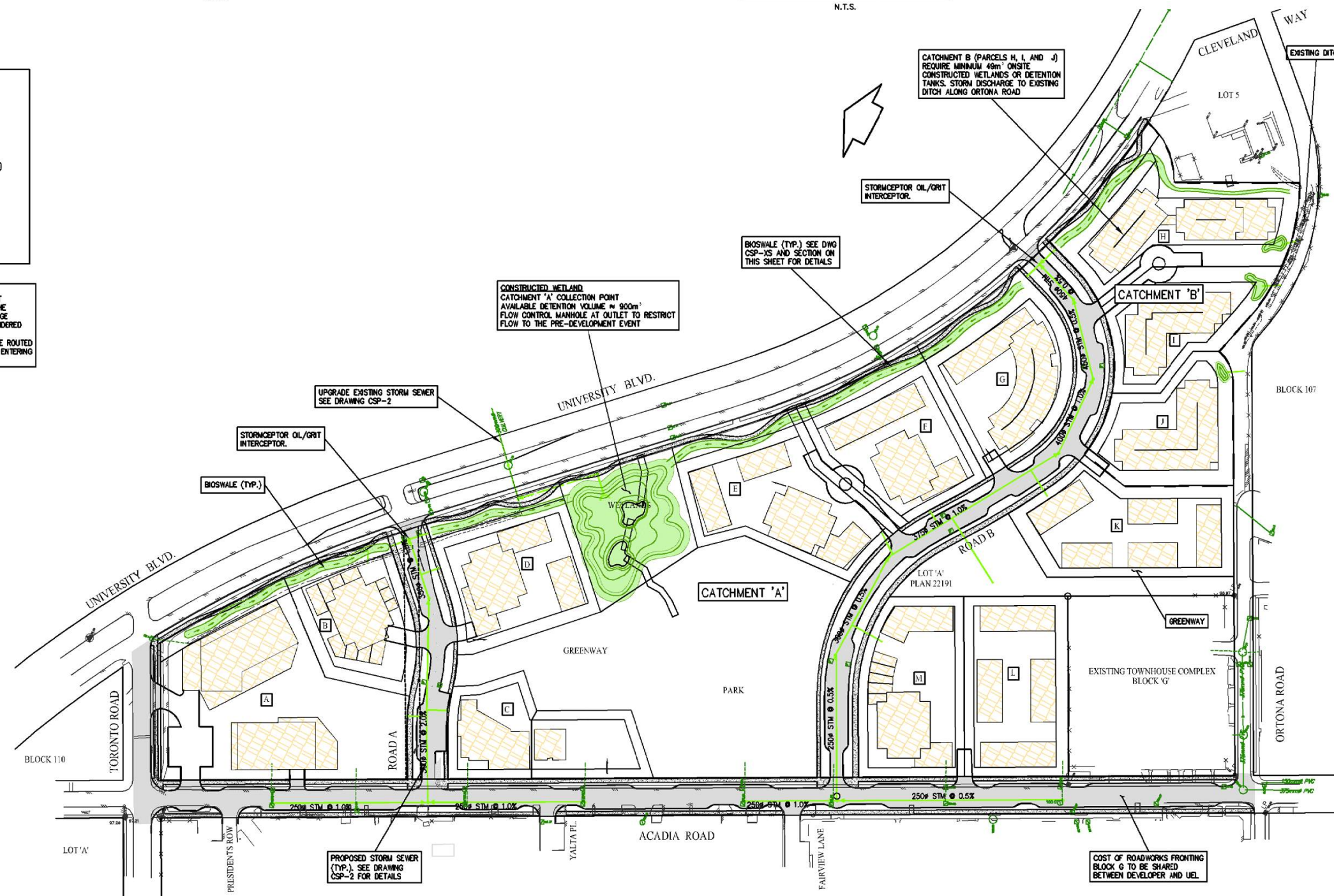


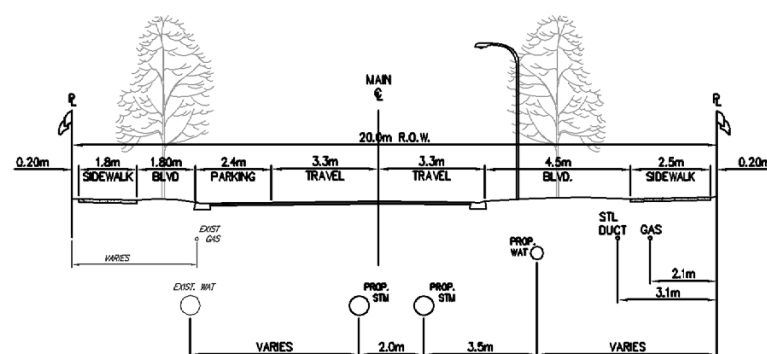




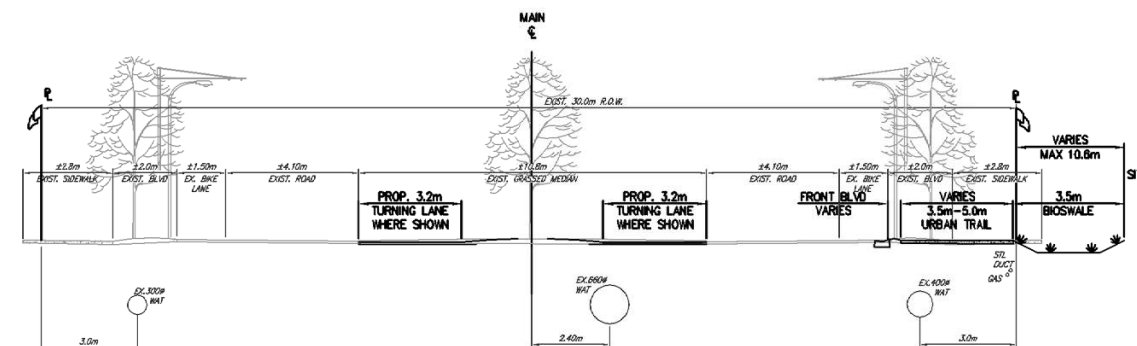
STORMWATER MANAGEMENT NOTES:

- THE LARGE DETENTION POND HAS SUFFICIENT STORAGE TO MEET THE REQUIREMENTS OF THE PROPOSED DEVELOPMENT. ADDITIONAL STORAGE AVAILABLE FROM BIO-SWALES WILL BE CONSIDERED AS CONTINGENCY.
- HARD SURFACE RUNOFF (EG. ROADS) WILL BE ROUTED THROUGH A TREATMENT MANHOLE PRIOR TO ENTERING THE DETENTION POND.

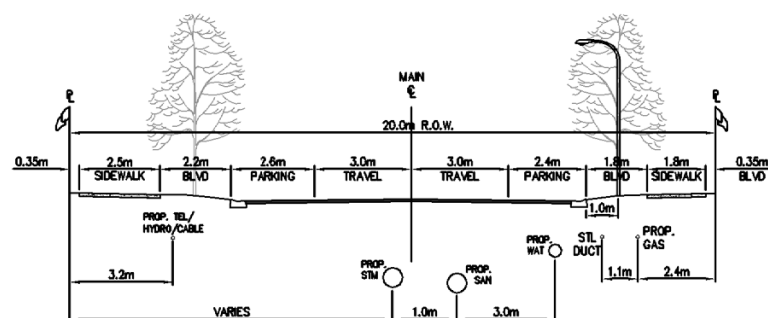




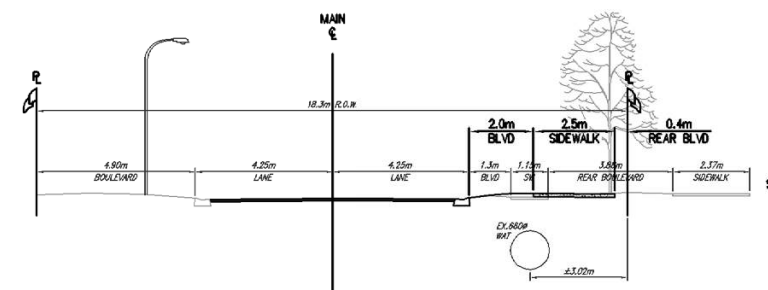
ROAD 'A'
COMMERCIAL STREET
N.T.S.



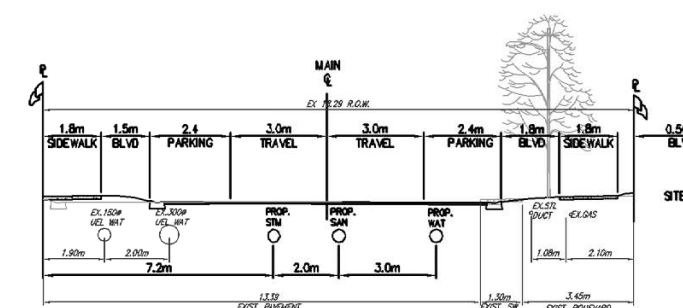
UNIVERSITY BOULEVARD
N.T.S.



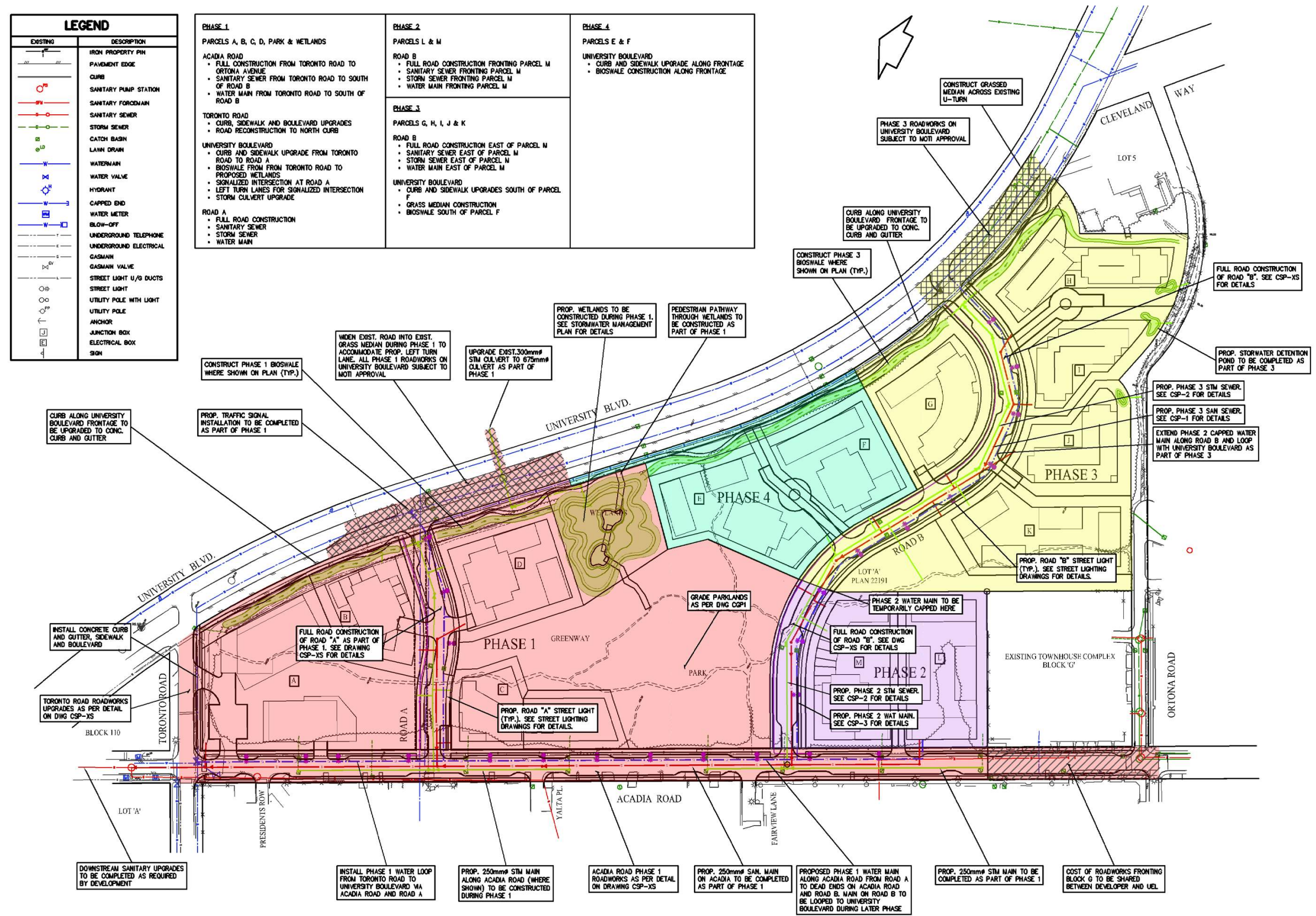
ROAD 'B'
RESIDENTIAL STREET
N.T.S.

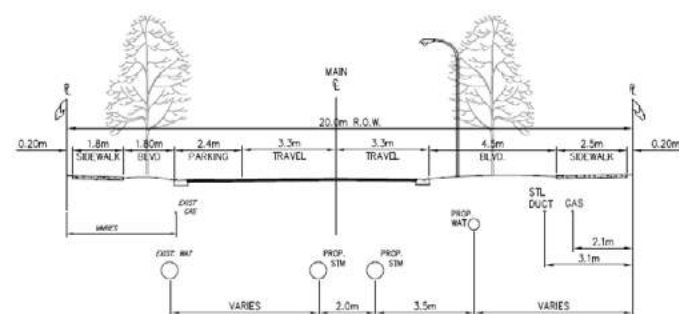


TORONTO ROAD
N.T.S.

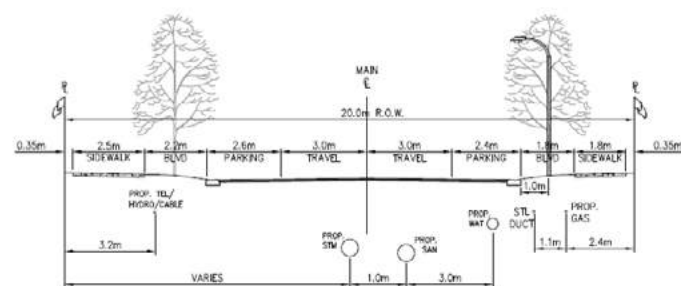


ACADIA ROAD
N.T.S.

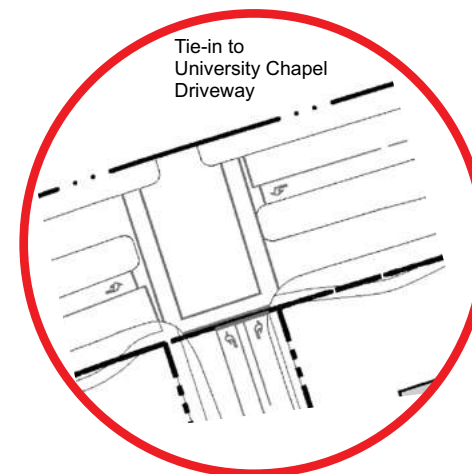
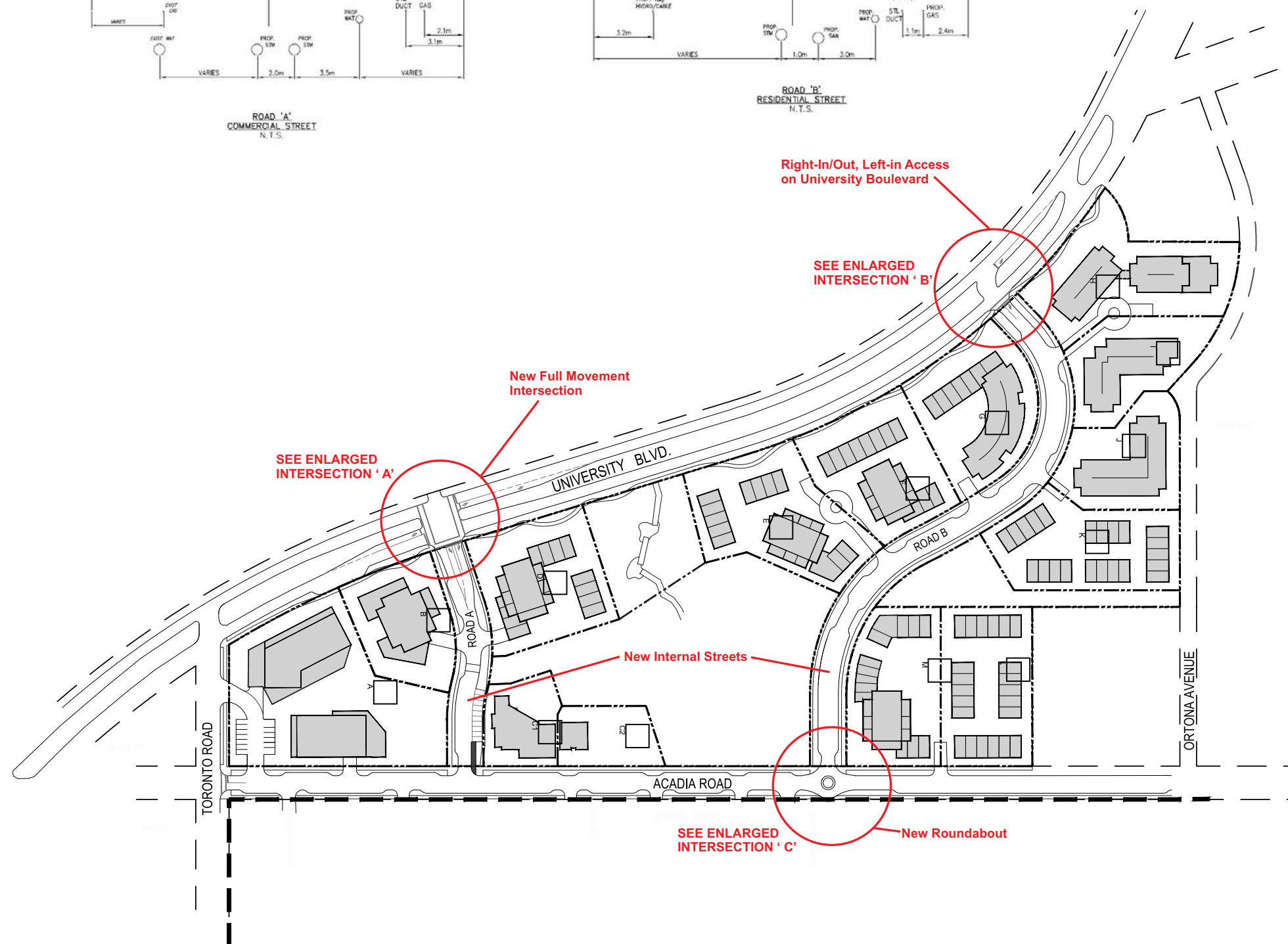




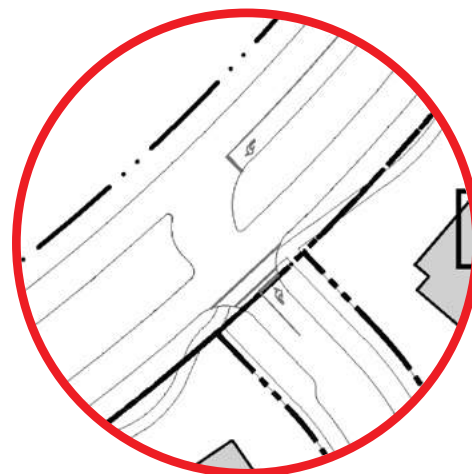
ROAD 'A'
COMMERCIAL STREET
N.T.S.



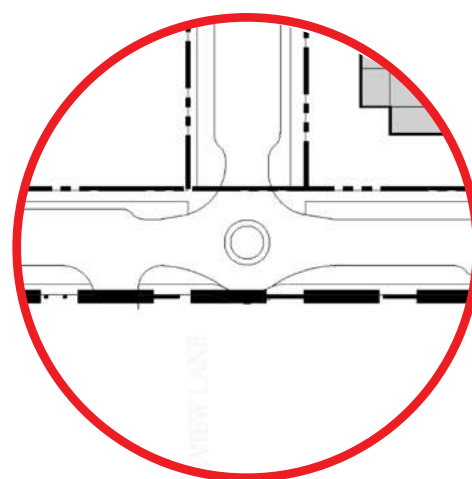
ROAD 'B'
RESIDENTIAL STREET
N.T.S.



ENLARGED INTERSECTION 'A'



ENLARGED INTERSECTION 'B'



ENLARGED INTERSECTION 'C'

6 T 1423

6 T 1453

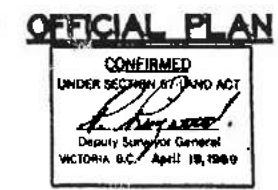
6 T 1423

SURVEY PLAN OF BLOCKS 'F' AND 'G' DISTRICT LOT 140, GROUP I, NEW WESTMINSTER DISTRICT

B.C.G.S. 92G.024 24/23/89

SCALE - 1:1250
50 40 30 20 10 0 50
ALL DISTANCES ARE IN METRES.

LEGEND
GRID BEARINGS ARE DERIVED FROM CITY OF VANCOUVER
INTEGRATED SURVEY CONTROL MONUMENTS V3296, V3350 AND V3297.
•IP DENOTES STANDARD IRON POST SET.
•PP PIPE POST SET.
•OIP OLD IRON POST FOUND.
•OLP OLD LEAD PLUG FOUND.
WT. WITNESS.



I, A.M. OSMAN, A BRITISH COLUMBIA LAND SURVEYOR OF LANGLEY,
IN BRITISH COLUMBIA, CERTIFY THAT I WAS PRESENT AT AND
PERSONALLY SUPERINTENDED THE SURVEY REPRESENTED BY
THIS PLAN AND THAT THE SURVEY AND PLAN ARE CORRECT.
THE SURVEY WAS COMPLETED ON THE 30th DAY OF MARCH, 1989.

A.M. Osman B.C.L.S.

O. OSMAN & ASSOCIATES
LAND SURVEYORS
9 LOGAN AVENUE
LEY, B.C. V3A 7R3
E (604) 533-2411
534-7241

THIS PLAN LIES WITHIN THE GREATER VANCOUVER REGIONAL DISTRICT

11750-1 (MINISTRY OF CROWN LANDS) F.8. 86/89

