



DISTRICT OF
NORTH VANCOUVER
2015.07.13

LIONS GATE PUBLIC REALM STRATEGY

DESIGN GUIDELINES FOR PUBLIC REALM & OPEN SPACE





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Credits:

These design guidelines have been developed by the District of North Vancouver in collaboration with the consultant team of PWL Partnership Landscape Architects Inc. and the Office of McFarlane Biggar Architects + Designers, as informed and refined by community and stakeholder feedback.

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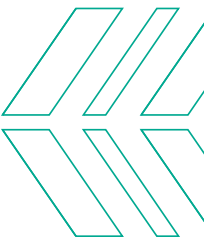
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1.0 INTRODUCTION



INTRODUCTION

Please note that the name "Lions Gate" now refers to the area formerly referred to as the "Lower Capilano / Marine" or "Capilano Village" Centre.

Background

The Lions Gate neighbourhood is located on the North Shore close to the Lions Gate Bridge and immediately north of the intersection of Marine Drive and Capilano Road. Set at the foot of the North Shore Mountains and beside the Capilano River, the area is rich with natural landscape, habitats, and views of downtown and the mountains.

Looking to 2030, Lions Gate will create a sense of excitement through its creative and quality public realm and architecture. The Lower Capilano Marine Village Centre Implementation Plan, envisions this area as: "a gateway to the District

(that) will function as a vibrant, walkable neighbourhood with local serving businesses, jobs, community recreation opportunities and a range of housing options".

This **Lions Gate Public Realm Strategy** recognizes the value of this centre as a gateway to the District and draws inspiration from its proximity to the Capilano River to create a strong design theme that is carried throughout the public realm to encourage a unified and distinct sense of place. A key objective is to develop a quality public realm that complements the natural beauty of the North Shore and the Capilano River, while supporting the social,

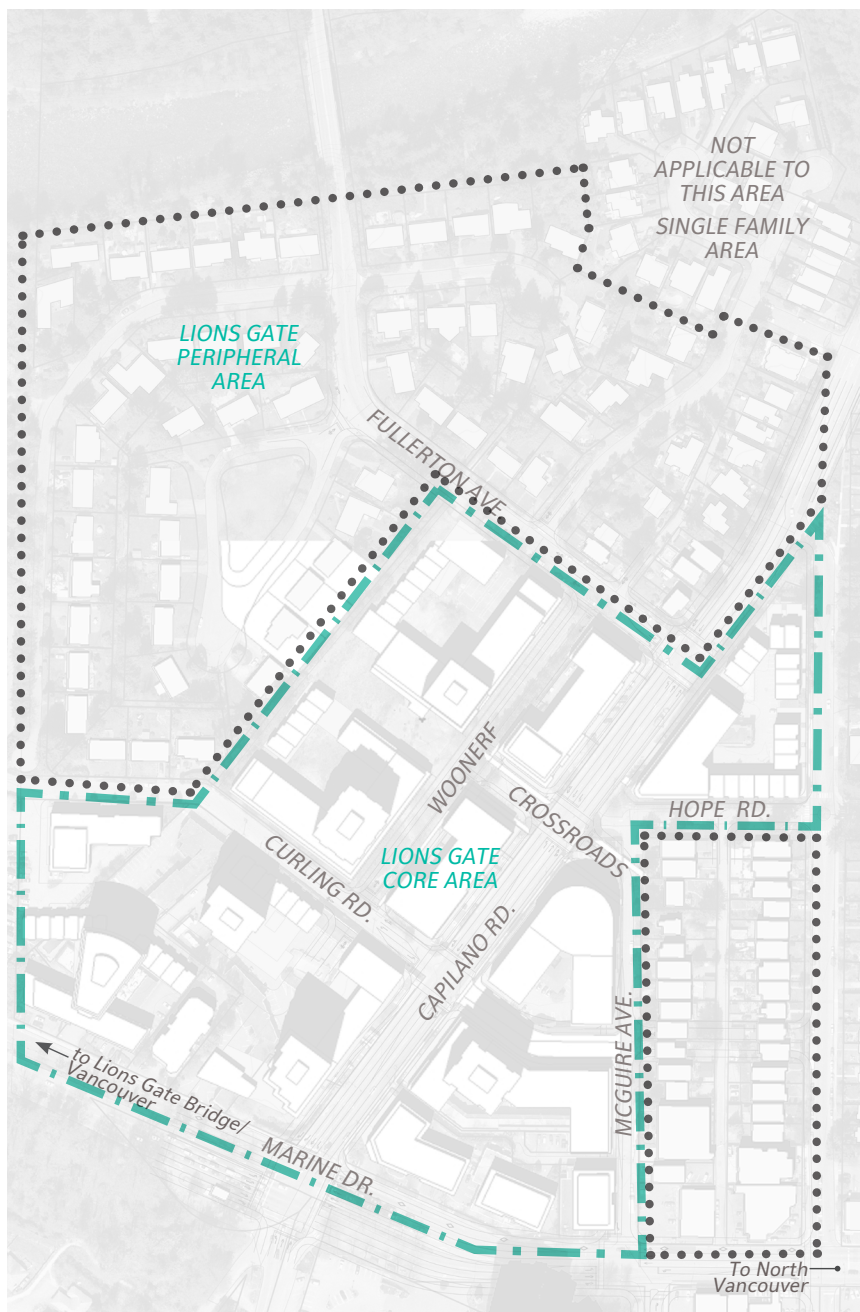
commercial and recreational life of this local community.

Consultation to Inform these Guidelines

The preparation of this document has been informed by community and stakeholder input involving a series of engagement events, design workshops, meetings and online forums with local residents, members of the general public, business owners, the Advisory Committee on Disability Issues (ACDI), Vancouver Coastal Health, the Advisory Design Panel, as well as development and consulting teams. Through these diverse engagement events held



CONTEXTUAL AERIAL PHOTO



LIONS GATE CENTRE AREA TO WHICH THE DESIGN GUIDELINES APPLY

↑ N
 ——— CORE AREA
 PERIPHERAL AREA

at key milestones throughout the planning and design process, a wide group of participants were able to provide input to help shape the design guidelines.

Purpose of the Guidelines

This Public Realm Strategy provides a design framework for the plazas, open spaces, parks, greenways, streetscapes and other public realm spaces within the centre of Lions Gate; and is intended to guide property owners, developers, design consultants, District staff and Council towards the achievement of the community vision for Lions Gate. While these design guidelines seek to create a consistent look and feel for the centre; they also enable flexibility, creativity and innovation as the centre develops and grows over time.

These design guidelines are applicable to the Lower Capilano Marine Village Centre as identified in the Official Community Plan and the Lions Gate Centre Implementation Plan. The centre (see map) is comprised of the mixed use central core and the surrounding lower density multi-family residential peripheral area. The majority of the design elements apply to the central core area with some basic design elements (overall design theme, material choices etc.) continued into the peripheral area, (with the exception of the single family area in the northeast corner), to ensure a consistent identity and character throughout this centre.





How to Use this Document

The District of North Vancouver's Official Community Plan (OCP, Bylaw 7900, 2011) and Lower Capilano Marine Village Centre Implementation Plan (2013) establish the land use and policy context for this centre. In addition, OCP Schedule B: Development Permit Areas includes a series of Form and Character Design Guidelines that apply to all commercial, industrial and multi-family development in the District including the Lions Gate Centre. The Lions Gate Public Realm Strategy supplements, and must be read in conjunction, with these policy documents.

Other applicable policies and plans include:

- Development Services Bylaw 7388 (2005) and other supplementary Municipal Standards
- The Lower Capilano Peripheral Housing Policy - 2014
- The Capilano Marine Village Centre Transportation Study -2013
- The Lower Capilano Marine Village Public Art Plan - 2012

The public realm guidelines are based on the land use concept plan as shown in the Lower Capilano Marine Village Centre Implementation Plan. The locations of new roads and buildings shown on the concept plan are approximate and may be adjusted during the course of the municipal review process of rezoning and development permit applications depending on the timing of development, land assemblies and other factors.

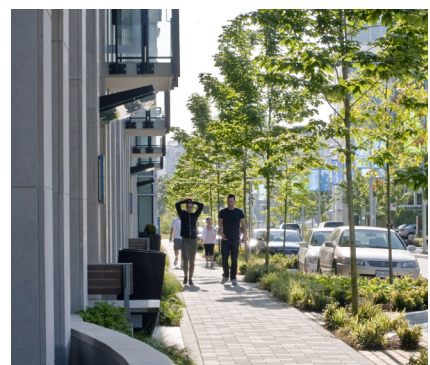
As part of development application review, applicants should provide plans for maintaining all public realm components.

Importantly, this document is to be used to guide decisions. It does not represent final decisions in themselves. Decisions on specific development applications and civic improvements will be made by Council, with full public input, on a case-by-case basis. This guiding document is neither prescriptive nor exhaustive, but rather illustrates the anticipated key directions for the centre.

Overarching Design Principles

Overarching principles to guide the public realm design for the Lions Gate Centre are as follows:

1. Create forms inspired by river systems
2. Provide distinct and diverse social spaces
3. Establish naturalized, intensive, and concentrated planting areas
4. Emphasize a strong pedestrian-oriented focus
5. Provide support for pedestrians, cyclists, and transit users as preferred modes of transportation
6. Allow for integrated uses of public spaces by creating flexible spaces
7. Ensure universal accessibility throughout
8. Apply the use of quality, durable and natural materials
9. Integrate sustainable features throughout



INSPIRATION: THE CAPILANO RIVER SYSTEM

A Public realm shaped by the flow of water

The public realm and architectural expression for the Lions Gate draws upon the Capilano River system, the key geographic feature of the area, and reflects its importance in the residents' identity of their community.

The key inspirational element is the flowing water of the river. It is the most significant element that shapes the character, functions and all aspects of the river system.

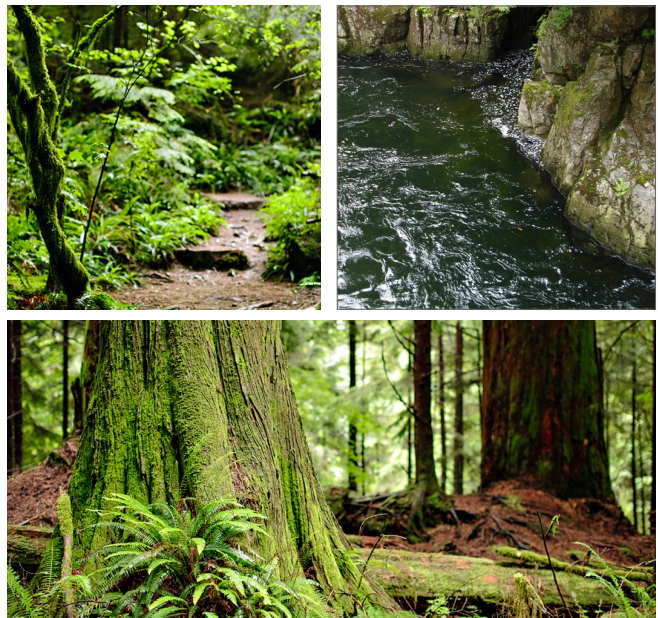
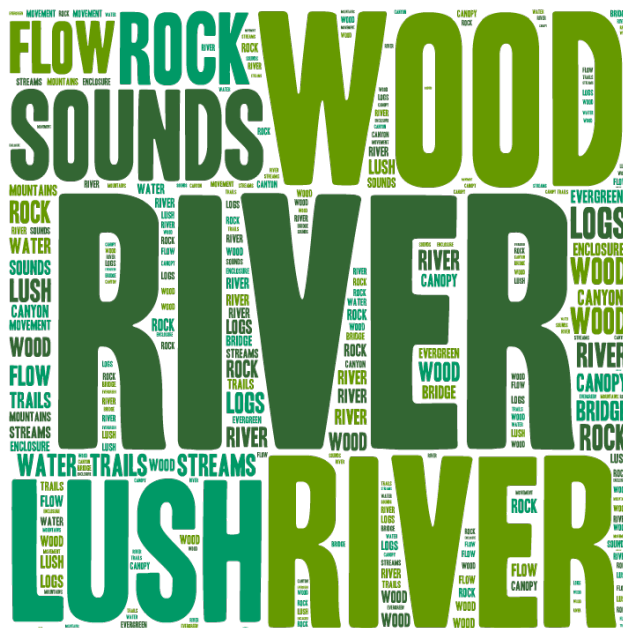
Architecture informed by natural landscapes

The forest canopy and the river's edge quietly support and frame the river. Drawing from this inspiration, the architecture of Lions Gate should strive to mimic the river bank and forest system with simple forms that are timeless, and ultimately support the enduring vibrancy of the public realm.

A Diverse landscape

The diverse riparian landscape of the Capilano watershed has many unique species and forms.

These guidelines seek to infuse the public realm with the experience of being in different areas of this natural landscape and to reflect the diversity of the Capilano river system.





Applying the Metaphor

The river concept applies the river system, and water flows, as a metaphor for the circulation routes in the centre.

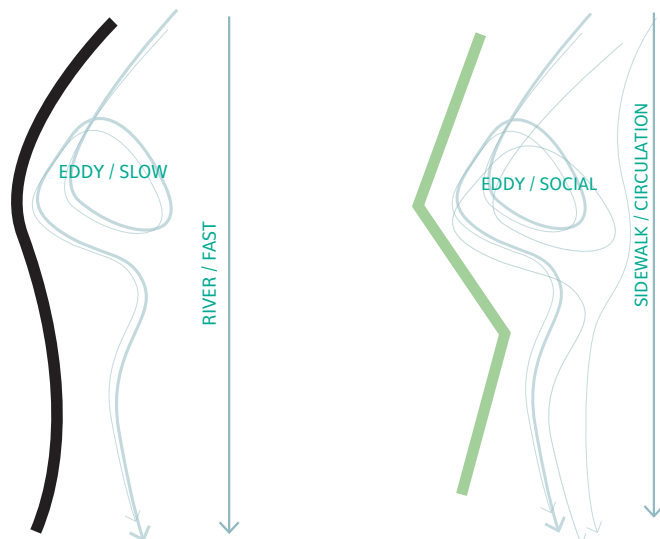
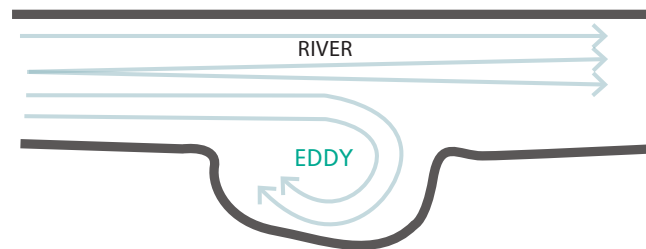
Capilano Road with the highest traffic volumes in the north-south direction is like the river. Its forms and scales are designed to accommodate higher volumes and speeds.

The "Crossroads" acts as a major connecting element and bridge between communities on the east and west sides of Capilano Road.

McGuire Avenue and the "Woonerf" with lower traffic volumes are like streams. Their scale is slower and more intimate, reflecting the different land uses and traffic speeds.

Curling Road and Fullerton Avenue are like tributaries through the forest further interconnecting flows of pedestrians, cyclists and vehicles into the larger circulation routes of the other streets.

Marine Drive on the southern limit of the project boundary represents the Burrard Inlet shoreline. It has the highest volumes of traffic and connects Lions Gate Centre to the wider North Shore.



RIVER / PUBLIC REALM FLOW

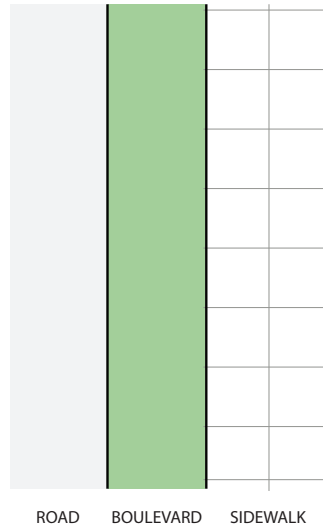
Flow

Water flows at different speeds across the width of a river; faster in the middle, slower at the edges and still slower in eddies along recesses of the shoreline or behind objects that block the water's path.

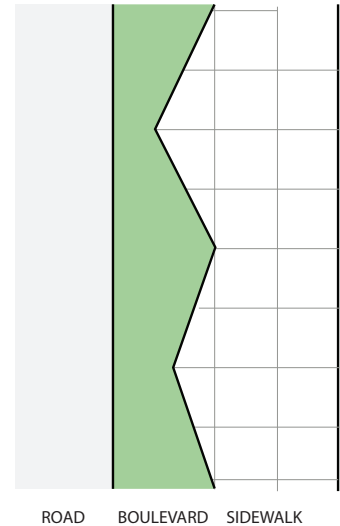
Applying this metaphor to the streetscape, the faster pedestrian circulation zone is placed adjacent to the buildings and has a simple paving pattern free of obstacles. Fast zones have the least pavement texture to facilitate unimpeded pedestrian movement. Rain protection is provided by the building cantilever or other cover above.

Eddies are quieter spaces placed adjacent to the sidewalks. The eddy zones are slower, flexible spaces with places to sit and where street furniture can be located without impacting the faster flow of pedestrians in the main sidewalk. Paving within the flex zones will have more texture suggesting a place to slow down and be more aware of the surroundings and activities.

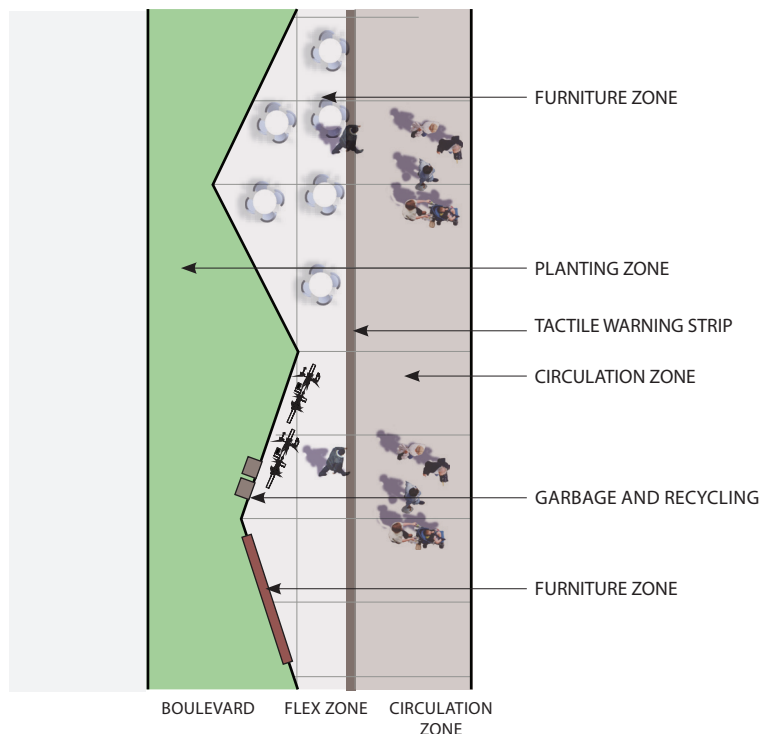
Trees and other landscaping representing the riparian edge of the river, are located in the boulevard zone. The boulevard acts as a buffer to the vehicle traffic, creating a pleasant environment for the seating areas.



TRADITIONAL
SIDEWALK GEOMETRY



RIVER CONCEPT
SIDEWALK GEOMETRY



ILLUSTRATED RIVER CONCEPT



2.0

CHARACTER AREAS

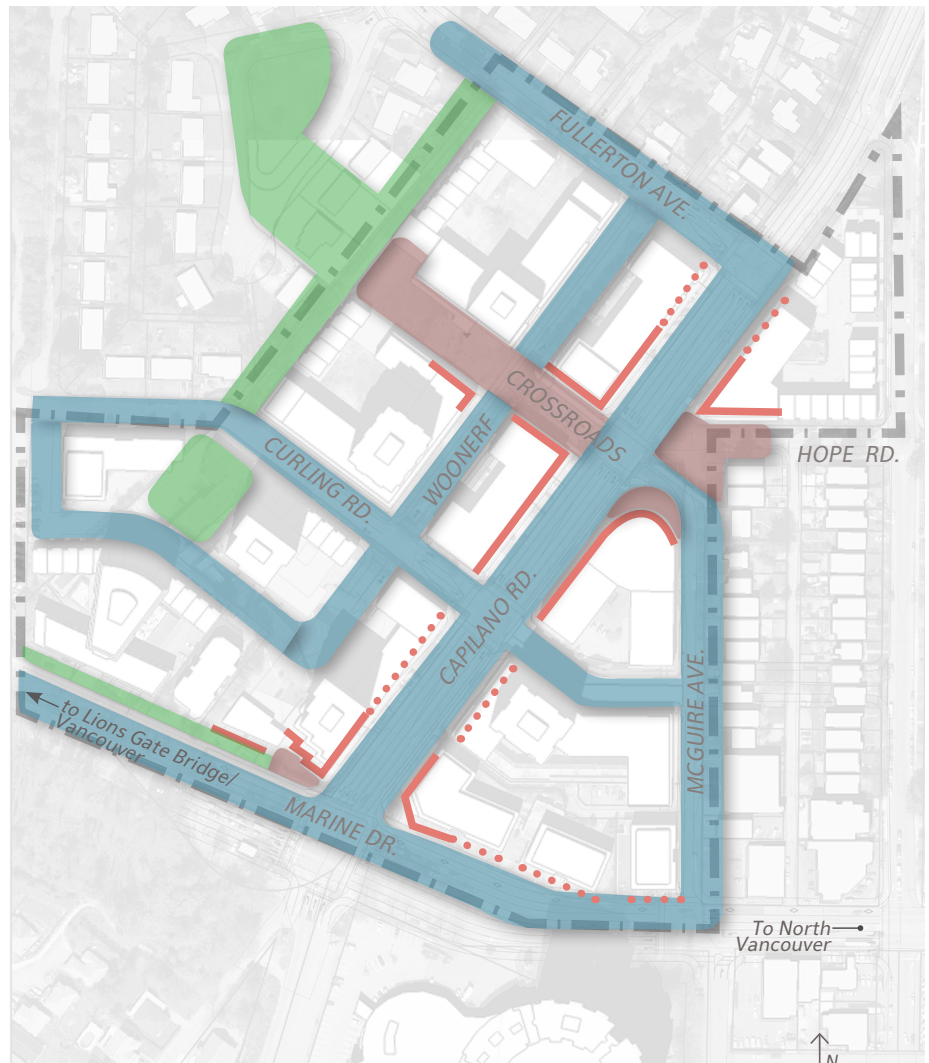




LIONS GATE CHARACTER AREAS

The centre of Lions Gate has three distinct character areas that are defined by their role in the neighbourhood, and the adjacent land uses. They are the Village Heart, the Village Streets, and the Neighbourhood Parks and Open Space. Design Guidelines for each of these distinct character areas are outlined in the following sections.

Overarching in all three areas is the sense of being in the natural landscape, but in a new and urban way. Robust, naturalized planting areas with informal tree layouts connect people to the forest. The indented edges of the sidewalk and the social eddies mimic the sunny rock outcroppings along the river that so many enjoy; and the clear and obvious routes for circulation match the natural efficiencies of the water flowing in the river.



KEY CHARACTER AREAS IN LIONS GATE

- » Village Heart and Plazas
- » Neighbourhood Parks and Open Space
- » Village Streets
- » Commercial Frontage
- » Choice of Commercial or Residential Frontage





CHARACTER AREAS: VILLAGE HEART & KEY PLAZAS

This section focuses on four of the main areas that together comprise the key public realm spaces in the village heart and at the Capilano / Marine Gateway to the centre.

1 The Village Green

The Village Green is a key element of the heart that connects to residential neighbourhoods to the west and Belle Isle Park, and serves as an area for more informal use.

2 Village Plaza

The Village Plaza will be the key social gathering space within the village heart. It will be urban in form and flexible to accommodate events and other community needs.

A new community center and local serving retail will establish this area as the center of activity and the most pedestrian oriented portion of the Village.

3 "Crossroads" Plaza

The "Crossroads" plaza is a key link to the eastern portions of the neighbourhood. It will be a critical connection to transit and a focal point along busy vehicular corridors.

4 Gateway Plaza

The Gateway Plaza will act as the southern entrance to the village centre drawing people into the village centre from the intersection of the two major vehicular routes.

General Character

1. Unique features such as special paving to emphasize pedestrian priority, lighting and the careful inclusion of cycling and vehicle connections.



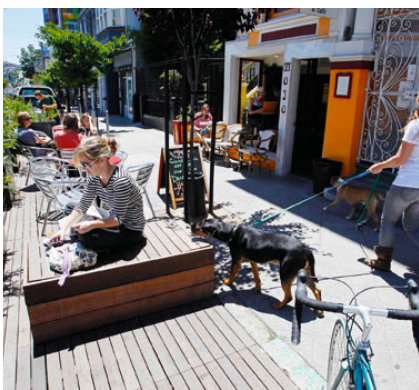
2. An abstract river flowing across the community from east to west visually linking the adjoining neighbourhoods to the Village Heart
3. Angular design style – modern interpretation of meandering river
4. Planting islands in the angular design style – unified but diverse

in character - should be of varied raised topography (bermed)

5. Community markers – welcoming and guiding through the neighbourhood
6. Unique lighting – a variety of lighting types which include overhead (catenary), street, pedestrian and bollard lighting.



VILLAGE HEART CONCEPT SKETCH SHOWING RELATIONSHIP AND CONNECTIONS OF KEY SPACES WITHIN THE HEART



ILLUSTRATIVE IMAGES





VILLAGE PLAZA

This central plaza will be the most important public space in the centre of Lions Gate. It is prominently located, and visible from the "Crossroads" and new north-south "Woonerf". It will become a focal point for most community activities and events within the Centre. The plaza will be a place to gather, play, and socialize. It will be oriented to community activities and needs to be flexible enough to accommodate farmer's markets, concerts, community barbecues, and other events.

The design and use of the central plaza must be closely integrated with the adjacent community centre, the Village Green to the west and the "Woonerf" to the east. The plaza

will serve as a spill-out area for the community centre.

Program Intent

- » A variety of covered areas that extend from the building edges into the plaza
- » Strong indoor-outdoor relationship for community services areas and retail spaces facing into the plaza
- » Ability to host community events
- » Retail edges at corners facing the plaza with spill out space for merchandise or seating
- » Easy and inviting access for people arriving by foot, bicycle and car
- » Clear visual connections and design relationship/unity with the "Woonerf" and "Crossroads"
- » Water feature to be flexible and invite play with the ability to be turned off to enlarge available hard surface area for events
- » Significant public art/water feature as community marker connecting to the Village Green
- » Mix of low walls for built-in seating and standard benches near the community centre
- » Drop off areas close to community centre entry
- » Provide electrical outlets with sufficient power for special events and at benches or seating areas



VILLAGE PLAZA DIAGRAM

Design Elements

- ① Abstract river flow theme through the space on the north, directs people to the community centre doors and beyond to the greenway
 - » The plaza space and Village Green should be designed as one unified space with different, but complimentary characteristics, which in turn connects to the Greenway and Belle Isle Park.
- ② Flexible community outdoor room
- ③ Urban with extensive hard surfacing with some shade tree
 - » The design should accommodate occasional closure of portions of the "Woonerf" and "Crossroads" to expand the available area for larger scale community events.
- ④
 - » Mainly hard surface (same pavers as "Woonerf" and "Crossroads") with ability to close off areas for events or games
 - » Islands of trees planted in crushed stone. Angular shaped planter concept mimicking the island concept
 - » Catenary lighting, irregularly shaped, over plaza space
 - » Wood decking at community centre entrance and adjacent to retail use



VILLAGE PLAZA: ILLUSTRATIVE IMAGES





VILLAGE GREEN

The Village Green complements the Village Plaza and will link to the rest of the park network. It has a softer, greener expression than the plaza with less hard surface and more planting. The Village Green should provide opportunities for active children's play (near the community centre) as well as quieter places to relax, read a book and socialize. A water channel connects the plaza water feature to its terminating element close to the Greenway.

Program Intent

- » Primary Function: Community open space and green connector
- » Play elements integrated throughout the space that engage active upper body movements
- » Visual and physical connections from the surrounding residential units to the park space
- » Pedestrian connections to adjacent residential development to the north and south
- » Open lawn areas with flat areas for picnicking etc, some sloped lawn areas for relaxing
- » Active childrens play area adjoining community centre, designed for diverse play activities.
- » Residential edges with patios facing Village Green
- » Future extension to connect with Belle Isle Park

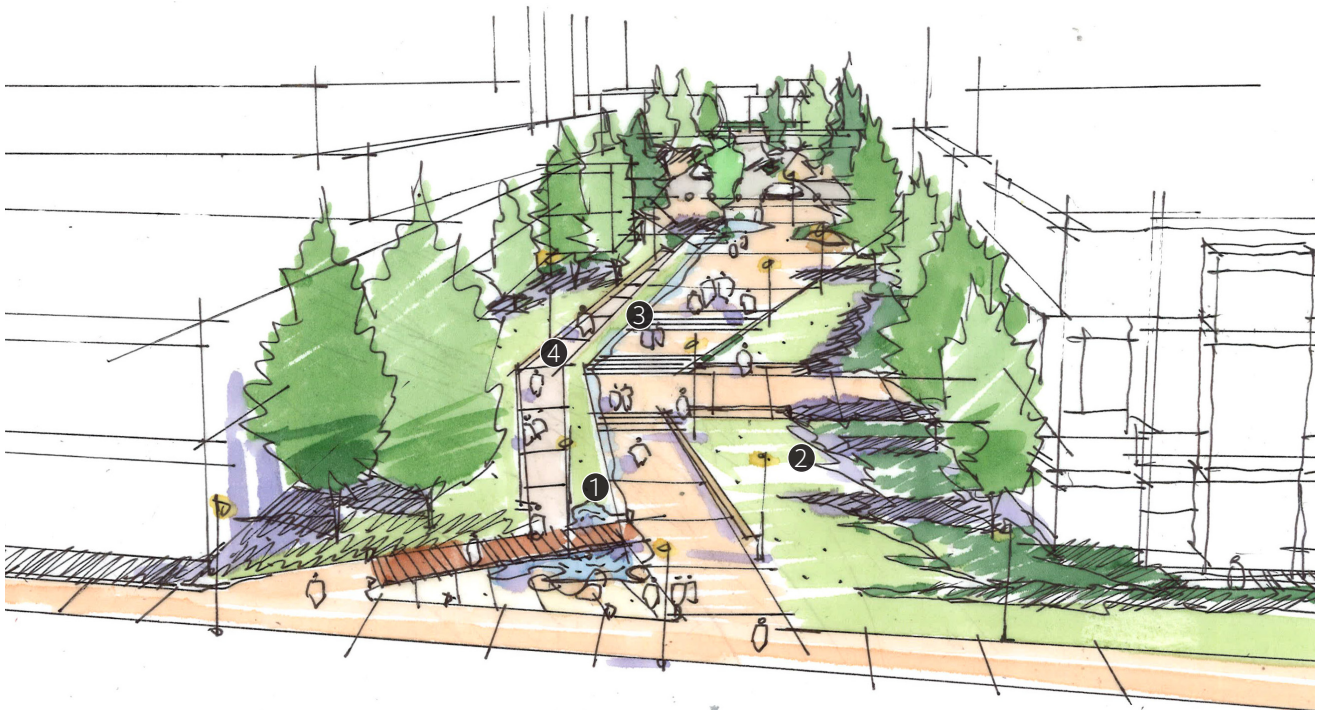


VILLAGE GREEN DIAGRAM

Design Elements

- ① » Integrated natural play areas and features combining water and landscape features
- ② » Soft and green landscape expression with bigger open lawn areas
- ③ » Abstracted river flows through the space connecting to the greenway from the plaza
 - » Naturalized rainwater management features integrated with pockets of soft landscape
 - » Open lawn areas with large trees in irregular groupings provide a mix of sunny and shaded areas.
 - » Water feature as play element, associated with central walkway and stairs, channel leading to
- ④ » Universal accessibility directly integrated into the overall design with sloped walkway to be less than 5%
 - » Seating for a broad range of users including manufactured site furniture and utilizing the grade change for seating walls
 - » Climbing nets attached to community centre building and climbing wall on building exterior to be considered
 - » Denser planting areas for residential screening and to define public / private spaces

greenway originating in the Village Plaza



VILLAGE GREEN: ILLUSTRATIVE PERSPECTIVE LOOKING EAST





"CROSSROADS" PLAZA

The "Crossroads" Plaza is the eastern gateway and act as a transition area from the Village Heart to the neighbourhood east of Capilano Road. Located at the east end of the "Crossroads". The "Crossroads" plaza is a secondary gathering place for the community. It will be programmed by surrounding retail uses and attract transit and other users.

Program Intent

- » Eastern gateway to centre and secondary plaza
- » Community hub, place of arrival and departure

- » Perimeter of plaza engaged with adjacent land uses for multiple "front door" opportunities
- » Possible patios for surrounding food service retail

Design Elements

- » Urban with extensive hard surfacing, substantial areas of soft landscape
- » Topographically diverse angular planters with a mix of deciduous and evergreen trees of varying height
- » Balanced hard and soft landscape expression

- ① » Seating with rain protection
- » Potential integrated transit stop with weather protected seating for departure and arrival
- ② » Feature pedestrian crossing at Capilano Road
- » Integrated depressions for rainwater management and planting as buffer to Capilano Road
- ③ » Vertical element as community marker and public art at intersection
- » Islands of crushed stone with canopy and evergreen trees and understory vegetation



CROSSROADS PLAZA DIAGRAM



CROSSROADS PLAZA: ILLUSTRATIVE PERSPECTIVE LOOKING EAST

SCALE: NTS





GATEWAY PLAZA

Located in the northwest corner of Capilano Road and Marine Drive, the Gateway Plaza is the southern gateway to the centre of Lions Gate. This plaza draws people in and transitions pedestrians from Marine Drive to the neighbourhood area. Retail uses around the edge of the plaza will help to animate and program the space.

Program Intent

- » Primary function: gateway to centre
- » Perimeter of plaza engaged with adjacent land uses for multiple "front door" opportunities
- » Seating with rain protection
- » Possible patios if there is surrounding food service retail
- » Vertical element as community marker and public art at Capilano Road / Marine Drive intersection

Design Elements

- » Should be urban in character with extensive hard surfacing
- » Areas of soft landscape included in topographically diverse angular design planters with a mix of deciduous and evergreen trees of varying height
- » Possible fountain for noise attenuation
- » Significant planting as buffer to Marine Drive
- » Islands of crushed stone with canopy and evergreen trees
- » Islands of understory vegetation with high deciduous canopy and evergreen trees



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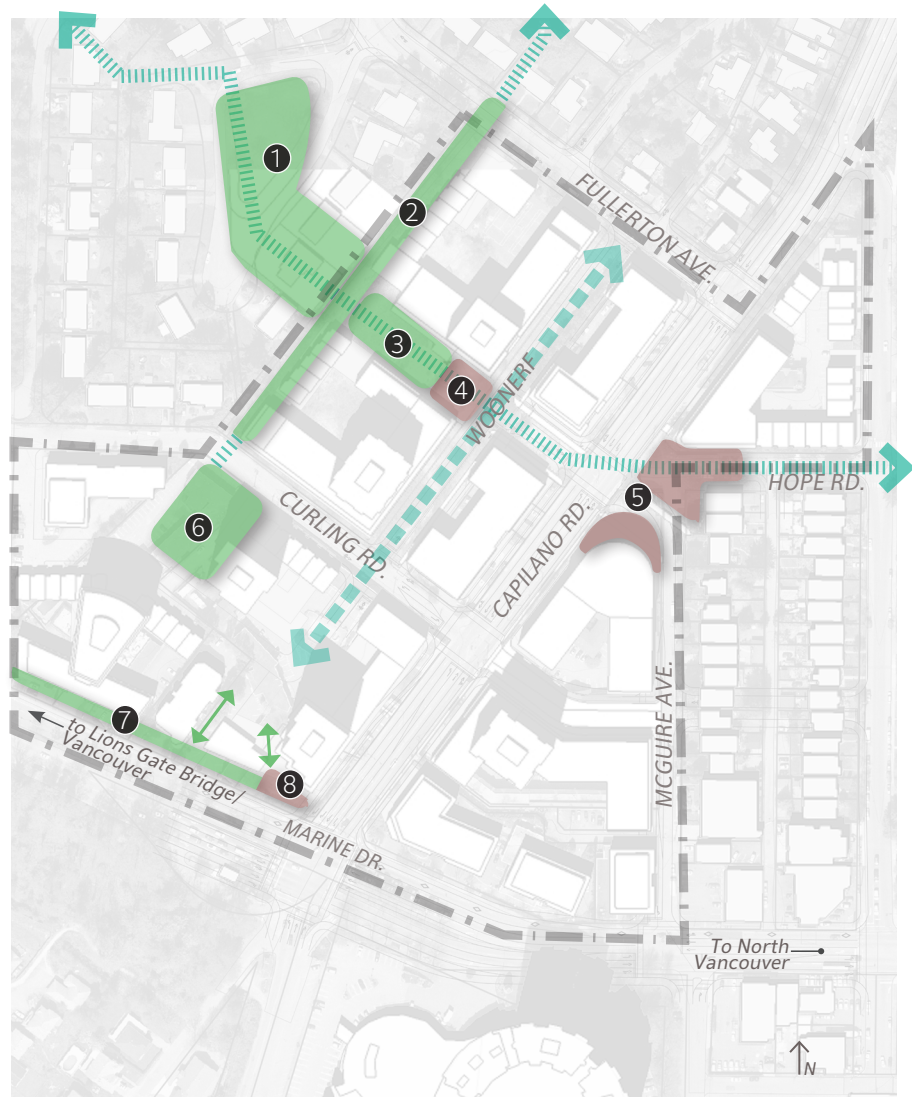
CHARACTER AREAS: NEIGHBOURHOOD PARKS, CONNECTIONS AND OPEN SPACES

Within the centre of Lions Gate, three neighbourhood parks, three plazas and two greenway connections are linked to form an internal network that serves to integrate the peripheral neighbourhoods into the village heart and facilitate future pedestrian connections to the Capilano River trail system and beyond.

The parks and plazas are collectively programmed as a well-connected hierarchy of park and open spaces serving the recreational and social needs of the community by providing programmed and informal play space, casual recreation, meeting places and green space for walking.

Parks and Open Space Network

1. Belle Isle Park
2. Greenway
3. Village Green
4. Village Plaza
5. "Crossroads" Plaza
6. Curling Road Park
7. Marine Greenway
8. Gateway Plaza



OPEN SPACE NETWORK MAP

- » Neighbourhood Parks and Open Space
- » Village Heart & Plazas
- » "Woonerf"
- » Major Pedestrian Connections
- » Pedestrian Green Connections



BELLE ISLE PARK

Belle Isle Park is an existing flat and relatively open grassed area. Present use for informal and passive activities should be retained with some added seating and tables.

Over time the intent is to explore opportunities to expand Belle Isle Park to reduce the extent of under-utilized paved surfaces and more fully connect the Park into the open space network to be contiguous with the Village Green.

The design program outlined below is based on an expanded Belle Isle Park.

Program Intent

- » A variety of seating types including tables
- » Open and sunny space for informal play, picnicking, relaxing
- » Open area for active and passive recreation
- » Hard surface multi-sport court (i.e. half basketball court)
- » Swings and other play features
- » The park should be primarily open lawn areas with seating opportunities
- » Potential for daycare with outdoor play space to be located adjacent to the park

Design Character

- » Should include large open areas framed by deciduous and evergreen trees for sunlight exposure
- » Small undulations in the topography and berms for views over the space
- » Informal groupings of trees in moderate sized planted areas of soft landscape understory to frame and protect the park from surrounding streets, "forest pockets" with seating opportunities



BELLE ISLE PARK: ILLUSTRATIVE IMAGES





CURLING ROAD PARK

Curling Road Park is envisioned as a new adventure play park with the secondary purpose being passive use. The park marks the start of the new greenway connection leading to the "Crossroads" and Village Heart. A feature sculpted berm with water play elements and safety surfacing around the perimeter is proposed. There is some open lawn area for passive use and a variety of seating including benches, tables and chaises lounges.

Program Intent

- » Adventure play on sculpted berm incorporating water play and / or slides
- » Some seating positioned for monitoring of play area

Design Character

- » Synthetic lawn surfacing on the berm, wide area of safety surfacing around the berm with variety of play elements
- » Planted berms around park perimeter to frame the park

- » Should be a unique mountain and forest inspired adventure play ground, surrounded by open lawn areas and berms to frame and protect the park from the surrounding streets, "forest pockets" with seating opportunities
- » The greenway character and expression should frame the west side of the park as it continues to connect with the crescent shaped street



CURLING ROAD PARK: ILLUSTRATIVE IMAGES



GREENWAY

The Greenway is envisioned as a 6.0 metre wide pedestrian priority connection from Fullerton Avenue to Curling Road. The Greenway provides connectivity throughout the centre of Lions Gate, reinforcing it as a walkable community and connecting park and plaza spaces.

Design Elements

- 1 » Deciduous and evergreen trees should create an overhead canopy and sense of enclosure along the length of the greenway
- 2 » The plantings should have a lush understory beneath a naturalized arrangement of a mix of trees
- 3 » 4.0 metre pathway with 2.0 metre landscaping buffer on west side
- 4 » Concrete surface to comfortably accommodate pedestrians and cyclists
- 5 » Linear "river village" sidewalk form with seating clusters in the "eddies"
- 6 » Pedestrian lighting
- 7 » Way finding signage
- 8 » Opportunities for "front door" connections to adjacent residential units on east and west sides

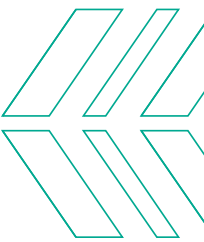


GREENWAY ILLUSTRATIVE PERSPECTIVE LOOKING NORTH





3.0 STREETS










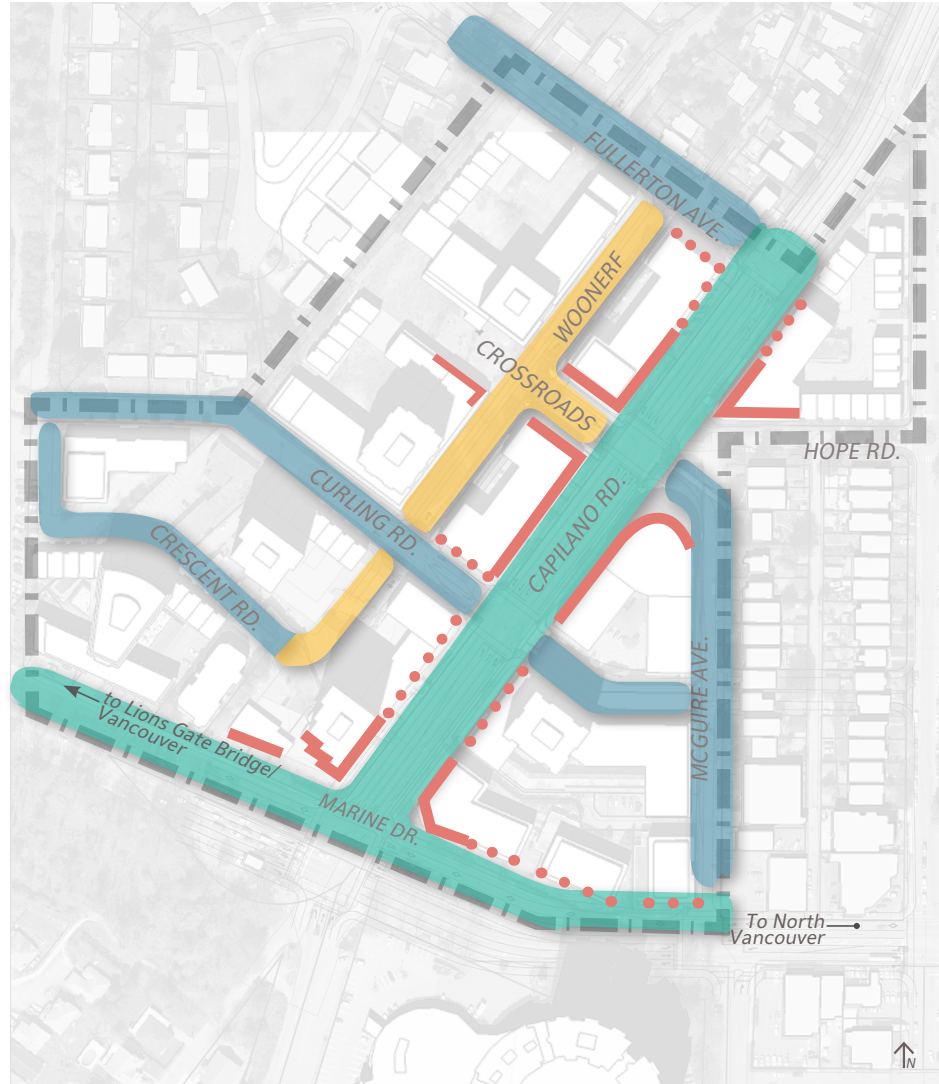
STREET NETWORK

This section describes the character of the key centre streets including:

1. Capilano Road
2. Marine Drive
3. Curling Road
4. Fullerton Avenue
5. McGuire Avenue
6. "Crossroads"
7. "Woonerf"
8. "Crescent Road"

Each street type offers unique elements relating to traffic volumes, adjacent building use and natural features. Peripheral neighbourhood streets should be designed with similar cross sections and elements as per the Neighbourhood Streets, however cross sections will vary when necessary to accommodate future conditions. All cross sections are subject to engineering and design review.

-  » Major Road Network
-  » Shared Use Streets
-  » Neighbourhood Streets
-  » Commercial Frontage
-  » Choice of Commercial or Residential Use



PROPOSED ROAD NETWORK



CYCLING NETWORK

Establishing a hierarchy of bike connections through the centre of Lions Gate aims to provide internal circulation, safe and viable commuting routes and the opportunity to increase cycling infrastructure and use. It is important to provide a variety of bike lane configurations that are suitable to the context, road configuration, land availability and safety considerations.

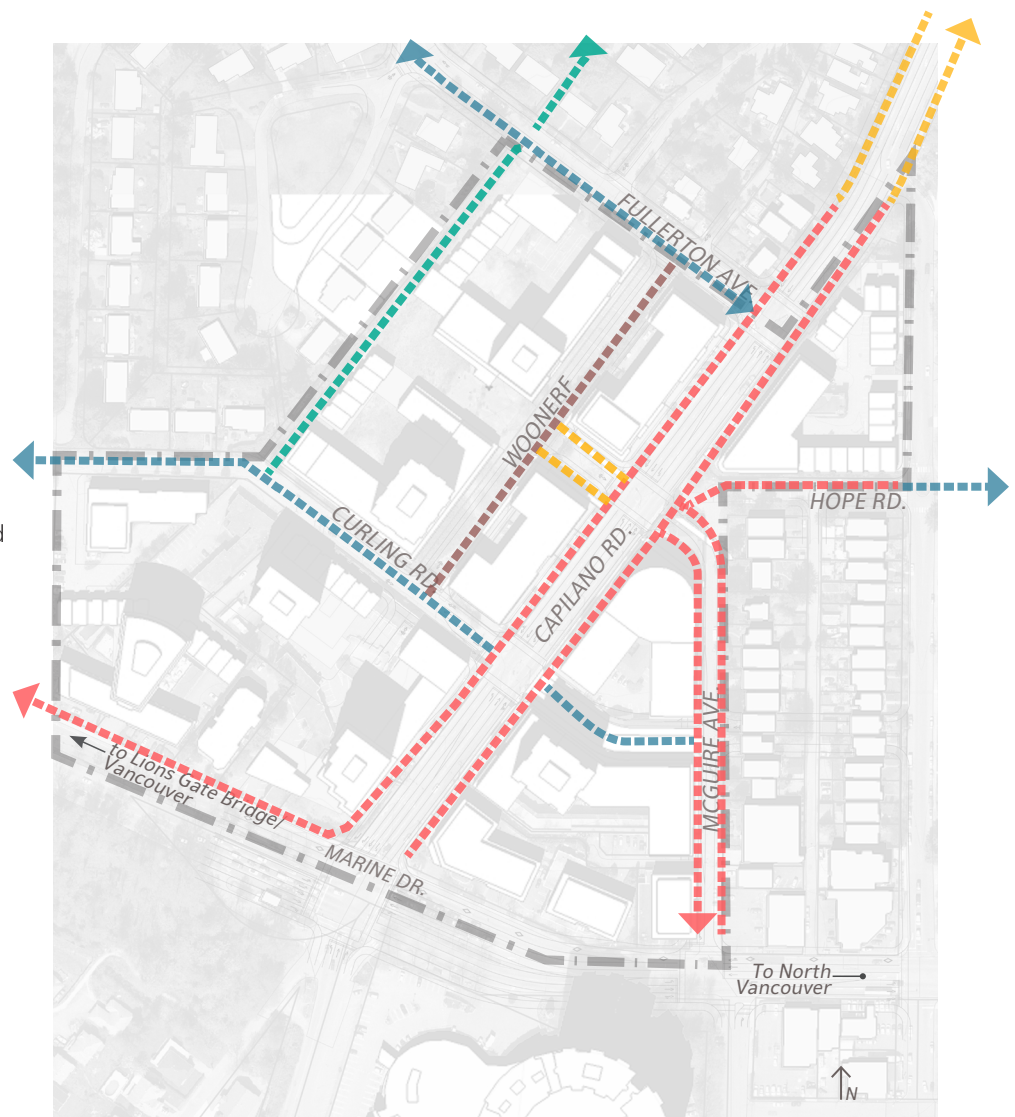
Multi-modal paths, including the greenway are to be shared environments between cyclists and pedestrians with ample space to accommodate mixing of all user types.

Sharrows or shared lanes are painted road marking to indicate a shared lane environment for cyclists and automobiles.

Conventional bike lanes offer greater separation of modes with the delineation of spaces with painted lines.

Separated bike lanes offer safety improvements by physically separating cyclists from automobile traffic. The use of concrete medians and vertical signage can be used to improve safety and make cycling lanes viable for users of varying ability.

- » Multi-modal Path
- » Sharrow
- » Shared Space
- » Conventional Bike Lane
- » Separated Bike Lanes



PROPOSED BIKE FACILITIES





CAPILANO ROAD

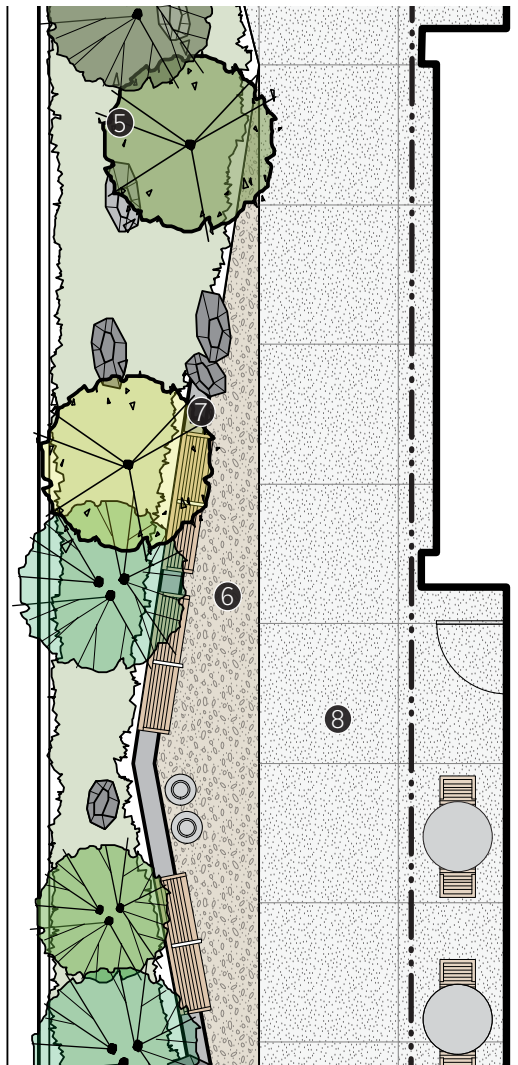
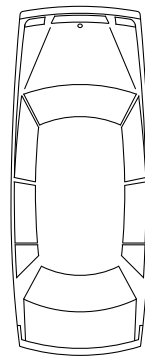
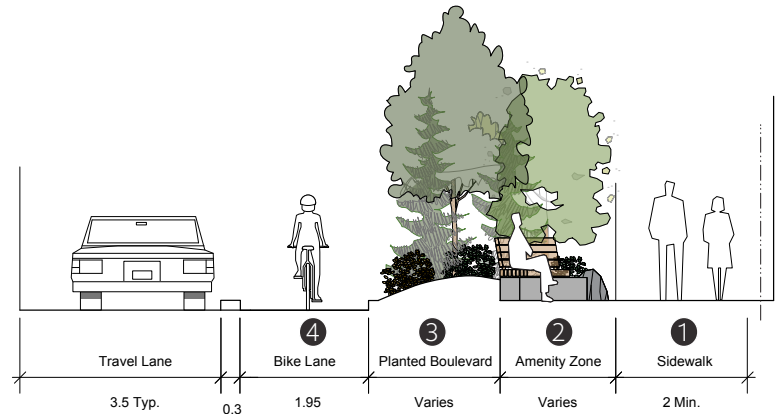
Major Road Network

Recognizing that this is a major arterial road, a key objective for Capilano Road is to achieve an interesting and safe pedestrian condition that enables access to the street retail environment. Capilano Road will be the main shopping street of the centre. The pedestrian realm will be comprised of a significant sidewalk, eddy zones for seating and resting and substantial planting to buffer from adjacent traffic.

Program Intent

Capilano Road features the “river village” sidewalk and boulevard design, as described on page 7.

- 1 A 2.0 metre concrete “fast” zone provides unimpeded pedestrian movement immediately adjacent to the building frontage. See page 66 for the grid pattern and dimensions of the river village sidewalk and boulevard design.
- 2 There are two zones within the boulevard. The first is the slow zone with exposed aggregate furniture / amenity zone accommodates seating, waste and recycling receptacles, newspaper boxes, street lighting etc.
- 3 The second is a bermed planting zone at the curb which provides a buffer from traffic. Each of these two zones is 1.5 to 3.0m wide and offset so that the combined width is 3.0m. In the narrower portions of the planting zone a 0.45m concrete retaining wall with a wood top can provide seating. The furniture



PARTIAL CROSS SECTION OF CAPILANO ROAD (EAST SIDE)

zones are located in consideration of the opposite retail frontage. For example, larger furniture zones are appropriately located opposite a coffee shop or similar type of use. Tree groupings are located in the alternating wider planting zones in order that retail signage is more visible from the street.

- 4 A protected bike lane will provide for safe cycling movements along this busy arterial road adjacent to the travel lane. The bike lane will be separated with a 0.3m extruded concrete median with appropriate signage at intersections.

Design Elements

- » Protected bike lane at curb
- 5 » Mix of deciduous trees and ground cover in bermed planting zone with a mix of ground covers and shrubs
- » Trees in groupings: 2-3 min.
- 6 » Slow Zone with exposed aggregate material
- 7 » Low concrete seating walls with timber tops.
- 8 » Minimum 2.0m unobstructed concrete sidewalk from building face with saw cuts, 2.0m pattern (see pg. 66)
- » Boulders as accent elements combined with integrated seating which acts to retain planting beds

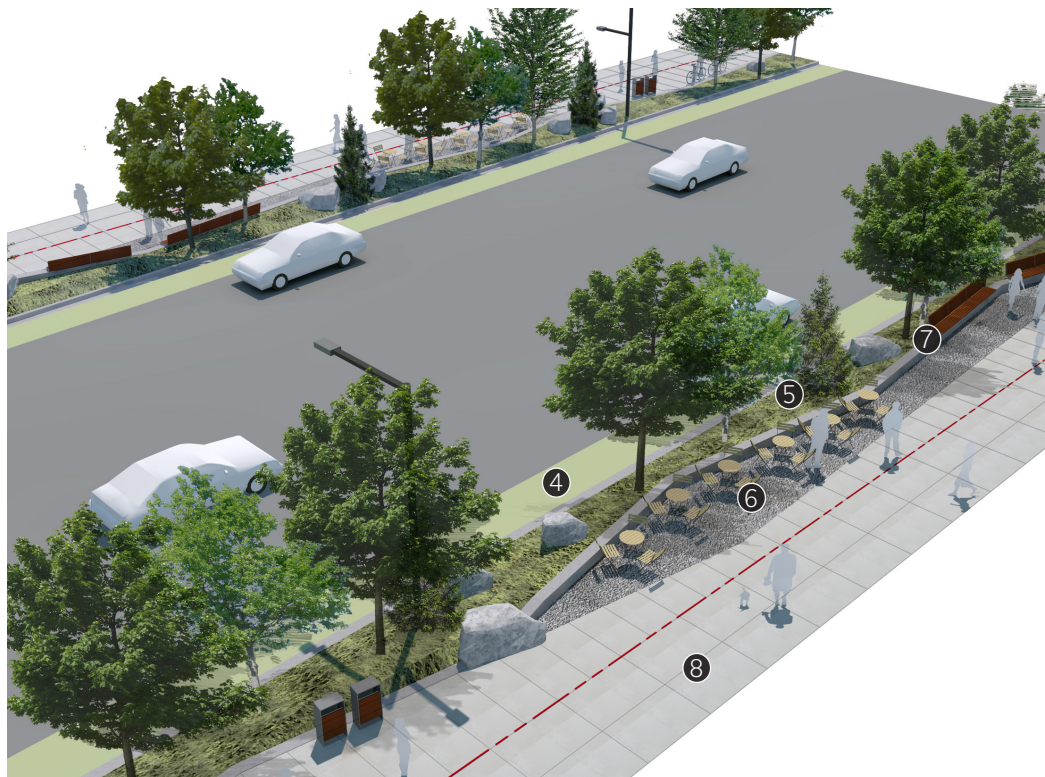


ILLUSTRATION OF PROPOSED CONDITIONS





MARINE DRIVE

Major Road Network

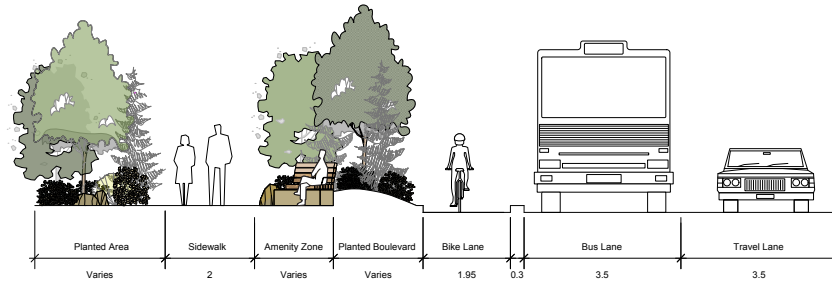
Marine Drive is a prominent gateway and entry point to both the centre of Lions Gate and the District of North Vancouver. This will be a critical location for defining the expression of the river village. West of Capilano Road a key public realm objective is to present an attractive and bold tree-lined pedestrian greenway that is buffered from high traffic volumes on Marine Drive, and which connects to the open space plaza network in the centre.

Program Intent

Marine Drive features the “river village” sidewalk and boulevard design, but it differs from Capilano Road in that there are boulevards on both sides of the sidewalk. A dense primary boulevard is located next to the curb. This will follow the angular slow zone/boulevard scheme similar to that described in the Capilano Road section as well as page 7. It is to be planted with deciduous trees and includes a lush understory.

The boulevard will be utilized as a transit hub just west of Capilano Road. At this transit location the pedestrian waiting area and shelter will be positioned closest to the curb with the bike lane between sidewalk and bus waiting zone. This will offer safe movements for cyclists, pedestrians and commuters.

Driveway accesses will be maintained until such time as they can be closed off and a complete boulevard installed.



N → PARTIAL CROSS SECTION OF MARINE DRIVE (NORTH SIDE)

Next to the primary boulevard is a 2.0m unobstructed concrete sidewalk, behind which is the secondary boulevard that is planted with evergreens. These are representative of the natural forested character of the North Shore. This planting will be significant, acting as a buffer between Marine Drive and adjacent buildings as well as a dramatic gateway feature to the neighbourhood.

Design Elements

- ① » Protected bike lane at curb
- ② » Deciduous trees in groupings, dense ground cover in primary boulevard (south side)
- ③ » Evergreens in north boulevard, planting zone extends into private realm to accommodate growth
 - » Trees in minimum groupings of 3
- ④ » Exposed aggregate in furniture zones and primary boulevard openings
- ⑤ » Minimum 2 metre unobstructed concrete sidewalk with saw cuts, 2m pattern in between the boulevards (see pg. 67)
- ⑥ » Use of large boulders as accent elements and to demarcate bus stops
 - » Bus stop accommodated within boulevard with demarcated, at-grade pedestrian crossing of bike lane



ILLUSTRATION OF PROPOSED BOULEVARD AND SIDEWALK CONDITIONS ON THE NORTH SIDE OF MARINE DRIVE



BUS STOP AND BIKE LANE CONFIGURATION



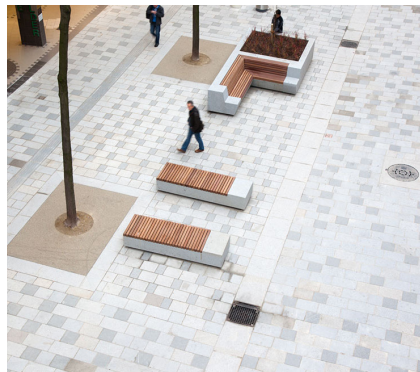
"WOONERF" STREET

Shared Use

The "Woonerf" is envisioned to be a pedestrian first, special place within the heart of Lions Gate serving several purposes beyond the typical functions of a street. It provides a strategic north/south connection through the neighbourhood and will be a shared, multi-modal space with the highest priority given to pedestrians.

The "Woonerf" will be a busy mix of activities shaped by irregular planting islands alternating with parking pockets to create meanders in the roadway, slow vehicle traffic and reflect the river theme.

The road will be designed and surfaced as an extension of the central plaza so that it can be closed off for large scale community events. Pavers will be used in the central section of the "Woonerf" road as in the central plaza and the "Crossroads" to visually connect these important public realm spaces.



Program Intent

- » Central roadway supporting a wide variety of functional activities that is able to become a flexible plaza and open space when closed to vehicle traffic
- » Curbless paving treatment from the west to east property lines
- » Features to define the sidewalk area from the parking aisles and roadway for the visually impaired
- » Underground parking access to east buildings should be limited to one location north and one south of the Crossroads



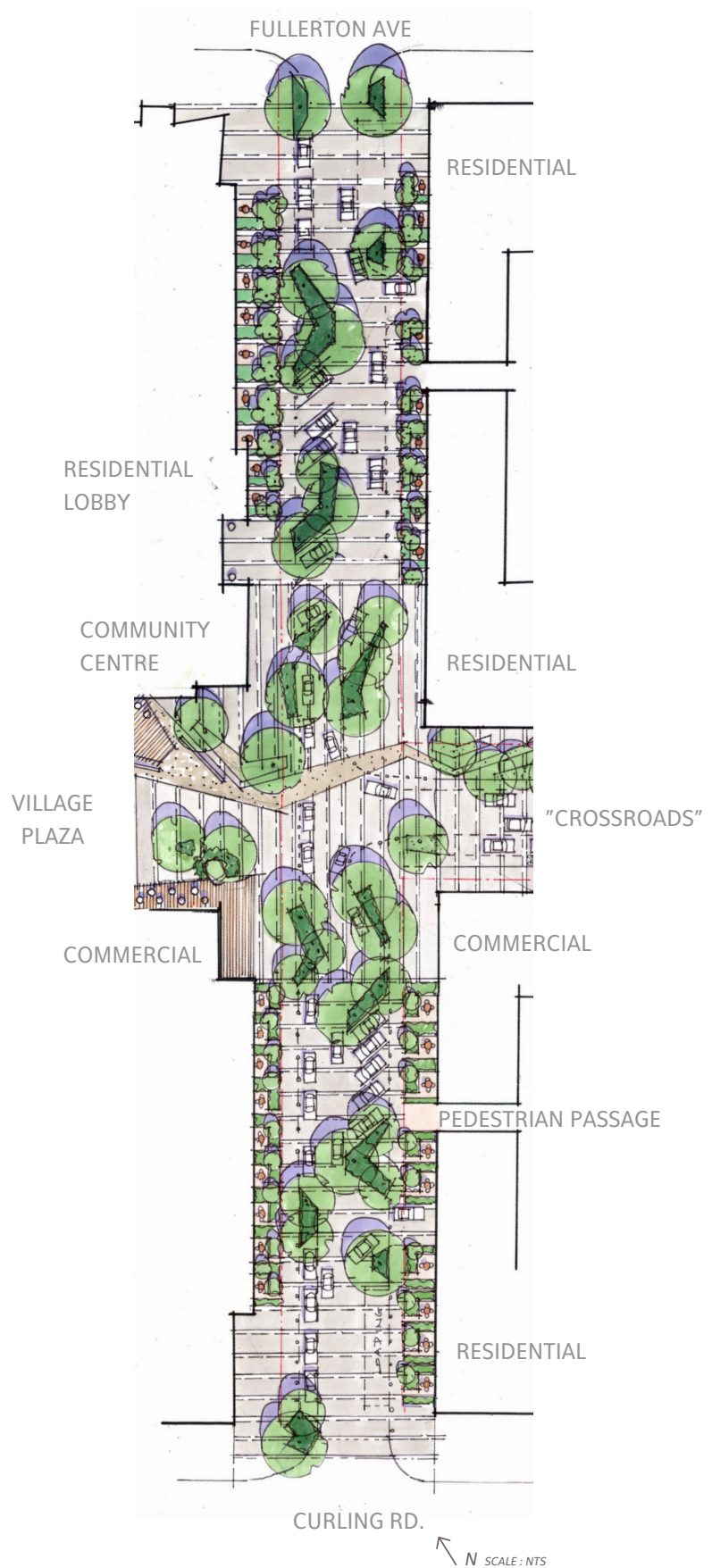
CONCEPTUAL DRAWING OF "WOONERF"

- » Avoid underground parking to buildings on the west side
- » Central crown with drainage to concrete gutters and directed to integrated rain gardens in the planter areas
- » Parallel or angled parking with drop off stalls close to the community centre
- » On street loading bays may be considered that can potentially be used as parallel parking at non-loading hours

Design Elements

- » Extensive hard surfacing to allow for flexible movement
- » Substantial areas of soft landscape in topographically diverse angular design planters with a mix of deciduous and evergreen trees of varying height
- » Same pavers as for central plaza and "Crossroads" applied across full width of road
- » 16.0m width of paving edge to edge
- » Large canopy trees, evergreen trees, lush understory in planting islands

Note: Developer of adjacent land to follow design intent and prove out technical aspect such as vehicle travel route and parking.





"CROSSROADS"

Shared Use

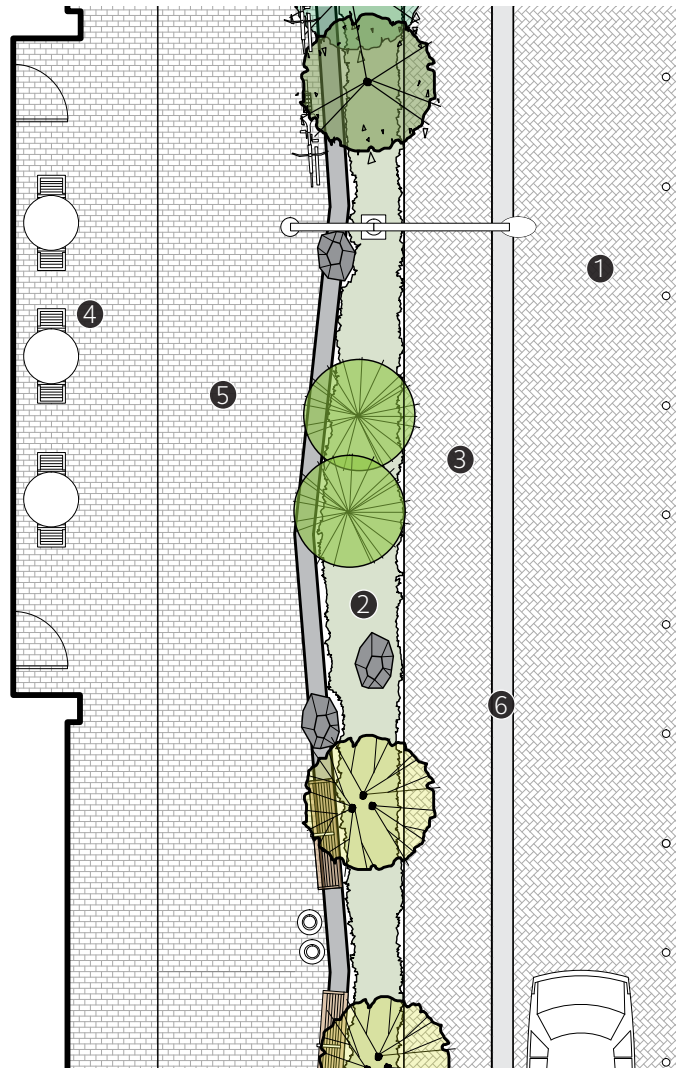
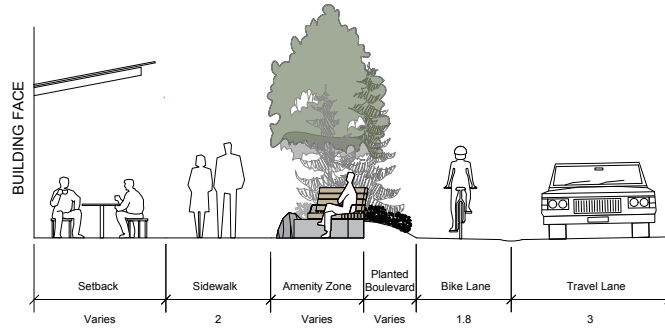
The "Crossroads" is a significant addition to the local road network providing residents with better vehicular access in and out of the neighbourhood and an improved pedestrian connection to the neighbourhood east of Capilano Road.

Like the "Woonerf", the "Crossroads" may be closed off occasionally to expand the central plaza for community events, allowing crowds to spill out into both spaces. The "Crossroads" is a secondary gateway location as the entrance to the Village Heart and will be recognized as such through public art installations at the intersection including feature crosswalk treatment and vertical elements framing the intersection.

The paving treatment will include the use of the same pavers as the "Woonerf" road and Village Plaza as well as a river themed angular band of exposed aggregate.

Program Intent

- » Local vehicle access with safe pedestrian movement taking priority
- » Two-way vehicle access and demarcated bike lanes with concrete banding
- » On-street parking may be provided (south side) if possible
- » Shade trees within islands of crushed stone
- » 2m setback at ground level on private properties for retail spill out and enhanced sidewalk condition
- » Catenary lighting leading to Village and "Crossroads" plazas



←N PARTIAL CROSS SECTION OF "CROSSROADS" (NORTH SIDE)

Design Elements

- » Visual and physical gateway to the Village Plaza from Capilano Road - extension of the Village Plaza
- » Urban with extensive hard surfacing with some shade trees
- ❶ » Street with special paving (matching pedestrian areas, Woonerf and Village Plaza) creating a seamless treatment from the north to south building frontages
- ❷ » Continuation of angular river planting on north side
- ❸ » Bike paths with special demarcation
- ❹ » Retail edges along both sides to promote on street activity
 - » Rain protection
 - » Feature pedestrian crossing at Capilano Road
- ❺ » 2.0m sidewalks utilizing pavers consistent with the "Woonerf"
- ❻ » concrete gutter curb for stormwater management and bike lane demarcation

Note: Developer of adjacent land to follow design intent and prove out technical aspect such as vehicle travel route, parking, and bike lane.



CONCEPTUAL DRAWING OF "CROSSROADS" LOOKING WEST





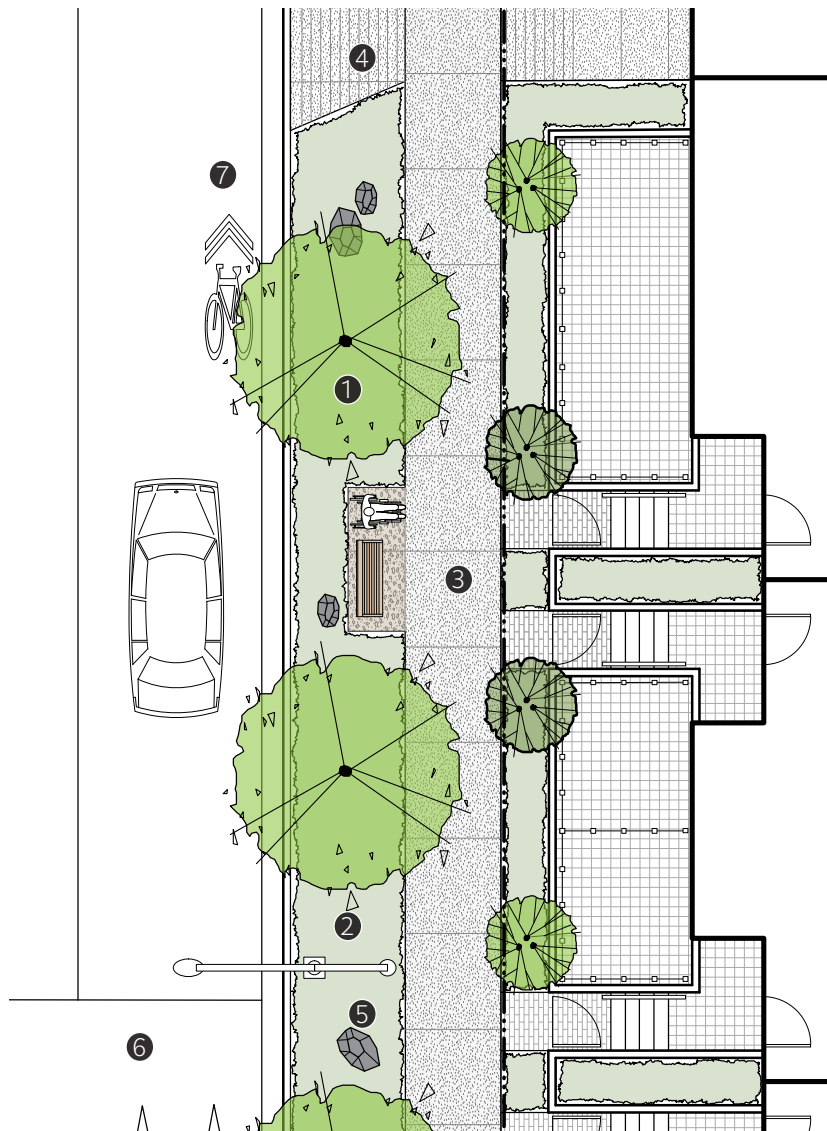
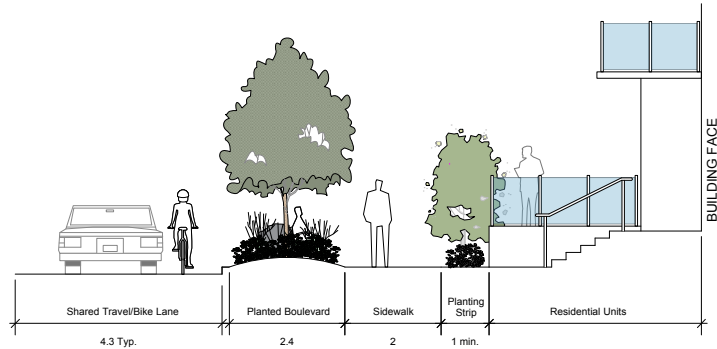
FULLERTON AVENUE

Neighbourhood Street

Fullerton Avenue is a neighbourhood street providing access to the lower density residential developments in the Peripheral Area of the centre of Lions Gate. Fullerton has one shared travel/bike lane in each direction plus a turn lane at Capilano Road. Some on-street parking is provided west of the "Woonerf".

Design Elements

- » The public realm of the south side of Fullerton Avenue needs to transition to the angular eddy treatment in the "Woonerf" and Capilano Road public realm
- » Seek to retain existing Plane trees on south side
- 1 2.0m boulevard planted with naturalized groupings of trees with lush understory planting of ground covers, low shrubs, perennials, ferns and ornamental grasses
- 2 Trees in minimum groupings of 3
- 3 2.0m concrete sidewalk with 2.0m grid saw cuts (see pg. 69)
- » Aggregate let down with bollards at entry point to Greenway
- 4 Aggregate openings in boulevard for driveway accesses
- 5 Boulders in boulevard as accent items
- 6 Speed humps to provide traffic calming
- 7 Sharrow demarcation for cyclists



←N PARTIAL CROSS SECTION OF FULLERTON AVENUE SOUTH SIDE



CURLING ROAD

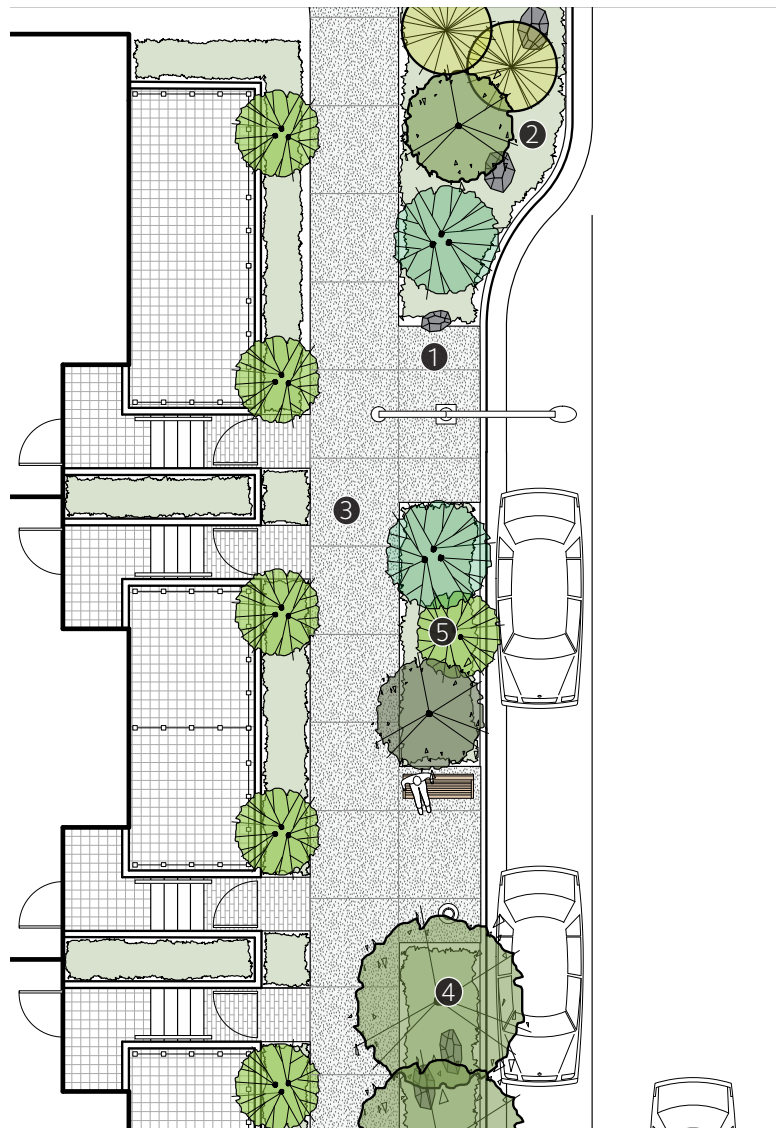
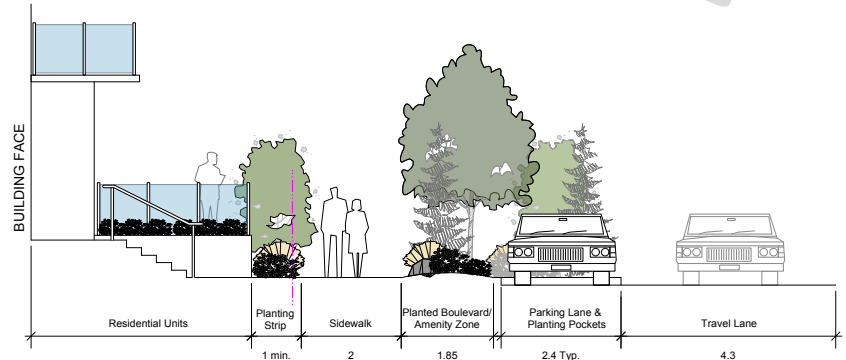
Neighbourhood Street

Curling Road is the only east-west road spanning the centre of Lions Gate and linking the community across Capilano Road. Curling Road is primarily a residential street west of Capilano Road and mixed use east of Capilano Road. There is one shared bike and travel lane in each direction and left turn lanes at Capilano Road and McGuire Avenue. Curling Road also provides access to the properties in West Vancouver that are east of the Capilano River.

Boulevard and sidewalk treatment is similar to that of Fullerton Avenue, which is a 2.0m concrete sidewalk behind a 2.0m boulevard with trees in grouping with a lush understory of ground cover of low shrubs, perennials, ferns and ornamental grasses.

Design Elements

- ① » Aggregate openings in boulevard for driveway accesses or parallel parking pockets
- ② » Boulders and logs in boulevard as accent items
 - » Public realm must transition to the angular eddy treatment on Capilano Road
- ③ » 2.0m wide concrete sidewalk with 2.0m grid saw cuts (see pg. 70)
- ④ » 2.0m boulevard, lush planting mix of ground covers, low shrubs, perennials, ferns and ornamental grasses
- ⑤ » Trees in minimum groupings of 3
 - » Boulders as accent items



← N PARTIAL CROSS SECTION OF CURLING ROAD NORTH SIDE



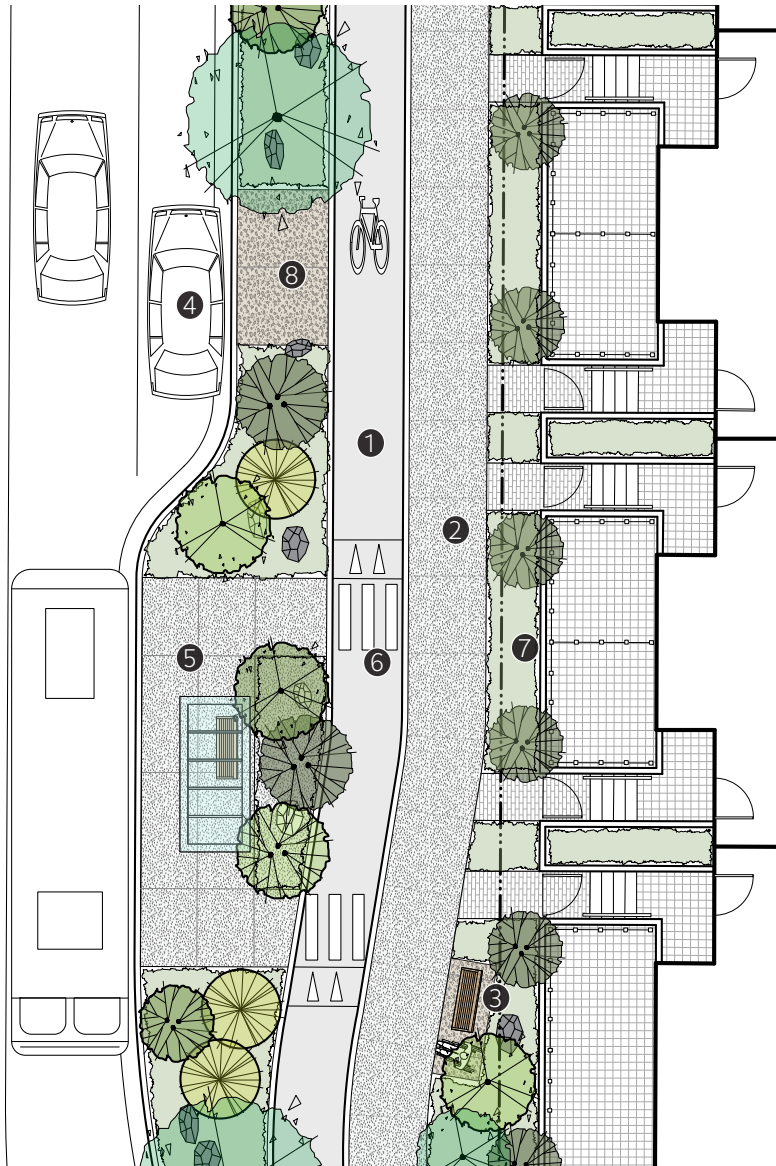
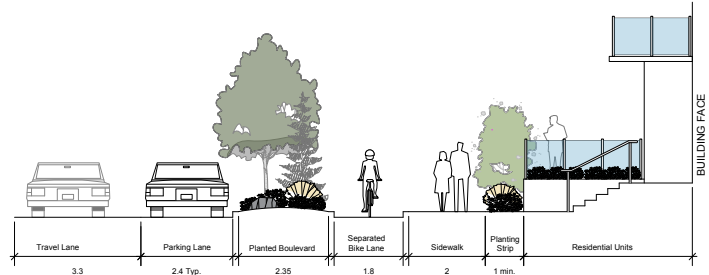
MCGUIRE AVENUE

Neighbourhood Street

McGuire Avenue combines many uses: pedestrians, bikes, cars, and bus, and is intended to function as a triple A bike route and major bus route. A safe commuter corridor is created with the use of wide, lush boulevards and bike path separation. Proper separation between all uses is provided with boulevard planting, grade separation, or median zone with seating and planting. When needed, openings in boulevard are created with exposed aggregate material to provide for clear and safe bus stop access.

Design Elements

- » Naturalized groupings of trees with lush understory planting interspersed by turf openings in the boulevard
- » Increased separation from the roadway to the existing and future residential units
- » Bike lanes grade separated from the sidewalks
- 1 » 2.0m wide concrete sidewalk with 2.0m grid saw cuts (see pg. 71) extending into the "Crossroads" to the north.
- 2 » Integrated street furniture including seating
- 3 » Integrated on-street parking
- 4 » Bus stops integrated into boulevard
- 5 » Raised pedestrian crossing to bus stop
- 6 » Lawn or understory plantings on property side of sidewalk
- 7 » Aggregate parking access across boulevard
- 8



PARTIAL CROSS SECTION OF MCGUIRE AVENUE WEST SIDE



CRESCENT ROAD

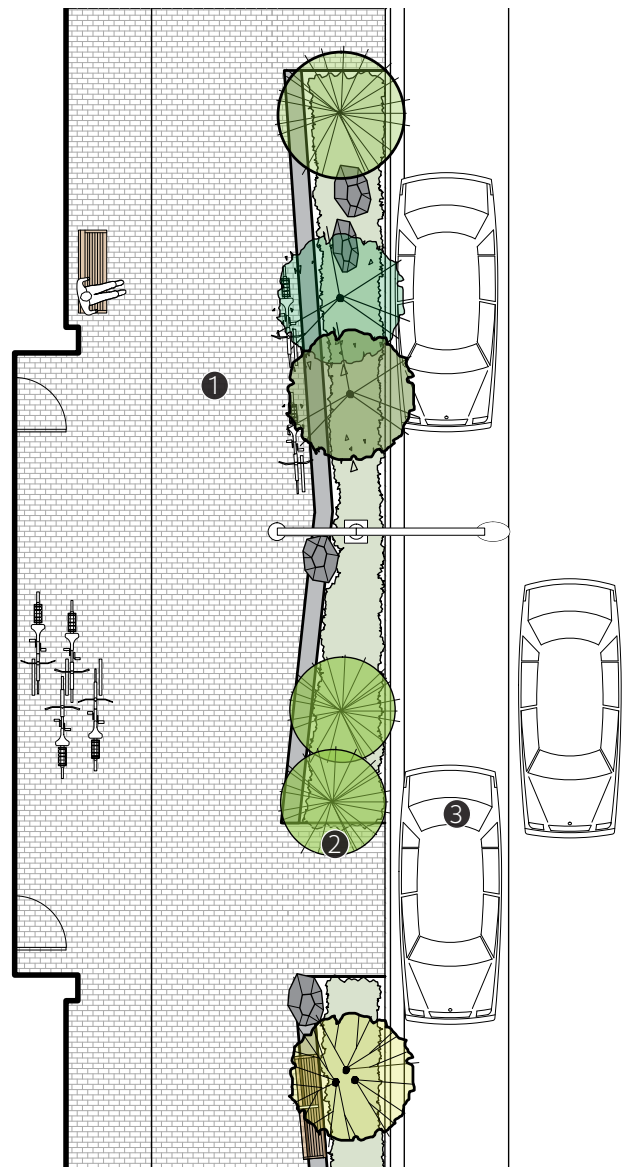
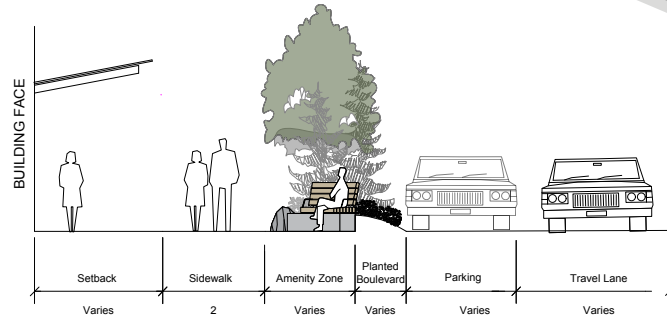
Neighbourhood Street Hybrid

Crescent Road will be a hybrid condition connecting a residential street typology to the shared conditions at the southern extension of the "Woonerf" street. This more urban expression of a residential street will utilize materials consistent with the "Woonerf" in the pedestrian spaces while using typical asphalt travel lanes. Parking will be provided as appropriate.

Boulevards will be consistent with the "Crossroads" design, integrating the angular boulevard pattern. Planting beds should be bermed with trees in grouping and a lush understory of ground cover of low shrubs, perennials, ferns and ornamental grasses. Spaces will be provided to allow more pedestrian porosity onto and off of the residential street.

Design Elements

- ① 2.0m clear pedestrian sidewalk utilizing pavers.
- ② Openings in boulevard for greater porosity of movement.
- ③ Parallel parking where necessary and suitable.
 - » Boulders and logs in boulevard as accent items
 - » Public realm should transition to the angular eddy treatment on the "Woonerf".



← N PARTIAL CROSS SECTION OF CRESCENT ROAD NORTH SIDE





4.0 PUBLIC ART





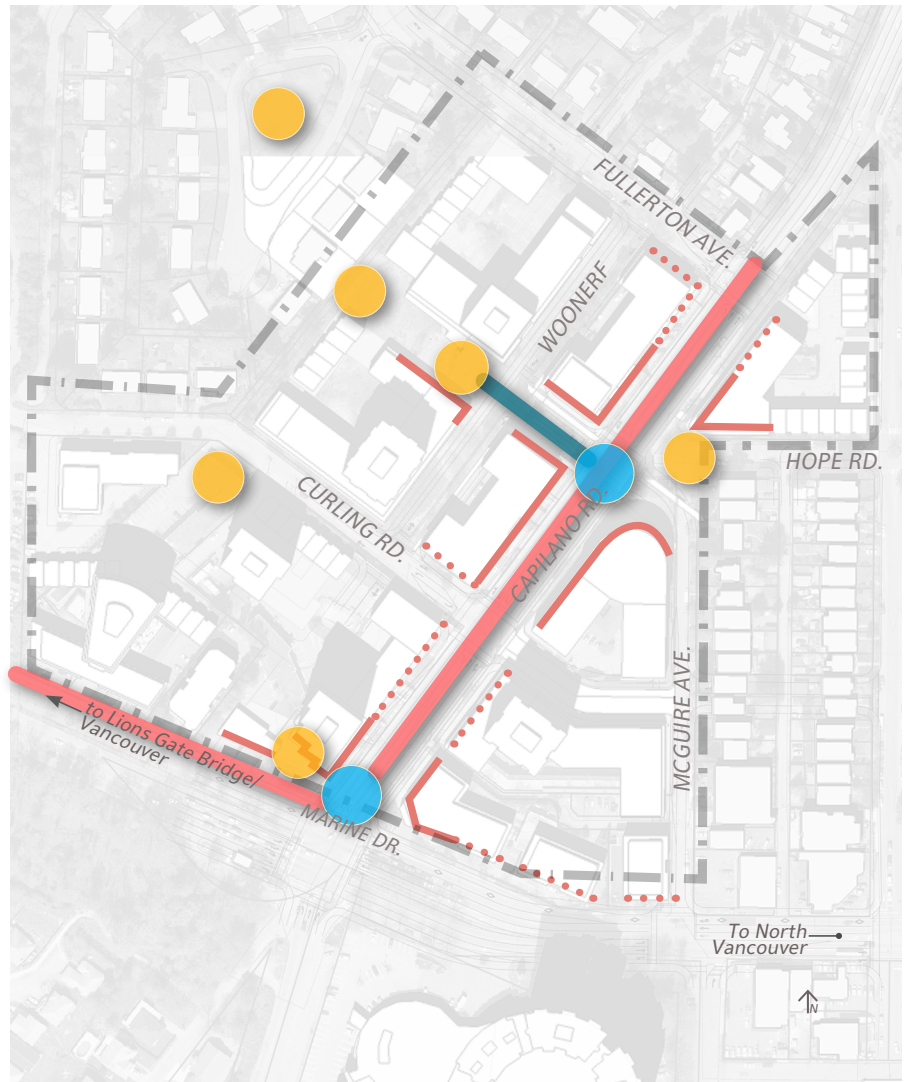
PUBLIC ART STRATEGY

Funding and implementation procedures for public art, including site selection criteria and other guidelines are outlined in the District's "Public Art Policy". See also the Lower Capilano Marine Village Centre Public Art Plan for a description of the overarching goals and guiding principles of the public art program as applied to the Centre.





Public art can play an important role supporting the "river village" public realm theme and helping to achieve a community identity and vision of the future. Public art should creatively explore and interpret the natural environment of the Capilano River system while being meaningful within the setting of its specific location.

Public art should be seamlessly integrated throughout and may take the form of bold and iconic stand-alone pieces located in key open space areas; art features integrated into the design of landmark buildings; interpretive way-finding elements on pedestrian routes and other functional art; as well as recurring markers on both private land and the public realm.

- » Gateways (welcoming features)
- » Land mark buildings
- » Plazas, parks and gathering places
- » Way-finding or guiding elements on pedestrian routes



Public art/ Village Markers Diagram:

-  1. Gateway Features
-  2. Plazas and Gathering Spaces
-  3. River Village Sidewalk
-  4. Overhead catenary lighting

Direction:

- » Gateway locations at Marine Drive and the "Crossroads" should be acknowledged with large scale, vertical elements recognizing that they will be viewed by vehicular traffic.
- » A unique thermoplastic crosswalk design should be commissioned for application at crosswalk locations throughout the village centre.
- » Feature catenary lighting will be designed to link the Village Plaza, "Crossroads" and "Crossroads" plaza.
- » Public art installations should foster awareness of the surrounding environment, ecosystem and greater context
- » Elements should include a variety of scales and expressions that are both verticle and horizontally integrated within the ground plain.
- » Use of nurse logs and boulders within landscaping areas on both public and private land is encouraged as a unifying feature for the Village Centre.





5.0
SITE
FURNISHINGS +
LIGHTING





SITE FURNISHINGS

High quality durable furnishings are proposed to provide the best value over time and reduced maintenance. In addition, it is proposed that all street furniture is placed in the exposed aggregate areas of the sidewalks to reduce clutter and provide clear movement zones.

Seating elements should include a combination of off shelf products identified below and custom made, built in place seating solutions that will provide sufficient seating for all age groups, needs and configurations.

Waste Receptacle

- » **Manufacturer:** Victor Stanley
- » **Model:** SDC-36
- » **Material / Colour:** Titanium Finish
- » 36 gal (136 L)
- » Side-Deposit
- » Side-Door Opening



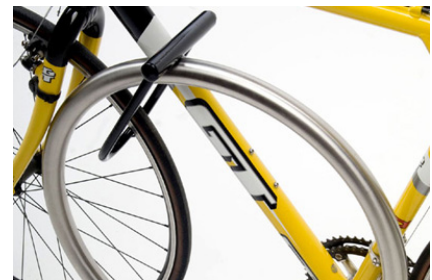
Recycling Receptacle

- » **Manufacturer:** Victor Stanley
- » **Model:** RSDC-36
- » **Material / Colour:** Titanium Finish
- » two half moon plastic liners
- » Side-Deposit
- » Side-Door Opening



Bike Rack

- » **Manufacturer:** Landscape Forms
- » **Model:** Ring
- » **Material / Colour:** Titanium colour powdercoated metal
- » Frame made of aluminum, painted
- » Bike rack holds 2 bikes and can be arranged in groups



BENCHES

Backless Park Bench

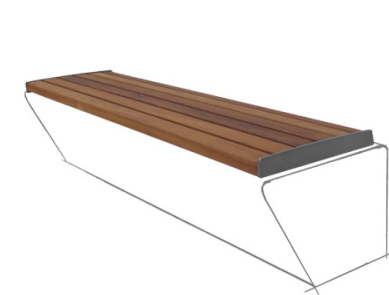
- » **Manufacturer:** Equiparc
- » **Model:** EP 1990 Outdoor park bench
- » Supports made of hot dipped galvanized steel, painted
- » Covering available in wood
- » This bench can be assembled in sequence with intermediate supports.

COVERINGS:

- » Wood: Jatoba and Ipe

OPTION:

- » R - Top-of-wall mount



1991 IPE



1990 IPE



1990 IPEA



Outdoor Park Bench

- » **Manufacturer:** Equiparc
- » **Model:** EP 1990 Outdoor park bench
- » Park bench with backrest and optional seating arms
- » Supports made of hot dipped galvanized steel, painted
- » Covering available in wood
- » This outdoor park bench can be assembled in sequence with intermediate supports and is also available with a top-of-wall mount.

COVERINGS:

- » Wood: Jatoba and Ipe

OPTIONS:

- » A - Set of 2 painted armrests
- » R - Top-of-wall mount

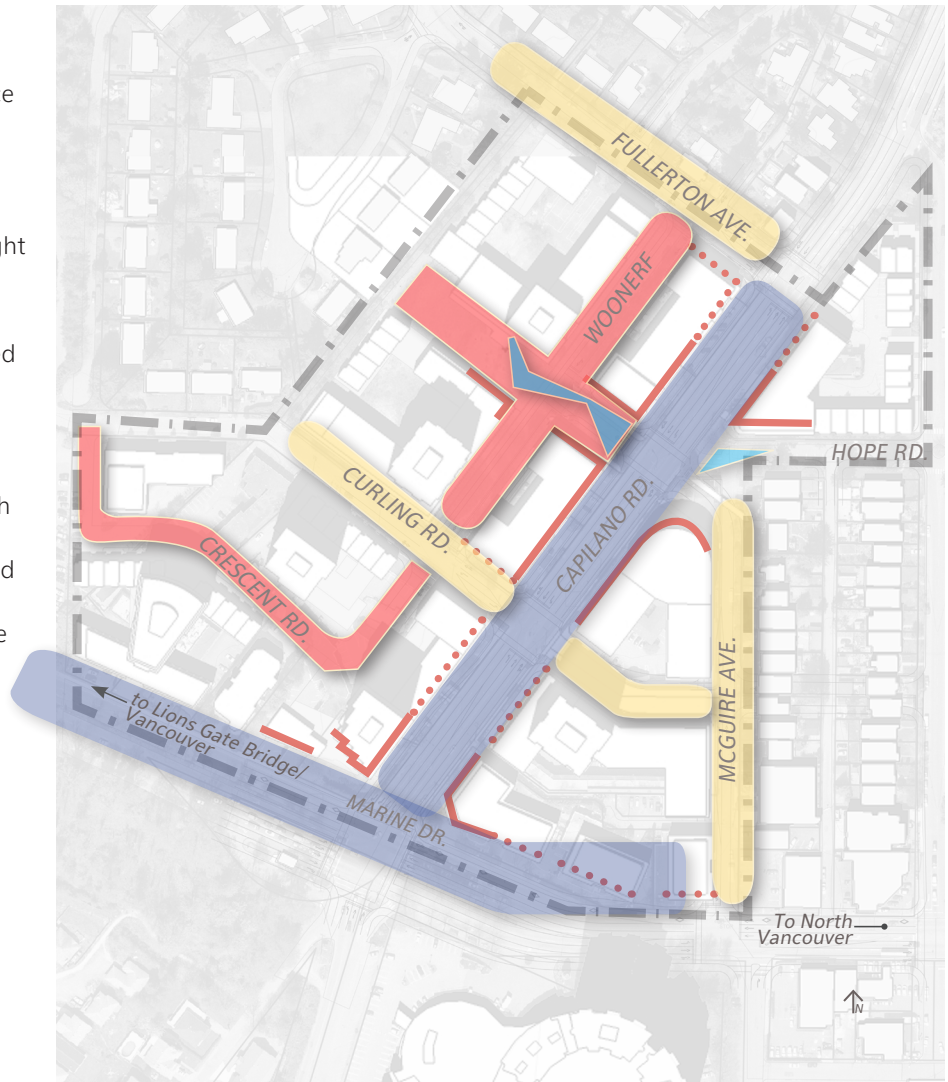




LIGHTING STRATEGY

Lighting of the public realm is an essential element to provide safe spaces and to improve and enhance the experience of the streets while bringing unique character to Lions Gate.

- » Provide consistency of street light typologies by providing options within a family of products
- » Ensure light levels meet required standards for safety
- » Aim to use most compatible energy efficient light sources
- » Provide feature lighting through bollards and catenary systems to create a sense of gateway and arrival as well as warm ambient street character throughout the heart
- » Provide low lighting such as wall lights, bollard lights when possible to improve pedestrian experience, atmosphere and safety



Lighting Diagram:



1. Feature Catenary Lighting - "Crossroads" Plaza, "Crossroads", Village Heart Plaza



2. Low pole pedestrian lighting and bollards with lighting where appropriate - Woonerf



3. Street and Pedestrian Lighting - Curling Rd. Fullerton Ave., McGuire Ave.



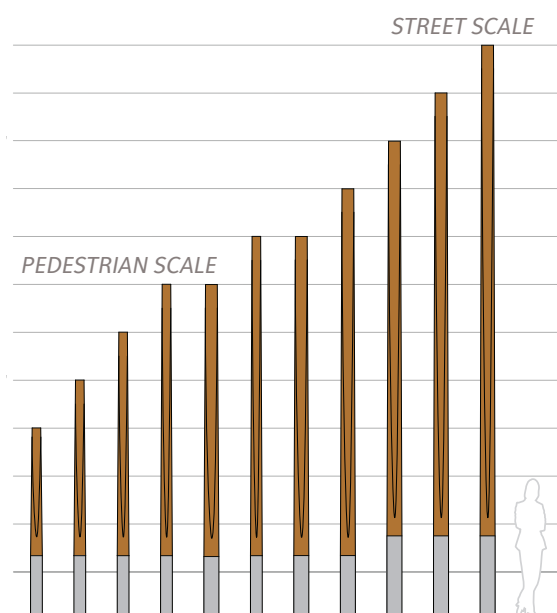
4. Major Street lighting - Capilano Road and Marine Dr. - Street lights as per District standard (not in these guidelines), but should include pedestrian scale lighting as needed

LIGHT TYPOLOGIES:

Pedestrian and Street Lights:

Proposed pedestrian and street light system is "Bol-RSQ" from Structura Inc. If not available, similar light pole should be used.

- » Unique round cross section at base with tapering to square cross section at top of pole
- » Solid glulam wood design
- » Round extruded aluminum powder coated pole base
- » Wood finish: S3 - Cumaru
- » Metal finish: CHRTX Charcoal
- » Available in 8" to 24" heights to provide variety of form and function
- » Variety of mounting brackets and mast arm luminaires to provide a range of light coverage options based on need
- » Ability to be used as pedestrian and street lighting





Fixture Mounting Arms:

Proposed mounting arms including "CENO-SPGT, CENO-SGNL, CENO-TRK, API, PORTO, ISIS, RA, CANTELAM" from Structura Inc. Other Structure mounting arms will be considered based on lighting needs. If not available, similar fixture should be used.

- » Range of options should address specific nature of space and lighting needs
- » Metal finish: CHRTX Charcoal
- » CENO range includes options for event lighting and specific needs associated with programmatic elements of a plaza
- » Accept most slip mount luminaires

Feature Catenary Lighting:

Proposed catenary light is "Delta Star" from B-K Lighting. Other compatible products will be considered based on unique design needs and lighting requirements. If not available, similar fixture should be used.

- » Simple shape
- » Colour: mat black
- » Irregular pattern imitating "river band" in the sky
- » Installed on cables suspended from posts (not buildings)
- » For pattern and location, see lighting diagram



EXAMPLES OF MOUNTING ARM OPTIONS

Bollard:

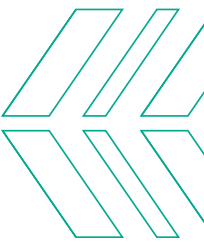
Proposed fixed bollard with lighting is "Mac LED and Mac II LED".
Proposed removable bollard for locations of fire access or temporary use is "Spar TB bollards" from Structura Inc. If not available, similar bollard light should be used.

- » unique solid glulam wood product design
- » geometric forms
- » High power, low voltage LED light source
- » Wood finish: S3 - Cumaru
- » Metal finish: CHRTX Charcoal
- » 32' or 42" standard heights
- » Concealed anchor bolt base and mounting hardware





6.0 PLANTING





STREET TREES

Tree Planting Guidelines:

The following species collectively help to achieve the "river village" theme. They provide a range of forms, colour and species that are suited to a variety of growing conditions. Plantings should utilize an assortment of the below species consistent with the intent and preferred locations as outlined.

Fagus sylvatica 'Dawykiei', Dawykiei European Beech

- » Large tree best for locations with 4-5m setback from building face
- » Large planting pit required
- » Good as a feature tree or focal point
- » Not a typical street tree.
- » Should be considered in parks or large planting conditions

Acer rubrum 'Bowhall', Bowhall Red Maple

- » Wonderful fall colour
- » Columnar shape ideal for small setback areas
- » 3-4 meter canopy
- » Suitable for most street conditions

Picea omorika, Serbian Spruce

- » Best for a 3m boulevard condition
- » Can be in smaller confined spaces as well
- » A multi-purpose tree, could be included in many group plantings especially at key points

- » Good tree to provide a buffer between spaces / vehicular traffic

Carpinus betulus 'Fastigiata', Fastigate Hornbeam or *Carpinus betulus 'Frans Fontaine'*, Frans Fontaine Hornbeam

- » Columnar shape
- » Good for confined setbacks
- » Dense canopy for shade
- » Forms can be quite low – use with wide boulevard but narrow building setback
- » Resilient species good adjacent to travel lanes / salt

Tilia tomentosa 'Green Mountain', Green Mountain Linden or *Tilia x eueclora*

- » Large canopy tree
- » Wide boulevard settings
- » Consistent with existing Fullerton Street trees

Acer x fremanii 'Jeffers Red', Autumn Blaze Maple

- » Good fall colour
- » Columnar form
- » 3-4 meter canopy
- » Suitable for most street conditions

Acer circinatum, Vine Maple

- » Good for group plantings
- » Wide locations
- » Good typical street tree

Cornus Mas, Cornelian Cherry

- » Wide locations
- » Good for park settings

Liquidambar styraciflua 'Worplesdon', Worplesdon Sweetgum

- » Good fall colour
- » Holds leaves late into fall
- » Should be included in park settings
- » Risk of branch dropping

Amelanchier x grandiflora, Hybrid Serviceberry

- » Very small species
- » Good to tuck into a group planting
- » Provides berries and flowers for wildlife / interest
- » Easy upkeep
- » Do not grow tall

Quercus palustris 'Pringreen', Green Pillar Oak

- » Very columnar form
- » Good for linear settings (allee)
- » Tall and suitable for confined setbacks

Acer cappadocicum 'Rubrum', Coliseum Maple

- » Yellow leaves
- » Tall and wide canopy
- » Good for wide streets
- » Suitable for parks or streets
- » Provide a mix of colour

Platanus x acerifolia 'Exclamation', Exclamation Planetree

- » Wide and tall species
- » Require large setbacks
- » Consistent with existing Fullerton Trees
- » Resilient species

Tree Species and Boulevard Planting Selection:

Healthy and majestic trees are an important environmental feature and element for the River Village.

Appropriate street tree selection is critical to support urban forest management and stormwater management strategies, as well as creating great streets. Ideally, selecting species that have good longevity and can be raised or pruned-up over time to reduce obstructions at the street and sidewalk level is preferable to short-lived trees or small trees that will have minimal impact or presence in the street. The street tree list included in this plan reflects the need for species that are long-lived, diverse, adaptable to climate change, and pest resistant.

Careful selection of planting within the public realm, such as in the

boulevard, will contribute to seasonal interest, biodiversity, colour, green character, and environmental benefits.

Intent

- » To have long-lived and healthy large-scale street trees.
- » To have street trees that may help capture rainwater and provide habitat for local fauna.
- » To diversify tree species in park areas and within the public realm.
- » To increase mature tree canopy size to help reduce potential urban heat island effect.

Other Considerations

- » Minimum caliper of 10cm
- » Sufficient growing medium to be installed to ensure healthy growth of street trees to maturity. Growing medium and soil cells should be utilized as per District of North Vancouver standards.
- » Trees along the street are to be in small groupings as per design guidelines.
- » Final selection and approval of street trees to be done by the District of North Vancouver.
- » Street trees are to be of the highest quality and uniform in shape and form.

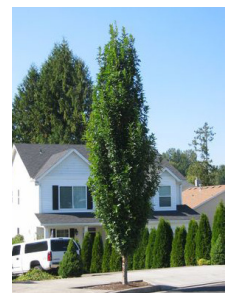
Street Tree Spacing

The streetscape is to have a character evocative of the forest edge. Trees are to be arranged in groups rather than in rows as is typical for street trees. Trees are to be given adequate space to grow and express their natural form. Massing of trees - placing them in close groups that knit together over time as they would in a forest is encouraged.

The boulevard varies in width and tree species should be selected based on their suitability outlined in the Tree Planting Guidelines.



Acer rubrum
'Armstrong'



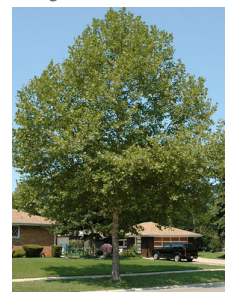
Quercus palustris
'Pringreen'



Tilia tomentosa 'Green Mountain'



Acer x freemanii
'Autumn Blaze'



Platanus x acerifolia
'Exclamation!'



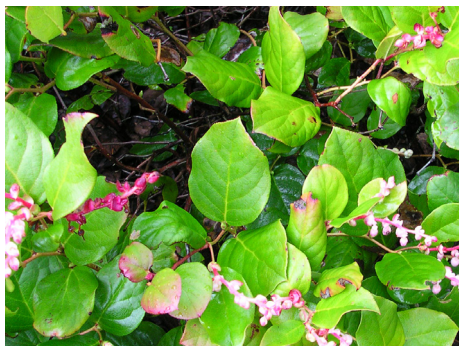
UNDERSTOREY PLANTING

Planting proposed for the “river village” brings lush and green character to the area. Proposed plants are drought tolerant and low maintenance to provide minimum maintenance and contribute to the storm water management.

When appropriate, boulevard planting and planting island should be considered as rain gardens to improve storm water collection.

Boulevard Plant Selection List Shrubs

SCIENTIFIC NAME	COMMON NAME
<i>Cornus sericea</i> ‘Kelsey’	Kelsey’s Dwarf Dogwood
<i>Sarcococca hookeriana</i> ‘humilis’	Dwarf Sweet Box
<i>Senecio greyi</i>	Daisy Bush
<i>Symphoricarpos chenaultii</i> ‘Hancock’	Hancock Trailing Snowberry



Gaultheria shallon



Polystichum munitum



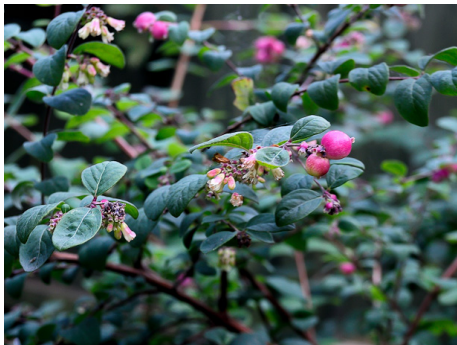
Carex morrowii ‘Ice Dance’



Luzula sylvatica



Cornus sericea ‘Kelseyii’



Rosa ‘Gourmet Popcorn’

Ground Covers

SCIENTIFIC NAME	COMMON NAME
<i>Arctostaphylos uva-ursi</i>	Bearberry
<i>Erica carnea</i> 'Springwood Pink'	Springwood Pink Winter Heath
<i>Erica carnea</i> 'Springwood White'	Springwood White Winter Heath
<i>Gaultheria shallon</i>	Salal
<i>Mahonia repans</i>	Creeping Oregon Grape
<i>Mahonia media</i> 'Charity'	Hybrid Mahonia
<i>Oxalis oregana</i>	Evergreen Redwood Sorrel
<i>Sedum oreganum</i>	Oregon Stonecrop
<i>Spiraea japonica</i> 'Little Princess'	Japanese Spirea
<i>Vaccinium ovatum</i>	Winter Huckleberry
<i>Waldsteinia ternata</i>	Barren Strawberry

Perennials, Ferns and Ornamental Grasses

SCIENTIFIC NAME	COMMON NAME
<i>Blechnum spicant</i>	Deer Fern
<i>Carex flagellifera</i> 'Kiwi'	Weeping Brown Sedge
<i>Carex morrowii</i> 'Ice Dance'	Variegated Sedge
<i>Carex pendula</i>	Great Drooping Sedge
<i>Echinacea purpurea</i>	Purple Cone Flower
<i>Hemerocallis</i> 'Stella d'Oro'	Stella d'Oro Daylily
<i>Liriope muscari</i>	Lilyturf
<i>Nepeta</i> 'Walker's Low'	Walker's Low Catmint
<i>Polystichum munitum</i>	Western Swordfern
<i>Rudbeckia fulgida</i> var. <i>fulgida</i>	Black-eyed Susan
<i>Sedum</i> 'Autumn Joy'	Autumn Joy Sedum





PLANTING CONDITIONS

Growing Medium:

The performance and long-term survival of urban trees is heavily dependent upon the provision of adequate volumes of growing medium. This is particularly true for street tree and boulevard plants that grow in harsh urban environments with little maintenance.

Intent

- » To ensure there is adequate soil/ growing medium to produce healthy large-scale street trees to maturity.
- » To ensure there is adequate above ground and below ground space for the species selected and its expected mature size and form.

There are a number of options for achieving adequate soil volume which can be used individually or in combination:

- » The use of soil cells under paved area adjoining tree pits
- » The use of structural soil under paved area adjoining tree pits
- » Engineered suspended sidewalk systems

Typical soil cells and structural soil details refer to the District of North Vancouver Engineering department. Soil cells and engineered suspended sidewalks provide the most growing medium within a given volume but carry the highest construction costs. Structural soil is a simpler and less expensive solution but only provides

approximately 30% growing medium by volume of structural soil installed. The remaining 70% is rock. Soil cells and engineered suspended sidewalks are preferred.

Soil quality and volume are two aspects that are critical contributing factors to the health of street trees. Without either, the health, functionality and lifespan street trees is dramatically reduced as are the benefits they bring to the city and neighbourhood.

Planting guidelines:

- » Ensure appropriate soil volumes and soil quality; refer to the District standards.
- » Where possible, ensure street trees are planted in a continuous planting trench to allow for greater access to soil/growing medium volume and water.
- » Work with the third party utility providers to ensure there are adequate spaces for trees and their soil volume. Create a tree corridor as well as utility corridors and give them all the same importance.

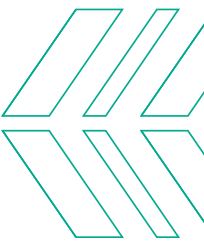


CONTINUOUS PLANTING BED WITH SUFFICIENT GROWING VOLUME SPACING





7.0 APPENDIX





PAVING

The paving strategy proposes a palette of paving materials that address simplicity, variety, robustness, and permeability (where suitable), that reflect a river character theme.

Character:

Materials chosen are durable, strong but easy to maintain and replace with time.

- » Simple and strong
- » Unique pattern application

Patterns:



Stack bond

This pattern is appropriate for pedestrian spaces which are not primarily for vehicular movements.

Application:

- » Pedestrian portion of "Crossroads"
- » "Crossroad" Plaza
- » Village Heart Plaza



Herring bone:

This pattern is appropriate for travel lanes and supports turning movements of vehicle traffic.

Application:

- » Travel lanes
- » Road section of "Crossroads"
- » "Woonerf"

Concrete Unit Pavers Mix

1. Paver one:
 - » Size: 150x300x108mm
 - » Colour: charcoal
2. Paver two:
 - » Size: 150x300x108mm
 - » Colour: mid grey
3. Paver three:
 - » Size: 150x300x108mm
 - » Colour: natural

UNIT PAVERS MIX 1:

Application: "Woonerf" and other travel lanes

- » Mix: 3 shades of grey
 1. Charcoal - 15% of the mix
 2. Medium Grey - 35%
 3. Natural - 50%

UNIT PAVERS MIX 2:

Application: "Crossroads" plaza, "Crossroads", Village Heart Plaza

- » Mix: 3 shades of grey+warm tone
 1. Charcoal - 10% of the mix
 2. Medium Grey - 30%
 3. Natural - 50%
 4. Beige(sandy) - 10%



Exposed Aggregate

Application:

- » Slow zones along sidewalks, boulevard and for bus stop areas, dividing strip at McGuire Ave.
- » "River Band" - feature paving strip connecting "Crossroads" Plaza and Community Centre

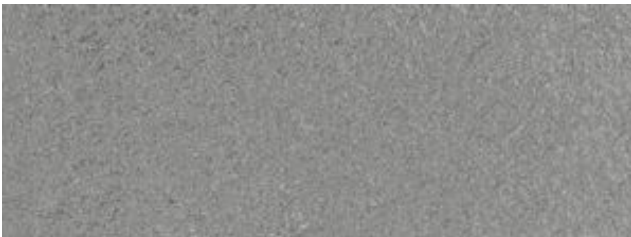


Crushed Basalt

- » Colour: dark grey

Application:

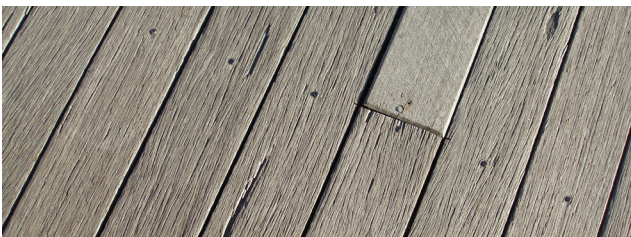
- » Soft islands under trees at "Crossroads" Plaza, "Crossroads", Village Heart Plaza
- » Key zones within boulevards at Curling Road and Fullerton



Concrete

Application:

- » Sidewalks - fast zone
- » Pedestrian crosswalk at intersection of Capilano Road and Crossroads - size: 3m wide
- » Finish: light sandblast with saw cut pattern



Composite Decking

- » Composite wood such as Resysta or similar

Application: To create a notion of a boardwalk at the Crossroads, Community centre and Plaza

- » Retail edges/ patios
- » Community Centre Plaza



Tactile Warning Surfaces

- » Stainless steel or equivalent

Application:

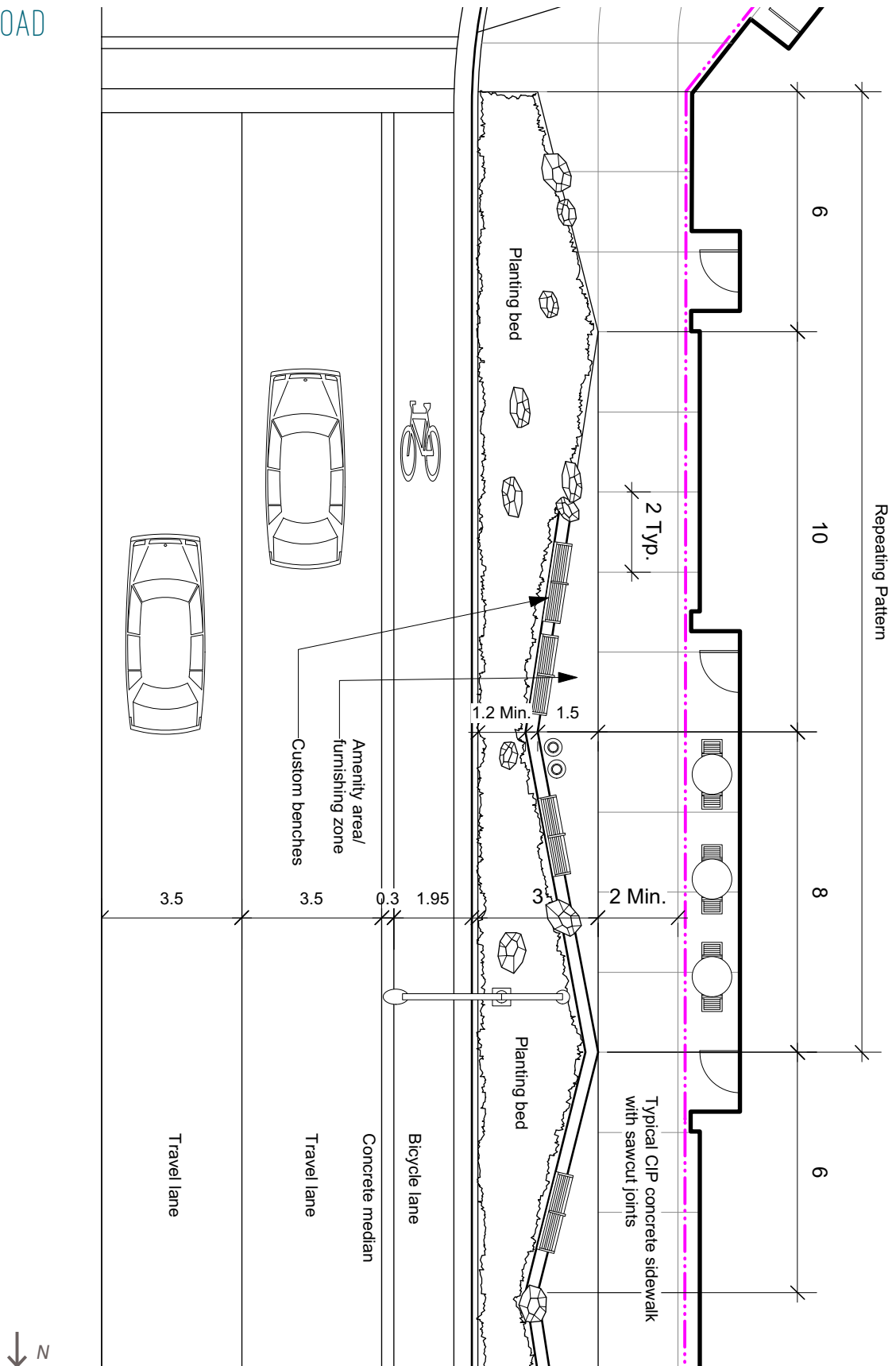
- » To be used when other physical queues are limited, when necessary in open plazas and at the tops of stairs.



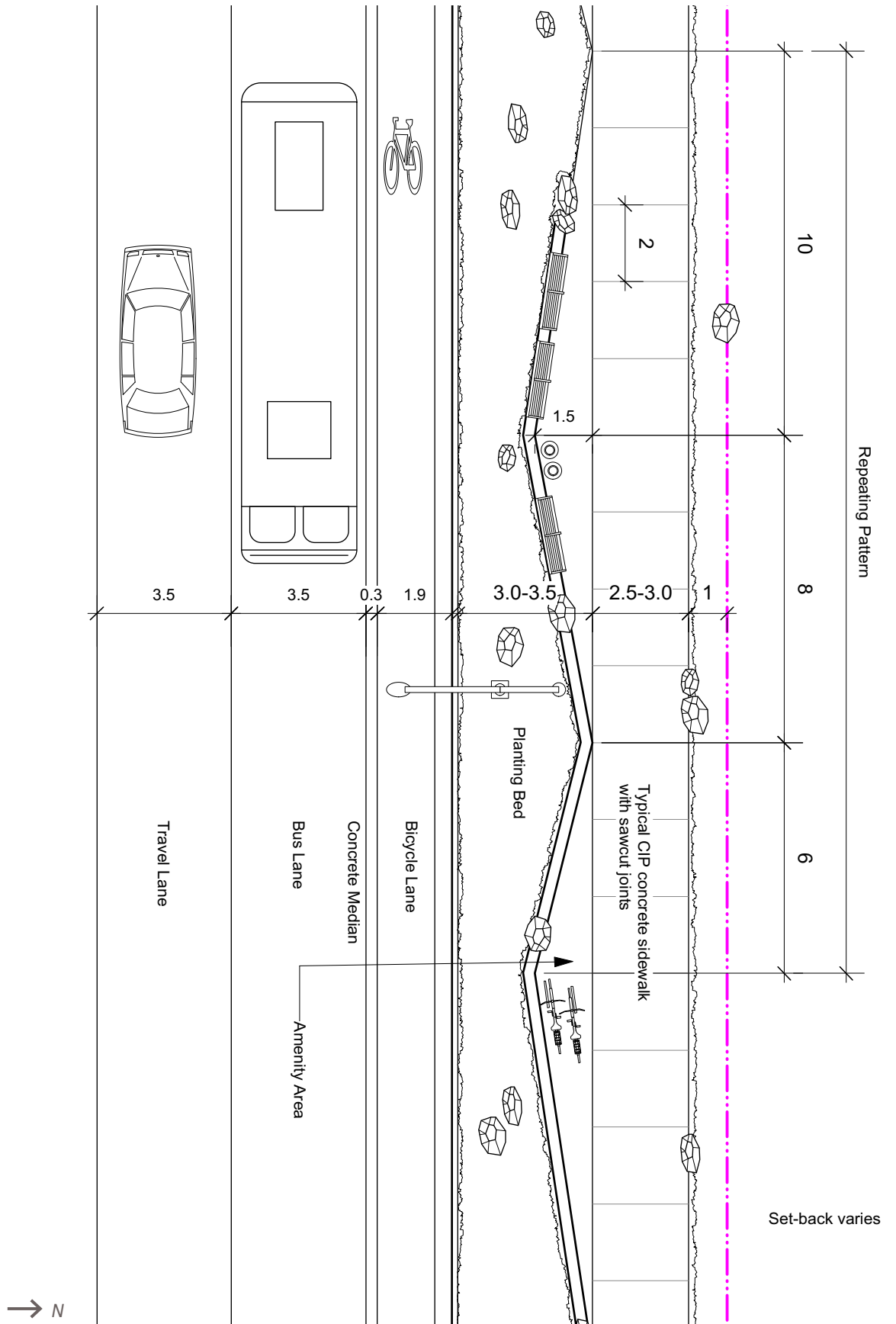


STREET DETAILS

CAPILANO ROAD

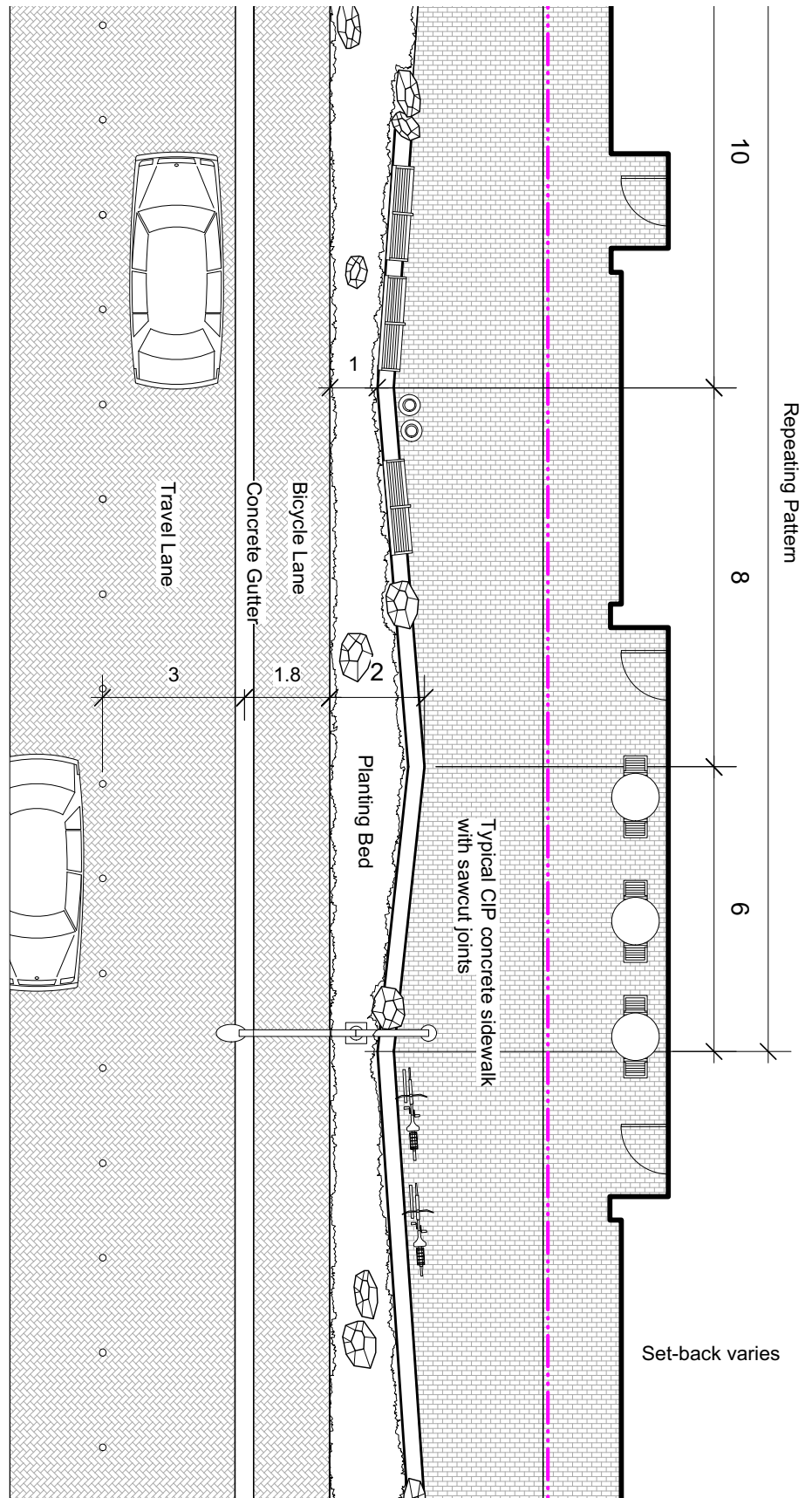


MARINE DRIVE

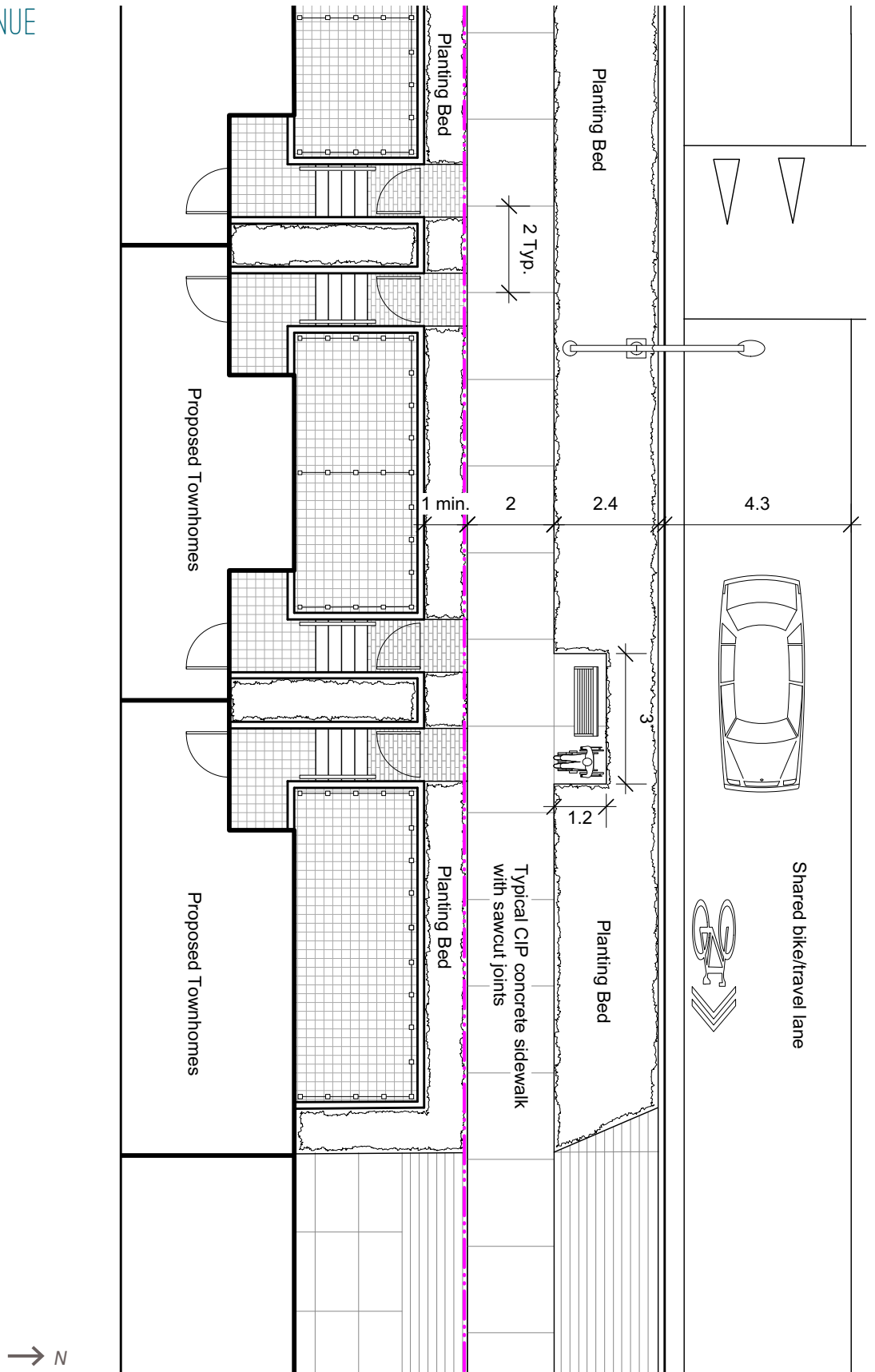




"CROSSROADS"

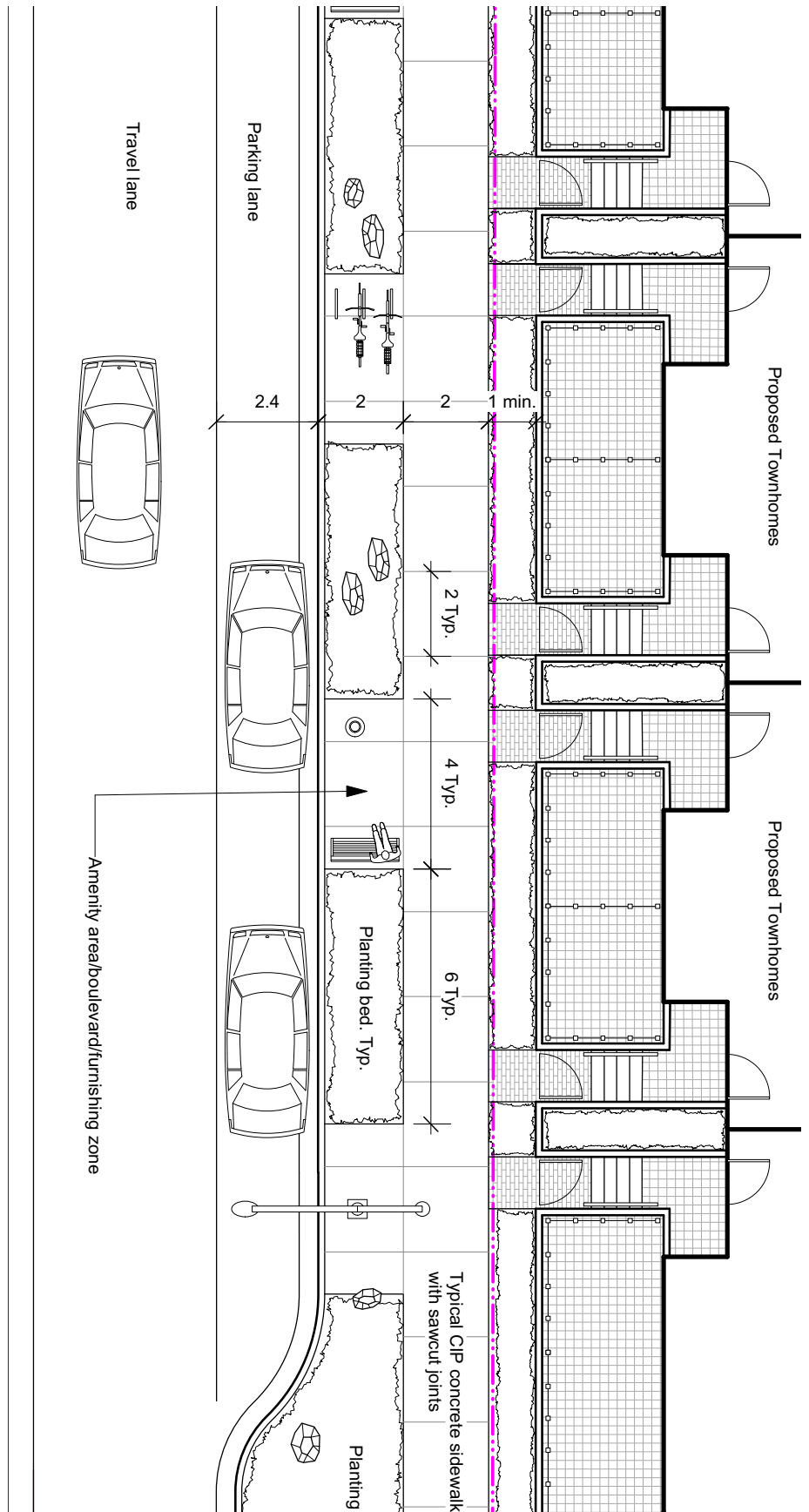


FULLERTON AVENUE





CURLING ROAD



MCGUIRE AVENUE

