



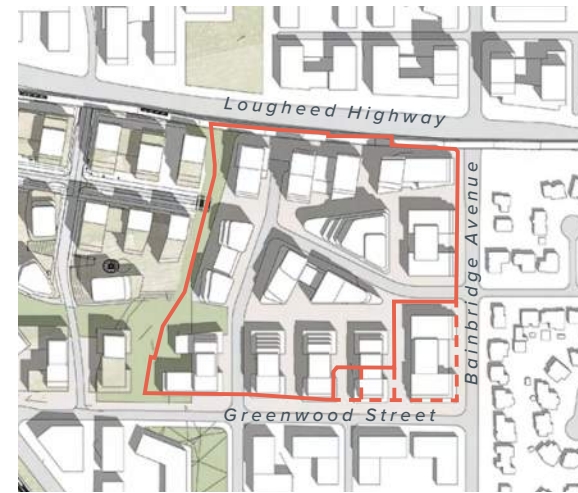
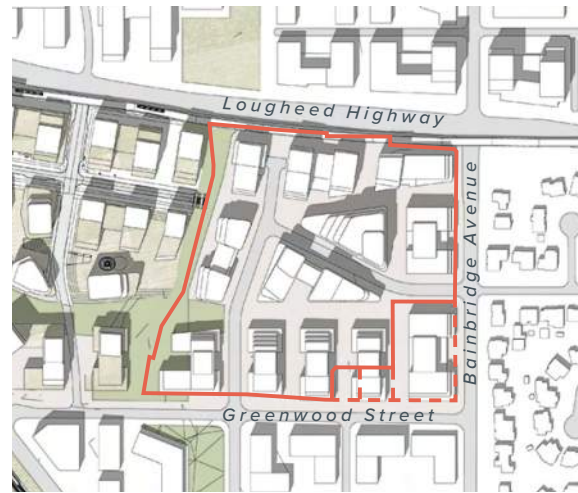
Southwest view along Greenwood Street at the entrance to the Forest Walk.

Shadow Studies

March 20



June 21



Shadow studies at spring equinox and summer solstice shown for Pacific Standard time as indicated.

Parcelization & Subdivision

To create a comprehensive new neighbourhood within a singular large plan, the Burnaby Lake Heights Master Plan outlines a development scheme for the site's rezoning application and future redevelopment of the smaller adjoining parcels on the block.

The new Urban Village is categorized into four distinct neighbourhood precincts. The layout of the new internal public road through the site delineates the site into three portions, with the following parcels:

West: Located on the western edge of the site, this area between the escarpment and the new internal public and private roadway includes three proposed buildings (A, G, and H) within three separate parcels, each within the Lougheed, Centre and Greenwood precincts.

North East: The area located to the north of the internal east-west road and east of the north-south road encompasses four proposed buildings (B, C, D and M) within four separate parcels and a significant portion of the pedestrian-oriented Esplanade. These buildings front Lougheed Highway, Bainbridge Avenue and the new internal east-west road, forming the Lougheed, Centre and Bainbridge precincts.

South: The area located south and east of the internal public road includes four proposed buildings (E/F, J, K, and L) within four separate parcels and a large portion of the Serpentine, forming the Centre and Greenwood precincts.

As noted previously, completion of this Master Plan would include two of the eight adjoining single-family residential lots to the southeast, while the balance of six lots may form a future consolidated parcel. There are two existing City laneways in the southeast corner of the site. Lane 1 currently separates 7000 Lougheed from the eight adjacent lots and would be consolidated upon acquisition as part of Phase 4 to accommodate the Serpentine entrance and Building L. Lane 2, located between two buildings in the southeast corner, may be consolidated for the future development of the six abutting lots.



Note: Building L subject to acquisition. Building N to be developed by others.

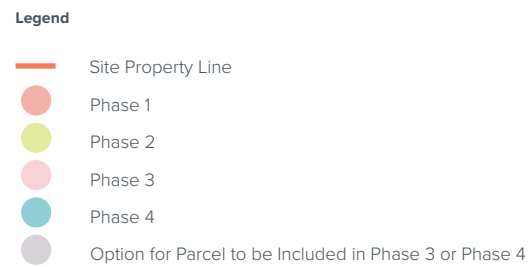
Phasing

The phasing strategy outlines an approach where housing tenure and the public realm is prioritized as the key drivers to the redevelopment and takes into consideration factors such as servicing, construction access, fire access, and constructibility of parkades.

As such, the Master Plan envisions four (4) phases overall for the entire block bounded between Lougheed Highway, Bainbridge Avenue, Greenwood Street and the escarpment. These four (4) phases making up the entire neighbourhood block will be constructed over time through sub-phases. The Master Plan will generally be built out west to east starting with the northwest portion of the site to extend the pedestrian-oriented Esplanade, one of the main public realm features.

Once the Esplanade connects to the Portal planned at the intersection of Lougheed Highway and Bainbridge Avenue, the southern portion of the site will be redeveloped during the latter stages of the Master Plan development.

The final parcel configuration or order of phasing may deviate slightly to address future opportunities or constraints and market influences.



Parking, Loading, Waste Management

The redevelopment proposes two below-ground parking structures separated by the new public internal roads. The northern portion will include a consolidated parking structure for Buildings A, B, C, D, G, H and M and the southern portion will include Buildings E, F, J, K, and L. The parkades are setback by 10m along Lougheed Highway, varied along the western face and extend to the property line on Bainbridge Avenue and Greenwood Street. The extents of the parkades will be limited to the private parcels and will not extend into the publicly dedicated right-of-ways.

Parkade accesses are proposed primarily along the internal roads with the exception of Buildings K, L and N which will be accessed via Greenwood Street. Buildings A and B will be accessible through the private road off Lougheed Highway.

The loading and waste management plan has been designed with the following considerations:

- Minimize conflict with public realm;
- Provide screening from public view;
- Ensure accessibility;
- Avoid noise or odour impacts.

Driveway accesses to each staging area are proposed along the internal roads with the exception of Buildings K and L which will be accessed directly from Greenwood Street. Based on a preliminary feasibility review, Building N driveway access may also be located on Greenwood Street, however, this is to be confirmed by the applicant through their site-specific proposal.

Where possible, staging and loading will be facilitated within the buildings, or externally at grade in discreet locations ensuring compatibility with the public realm. Solid waste will be held in storage facilities located within the underground parkades of each building. Further details are to be confirmed as part of site-specific rezoning applications.








Note: Building L subject to acquisition. Building N to be developed by others.

Fire Fighting

Fire-fighting access to each building will be from the public and private roadways. There will be a new internal public road connecting Greenwood Street to the south and Bainbridge Avenue to the east, providing internal circulation through the site. This road will provide access to each planned building and parcel. It will provide adequate street frontage for fire-fighting and fire truck staging. For buildings fronting Bainbridge Avenue and Greenwood Street, there will be fire-fighting and fire truck staging from the existing street.

The development is sited adjacent the existing SkyTrain Guideway. Additionally, the Master Plan features a unique public realm element, the Esplanade, which focuses on pedestrians and will remove any vehicular movement within it. As a result, the design proposes a service-oriented path for fire trucks and fire-fighting access between the guideway and Lougheed Highway fronting buildings to avoid disruption of one of the key urban design features of this Master Plan. Alternative design approaches accommodating fire access and staging, including potential cantilevering of ground floor of buildings and paved rear boulevards, shall be canvassed in future site-specific phases where appropriate.

- Legend**
-  Site Property Line
 -  Fire Truck
 -  Fire Truck Route
 -  Fire Truck Staging Area
 -  Lobby Entry Location



Note: Building L subject to acquisition. Building N to be developed by others.

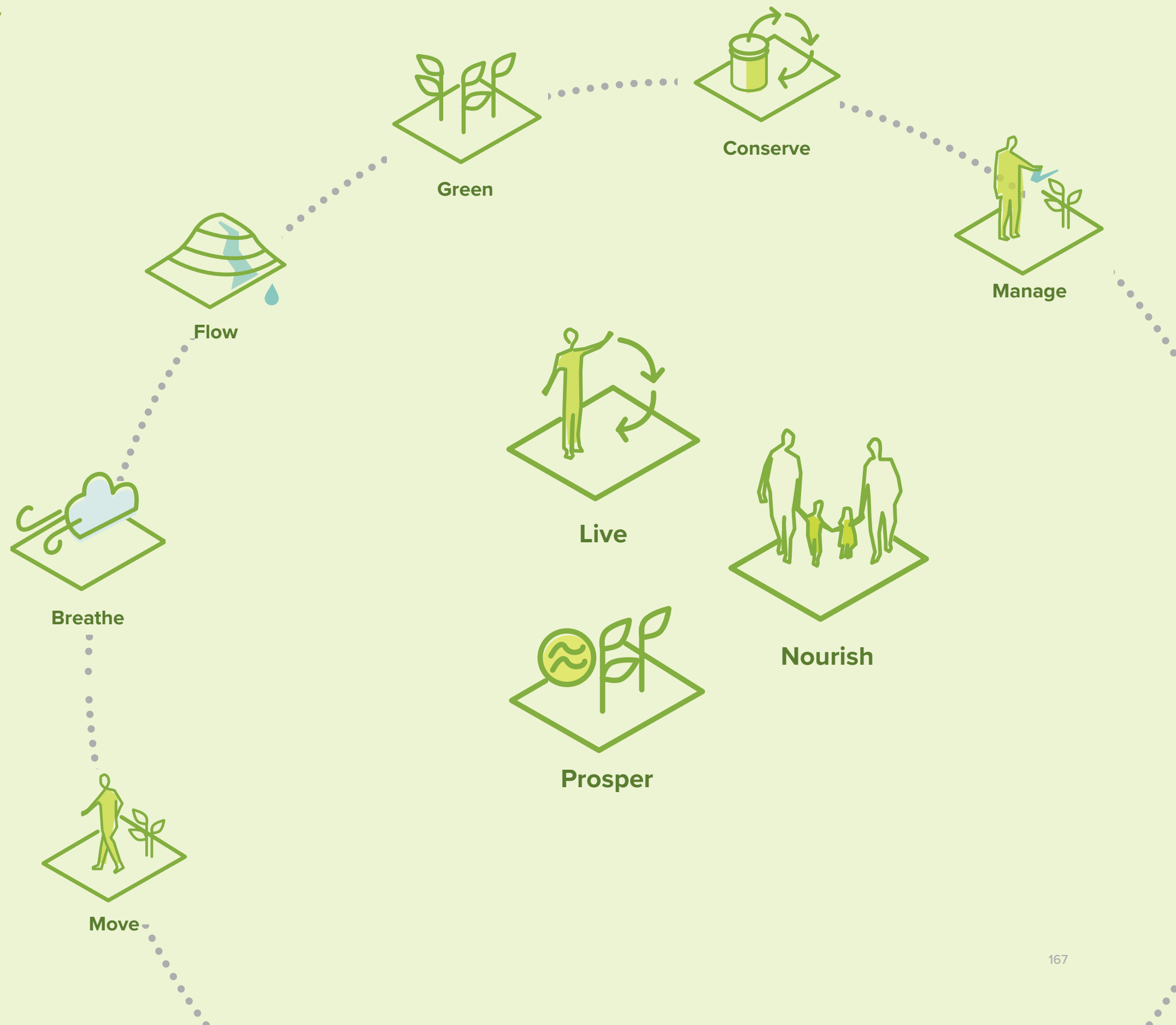


Sustainability & Resiliency in the Built & Natural Environment

Sustainability and resiliency are at the core of Burnaby Lake Heights' future proofing approach to community development, ensuring that the community will be able to adapt over time and continue to thrive in an evolving context of change.

As described earlier in the *Public Realm Concept* subsection, the natural environment plays a key role in the placemaking of Burnaby Lake Heights. This subsection outlines the components of the Master Plan that advances a number of important climate action and smart city policy directions identified in Burnaby's Sustainability checklists and the Bainbridge Community Plan.

These checklists have been completed and attached as Appendix 1.



Environmental Sustainability Strategy



Healthy and Resilient Ecosystems

Green

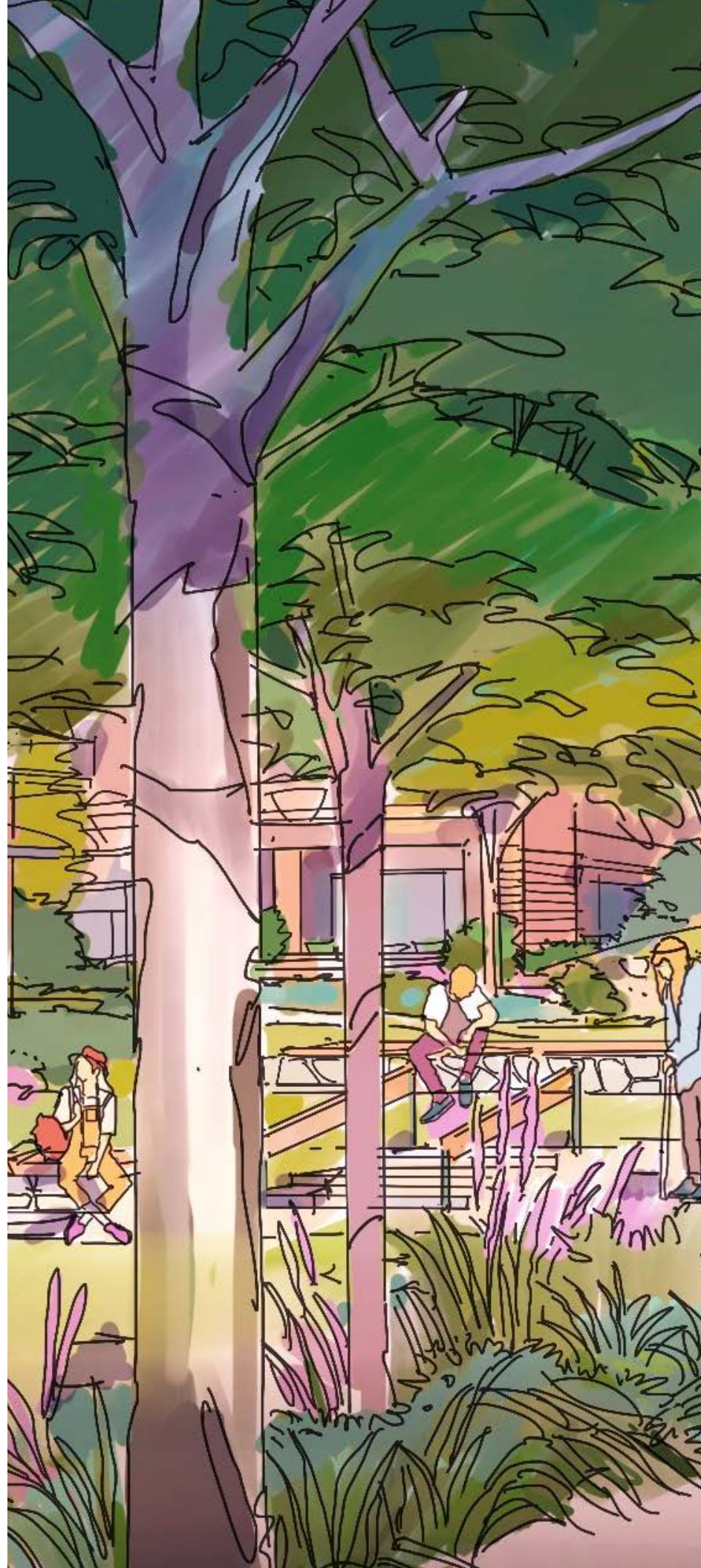
7000 Lougheed Highway today is a former industrial site with some legacy contamination and invasive species present within the few vegetated areas. Redevelopment of the site provides an opportunity to remediate historic contamination and remove invasive species. The proposal introduces soft landscaping, replacing predominantly built and hard surfaces with a range of native tree and plant species. The regeneration of the Forest Walk will specifically improve the environmental quality of this space as an ecosystem, enhancing its role as a connection between other vegetated areas north and south of the site. Buildings will follow best practices to limit bird collisions, and Dark Sky compliant outdoor lighting will be used. Together, these measures will repair and enhance the environmental quality of the site as a contributing part of broader healthy and resilient ecosystems.



Healthy and Resilient Watersheds

Flow

The site is located in the Brunette River Watershed within the Pollywog Creek catchment area, upstream of Still Creek and Burnaby Lake. Whereas the site today is predominantly hardscape or built, the redevelopment will introduce a range of soft landscaping, rain gardens, and street trees with soil infrastructure that act as rainwater management amenities. In addition, regeneration of the Forest Walk will improve its ability to act as an infiltration area for stormwater. Landscaping will explore integrated pest management and work to minimize the need for fertilizers and pesticides. Buildings will explore 'LEED equivalent' performance standards to minimize water use, along with potential for rainwater harvesting for irrigation. Along with removal of historic contamination, all of these measures will improve the quantity and quality of stormwater from the site, contributing to the health of downstream watersheds and positioning the site's landscape and natural elements to adapt and continue to thrive as weather patterns change over time.



A Community Resilient to Climate Change, with Clean Air and Low Carbon Emissions

Breathe

The redevelopment incorporates best practice stormwater management strategies, reduces urban heat island effects, and provides low-carbon design measures all of which contribute to resilience. The Forest Walk similarly will have positive impacts for natural cooling and diversifying species to support resilience. The redevelopment will comply with applicable Step Code requirements applicable at the time of development, in alignment with the City's carbon reduction targets. Highly efficient units and buildings are proposed, following best practices for passive heating and cooling, to ensure buildings are able to maintain user comfort and low-carbon footprints as the climate shifts over time. Finally, the project introduces a range of local services and amenities, and extensive new walking and cycling connections, representing a major contribution to a more complete community that will promote active and public transit use, reducing the need for vehicular travel and related emissions. Together these strategies support overall resilience, community health and well-being, positioning the site to adapt to a changing climate and other potential disruptions that may occur over time.



A Network of Compact and Complete Communities, with a Fabric of Healthy Ecosystems

Live

The redevelopment will be a part of a strong, interconnected network of Urban Villages that will deliver extensive key community functions such as new housing in compact forms, including a diverse range of typologies, tenures, and affordable units. This housing will be delivered in a mixed-use form, including a range of retail, public services, amenities, and multi-purpose open spaces and connections that contribute to the creation of a compact, complete community interwoven with a series of green connections



A Walkable, Bikeable and Transit-Supported City that Supports a Healthy Community and Environment

Move

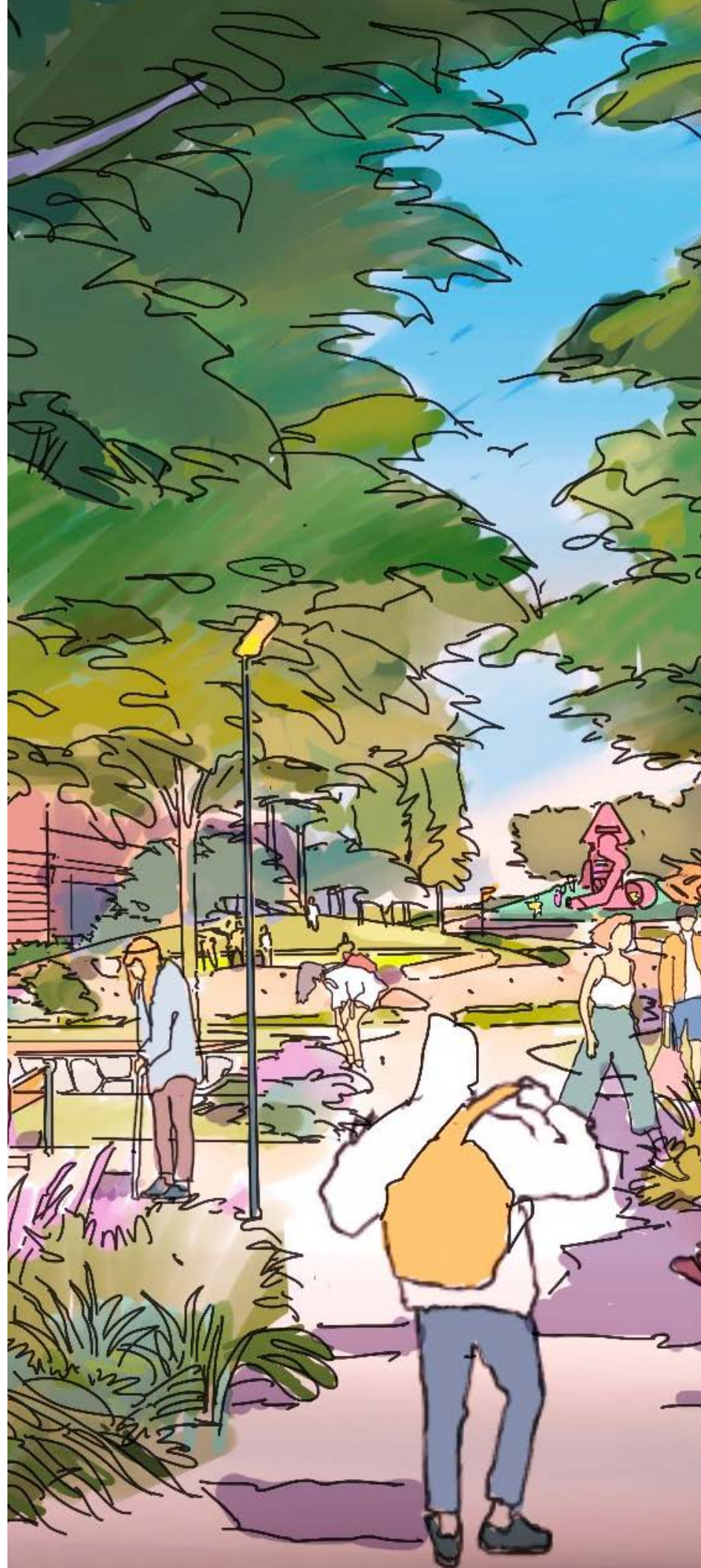
By breaking up a large former industrial site with a more permeable pattern of streets and blocks, the project enhances connectivity to the SkyTrain and introduces extensive new walking and cycling routes through the community. Public realm improvements will enhance these new connections, and existing pedestrian infrastructure at the site edges. The use of smart technologies and a range of other transportation demand strategies will also be implemented to reduce auto use and emissions. This will encourage other more sustainable alternatives, including reduced parking standards, opportunity for electric charging infrastructure, a potential micro-mobility pilot program with TransLink, subsidized transit passes for residents, and a subsidized car-share program. Together these strategies represent a major shift for the community, repositioning Bainbridge as a healthy, active and multi-modal community where day-to-day car use is truly not necessary.



A Prosperous Economy that Supports a Healthy Environment

Prosper

Redevelopment and remediation of this former under-utilized property to introduce transit-oriented densities and mixed-use development will have significant positive economic impacts in keeping with Burnaby's objectives. The City is also interested in encouraging green businesses to locate in Burnaby. While leasing of non-residential spaces will ultimately be market-driven, Create is interested in curating a range of businesses on the site and welcomes potential municipal incentives to encourage environmentally friendly and/or socially conscious businesses to locate in Burnaby. Setting the foundation for a circular economy will help to achieve a resilient environment for the Bainbridge community.



A Food System that Supports Healthy People, a Healthy Community and a Healthy Environment

Nourish

As a transit-oriented infill project, the redevelopment avoids any encroachment on prime agricultural land. With a focus on incorporating climate action initiatives, we recognize the value that local First Nations' traditional knowledge base and continuing stewardship play in implementing these decisions. The redevelopment encourages a healthy local food system, including a grocer within the project, and potential spaces for community gardens and food sharing programs, to be explored on a building-by-building basis as phased redevelopment unfolds.



World-Leading Waste Reduction, Diversion and Management

Conserve

At future site-specific phases, the project will consider floor-plates and column layouts that offer maximum flexibility for future programming and changing needs. There are additional opportunities for adaptable reuse of spaces such as excess parking stalls which may be repurposed for future commercial or retail needs. The project will also consider opportunities for innovation in waste reduction, diversion and management through detailed design and construction planning, in compliance with City policies.



Environmentally Aware and Engaged Community Working Together to Improve Burnaby's Environmental Performance

Manage

The range of natural spaces integrated along the Serpentine and Forest Walk provide opportunities for related activities, and potential for interpretative signage highlighting innovative stormwater management practices, native species planting, and other environmentally focused aspects of the project. The Community Club also has the potential to provide facilities for a range of environmentally focused community groups, workshops and programs focused on environmental awareness and engagement.

Urban Forest Strategy

Trees are an important element of the public realm. Not only do healthy and robust trees provide cultural services that enhance the sense of place of our neighbourhoods, they also contribute to a number of other important ecosystem services in the urban environment such as urban habitat/foraging for urban bird pollinator species (provisioning services), regulation of pollutants and temperature caused by effects of urban heat islands (regulating services), and nutrient cycling (supporting services).

The **Burnaby Lake Heights** Street Tree Master Plan strives to meet urban forest best practices. These practices include tree selection of more than 10% of one species, 20% of one genus, and 30% of one family (MIT Sensible City LAB). Following this species mix formula, street trees across the site will be important contributor to site-wide biodiversity and climate adaptive design strategies. Street tree selection and siting also considers the important role of trees in urban microclimates. Prioritizing drought tolerant trees that are adaptive to rising temperatures - such as Scarlet Oak (*Quercus coccinia*) recommended along the southerly exposed Greenwood Street - is an important way this community will help mitigate the impacts of urban heat island effect while ensuring strategic site selection for certain tree species.

A detailed tree inventory can be found in the arborist report In Appendix C and a selection of recommended trees for each street and/or character precinct is listed in the Street Tree Master Plan in Section F.

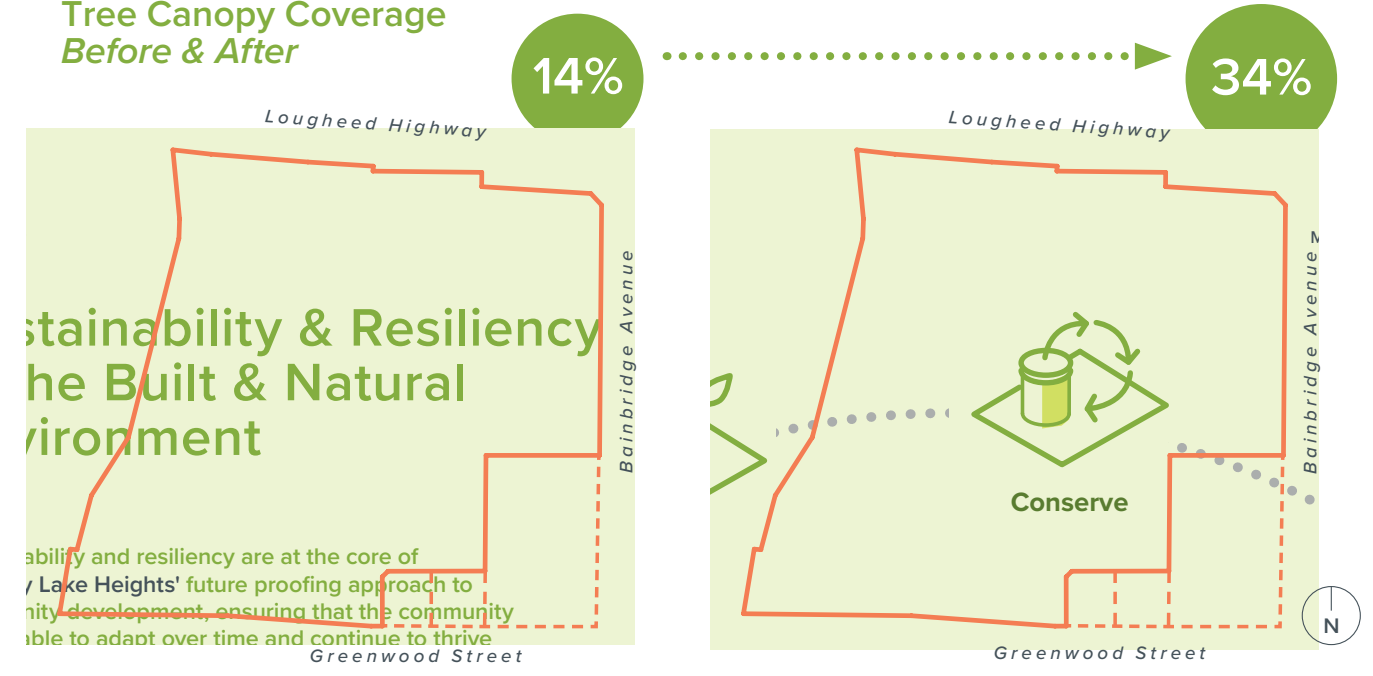


Green Fingers in the Neighbourhood Context



Heat Mapping in the Context of Neighbourhood Green Spaces

Tree Canopy Coverage Before & After



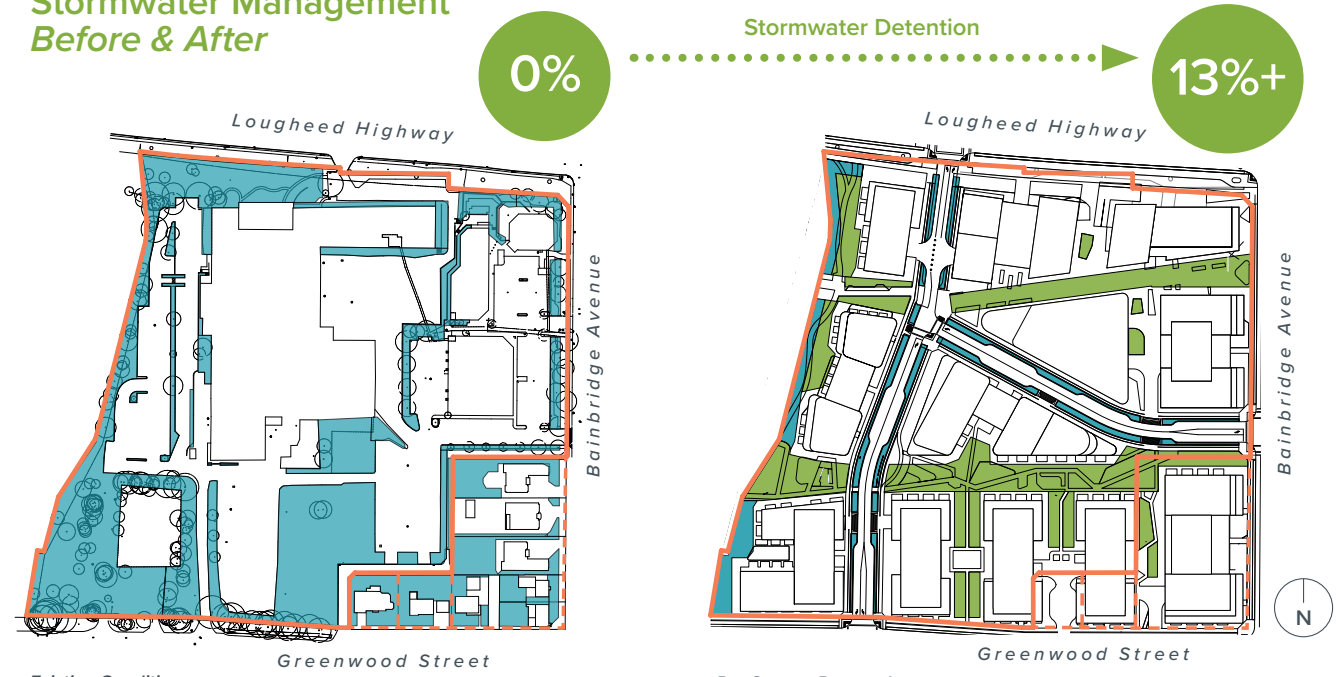
Existing Conditions - 14.15% of Total Site Area (97,284 sf / 9,038 sm)

Existing trees on site are found primarily along the escarpment on the western edge of the site. Additional clusters can be found on the southwest corner and planted around the commercial area on the north-east.

Per Current Proposal - 34.8% of Total Site Area (239,443 sf / 22,245 sm)

Tree canopy cover increases significantly in the redesign from 14% to almost 35%. Planting along streets as well as public realm contributes to a canopy cover that can persist through a changing climate.

Stormwater Management Before & After



Existing Conditions
Permeable Surface 33.3% of Total Site Area (229,616 sf / 21,332 sm)
Dedicated Detention Area 0% of Total (0 sf / 0 sm)

Existing permeable areas consist of spontaneous vegetation and invasive species. Impermeable areas consist of asphalt or structure.

Per Current Proposal
Permeable Surface 4.4% of Total Site Area (27,814 sf / 2,584 sm)
Dedicated Detention Area 13.2% of Total Site Area (90,481 sf / 8,406 sm)

Burnaby Lake Heights considers best management practices including permeable boulevards and rain gardens within street rights of way, as well as an area of the Forest Walk. The Esplanade and Serpentine consist of absorbent landscape on slab. There are also opportunities for rooftop amenities with absorbent landscape materials which will be determined at site-specific.

Economic Sustainability Strategy

Building a Strong, Livable, Healthy Community

The redevelopment features significant investment in community facilities and amenities that will support community health and quality of life. The Community Club will include childcare facilities, fitness facilities, lounge, and workspaces. The Forest Walk and Serpentine will include trails and community oriented open spaces. And the Esplanade will function as a pedestrian retail high street with a programmable public plaza. These amenities are combined with compact, transit-oriented housing including a significant affordable component, and employment generating uses on the site. Together, these elements embody the Economic Development Strategy's (EDS) priorities for a strong, livable and healthy community.

Making Efficient Use of Land

By nature of being a compact, transit-oriented redevelopment of an underutilized former industrial site, redevelopment makes much more efficient use of the site, and surrounding infrastructure including the SkyTrain station. The redevelopment will also help to diversify employment type and sectors and create economic resilience, maintaining employment uses on the site in the form of flexible live-work opportunities along with a range of spaces for office, retail and local services.

Creating Urban Character to Incentivize Diversified Investment

EDS priorities relate to public realm improvements and beautification, enhanced architectural character and urban design, reduction of surface car parking, and more generally positioning Burnaby as an attractive place to live and locate business. The redevelopment establishes a distinct Urban Village architectural typology, providing an alternative to more intensive podium-tower typologies typically seen in Town Centres. This distinct architecture is set within a rich public realm, with all parking located below grade. All of this investment in urban design will attract a range of new residents and businesses to the site and will better position the Bainbridge area in general to attract investment.

Striving for a Greener Community

As per the Environmental Sustainability Strategy summary in the previous section, the redevelopment exhibits leadership in advancing Burnaby's most recent policy directions on sustainability. The use of progressive industry-leading technologies and standards that meet or exceed the City's road map to carbon neutrality such as exploring opportunities for mass timber development and complying with Step Code requirements applicable at the time of development.

Biotechnology, Health, and Life Science

In relation to the EDS' priorities in this area for new development, the primary interest is an addressing the need for seniors-oriented housing in appropriate locations. The redevelopment will deliver 20% of single-level units as adaptable housing and explore flex units which may potentially include lock-off suites, thereby incorporating senior-friendly units into the building. Furthermore, the project will introduce senior-friendly spaces in a highly walkable and transit-oriented setting, including outdoor fitness stations and leisure spaces.

Tourism, Sport/Tournaments, Arts/Culture, Retail

The redevelopment is located near the Sperling/Burnaby Lake SkyTrain station, helping to provide an important and significantly enhanced gateway into Burnaby Lake Park and its regional recreation facilities. The Esplanade and Portal Plaza will also be a hub for arts/culture, with opportunities for gathering spaces, street parties, shopping, dining, public art and more. The Serpentine will facilitate a slower-paced environment for smaller gatherings and passive activities at an intimate, human scale. The overall natural environment will be key to implementing placemaking initiatives to contribute to the resiliency in Bainbridge. Together these spaces are well aligned with related priorities in the EDS.

Light Industry, Warehousing/Distribution

In relation to the EDS' priorities primarily focusing on maintaining a diverse resident workforce, the redevelopment includes a significant affordable housing component as well as service-oriented commercial/retail spaces along the Esplanade which are anticipated to provide diverse employment opportunities. Of the proposed commercial space, this includes live-work townhomes which may incorporate accessory light industrial or manufacturing uses at grade.

Social Integration, Not-for-Profit

This facet of the EDS highlights the need for diversity, equity, affordability, and not-for-profit integration among other goals. The redevelopment will integrate a diverse range of housing with a significant affordable and market rental component, thereby supporting inclusive communities. A range of indoor and outdoor amenity spaces will be integrated at the building scale, in addition to the previously mentioned Community Club, providing abundant spaces to support not-for-profit community organizations and social gatherings. Provision of on-site childcare with plans for private after-school educational programming, outdoor playgrounds, and fitness centres further contribute to the range of spaces and programming that will support social integration and a cohesive day-today community life.



Social Sustainability Strategy

Meeting Basic Needs

Burnaby and the broader Lower Mainland are in the midst of a housing crisis, with Burnaby exhibiting leadership through new policy directions to secure new housing, including affordable units and purpose built rental. The redevelopment will deliver over 400 inclusionary affordable rental homes at below-market rents, along with market rental units with a high proportion of two- and three-bedroom units. Extensive new housing is provided in a mixed-use format with on-site day-care and a range of resident amenities included previously mentioned outdoor amenity spaces and the Community Club. Through integration of community-oriented retail, services and a full range of mobility improvements that support walking, biking and transit use, the project truly aims to meet residents' basic needs with regards to housing, childcare, mobility, and recreation in an exemplary new complete community.

Celebrating Diversity and Culture

The redevelopment works to address the needs of residents, workers and visitors of all ages and abilities by providing accessible grading site-wide, through the range of new trails, the retail high street, and new green spaces. The Community Club, Esplanade and other amenity spaces provide a range of shared facilities capable of supporting celebrations and other local cultural activities. Through the detailed design of new public spaces, the redevelopment will explore opportunities to integrate public art and commemoration, in collaboration with local artists.

Getting Involved

Through the development approvals process, consultation strategies will be developed in parallel with the Bainbridge Urban Village Community Plan to provide opportunities for community involvement. The redevelopment will work to implement feedback received through both processes, both at the Master Plan stage, and as detailed design and phased redevelopment advances to ensure new amenities reflect community needs and aspirations. Once built, the range of amenities and facilities mentioned in previous sections will continue to provide opportunities for an active and engaged community.

Learning for Life

Provision of facilities such as the Community Club will provide opportunities for programming that could support lifelong learning. Wayfinding and interpretation signage will also be coordinated with landscape design, providing opportunities to learn about key features of the site and/or to commemorate local history.

Enhancing Neighbourhoods

This strategic priority is concerned with using engaging urban design to create a sense of place, including indoor and outdoor community gathering spaces and affordable facilities for community organizations. The range of formal and informal community amenity spaces along the Serpentine, Forest Walk and Esplanade, new amenity spaces and buildings, and the Community Club all work to create opportunities to enhance community resiliency and mitigate the impacts of climate change through outdoor public spaces, seating areas, and mobility routes. These modes will contribute to foster community and social sustainability for both new and existing residents of the area.

Getting Around

The redevelopment features extensive mobility improvements prioritizing walking, cycling and transit use by introducing new routes that complete connections to key destinations such as the SkyTrain, Burnaby Lake Park, and the range of new amenities on the site. High-quality public realm design will ensure an enjoyable experience for pedestrians and cyclists, and careful attention has been paid to grading to ensure barrier-free design and accessibility. A range of TDM measures including subsidized transit passes for residents, potential subsidized car-share, potential micro-mobility partnerships with TransLink, and reduced parking rates will further encourage and prioritize alternatives to vehicular travel.

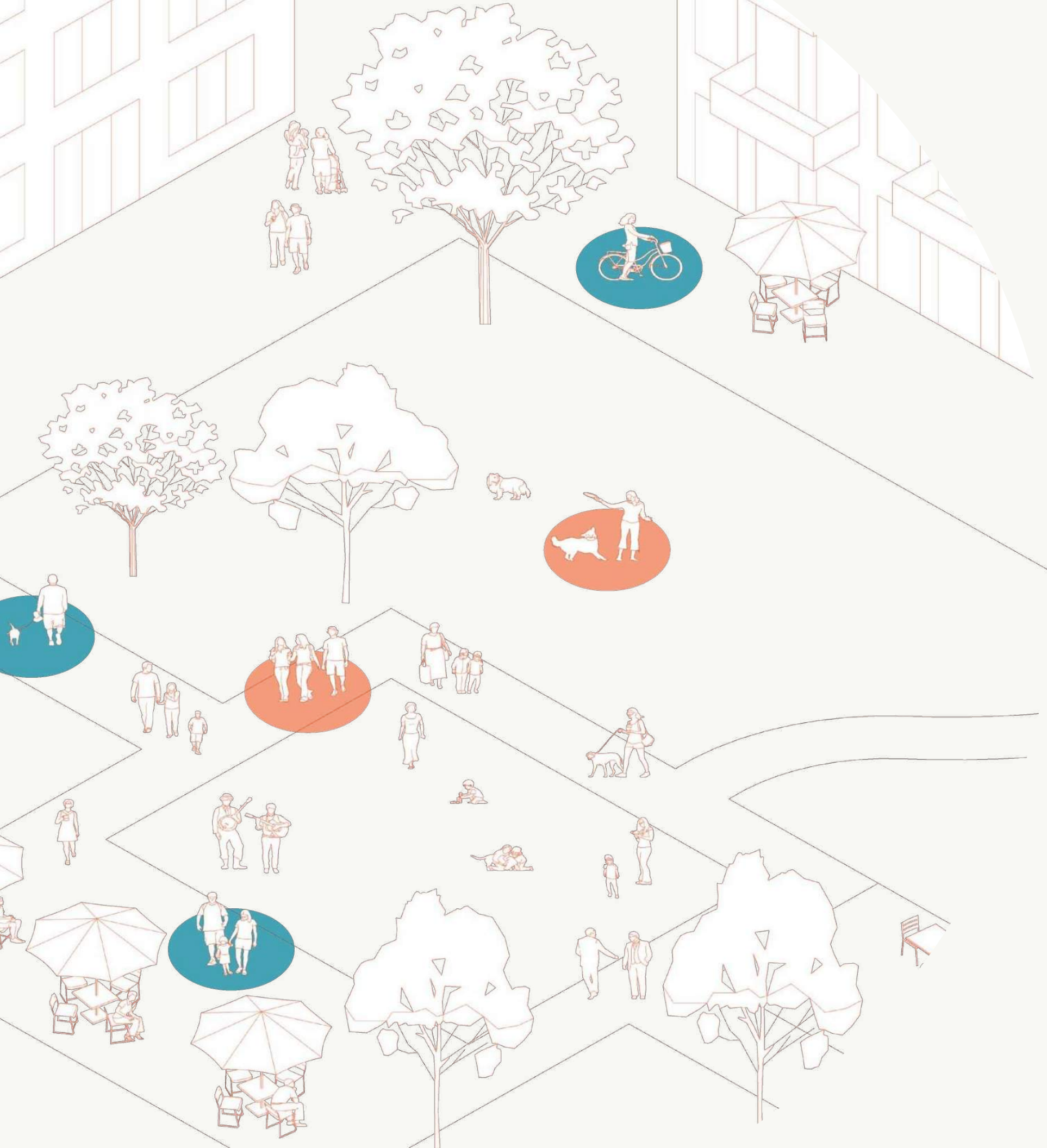
Protecting Our Community

The redevelopment utilizes best practices in Crime Prevention Through Environmental Design, with buildings oriented and programmed to animate and provide natural surveillance of the range of new public spaces provided on the site. Landscape design incorporates lighting and ensures clear site lines. Dedicated infrastructure and well-designed crossings for pedestrians and cyclists improve safety, along with wayfinding signage and other unique design features such as pavement treatments. The result is an attractive, inviting and safe public realm.

Sustainability & Resiliency Strategy Summary

The Master Plan incorporates a number of mutually-supportive sustainability and resiliency initiatives, implementing a broad range of directions covered by the City's three checklists and the Bainbridge Community Plan. These elements of the Master Plan illustrate how the redevelopment will truly achieve a three-pillared approach to environmental, economic and social sustainability, supporting a strong economy, healthy environment and resilient, inclusive community.





SECTION E

Design Guidelines

Public Realm & Site-Wide Planning

Built Form

The Burnaby Lake Heights Master Plan Design Guidelines are organized into two parts: (1) the Public Realm Framework and (2) Built Form. Each section outlines the design intent, general guidelines, followed by Character Area or Precinct-specific guidelines.

These guidelines will inform the phased build out of the site over time, also helping to implement the vision, big moves and range of new policy directions within the Bainbridge Community Plan.

In particular, the guidelines are well aligned with the Community Plan's focus on sustainable placemaking as a core value, seeking to create a well-connected complete community that encourages social interaction, provides a range of new housing options, supports the local economy and businesses, all set within a public realm framework that supports both day-to-day community life and stewardship of the natural environment.

Public Realm & Site-Wide Planning

Streetscape and Public Realm

Intent

The overall public and private landscape expression will play a key role in integrating this new neighborhood into the surrounding Bainbridge community. The intent is to ensure that there is a seamless transition from the existing parks, open space, road systems and neighborhoods. To achieve this, the **Burnaby Lake Heights** landscape design has embraced drawing inspiration from Burnaby Lake Park and providing continuity across the neighboring 6800 Lougheed site to provide a new landscape typology that integrates within the Bainbridge residential neighborhood.

These landscape typologies bring a mix of expression ranging from natural systems, revitalizing local ecology to urban spaces that enable vibrant activity. This mix will establish Burnaby Lake Heights as a destination for vibrant day-to-day activities that will energize and activate the existing neighborhood.

To ensure that the Burnaby Lake Heights public and private open space design creates a strong sense of community we have prioritized walking, cycling, and transit as organizing elements. This community centered Master Plan proposes open spaces that are thoughtfully designed to be responsive to human scale movement and interaction. The public realm will enhance the enjoyment while ensuring strong connections to the surrounding Bainbridge community.

Though vehicle movement is recognized as essential infrastructure, to ensure pedestrian priority, road widths and lengths have been carefully planned to ensure efficient circulation while minimizing its impact on the pedestrian experience.



Note: Building L subject to acquisition. Building N to be developed by others.

Key Public Realm Features within Burnaby Lake Heights

Intent (continued)

Approach to Landscape Design

The landscape guidelines provide direction for the range of public and private realm landscapes that make up the subject Master Plan community. They include key areas where the character of the landscape is important to creating the envisioned sense of place of Burnaby Lake Heights.

Design Approach

A wide variety of approaches to the landscape design may be encouraged to create variety and richness within the community. However, all design solutions should satisfy a number of landscape design principles that are key to the overall approach.

Context and Character

Burnaby Lake Heights is located in the heart of Burnaby. The site is located east of Sperling SkyTrain Station within 6-8 min walking distance of Burnaby Lake Park and an active residential neighborhood. The landscape design for the Master Plan should aim to draw on these natural, urban and physical contexts.

Sustainability

Burnaby Lake Heights has been planned as a vibrant, sustainable urban community. All aspects of the landscape design should support this philosophy including satisfying the need for prudent water use, provision for biodiversity, appropriate rainwater management and responsible material selection. Sustainable aspects of the landscape design such as rainwater management and treatment features should be seen as opportunities

to provide richness to the visual character of the development.

Ensure project is environmentally, socially and economically sustainable and contributes to the overall viability of the larger community.

Goals

The proposed goals are guiding elements for both the public and private realm. These are intended to help achieve a coherent character and sense of place for all of Burnaby Lake Heights.

Unique Identity

Create a unique sense of place that celebrates the site's special location in Burnaby's Natural network and the adjacent uses of Burnaby Lake Park, Skytrain, 6800 Lougheed and the Bainbridge residential neighborhood.

Connectivity

Ensure site is connected to the neighborhood and the greater community. Provide activities and facilities for the surrounding neighbourhoods and the greater community. Create obvious physical connections within the site to landmarks, special places, work centres and amenities. Capitalize on the adjacent rapid transit network connection to the region.

Adaptability

Pathways and gathering spaces throughout Burnaby Lake Heights adapt to different uses at different times of the day. The thoughtfully designed landscaping addresses ever changing climate with planting and soil depths, instilling resiliency.

Diversity

Create a mix of uses to support neighborhood activity and community. Provide for a diversity of homes, services and amenities that complement surrounding land uses and are accessible to all age groups.

Design Excellence

Develop an outstanding neighborhood with urban design language that is readily understandable to the general public. Provide a design that is efficient, functional and responds to the needs of target users while retaining the flexibility through design to adapt to changing future needs.

Respectful Transitions

Ensure project integrates with the existing surroundings and residential areas. The project enhances the public realm, offering greenway connections throughout, and further connection to Burnaby Lake Park.

Crime Prevention Through Environmental Design (CPTED)

CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts. Generally speaking, most implementations of CPTED occur solely within the urbanized, built environment. Specifically altering the physical design of the communities in which humans reside and congregate in order to deter criminal activity is the main goal of CPTED.

CPTED principles of design affect elements of the built environment ranging from the small-scale

(such as the strategic use of landscape materials) to the overarching, including building form of an entire urban neighborhood and the amount of opportunity for "eyes on the street".

Natural Surveillance

Natural surveillance mitigates the threat of apprehension by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction among legitimate users of private and public space.

Natural Surveillance is strongly emphasized by our design:

- All of the streets have retail, residential or office windows overlooking the streets.
- All of the streets are intended to be active with pedestrian traffic, bicycle traffic and vehicular traffic.
- Landscape design provides access control through designated points of entry.
- The lighting design will avoid poorly placed lights that create blind spots, all areas of the public realm will be well lit such as sidewalks, pathways, stairs and parking areas.
- Additionally, the lighting will not be so bright to create blind spots, deep shadows or glare.

General Guidelines

Paving Materials

Paving materials play an important role in defining the character of public and private spaces and should be carefully considered with respect to aesthetic, scale, function, maintenance and cost.

Sidewalks, street crossings and curb let downs broom finished, scored, cast in place concrete shall be used for public sidewalks, pedestrian curb let downs and pedestrian street crossings. Exceptions to the use of concrete for public sidewalks include locations where public plazas or nodes occur directly adjacent to the sidewalk.

Consideration should be given to extending the paving material of public plazas and node to the back face of the street curb.

Paving materials for plazas and nodes in the public realm and courtyards and entry spaces in the private realm may include a wider use of options including concrete unit pavers, stone pavers and concrete. The material selection will relate to the detail design, function and program of the space, aesthetic character and maintenance parameters.

Paving materials for parks and greenways may take on a more ecological imperative that encourages permeability. Materials including crushed stone, timber and alternative board walk and permeable pavers should be considered and used where practical.

Site Furnishings

Site furnishings when coordinated with paving materials and lighting will help define the character of public places. The design intent for Burnaby Lake Heights is to employ durable site furnishings that share common materials, colours, massing, shapes, forms and aesthetic values.

The family of furnishings may be broken down to respond to the three public realm components that include the Esplanade, Serpentine and the Forest Walk. The aesthetic value of the site furnishings should respond to the unique character of these three areas and strengthen their overall design expression and sense of place.

The family of furnishings includes benches, bike racks, drinking fountains, trash cans, recycling stations, tree grades/ guards and bollards. Generally, site furnishing materials should be made of metal and may include durable, rot resistant, dense wood such as Trex composite and Ipe. Benches should have backs and arm rests to ensure ease of use for seniors and persons with limited abilities. The final design and product selection will be based on aesthetics, durability, availability and cost.



Stone and Unit Paver Character



Solid Material Seating



Custom Seat Furnishings



Integrated Seating with Planters



Public Realm Character Lighting

Landscape Lighting

The selection of light fixtures including poles, luminaires, bollards, wall and step lights in the public realm should be part of a family of fixtures that are used throughout **Burnaby Lake Heights**. These light elements have a strong visual presence and contribute to the overall look and feel of this new neighborhood. A special lighting zone along the Esplanade will elevate the pedestrian retail character and may be considered as a public art opportunity.

Lighting in the private realm will help define the extent of the private realm and as such the form, massing and colour will reinforce the character and extent of private space.

Careful consideration should be given to the selection, placement, and design of landscape lighting in the public and private realm. In general, light distribution and intensity should strive to be dark sky friendly. Illumination levels should ensure safety and security. The USA Pattern Lighting Code Rating System or equivalent should be used as a guide to determine the appropriate light illumination values throughout public and private landscape spaces. Lamp type and colour rendition/light temperature should be consistent throughout **Burnaby Lake Heights** in both the public and private areas.

General Guidelines (continued)

Fences, Gates and Screens

The general intent of the **Burnaby Lake Heights** neighborhood landscape design is to seamlessly transition from public to private. Ideally, this is done without the use of fences but rather by manipulating the landscape and careful selection of plant density and type including the strategic use of hedge material.

Everywhere in which fences and/or gates are employed, they should be made of durable materials.

Vertical screens should be employed to create privacy in the private realm. The same principles that applied for fencing should be embraced for screens. Screens should be limited to the private realm and screen materials should be clean and simple.

Guardrails and Handrails

Guardrails and handrails shall be provided where required by building code. These hard landscape elements should be constructed of metal with durable finish. The style and design should respond to the surrounding family of hard landscape elements.

Walls

Where retaining walls are necessary, they should be constructed and finished with durable materials. Generally, wall heights should be less than 1.2 metres. Where greater vertical heights are unavoidable, walls shall be stepped. Care should be taken to ensure that the stepped wall design allows for sufficient room to include planting to soften the aesthetic appearance.

The material choice for the exposed wall finish should reflect the material palette and style of the adjacent public landscape, as well as adjacent architecture or character of the neighborhood. Timber and unit block walls are not allowed in the public realm and should only be employed in the private realm where they are out of public view.

Private / Public Realm Interface

The design of the private realm landscape must be complementary and supportive of adjoining public realm landscapes. For example, along park edges, the private realm landscape should be designed to take advantage of and complement the park setting and provide natural surveillance. Ground-oriented patios frame the Serpentine.

Where residential patios interface with the public realm, grade change, hedge planting, low fence and gate may define private space. Privacy screens may be employed between units.

Residential building amenities may also be located adjacent to the Serpentine. These spaces are intended to be visually connected, but physically separate. To distinguish between public and private space, design elements such as grade change, material differentiation and planting may be employed.



Public Realm Interface

Streetscape Guidelines

- 1. Sidewalks:** Sidewalks on both sides of street separated from street edge with a boulevard strip. Cast in place concrete with saw cut paver design.
- 2. Cycle Track:** Cast-in-place concrete separated from adjacent sidewalk with feature paver strip on local streets. On Lougheed, Bainbridge and Greenwood, a Burnaby standard asphalt path with painted markings to denote use and direction of travel. Designed to the standards outlined in the latest version of the BC Active Transportation Design Guide with input from city engineering requirements.
- 3. Lougheed Greenway:** Paving markings denoting shared use of pedestrians and cyclists.
- 4. Pedestrian and Bicycle Crossings:** Typically raised to the level of adjacent sidewalk or bike and multi-use pathways to signal pedestrian and cyclist priority. Cast-in-place concrete with fine grain scoring pattern responding to the pedestrian and bicycle scale. Designed with input from city engineering department.
- 5. Street Concept:** The street network for Burnaby Lake Heights is intended to contribute to the overall open space framework. Street layout maximizes the opportunities for open space, contributes to permeability of the neighborhood, and facilitates logical connections to the existing street grid. The street layout prioritizes active mobility and ensures connectivity with the adjacent routes.
- 6. Parallel Parking Surface Material:** Parallel on street parking areas should be a higher quality and visually different from asphalt road surface, concrete unit pavers with appropriate CIP concrete edge preferred.



Public Realm Interface

Streetscape Guidelines (continued)

- 7. Rain Gardens:** Located strategically throughout the site. Planting shall encourage biodiversity and seasonal interest, respond to drought and saturated conditions. See Rain Garden Planting.
- 8. Street Lights:** Pedestrian Corridor Lights-character lights used throughout Burnaby Lake Heights for safety and security. Pole and luminaire should be consistent throughout with pedestrian level lighting at 4.5m height facing sidewalk.
- 9. Street Furnishings:** Derived from an overall family of elements that reflect a progressive urban character. See Public Realm Furnishings.
- 10. Street Trees:** Growing medium volumes to Canadian Landscape Standard. Use of engineered soil root zones i.e. soil cells, structural growing medium in contiguous trenches to attain volumes sufficient to support long term tree growth within boulevards. Species selection as per Street Tree Master Plan.
- 11. Awning and Weather Protection:** Awnings and weather protection are important elements of the pedestrian oriented streetscape in this climate, the size of protection can vary depending on the traffic. Awnings and weather protection are to be provided by all commercial buildings as well as at entrances to residential buildings. The character of awnings and weather protection should be consistent with the character area and the building, to be reviewed at detailed design of site-specific phases.



Custom Street Furnishings



Character Pole Lighting

- 12. Flex Zones:** Flex zones are nodes which offer flexibility of use within the streetscape. There are opportunities along the Esplanade to provide hardscape zones for temporary uses compatible with a high traffic, commercial environment, for example, food trucks. Along the Lougheed Greenway, a flex zone would have high visibility to all modes, and would invite porosity into the liveliest area of the neighborhood. It also has the potential to accommodate large temporary uses. Along Residential streets, flex zones are small scale moments that serve as neighborhood nodes.



Flex Zones Circled

The programming for flex zones will be determined with City Planning and Transportation staff to best achieve complete streets that could accommodate emerging community or technology needs, including but not limited to various elements such as:

- street furniture and lighting;
- patios and plazas;
- electric charging stations;
- ride and car-sharing pick-up and drop-off areas;
- transit stops and shelters; and
- rainwater management features.