

# 450 PACIFIC

450 PACIFIC STREET,  
VANCOUVER, BC

**DEVELOPMENT PERMIT DESIGN RATIONALE**  
OCTOBER 30, 2023

PUBLIC ARCHITECTURE + COMMUNICATION  
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**public**

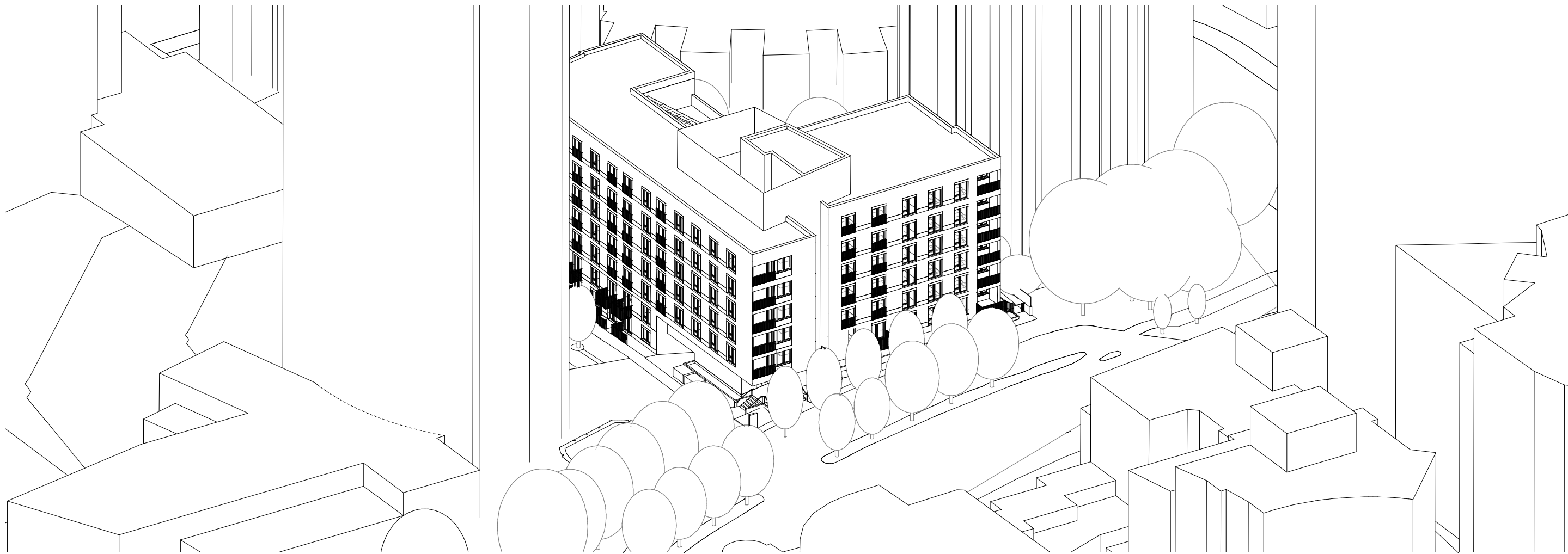
*Groundswell*  
LANDSCAPE ARCHITECTURE

 **CITY OF  
VANCOUVER**





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# INTRODUCTION

**Project team**

**City of Vancouver**

The city has a long history of climate action creating innovative solutions for below-market housing in Vancouver. Since the 1990s, Vancouver has been working with the community to address the environmental challenges facing our city. The City is committed to demonstrating global leadership in addressing the challenges of climate change while creating economic opportunities and maintaining world leading standards of living for local residents.

**BC Housing (BCH)**

BC Housing develops, manages and administers a wide range of subsidized housing options across the province. BCH works with the ministry responsible for housing to address critical gaps across the housing continuum, which range from emergency shelter and rent assistance in the private market to affordable home ownership. They work with about 800 housing providers and help more than 110,000 households in communities across British Columbia.

**Non-Market Housing Development &**

**Operations**

NMHDO’s vision is for all Vancouver residents to have access to affordable, safe, and quality homes. Building on City-owned land, NMHDO liaises with investment, development, and community partners to create below-market housing options. They are a project manager.

**Public Architecture**

PUBLIC builds culture and shapes identity. Our work creates spatial experiences—beyond buildings — to the city at large, capable of spurring transformation, engagement and renewal. PUBLIC is the architect and prime consultant for the 450 Pacific project.

**Bush Bohlman & Partners**

Bush Bohlman & Partners is a structural consultant on this project.

**AME Group**

AME Group is the mechanical and fire protection consultant on this project.

**AES Engineering**

AES Engineering is the electrical consultant on this project.

**LMDG Building Code Consultants**

LMDG Building Code Consultants is the building code consultant for this project.

**RDH Building Science Inc.**

RDH Building Science is the envelope consultant and Passive House lead.

**Core Group Consultants**

Core Group is the civil consultant bringing expertise in innovative stormwater management strategies.

**Gunn Consultants**

Gunn is providing elevator consulting services.

**Groundswell Landscape Architecture**

Groundswell Landscape Architecture is the landscape designer on this project.

**Apex Elevator Consulting Inc.**

Apex Elevator Consulting Inc. is the elevator consultant on this project.

**BKL Consultants Ltd.**

BKL Consultants Ltd. is the acoustical consultant on this project.

**RTA QS**

RTA QS is the cost consultant for 450 Pacific project.

**WATT Consulting Group**

WATT Consulting Group is the transportation consultant on this project.

INTRODUCTION / CONT'D

**Site**

The 450 Pacific Street site is one of the last sites to be developed in the Beach Neighbourhood. The site is an irregular shaped lot consisting of one CD-1 (366) zoned lot. The Site is bordered by 400 Block Pacific Street featuring street trees, sidewalk, light standards, parking bay, grass verges, traffic island, cycle lane and roadway to the northeast, Strathmore Mews to the south, high-rise and low-rise residential condominium buildings to the northwest, southeast and southwest.

The development intent for 450 Pacific is to build approximately 91 non-market, rental housing units in a mid-rise form with a single level of below grade parking.

Functional Program	Description	No. of units
RESIDENTIAL UNITS	STUDIO	31
	STUDIO - ACCESSIBLE	1
	ONE BEDROOM	23
	ONE BEDROOM - ACCESSIBLE	2
	TWO BEDROOM	23
	THREE BEDROOM	9
	THREE BEDROOM - ACCESSIBLE	2
	TOTAL	91
RESIDENTIAL AMENITY	MULTIPURPOSE ROOM	1
	AMENITY ROOM	1
	KITCHENETTE	1
	WASHROOM	2
	TOTAL	5
ADMINISTRATION / SUPPORT	OFFICE	1
	MAIL ROOM	1
	LAUNDRY ROOM	1
	JANITOR ROOMS	2
	TOTAL	5

**Affordable housing program**

As per *Family Room: Housing Mix Policy for Rezoning*s, a 35% mix of two and three-bedroom family units is required. The housing program includes a mix of Studio, 1, 2, and 3 bedroom units, with a family unit target of 38%, as described in the table below.

Vehicle stalls, bicycle storage, recycling and waste storage room, accessed by elevators, are located at level P1.

**Accessibility** - All units will be adaptable and minimum 5% of units will be accessible as per the City’s and BC Housing guidelines.

**Amenity space** - As per *High-Density Housing for Families with Children Guidelines*, a common indoor amenity room with kitchenette and washroom is provided adjacent to the outdoor amenity and children’s play area. Other common areas including a entry lobby, mail room, laundry rooms and an office.

**Outdoor amenity space** - Juliette balconies are proposed for the studio and one-bedroom units and large balconies meeting or exceeding City guidelines for private outdoor amenity space for family and accessible units. Additional high-quality outdoor space in the courtyard and at level seven is provided in lieu of private balconies for smaller units.

**Affordable housing** - The anticipated affordability level is 20% shelter, 50% Housing Income Limits and 30% Low End of Market with the different affordability levels spread throughout all unit types. Please note that this is subject to any further funding program requirement by BC Housing.

All units will be secured as social housing for a term of 60 years, or the life of the building, whichever is greater, via a Housing Agreement.

BC Housing (BCH) is expected to be the primary funder, towards the development of these affordable units, with the funding modelled after the Community Housing Fund, Canadian Mortgage and Housing Corporation (CMHC) is also anticipated to be a contributing partner.

**Form of development** - In accordance with *Zero Emissions Building Catalyst Policy and Guidelines*, building articulation, such as setbacks or bays, can create a challenge in designing a thermally efficient envelope by increasing the ratio of envelope to enclosed space. Instead, simple massing articulations, projecting thermally efficient balconies, material variations, colour, and landscape elements contribute to building form and character.

INTRODUCTION / CONT'D



**Applicable policies**

Several relevant planning policies inform the design including:

**Housing policy & guidelines -**

- False Creek North Official Development Plan (1990)
- Northeast False Creek Plan (2018)
- CD-1 (366), current zoning
- Affordable Housing Policies (1989, updated 1991)
- Housing Vancouver Strategy (2017)
- Housing Vancouver 3-Year Action Plan 2018-2020
- City of Vancouver Housing Design and Technical Guidelines (updated September 2021)
- SHORT Pilot Program
- Family Room: Housing Mix Policy for Rezoning Projects (2016)
- High-Density Housing for Families with Children Guidelines (1992)

- Green Building Rezoning Policy (2010, last amended 2018)
- REFM Design and Technical Guidelines – Sustainability Section (Appendix I)
- CMHC National Co-Investment Fund Minimum Environmental & Accessibility Requirements (New Construction)
- Mitigation of Event-Related Noise For Residential Buildings Policy – Northeast False Creek and Adjacent Impact Areas (2010)
- View Protection Guidelines (1989, last amended 2011)
- Beach Neighbourhood CD-1 Guidelines (1999, last amended 2002)

**Green building policy & guidelines -**

- Greenest City: 2020 Action Plan
- Green Building Rezoning Policy (2010, last amended 2022)



# DESIGN RATIONALE

**Design Response**

**Beach Neighbourhood CD-1 Guidelines** - In accordance with the CD-1 No. 366 guidelines, the following urban design responses are proposed:

- 3.1 Setbacks between developments are provided to provide views into secured semi-private open spaces.
- 3.3 Low and Mid-rise buildings range in height from 2 to 8 stories. A common roof deck is provided on the southwest side with views to False Creek.
- 3.5.2 Balconies are recessed into the building face to improve privacy for neighbours and residents.
- 3.5.3 Awnings, Canopies and Entries - The double height main entry is weather protected by an overhang to enhance building identity.
- 3.5.5 Public Realm Interface - ground oriented units include private stoops with planters, steps and patios overlooking the Mews enhancing pedestrian scale and residential character.
- 3.6.3 Access and “Address” - the main entrance is oriented towards Pacific Street, at the intersection of Pacific Street and Strathmore Mews.

- 3.6.5 Safety and Security - The building massing incorporates the principles of CPTED (Crime Prevention Through Environmental Design) by providing passive surveillance, eyes on the street, and by avoiding alcoves.
- Pacific Street Interface** – The Pacific St façade has been moved southwest to accommodate a desired 1m setback for street widening. To address Fire Department and Building Code compliance Level 2 Grade has been revised from 14.00 to 13.50. As a result of this, the Pacific Street units have moved closer relationship to the sidewalk and the corner three-bedroom unit has direct access from Pacific St. via a stair and private terrace. Planters have been introduced between the building face and the sidewalk to offset the change in level and to improve the pedestrian experience.
- The building projects into the provided setbacks in two locations. The first location is the Pacific St frontage where the building form cantilevers over the setback line to feature the building entrance and provide a sheltered entry threshold, as per ‘Beach Neighbourhood CD-1 Guidelines’ Section 3.1(d). The second location is a small encroachment on the west setback where recessed balconies on level 2 to level 7 encroach less than one meter as per ‘Beach Neighbourhood CD-1 Guidelines’ Section 3.1(f).

- Strathmore Mews Interface** – At grade units facing the Mews are defined by private terraces with glazed canopies, lighting, custom addressing, and tiered planters to provide weather protection, shade, and visual interest.
- Side yard Setbacks** – The units neighbouring 1438 Richards Street have bedrooms and living rooms that face southwest towards the proposed courtyard, or northeast towards Pacific Street to reduce overlook and increase neighbourliness. A small operable window is provided at the kitchen for ventilation, which is the only opening on the façade facing 1438 Richards.

- An eight metre setback from the adjacent 1438 Richards Street is provided, which exceeds the existing condition opposite the site in the laneway between Richards Street and Homer Street. The distance between balcony and bedroom condition is approximately six metres. See the image below.
- Facade expression** – Several design techniques are proposed to create variation in the façade expression. Juliette balconies with vertical picket guards provide layering interest, relief and play of shadows. A variety of quality materials are proposed. With warm accent colours at the building entry, massing recesses and balcony



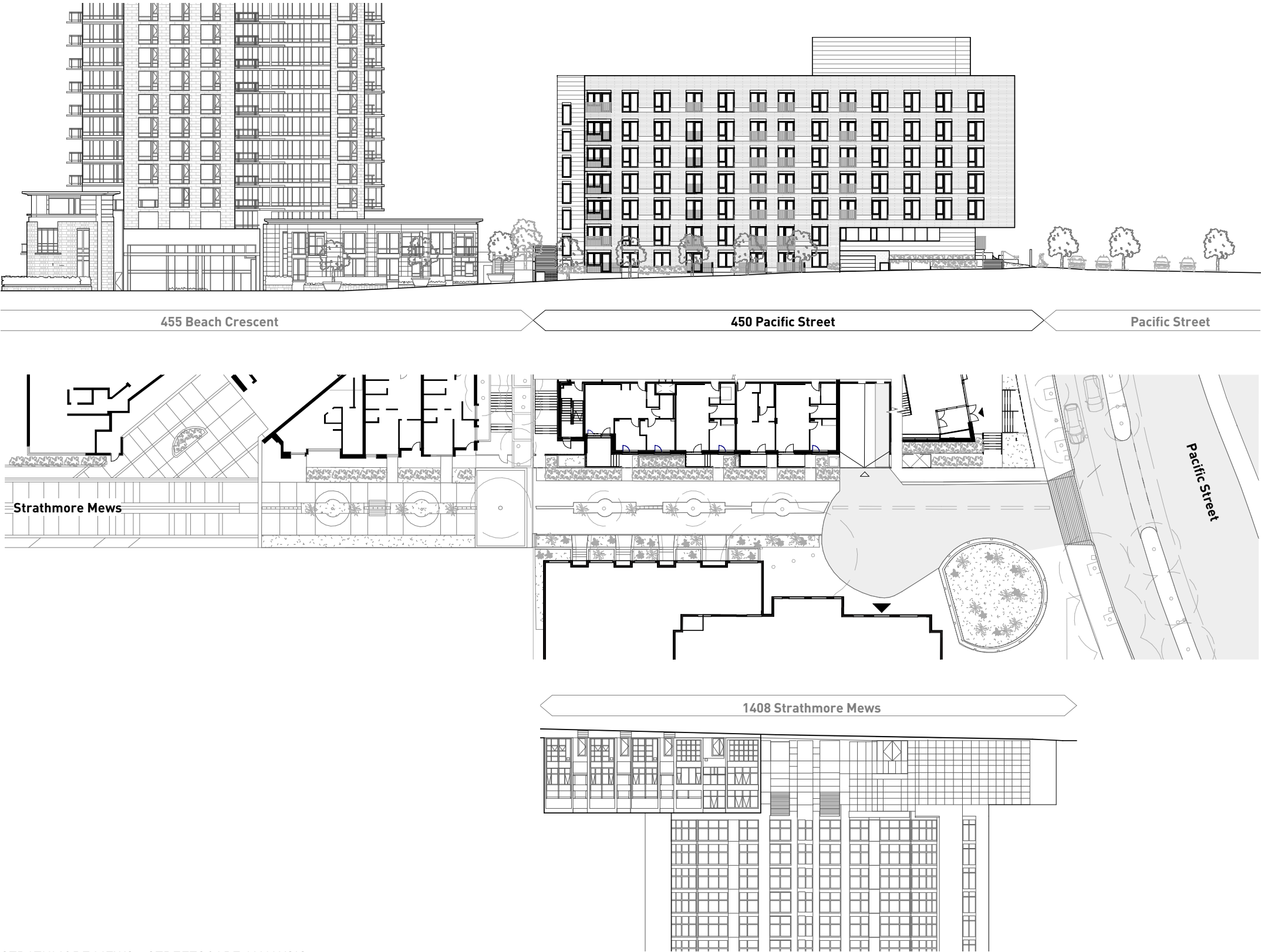
LANE BETWEEN RICHARDS AND HOMER STREETS

DESIGN RATIONALE / CONT'D

interiors to identify pedestrian entries and places where residents gather and socialize.

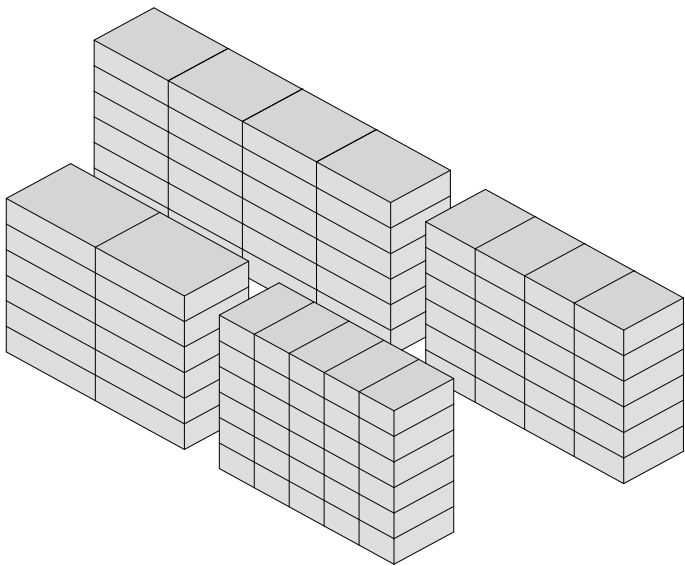
**Roof treatment** – A roof top pergola is provided over the seventh-floor exterior amenity space for shade and privacy for the tenants. Climbing plants for the pergola are proposed to increase local biodiversity and visual interest for overlooking neighbours. A perforated architectural metal screen will surround the roof top mechanical equipment, reducing visual disturbances and strengthening the coherence of the architectural expression. Additional visual interest is provided by a two colour roofing pattern that reinforces the building’s volumetric entry expression in response to the Pacific Street curve.

**Improved Accessibility** – An accessible path, with a slope greater than 1:20 is provide from Pacific Street to the Courtyard and the main building entry. All interior amenity rooms will have direct access to the adjacent exterior amenity spaces. All accessible units have access to private exterior space.

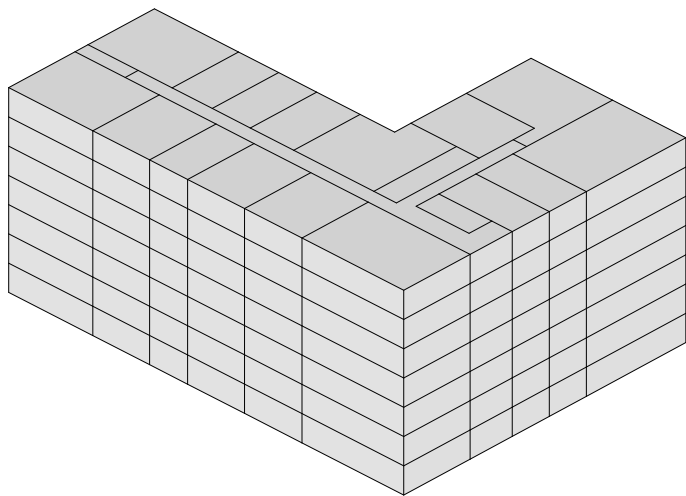


STRATHMORE MEWS - STREETScape ANALYSIS

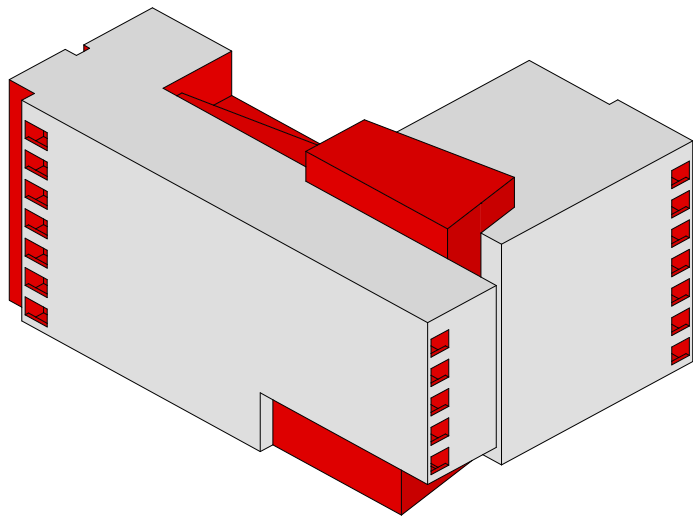
DESIGN RATIONALE / CONT'D



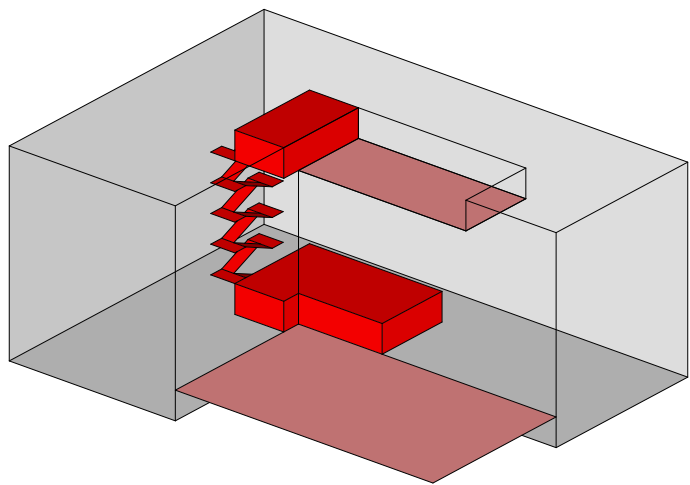
REGULAR STACKED UNITS



'L' SHAPED MASSING FACING STRATHMORE MEWS AND PACIFIC



BALCONIES ORIENTED TO BUILDING CORNERS



INTERIOR AND EXTERIOR AMENITY CONNECTIONS

**Massing Strategy** - The design begins by stacking orthogonal, livable, adaptable and efficient housing units. The standard depth orthogonal units anticipate efficient and affordable prefabricated construction.

In response to the constrained infill site, surrounded by three residential tower developments, units are stacked in an L-shaped massing to complete the shared courtyard envisioned in the Beach Neighbourhood plan. The corner of the 'L' is opened up to the Pacific Street for natural light, views and to define the building entry.

The ground floor entry is set back from Pacific and Strathmore Mews to provide a generous weather protection for pedestrians and cyclists. Balconies for family units are integrated into the building from and oriented to building corners to look past neighbouring towers to increase privacy and provide distant views and improved daylight access.

The courtyard and top floors have direct access to shared interior and exterior amenity spaces allowing residents to choose between rooftop views of False Creek or a secluded green courtyard. Elevators and a generous stair provides access between the amenity spaces.



DESIGN RATIONALE / CONT'D

Architectural Expression

1.18 As per UDP commentary, increase the variety and interest of the façade expression. Explore opportunities to reduce façade repetition, including: providing balconies to all units, increasing the play of light and shadow, employing a variety of quality materials, and/or increasing building articulation.

The project proposes to use prefinished materials with inherent texture and colour to enhance visual quality while meeting the stringent cost and performance requirements of publicly funded social housing. While final selections are pending review with stakeholders, the presented scheme proposes an exterior face of dark cementitious panels in a variable tone, with reveals and massing cuts expressed with a prefinished metal in a warm copper colour. Bands of dark grey perforated metal are interleaved between and above window openings to accommodate mechanical louvers and vents in a controlled and considered manner.

**Pacific Street** – The Pacific Street elevation is generated by the expression of two masses with an inset volume for elevator and entrance on a bias towards Pacific Street. Ground floor units have been provided with patios to provide visual interest and passive surveillance of the street, and direct access where grades permit. The south mass cantilevers out to provide a sheltered entrance. The entrance volume angles towards Pacific St in a welcoming gesture that carries up

the face of the building, signalling the entrance at street scale and hosting communal planter boxes at each floor. This angled face is integrated with a screened mechanical penthouse, modulating to perforated panels that provide screening to mechanical equipment. The bias is completed at the rooftop amenity with a wood framed pergola to provide balanced shelter and light, and a two-colour composition of roofing materials visible from neighbouring towers.

**Strathmore Mews** – The façade expression along the south elevation at Strathmore Mews modulates across three zones, from Pacific Street south towards Beach Crescent. The design language takes contextual cues from its neighbours, including generous private patios and planters integrated with lighting and unit addressing. Guards are metal **with vertical pickets** in black colour, similar to neighbouring buildings.

Immediately adjacent to Pacific Street, the north zone is defined by the entrance overhang. The copper coloured textured metal cladding extends to provide visual interest and to integrate the parkade ramp entry. Stepped concrete planters will provide a softened ‘green’ face while also providing a controlled area for waste pickup with a robust finish. Generous windows in the Laundry, Office and Entrance Lobby provide views and active surveillance of the Mews.

The center zone of the facade is defined by a composition of stacked Juliet balcony guards. These are held off the face of the building to provide shadow and texture. At Level 2, the balconies step forward to provide both an accessible balcony and a protected opening to Mews units below, and to increase visual interest and activity in the pedestrian realm along the Mews.

To the south, a stack of recessed balconies and a set back glazed exit stair create an expanded entrance to the project’s courtyard, completing the stair and stepped planter figure established by the neighbouring project at 1455-1475 Strathmore Mews.

The south elevation will be frequently experienced by passers-by at a foreshortening oblique angle as they move along the Mews. Deep window reveals resulting from thick insulation to meet Step 4 Energy Code are used to reflect and redirect light into units to promote daylight autonomy. Providing these reveals with a reflective copper colour transforms the material expression of the facade and provides an additional layer of visual interest along Strathmore Mews - for more information see the rendering on page 9.



STRATHMORE MEWS - FACADE EXPRESSION

# RELAXATION RATIONALE

**Proposed relaxations**

The following relaxations of policy and guidelines are requested to provide at least 661 high quality, affordable housing units in the desirable and well serviced Quayside neighbourhood:

**Family housing target relaxation** – The City requires 661 units across the three False Creek North sites. Additional family units cannot be provided on the Pacific site without reducing the total number of units on the 450 Pacific Street site and potentially not achieving 661 units across the three sites or by adding additional density on the Pacific site.

On the Pacific site it is not possible to increase the percentage of family units, without changing one of the following conditions:

- a) Change the building construction type from conventional wood frame to non-combustible construction allowing for an additional floor of units, which would allow smaller units to be converted to family units. This is not recommended due to higher costs associated with concrete construction and high-rise code requirements.
- b) Convert the level seven exterior and interior amenity space into residential unit area reducing the total amount of indoor and exterior amenity area. As a result, the indoor amenity area would be below the City’s target of 15 sq. ft. per unit.
- c) Reduce the total number of units from 673 for the three sites by seven to allow for more family units on Pacific by converting studios and one-bedrooms to two-bedroom units.

**Unit mix relaxation** – Additional family units cannot be provided on the Pacific site without reducing the total number of units on the 450 Pacific Street site and potentially not achieving 661 units across the three sites or by adding additional density on the Pacific site.

On the Pacific site it is not possible to achieve the target unit mix by increasing the percentage of large units, without reducing the total number of units (673 units) for the three sites by converting studios and one-bedrooms to family units or increasing the number of floors resulting in a change to non-combustible construction. See the response to the Family housing target reduction above for more information.

**Number of 3-bedroom units relaxation** – Additional three-bedroom units cannot be provided on the Pacific site without reducing the total number of units on the 450 Pacific Street site and potentially not achieving 661 units across the three sites or by adding additional density on the Pacific site.

On the Pacific site it is not possible to increasing the number of 3-bedroom units, without reducing the total number of units (673 units) for the three sites by converting studios and one-bedrooms to 3-bedroom units or increasing the number of floors resulting in a change to non-combustible construction. See the response to the Family housing target reduction above for more information.

UNIT MIX	STUDIO	1-BED	2-BED	3-BED	TOTAL	FAMILY UNITS
1050 EXPO BOULEVARD	116 (39%)	71 (24%)	84 (28%)	28 (9%)	299	112 (37.5%)
450 PACIFIC STREET	32 (35%)	25 (27%)	23 (25%)	11 (12%)	91	34 (37%)
TOTAL	148 (38%)	96 (25%)	107 (27%)	39 (10%)	390	146 (37%)



RELAXATION RATIONALE / CONT'D

**Private balcony relaxation** – Balconies for all family units (two-bedroom and three-bedroom units) are designed to meet minimum dimensional requirements (1.8m by 2.7m), balconies are provided for all accessible units and Juliette balconies are proposed for the non-accessible studio and one-bedroom units.

Fenestration to all balconies is styled after traditional French doors with a vertical floor-to-ceiling proportion to improve ventilation. In addition, vertical picket guards have been introduced to provide privacy screening and penetration of natural light and air.

In addition to the studio and 1-bedroom Juliette balconies, enhanced outdoor amenity exceeding 3.7 sq. m (40 sq. ft.) per unit is provided in the proposed courtyard and rooftop terrace. The rooftop terrace is fully accessible, adjacent to the indoor amenity space and has views to False Creek.

Informal gathering in the courtyard and roof terrace is encouraged to increase social connections between residents of all ages, and to combat loneliness and social isolation by supporting a range of outdoor activities including urban agriculture, children’s play space, outdoor dining and cooking and family events. Suitable outdoor furniture and equipment will be provided for these activities.



STRATHMORE MEWS – PEDESTRIAN REALM

OUTDOOR AMENITY	STUDIO / 1-BED	FAMILY UNITS	TOTAL AREA REQUIRED	TOTAL AREA PROPOSED
PRIVATE AREAS				
FAMILY UNIT BALCONY		4.9 sq. m. (54 sq. ft.)		166.6 sq. m. (1,793 sq. ft.)
ACCESSIBLE UNIT BALCONY	2.7 sq. m. (27 sq. ft.)	4.9 sq. m. (54 sq. ft.)		17.9 sq. m. (193 sq. ft.)
STUDIO / 1 - BED JULIETTE BALCONY	Large sliding door & guard		201 sq. m. (54 * 40 sq. ft. = 2,160 sq. ft.)	
COMMON AREAS			169 sq. m. (91 * 20 sq. ft. = 1,820 sq. ft.)	
COURTYARD OUTDOOR AREA				456 sq. m. (4,908 sq. ft.)
LEVEL-7 OUTDOOR AREA				130 sq. m. (1,399 sq. ft.)
TOTAL			370 sq. m. (3,980 sq. ft.)	586 sq. m. (6,307 sq. ft.)



RELAXATION RATIONALE / CONT'D

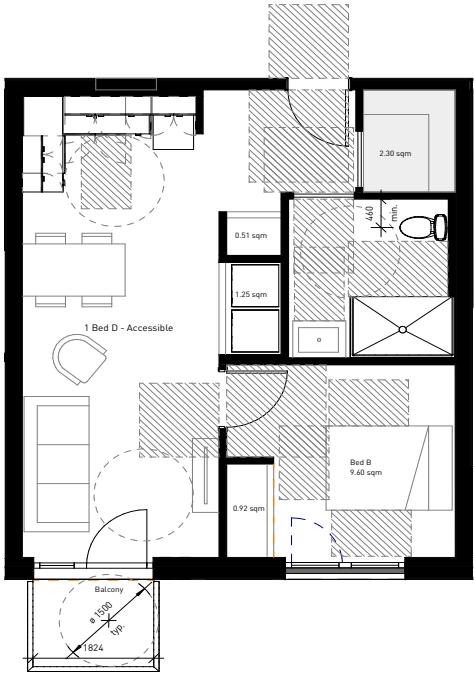
**Accessible unit mix** – 5% of the total number of units are designed as accessible units. The proposed Pacific Street design provides a range of Studio, 1-Bedroom and 3-Bedroom accessible units. The Expo Boulevard project provides a range of Studio, 1-Bedroom and 2-Bedroom accessible units. Across the two projects, a full range of accessible units with 45% family units is provided.

ACCESSIBLE UNIT MIX	STUDIO	1-BED	2-BED	3-BED	TOTAL	FAMILY UNITS
1050 EXPO BOULEVARD	4 (27%)	4 (27%)	7 (47%)		15	7 (47%)
450 PACIFIC STREET	1 (20%)	2 (40%)		2 (40%)	5	2 (40%)
TOTAL	5 (25%)	6 (30%)	7 (35%)	2 (10%)	20	9 (45%)

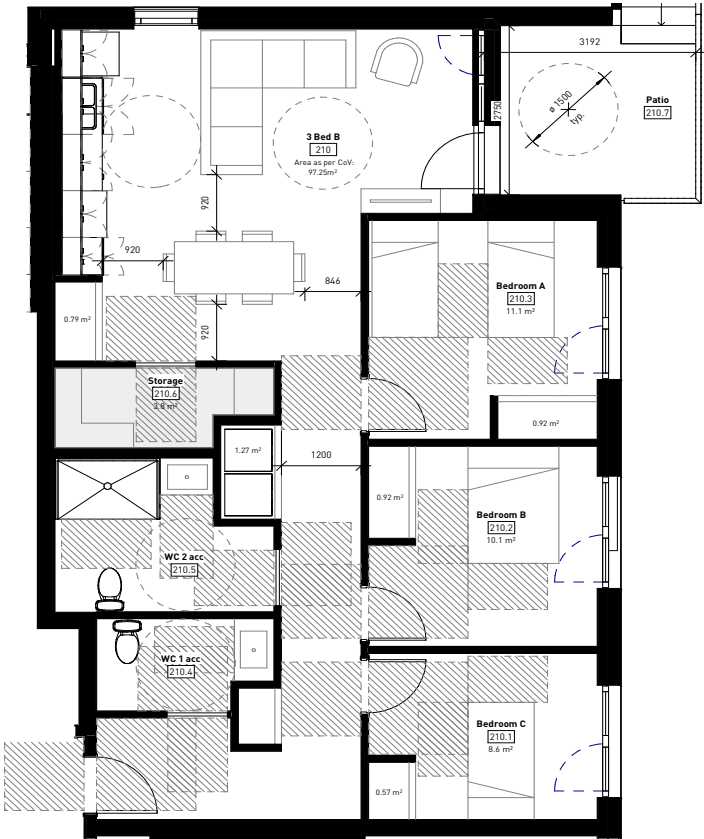


STUDIO - FLOOR PLAN  
NET FLOOR AREA: 43.90 SQ. M.  
STORAGE AREA: 2.9 SQ. M.

STORAGE



1 BEDROOM - FLOOR PLAN  
NET FLOOR AREA: 53.15 SQ. M.  
STORAGE AREA: 2.3 SQ. M.



3 BEDROOM - FLOOR PLAN  
NET FLOOR AREA: 102.00 SQ. M.  
STORAGE AREA: 3.8 SQ. M.