948 Howe Street - Nano Hotel

Rezoning Booklet
January 30, 2026



Project by: 1517856 BC Ltd.

unison
architecture

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“A strategically located and thoughtfully designed landmark that supports the future growth of the Granville Entertainment District, with significant economic and environmental benefits.”

1.0 Introduction

1.1 Rezoning Intent

This report is prepared for 1517856 B.C. Ltd. to assist in application for rezoning advice at 948 Howe Street.

"Vancouver has the same number of hotel rooms as we did in 2002," said President and CEO of Destination Vancouver, Royce Chwin. The current growth in demand for Vancouver as an international destination is set to continue. Vancouver is the gateway to British Columbia's 22-billion-dollar tourism industry. An industry that positively impacts almost every community in the province. Thus, it is **critically important to ensure the growth and quick development of accommodation supply in the city.**

This innovative hotel concept is thoughtfully designed to align with evolving visitor demand by tailoring hotel type, size, and location to specific target demographics within the Vancouver market. **Located in the downtown district, adjacent to the Granville Street Entertainment Core,** the hotel introduces a compact, efficient format that caters to short-stay and budget-conscious travelers—including domestic tourists, young professionals, graduate students attending international conferences at the Vancouver Convention Centre, and international visitors seeking centrally located accommodations with convenient access to transit, entertainment and cultural amenities.

By optimizing land use through efficient and innovative design, the hotel reduces pressure on urban infrastructure such as transit systems and public greenspaces, while enhancing access to the city's attractions. It is expected that most hotel guest to use existing transit system (skytrain, taxi, uber, seabus, Hullo, etc) and explore downtown by foot, cycle or scooter during their stay instead of accommodating in surrounding cities for more economical choices and drive to downtown to explore the shops and enjoy the culture. The guest/ travellers of this missing class will also contribute through Municipal & Regional District Tax (MRDT) to the regional budget.

The hotel is designed with the highest environmental standards and latest technologies in mind to enhance the guest experience.

The project will **improve the street-scape and night life on 900 Howe Street block.** Businesses on this block currently shut down at 5pm everyday and over the weekend, following office hours. This development contributes to the broader distribution of economic benefits from the visitor economy across downtown Vancouver to it's affect on larger scale of higher traffic at YVR, supporting local businesses and fostering neighborhood revitalization. The project financing is currently backed by Business Development Bank of Canada (BDC) and private financing.

It will contribute to the excitement of the City Entertainment Core by bringing more environmentally conscious travellers to our City where they are not seeking luxury, but a reasonable, safe and friendly accommodation option. The development will embrace innovation around the structure as well as lightings and overall embodies carbon and energy consumption per guest.

The project emphasizes on social and cultural values through the inclusion of publicly accessible spaces – such as rooftop sky bar with views of Robson Square **–** that encourage community interaction and engagement. The hotel is thoughtfully integrated into the surrounding built environment, complementing and enhancing the district's urban design objectives while contributing to an active and inviting streetscape.

More than just a response to the need for a diversified hotel supply, **the proposed hotel represents a forward-looking model for sustainable, transit-oriented hospitality in Downtown Vancouver.**



Nano Pod + Nano Room = Nano Hotel

The Nano Hotel is a high density lodging concept that combines two room types—Nano Pods and Nano Rooms—to **deliver affordable urban accommodation without compromising comfort or privacy.** The major cities around the world have the Nano Style hotels, Paris, Tokyo, London, New York to name a few.

A Nano Pod is a full height, private sleeping capsule of roughly 33 ft² (~3.0 m²) with a standard door, integrated lighting and ventilation, and a secure lock. The bed in the Nano Pod is reclinable and can slide to allow for more room at the entrance and store luggage under the bed. Pod guests share elegantly designed washrooms and showers on each floor.

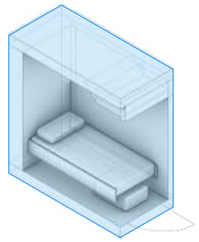
A Nano Room is a fully enclosed micro hotel room of roughly 105 ft² (~9.75 m²) with climate control, secure storage, sound isolation and digital amenities.

These two products allow the project to offer **408 guest spaces** within a compact footprint while still providing high quality rest spaces and **social amenities such as a guest only amenity level, a sky lobby with a bar and a rooftop terrace.**

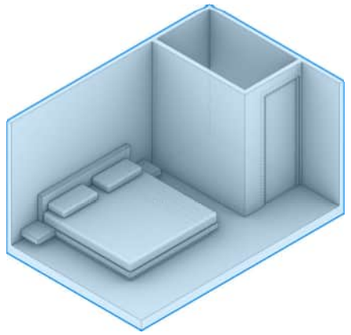
The project is targeted at budget conscious urban travellers, especially **18-34 year olds. This demographic values central locations, digital connectivity and social experiences** over large rooms and unused square footage. These corporate and social travellers use public transit and love to experience dining and attractions. By optimizing space, the Nano Hotel can offer nightly rates that are much lower than conventional hotels, yet provide substantially more privacy than a hostel. The model has been proven as a key viable alternative to a tradition hotel room, and the trend around the world is for this sector to continue to grow. These small rooms appeal to price sensitive travellers who still expect high tech amenities and quality design. The Nano Room and Nano Pod adapt this global trend to the Vancouver market by offering slightly larger footprints, full height rooms, privacy and integrated storage that meet local building standards, combined with social components to address cultural expectations. A unique experience for travellers to Vancouver.

Using LED lighting with ever changing colours for rooms located towards Howe Street to bring a vibrant night life sense to the Howe Street. Providing Rooftop bar and public amenities on the highest floors.

Three levels of underground Back of House will provide Staff Room, Change Room, Bike Storage, Laundry and office space needed for operation.



Nano Pod



Nano Room

Sustainability

Compact rooms reduce material use and energy consumption relative to standard hotel rooms. Smaller footprints mean less embodied carbon per guest. **Our embodied carbon calculated 35% below the benchmark.** In addition, high density lodging minimises land consumption and allows development on narrow or constrained urban sites that might be unsuitable for traditional hotels. Shared amenities for pods (washrooms, showers, social areas) further reduce per capita resource use. In addition, we are studying use of BIPV (Building Integrated Photovoltaic) panels which can generate electricity on site.

Another consideration is use of prefabricated Cross Laminated Timber (CLT) for flooring, using BC Douglas Fir timber. This will help reduce on-site construction activities and speed up the construction. This site is an existing orphaned site, previously home to BC Hotel Association, to have this innovative concept hotel bring life to this block of Howe Street and will align with the goals of the city plan.

This aligns with Vancouver's goals for sustainable development and the tourism industry's increasing emphasis on low impact travel.

Severe hotel room shortage

Vancouver's visitor economy has recovered strongly from the pandemic. Destination Vancouver reports that downtown hotels achieved 71.8% occupancy and an average daily rate (ADR) of $245 in March 2025, while the ADR reached $422 during the August 2024 peak season. Even with high rates, summer occupancy exceeded 90%, indicating that demand is outstripping supply. The City of Vancouver currently has only 13,000 hotel rooms, and a net loss of more than 500 rooms occurred between 2020 and 2022 as several older hotels were converted to social housing. **Destination Vancouver estimates that 10,000 additional rooms are needed in the city by 2050 to meet projected demand.** If this gap is not addressed, the region could forfeit $30.6 billion in economic output, $16.6 billion in GDP, 168,000 jobs and $7.5 billion in tax revenue.

The shortage is already pushing nightly rates to a level that risks deterring visitors and shortening their stays. The City's Hotel Development Policy Update notes that, in August 2024, Vancouver's downtown ADR nearly doubled the national average, and that Canada's ADR at that time was below $213 with national occupancy under 80%. High rates and limited choice particularly affect younger and budget travellers—the very visitors who contribute to the city's cultural vibrancy and are more likely to use public transit, engage in local experiences and spend money in our local shops, coffee shops and restaurants.



1.3 Project Team

Unison Architecture
Architect

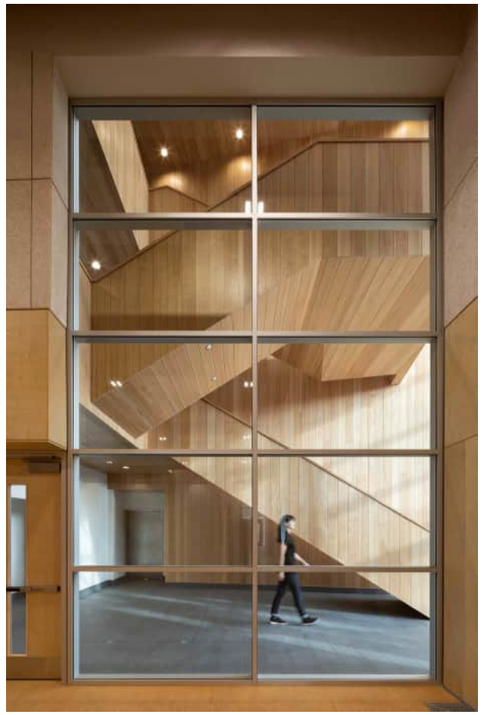
Since its inception in 2013, Unison Architecture has been dedicated to designing beautiful, high-performance public and private spaces. Our mission is to empower communities and user groups by giving them greater control over their environments.

Unison is comprised of a multidisciplinary team of 12 professionals, including architects, a civil engineer, designers, and project managers, who work collaboratively to enhance the built environment in every project we undertake.

1517856 B.C. Ltd.
Developer

1517856 BC Ltd. was established by the same owners of Unison Architecture to acquire and develop the property at 948 Howe Street. The intent is to create a Nano Hotel in response to the growing shortage of accommodations in our city. The project also aims to enhance safety and security in the laneway between Howe and Granville Streets—particularly after hours and on weekends—by increasing foot traffic from hotel guests.

Private and Business Development Bank of Canada (BDC)
Finance







Ryan Bragg (Perkins & Will)
Rezoning Advisor

HVS Global Hospitality Services & IJM Consulting
Hotel Consultants

GHL Consultants
Code Consultant

Aspect Structural Engineers
Structural Engineer

AME Consulting Group
Mechanical Engineer

O'M Engineering
Electrical Engineer

Aplin Martin
Civil Engineer

PFS Studio
Landscape Architect

LNLS
Land Survey

Step One Mobility
Traffic Consultant

AME Consulting Group
Sustainability Consultant


411 Railway - GHL Consultants


TMS Elgin Mills- Aspect Structural Engineers


The Hive - AME Consulting Group


Surrey City Hall - O'M Engineering

Support the City of Vancouver's Goals



Optimize Valuable Land in Downtown Vancouver

Incorporating creative and innovative ideas to transform and densify an underutilized orphan site into a valuable contributor to the City's tourism and job industry in the center of downtown Vancouver. Transform orphaned urban site.

Activate the Lane and 900 Howe St block

Improving safety and usability by attracting more pedestrian traffic to the lane and 900 Howe St., which currently closes after office hours and weekends. Revitalize the nightlife on 900 Howe block, inherently contributing towards the Granville Entertainment core.

Support CoV's Economic and planning goals

Support immediate and long term CoV policies in the tourism, economic and environmental sectors. Specifically the Vancouver plan 2050, the transportation plan and the Greenest city action plan.

Celebrate Place

Create a new Vancouver landmark in downtown that emphasizes on social and cultural values through the inclusion of publicly accessible spaces such as a rooftop bar.

Promote Responsible Tourism

Accommodate more guests in smaller footprint – minimize carbon footprint by reducing land use and environmental impacts Provide more choices and supply in Vancouver's hotel stock with both economical Nano pods and Nano rooms.

Enhance the Public Realm

Extend the storefront overhang along Howe Street while activating the frontage with architecture that is inclusive, vibrant and promotes social spaces.

1.5 New Hotel Typology in Vancouver - Letters of Support

British Columbia Hotel Association

BRITISH COLUMBIA
HOTEL ASSOCIATION

July 31, 2025

To Whom It May Concern,

As President & CEO of the BC Hotel Association, I am writing to express our strong support for the proposed new pod/capsule hotel at 948 Howe Street in downtown Vancouver.

Formerly home to the BC Hotel Association, this underutilised site is now poised for a bold reinvention—one that honours its hospitality legacy while meeting the evolving needs of modern travellers. Situated between the Granville Entertainment District and a cluster of office buildings, the location is tailor-made for young nomads, digital workers, and budget-conscious guests seeking clean, safe, and affordable accommodation in the heart of Vancouver.

At the core of this proposal is the innovative micro-accommodation model—a smart, efficient, and highly relevant solution in a city grappling with an ongoing shortage of hotel rooms. We particularly support the inclusion of windowless rooms, which, when paired with advanced ventilation and lighting systems, offer a secure and comfortable guest experience without compromising affordability.

This approach reflects a global trend: space-efficient accommodation designed for urban centres where location, price, and experience trump unnecessary luxury. In this regard, the proposal not only meets market demand but positions Vancouver as a forward-thinking destination ready to welcome the next generation of travellers.

We also endorse the proposed height of approximately 204 feet, which is in line with the neighbouring buildings at 980 and 938 Howe Street. This respectful integration into the existing urban fabric reflects a sensible approach to sustainable growth—making the most of a compact footprint to deliver 400+ rooms right where the demand is highest.

Tourism remains a vital pillar of British Columbia's economy, contributing $7.2 billion to the province's GDP in 2022—outpacing key resource sectors like mining, oil and gas, agriculture, fisheries, and forestry. It supports more than 154,000 jobs across the province. This new development will strengthen Vancouver's capacity to welcome visitors, bolster the local workforce, and support the countless businesses that rely on a thriving tourism sector.

The BC Hotel Association applauds the vision behind this project. It's a smart reuse of a legacy site, an inspired response to a persistent accommodation gap, and a strong signal that Vancouver is committed to inclusive, sustainable tourism growth.

British Columbia Hotel Association
Suite 970 – 1050 W. Pender St, Vancouver B.C., V6E 3S7
Tel: 1-800-663-3153

BRITISH COLUMBIA
HOTEL ASSOCIATION

Should you require any further information or wish to discuss this project in more detail, please don't hesitate to reach out.

Sincerely,

Paul Hawes (he|him) | President & CEO
paul@bcha.com

British Columbia Hotel Association
Suite 970 – 1050 W. Pender St, Vancouver B.C., V6E 3S7
Tel: 1-800-663-3153

Destination British Columbia

VCM VANCOUVER, COAST & MOUNTAINS TOURISM REGION | DESTINATION BRITISH COLUMBIA

Destination British Columbia
12th Floor, 510 Burrard Street
Vancouver, BC V6C 3A8
www.destinationbc.ca

August 5, 2025

City of Vancouver
453 West 12th Avenue
Vancouver, BC V5Y 1V4

Re: Support for Proposed Nano Pod Hotel Development in Vancouver

Sent via email

To Whom It May Concern,

Destination British Columbia is a provincial Crown corporation responsible for marketing British Columbia as a world-class visitor destination and advancing the development of the provincial tourism industry. Our Destination Management team uses strategic planning, industry learning, corporate programming, and visitor services to strengthen BC's tourism sector, enhance guest and resident experiences, and elevate BC's global reputation as a preferred destination as a destination of choice.

Within the Vancouver, Coast & Mountains region—managed by Destination BC—our team collaborates with Indigenous Tourism BC, local governments, First Nations, tourism businesses, Destination Marketing Organizations, and provincial ministries to support the long-term viability of tourism. The Vancouver, Coast & Mountains Regional Destination Development Strategy, a 40-month research and planning initiative, was created to guide enhancements to the region over the next decade and beyond.

Four Destination Management Councils were established to support implementation of regional strategies. Among these, the Metro Vancouver Destination Management Council (MVDMC) has endorsed the Metro Vancouver Destination Development Strategy and continues to collaboratively implement its objectives. A sub-committee of the MVDMC, the Metro Vancouver Hotel Working Group, recently endorsed a Hotel Community Impact Assessment, which outlines several strategies to address the mounting hotel supply gap in Vancouver.

In this context, we at Destination British Columbia support the proposed development of a pod hotel at 948 Howe Street. The transformation of this underutilized site into a forward-thinking hospitality project aligns with our aspiration to grow sustainable social, cultural, environmental, and economic benefits for all people in BC through support and promotion of the business of tourism.

The proposed micro-accommodation model is a timely and innovative response to evolving traveller preferences and industry needs. By offering affordable, efficient lodging in a central location, this project addresses the growing demand for accessible accommodations—particularly among younger, experience-driven travellers and BC residents.

We commend the project's thoughtful design, including the modest height that blends into the surrounding streetscape and its efficient delivery of 400+ units within a compact footprint. This approach not only maximizes the utility of a difficult urban site but also contributes to Vancouver's broader goals of sustainable, inclusive growth. Use of prefabricated wood panels is another forward-looking feature that contributes to sustainability goals and supports BC's forestry industry.

This development will serve as a valuable addition to Vancouver's tourism infrastructure —helping to alleviate accommodation shortages, stimulate local economic activity, and attract a new generation of travellers seeking meaningful, community-connected experiences.

Moreover, the project supports one of the priorities identified with the Metro Vancouver Destination Management Strategy including Collaborative Destination Management which aims to attract investment for new accommodation to be built in Metro Vancouver.

We encourage the City of Vancouver to not only support this proposal, but also fast track approval process and recognize its potential to contribute meaningfully to the city's hospitality landscape and to British Columbia's reputation as a world-class destination.

Please note, Destination BC's Board Chair, Ingrid Jarrett has recused herself from involvement in this letter of support, to avoid any perceived conflict of interest. This letter reflects the independent position of our team.

Kind regards,

Dayna Miller

Dayna Miller
General Manager
Vancouver, Coast & Mountains
Destination British Columbia

Destination Vancouver

DESTINATION VANCOUVER

August 1, 2025

City of Vancouver
Planning, Urban Design and Sustainability
453 West 12th Avenue
Vancouver, BC V5Y 1V4

Re: Proposed Pod Hotel at 948 Howe Street

To Whom It May Concern,

On behalf of Destination Vancouver, I am writing to express our support for the proposed pod hotel development at 948 Howe Street.

As the destination management organization for Vancouver, our mission is to strengthen our $9.6 billion visitor economy in ways that are sustainable, innovative, and aligned with the city's long-term livability.

An important pillar of our efforts is addressing the gap in Vancouver's hotel supply and ensuring a diverse range of accommodation options are available for all types of visitors.

We fully support the development of pod hotels to meet the demand for affordable, high-quality and well-managed overnight accommodation. Furthermore, we support the need for a streamlined planning process to ensure development can take place quickly and cost-efficiently.

The proposed project at 948 Howe Street would bring new energy to the Granville Entertainment District while making efficient use of a compact urban footprint. It aligns with broader goals to add new hotel capacity, encourage innovation in hospitality, and welcome a broad range of visitors to our city.

This new development will directly support Vancouver's competitiveness as a year-round destination for leisure and business travel, and for major events.

Destination Vancouver encourages the City to support this application.

Yours sincerely,

Royce Chwin
President & CEO
Destination Vancouver

DESTINATION VANCOUVER | The Metro Vancouver Convention & Visitors Bureau
Suite 210 - 200 Burrard Street Vancouver, BC Canada V6C 3L6 | +1.604.682.2222
destinationvancouver.com
/insidevancouver @destination_vancouver @DestinationVancouver

2.0 Project Context

2.1 Overview

THE VALUE OF TOURISM IN BRITISH COLUMBIA

Tourism is a key driver of the provincial economy. Despite consisting mainly of small businesses, the tourism sector is one of the largest employers in B.C., significantly contributing to economic growth and community well-being.

Tourism generated $22.1 billion in revenue, 12.4% higher than 2022.

Tourism businesses employed over 125,700 people, 7.9% higher than 2022.

The tourism industry paid $5.9 billion in wages and salaries, 11.8% higher than 2022.

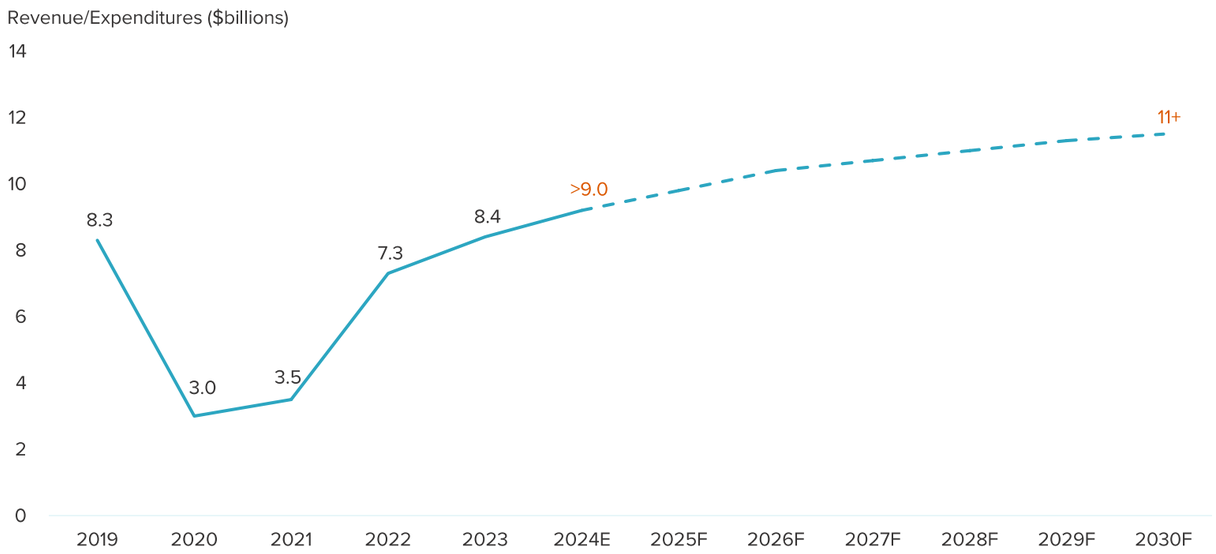
Tourism contributed $9.7 billion (3.1%) to the provincial gross domestic product (GDP), 9.6% higher than 2022. This contribution was greater than all other primary resource industries in 2023. **Tourism contributed more than mining ($5.3 billion), oil and gas extraction ($4.6 billion), agriculture and fishing ($3.1 billion), and forestry and logging ($1.7 billion).**

Source: Destination British Columbia Feb 2025 A Snapshor of Tourism in BC, YVR media release Feb 10, 2025, Port of Vancouver media release Oct 28, 2024, City of Vancouver Employment Lands and Economy Review 2020

Economic Impact – Vancouver Visitor Economy

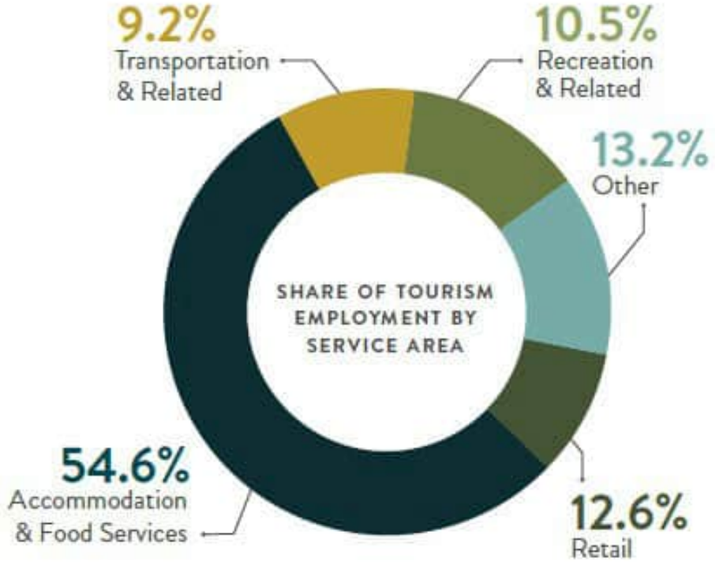
Tourism Revenue Target of $11 Billion by 2030

DESTINATION VANCOUVER



Notes: Subject to revision/update as new data/information becomes available. Current as of November 2024.
Source: Destination Vancouver.





TOTAL TOURISM REVENUE

Tourism revenue measures the money received by businesses, individuals, and governments due to tourism.

$22.1 Billion

2023 Annual Revenue

+9.6%
in real GDP growth for 2023 compared to 2022
Source: BC Stats

JOBS IN 2023
125,700
=
+7.9%
increase over 2022
Source: BC Stats

TOURISM WAGES AND SALARIES

BC's tourism industry paid
$5.9 Billion
in wages and salaries in 2023.

+11.8% Over 2022 | +62.5 From 2013

= $1 Billion

$16.3B
total in restaurant receipts in 2023
Source: Statistics Canada

4.8 M
international overnight visits in 2023
Source: Statistics Canada



VALUE OF TOURISM IN VANCOUVER

Vancouver has made Time Magazine's 50 greatest places to visit in 2023. it continues to rank as a top international destination based on its natural beauty, Indigenous culture, diversity, health and wellness, commitment to sustainability, gateway to the Pacific Rim, and integrated tourist infrastructure.

YVR

Vancouver International Airport (YVR), Canada's second busiest airport, has recorded the second-highest passenger count in its history, with 26.2 million travellers passing through the airport in 2024, 5% higher than 2023. **The airport's contribution to Canada's GDP is approximately $15 billion.**

Port of Vancouver

The Canada Place terminal at the Port of Vancouver is expected to welcome 327 cruise ship visits and 1.32 million passengers between March 11 and October 29, 2024—breaking the previous record for passengers set last year by more than 80,000 (a 7% year-on-year increase).

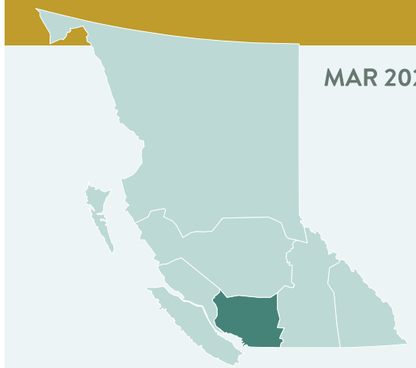
Economic Impact

Destination Vancouver's goal is to build Vancouver's visitor economy to $11 billion in direct economic impact by 2030.

Source: Times Magaine Media Release Mar 16, 2023, YVR Media Release Feb 10, 2025, Port of Vancouver Media Release Oct 28, 2024, Destination-BC-Regional-Profile March 2025.

2.2 Regional Context

REGIONAL TOURISM PROFILE



MAR 2025

REGION OVERVIEW

In 2022, travellers in the Vancouver, Coast & Mountains region were hosted by 85,000 tourism employees and visited over 10,000 tourism businesses[1]. Collectively, the tourism industry generated over $9.7 billion in gross spending in the region, accounting for approximately 54% of BC's total overnight spending.[2] [3]

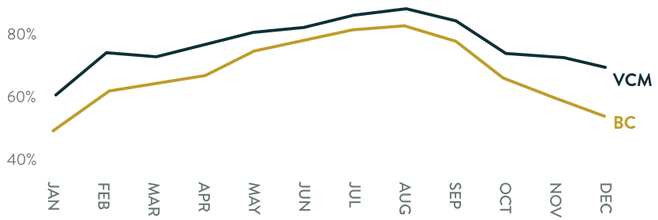
[1] BC Stats
[2] Destination BC Estimates, 2022—Gross Spending less Consumer Taxes
[3] Destination BC

DESTINATION BRITISH COLUMBIA®

Accommodation

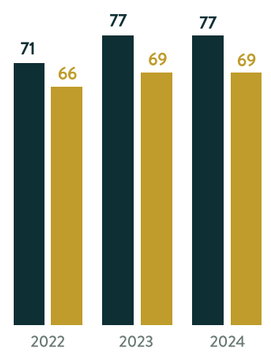
Occupancy for the VCM region peaks in August at 87%, compared to 82% for BC. January is the lowest month at 62%, compared to 52% for BC.[25]

Occupancy Rate 2024

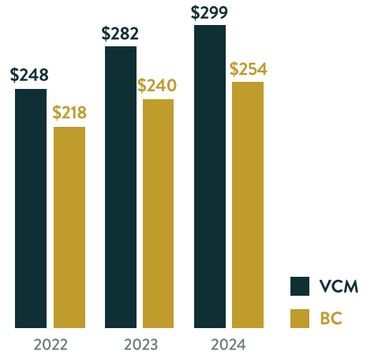


VCM's occupancy rate increased from 71% in 2022 to 77% in 2023 and maintained that level into 2024. Average Daily Rate (ADR) shows steady growth from $248 in 2022 to $299 in 2024, staying $30–$45 above provincial averages.[26]

Occupancy Rate (%)



ADR ($)



Trip Characteristics by Origin

Travellers in VCM have diverse origins. The average length of stay varies, with international travellers typically staying longer than domestic travellers. In 2023, the average trip length was 3.1 nights.[30]

Total Average Trip Length

3.1 Nights

BC's Total Average Trip Length is 3.6 Nights

Average Nights per Trip

	VCM	Provincial Average
BC Residents	2.2	2.9
Other Canadians	3.3	4.0
US Residents	3.5	3.7
Other International	9.3	11.6

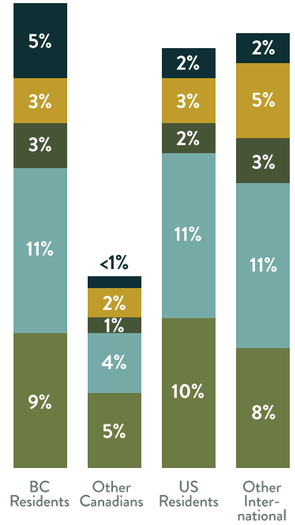
[28] Environics Analytics Data Tabulation (2022 to 2023), Destination BC
[29] Environics Analytics Data Tabulation (2022 to 2023), Destination BC
[30] Environics Analytics Data Tabulation (2022 to 2023), Destination BC

Spending

Spending by Category 2024[32]

Accommodation	32%
Food & Beverage	37%
Retail	13%
Recreation & Entertainment	10%
Transportation	9%

Spending by Market 2024[33]



2.3 Local Context

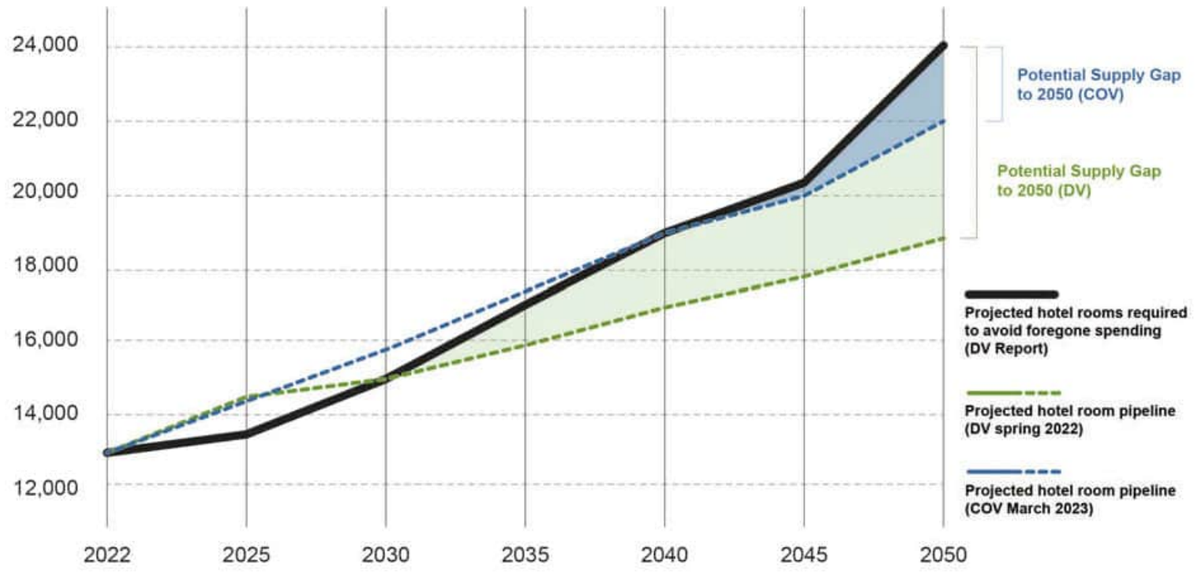
VANCOUVER SUN

Vancouver eyes major hotel policy overhaul to tackle room shortage

Without a significant boost in hotel stock, tourism organizations, including Destination Vancouver, warn the city risks losing out on billions in economic activity.

By **Sarah Grochowski**

Published Apr 12, 2025 Last updated Apr 12, 2025 4 minute read



Extrapolation of Current Trends vs Destination Vancouver Study Projections
Source: City of Vancouver Hotel Development Policy Analysis Report (2023)



Hotel Rooms Built from 2005-2024
Source: CoStar Inventory Data Nov 2024

Vancouver Tourism

In 2022, the Vancouver, Coast & Mountains (VCM) region's tourism industry generated over $9.7 billion in spending—representing 54% of all overnight tourism expenditure in British Columbia and highlighting its critical role in the regional economy and employment. However, without adequate hotel supply, some visitors may choose to bypass Vancouver, limiting the city's ability to fully capture the economic benefits of this growing sector.

"Tourism plays a huge role in Vancouver's economy, and having enough hotel rooms is key to bringing in major events and welcoming visitors from around the world," said Mayor Ken Sim in April 2025.

"Vancouver has consistently attracted interest from international hospitality brands and independent hoteliers, but we haven't been able to fully capitalize on that potential," said Royce Chwin, President & CEO of Destination Vancouver. "The result is that we've had a net loss of hotel rooms since 2002 and it's increasingly difficult to meet demand. **The market conditions are in place right now to address the gap, otherwise Metro Vancouver risks losing up to $30.6 billion in economic output by 2050."**

Overnight Visitation - Vancouver welcomed more than 11 million overnight visitors to Vancouver in 2024. This is a +3 % increase compared to 2023.

This continued rise in tourism is putting added pressure on Vancouver's limited hotel supply. To support future growth and offer more affordable options, expanding the city's hotel inventory is vital to maintaining its competitiveness and accessibility as a global destination.

Source: Vancouver Sun April 12, 2025,, Destination Vancouver 2025 Business Sprint, Destination-BC-Regional-Profile March 2025. City of Vancouver News April 15, 2025. City of Vancouver Hotel Development Policy Analysis Report (2023).

2.4 Context Map

Proposed Site

Civic Address: 948 Howe Street, Vancouver

Downtown Vancouver is linked to the rest of the city by three major bridges: Burrard, Granville, and Cambie. These key access points converge at the heart of downtown, where the project site is centrally located.



2.4 Context Map



The site is located on the 900 block of Howe Street, bounded by Smithe and Nelson Streets, and situated between Granville Street and the Vancouver Law Courts, both prominent street and landmarks in Downtown Vancouver.

2.4 Context Map

Proposed Site: 948 Howe Street

Lot Dimensions = 25’ x 120’

Lot Area = 279 m^2 (3,000 ft^2)

Existing Conditions:

Two Storey building
Floor Area = ± 446 m^2 (4,800 ft^2)

Zoning: Downtown District (DD)



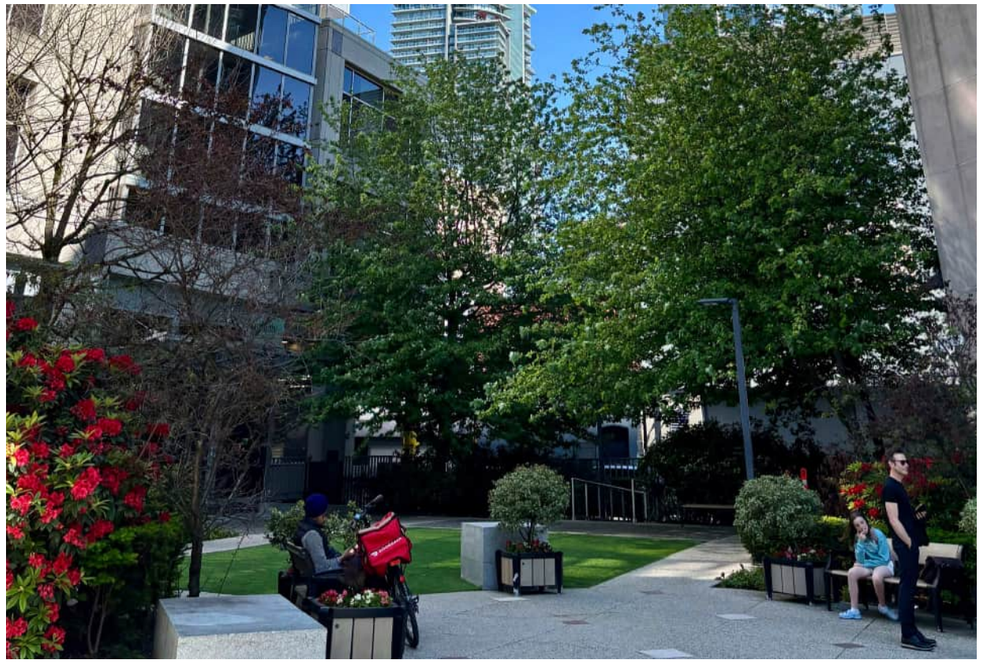
2.5 Existing Conditions

View of existing two storey building.

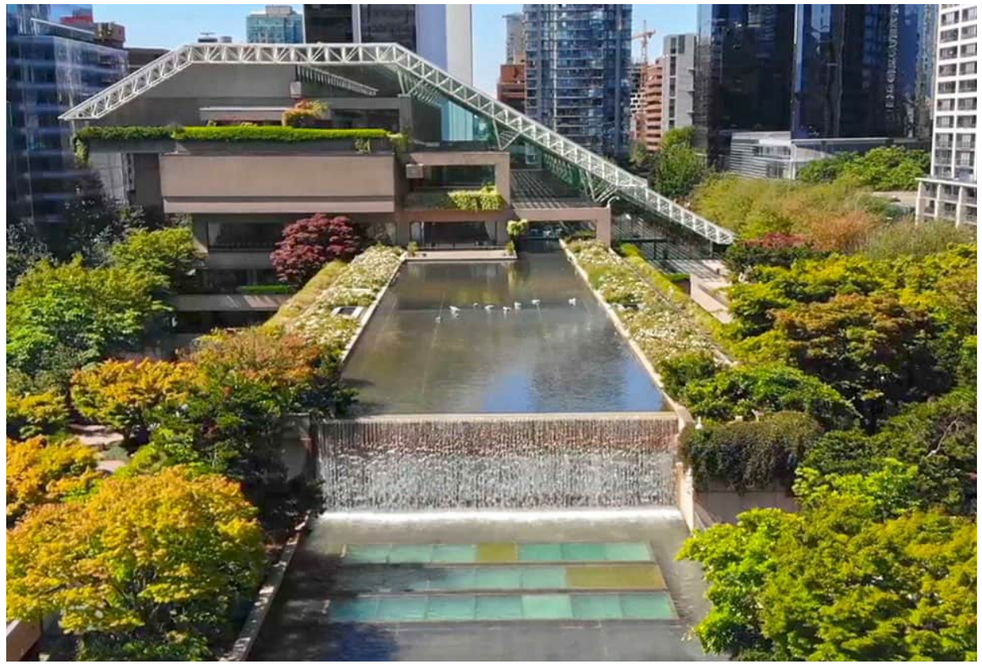


2.6 Existing Neighborhood

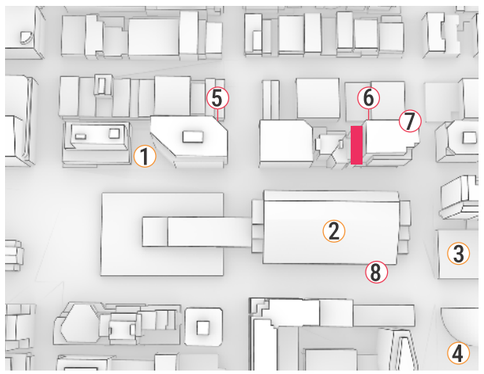
Public Realm



1. POPS - 840 Howe Street



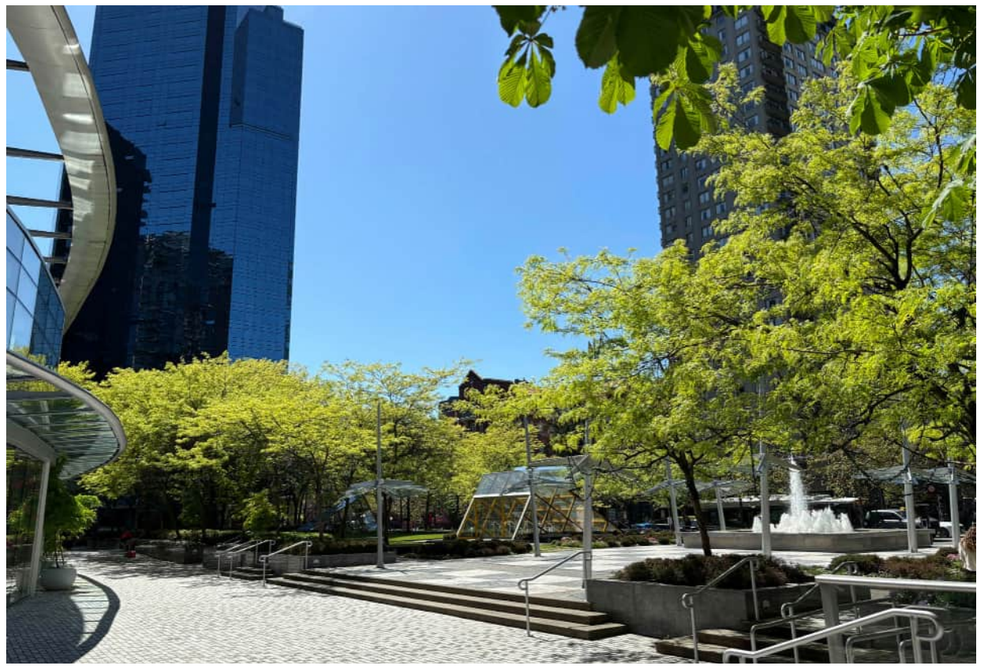
2. Three-block complex, Robson Square with open-air plaza designed by Architect Arthur Erickson.



Keyplan



3. POPS - Nelson Square



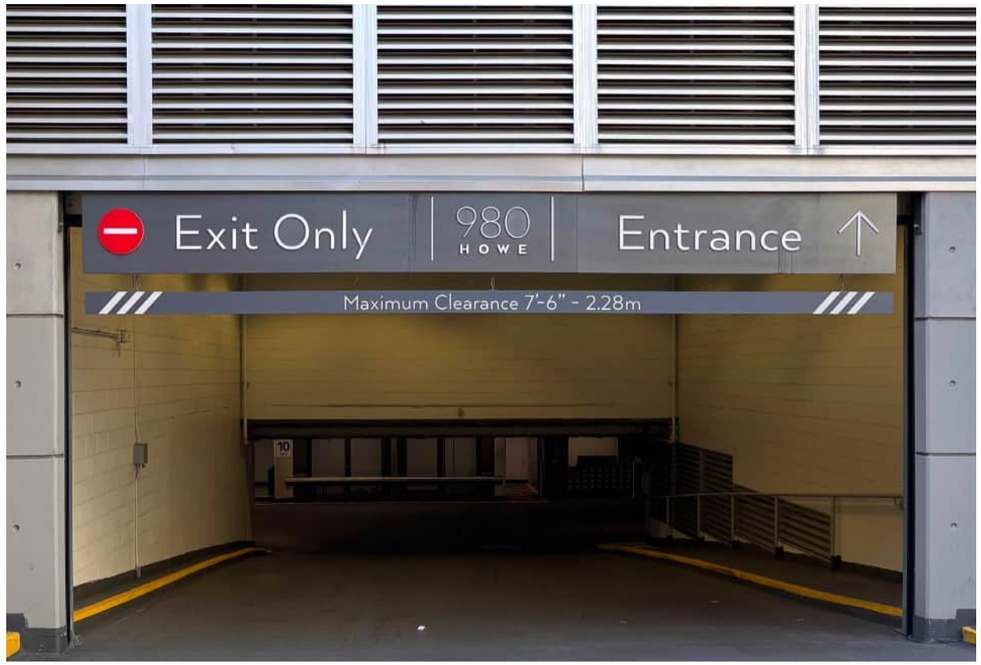
4. POPS - Wall Centre

2.6 Existing Neighborhood

Public Facilities



5. Public Parking - 840 Howe



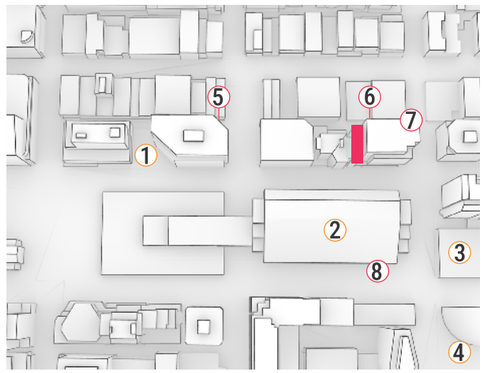
6. Public parking - 980 Howe Street (Manulife Building)



7. Public washroom (980 Howe St Manulife Building)



8. Shaw Bike Share Station



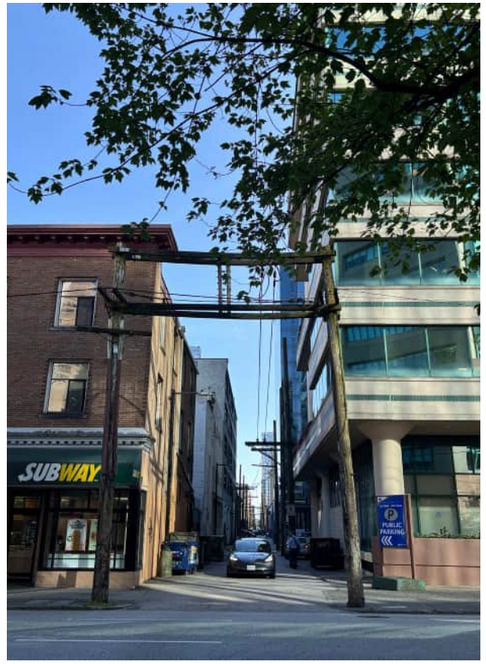
Keyplan

2.6 Existing Neighborhood

Streets and Lanes



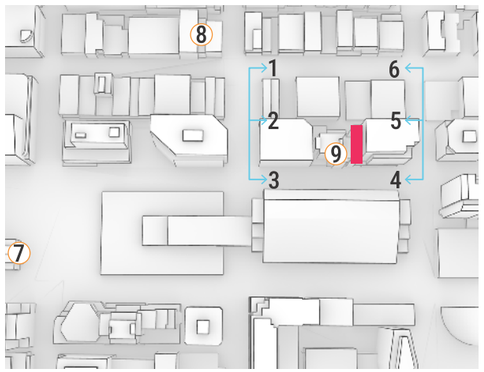
1. Granville x Smithe (looking southwest)



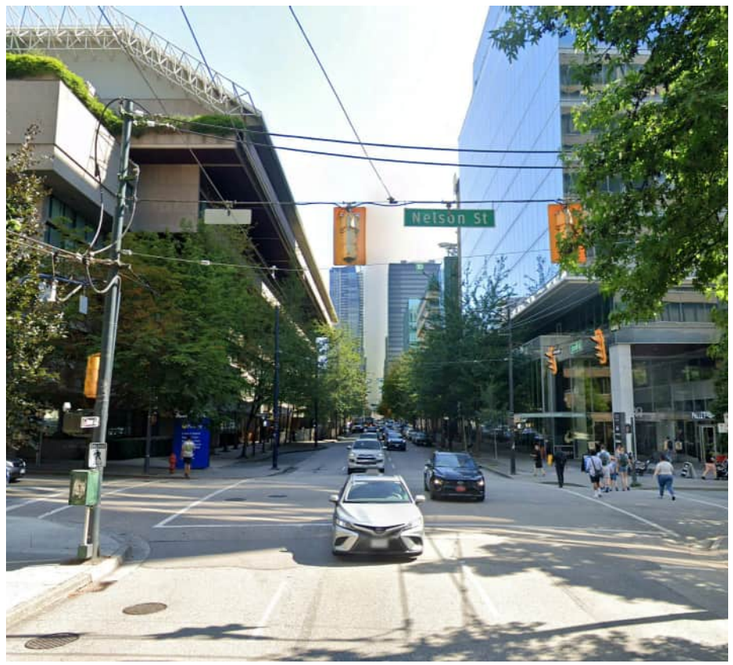
2. Alley entry (looking southwest)



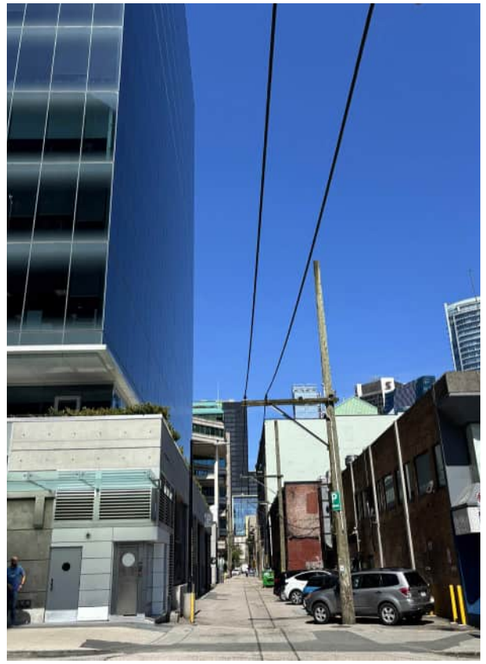
3. Howe x Smithe (looking southwest)



Keyplan



4. Howe x Nelson (looking Northeast)



5. Alley entry (looking Northeast)



6. Granville x Nelson (looking Northeast)

2.6 Existing Neighborhood

Art and Culture



7. Vancouver Art gallery (south)



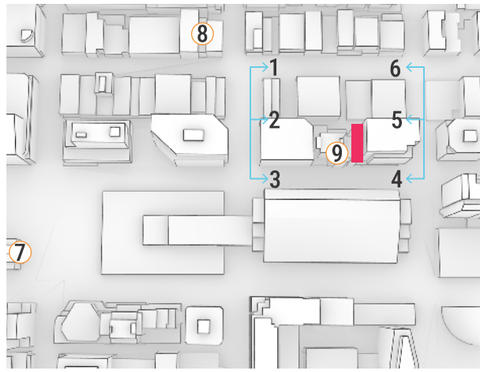
7. Vancouver Art gallery (north) šxʷƛ̓ənəq Xwtl'e7énḵ Square



8. Orpheum

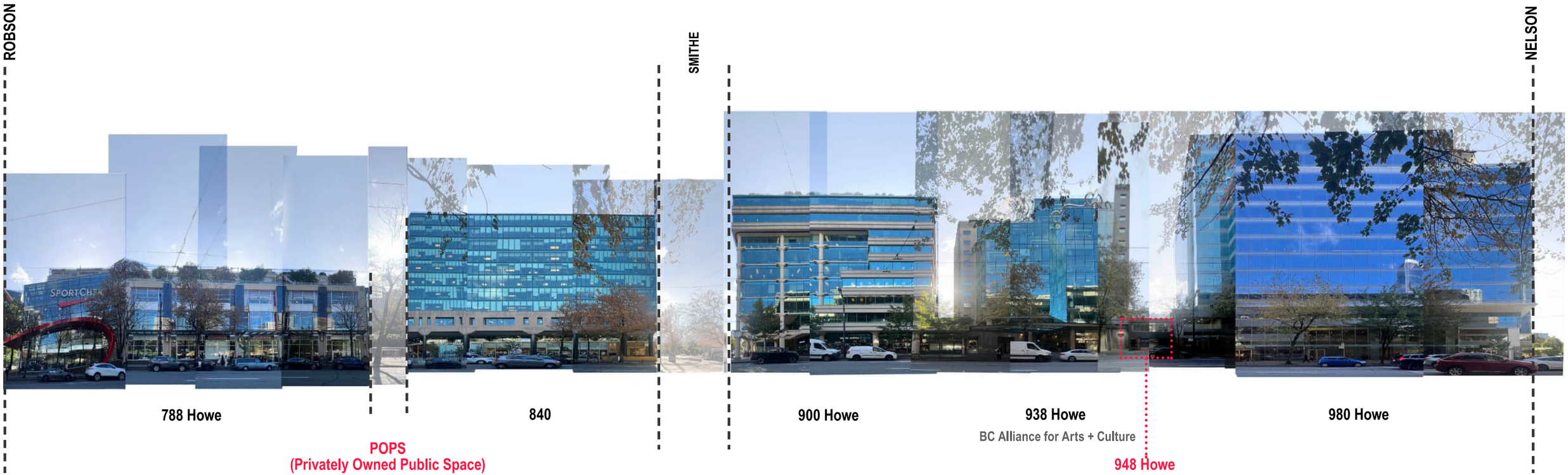


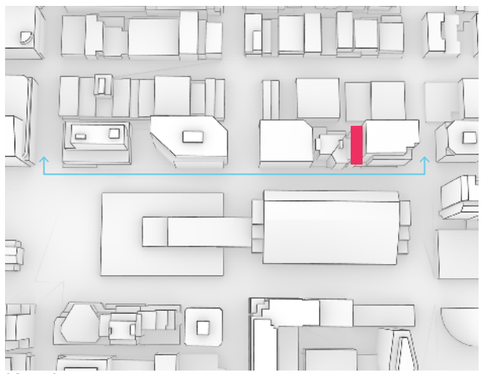
9. BC Alliance for Arts and Culture



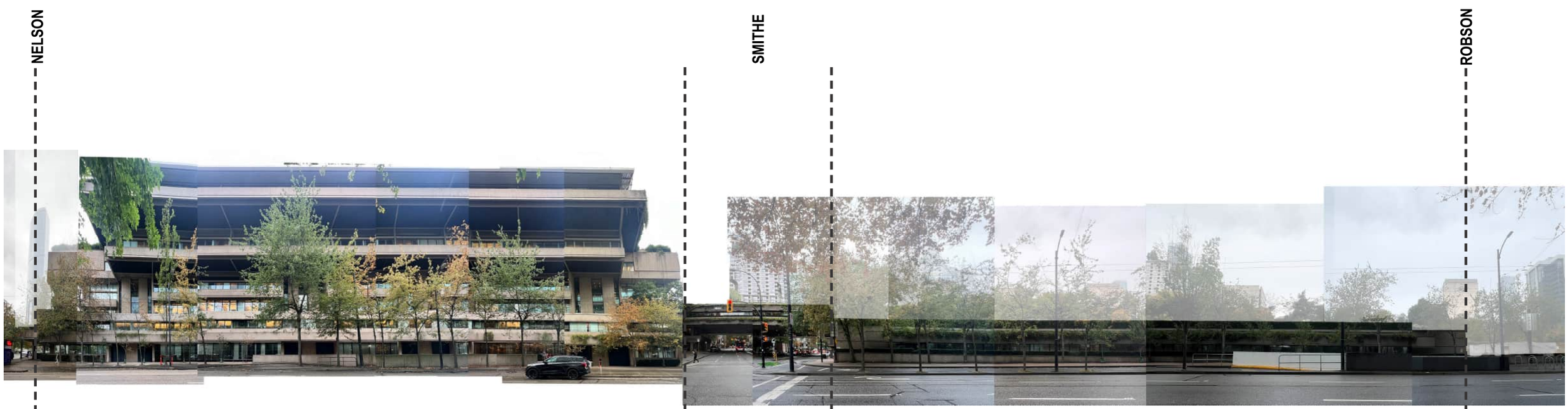
Keyplan

2.7 Streetscape



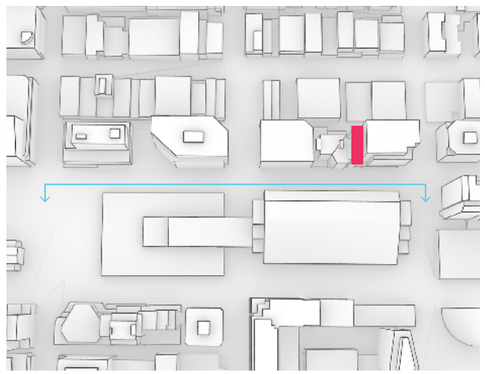


Keyplan



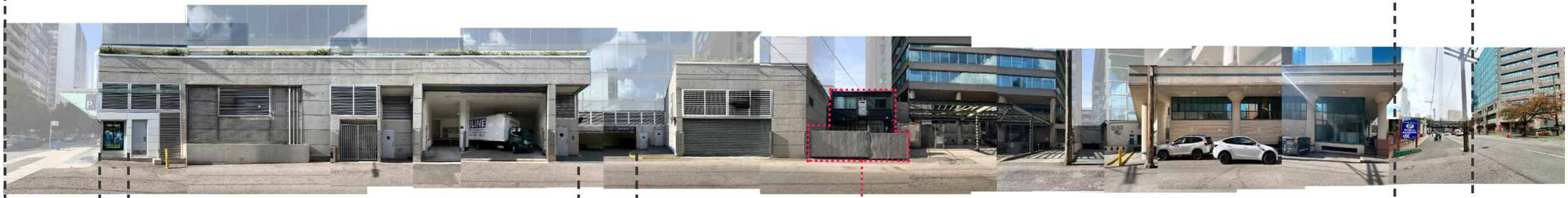
The Law Courts

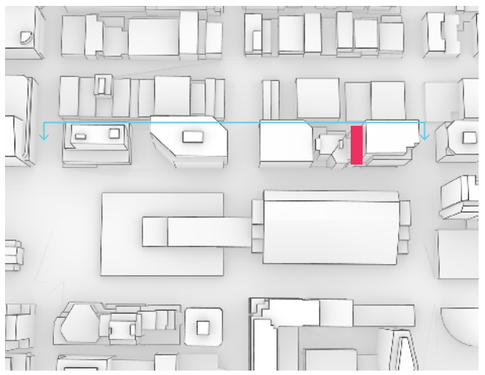
Robson Square
PUBLIC REALM



Key Plan

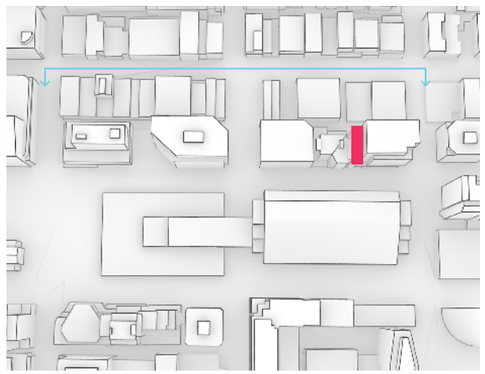
2.7 Streetscape





Key Plan





Key Plan

2.8 Transportation

Transit Mode

Connection to Airport
skytrain (Canada Line)

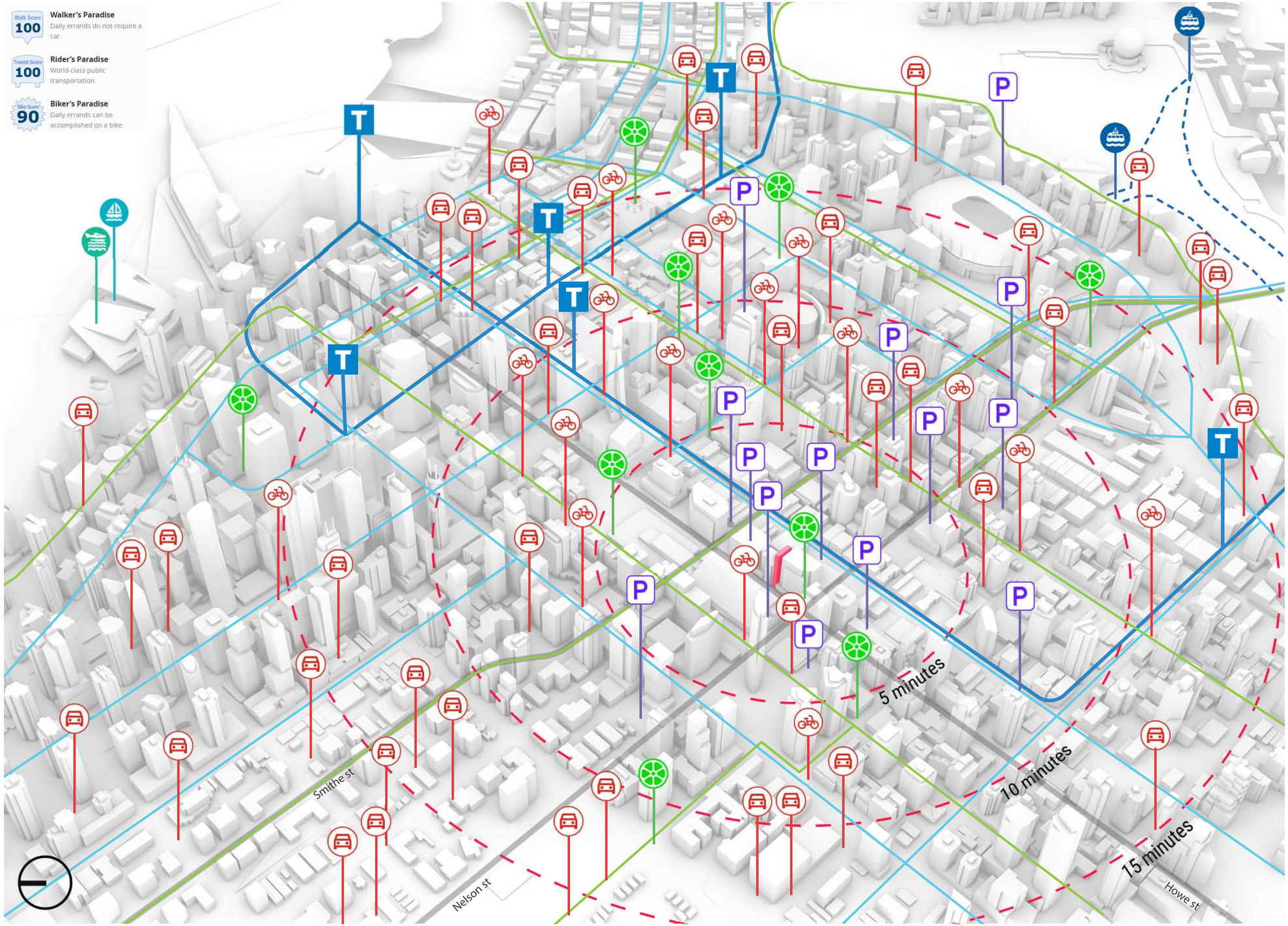
Connection to Cruiseship
Waterfront

Connection to Sea Plane Terminal

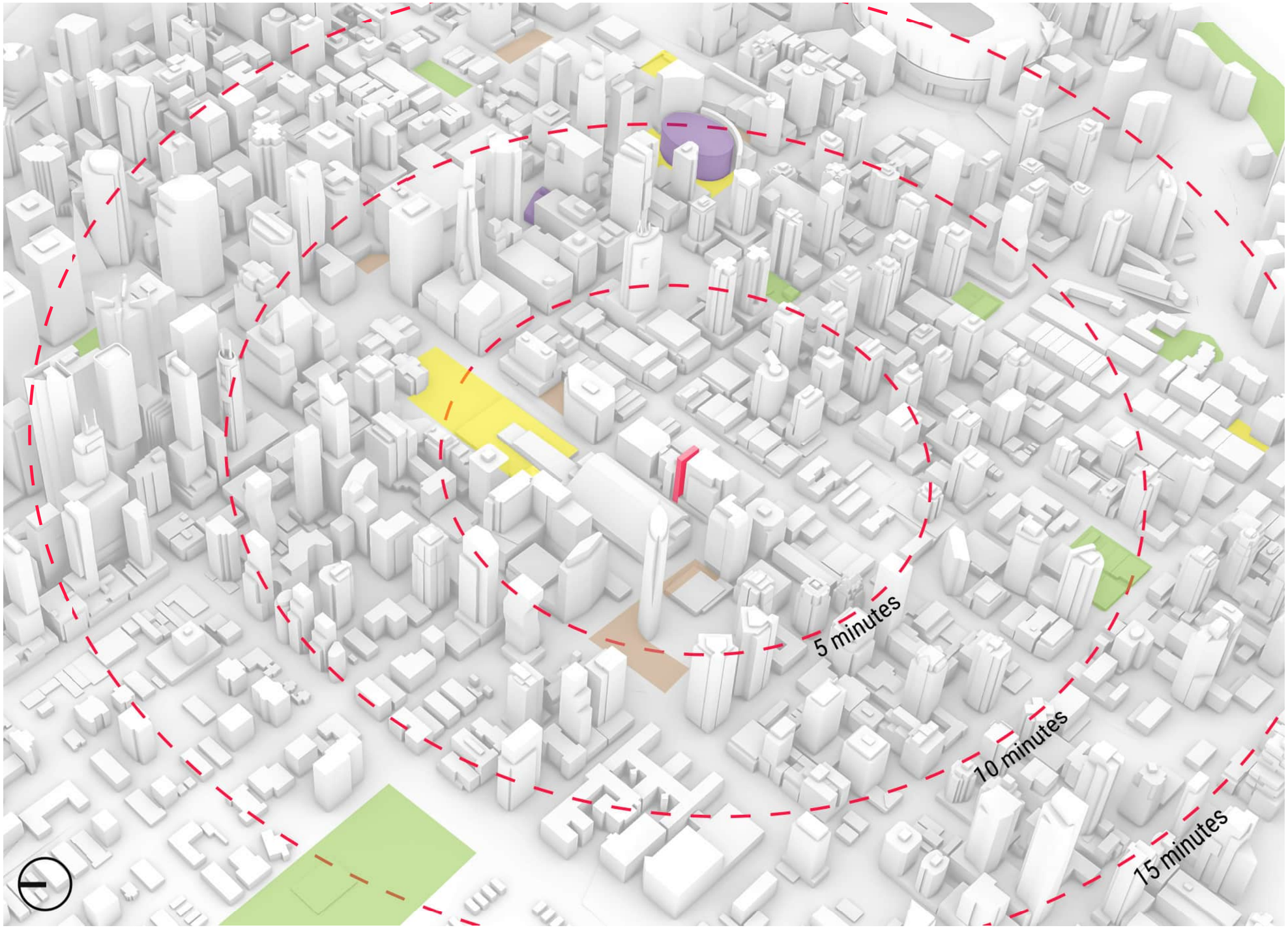
Connection to Ferry Terminal
Hullo

Traveling within City of Vancouver:
Transit: Skytrain, bus, seabus
Bikeshare/bike tour
Electric Scooter rental
Car rental: Modo, Evo

Rapid transit connects the proposed site to Vancouver International Airport and cruise facilities with regional connections such as float plane service, ferries, and trains.



2.9 Public Realm



The site is centrally located in Vancouver's downtown core, with convenient access to a wide range of public spaces, green spaces, and amenities, all within a 15-minute walking radius.

5 minutes: Robson Square, Nelson Square, Wall Center Park

10 minutes: Rainbow park, Yaletown park, emery Barnes park, Dilawri Square

15 minutes: šxʷx̌ənəq Xwtl'e7énk̲ Square, Cathedral square, BC Hydro Plaza, Terry Fox Plaza, Nelson Park, Vancouver Central Library

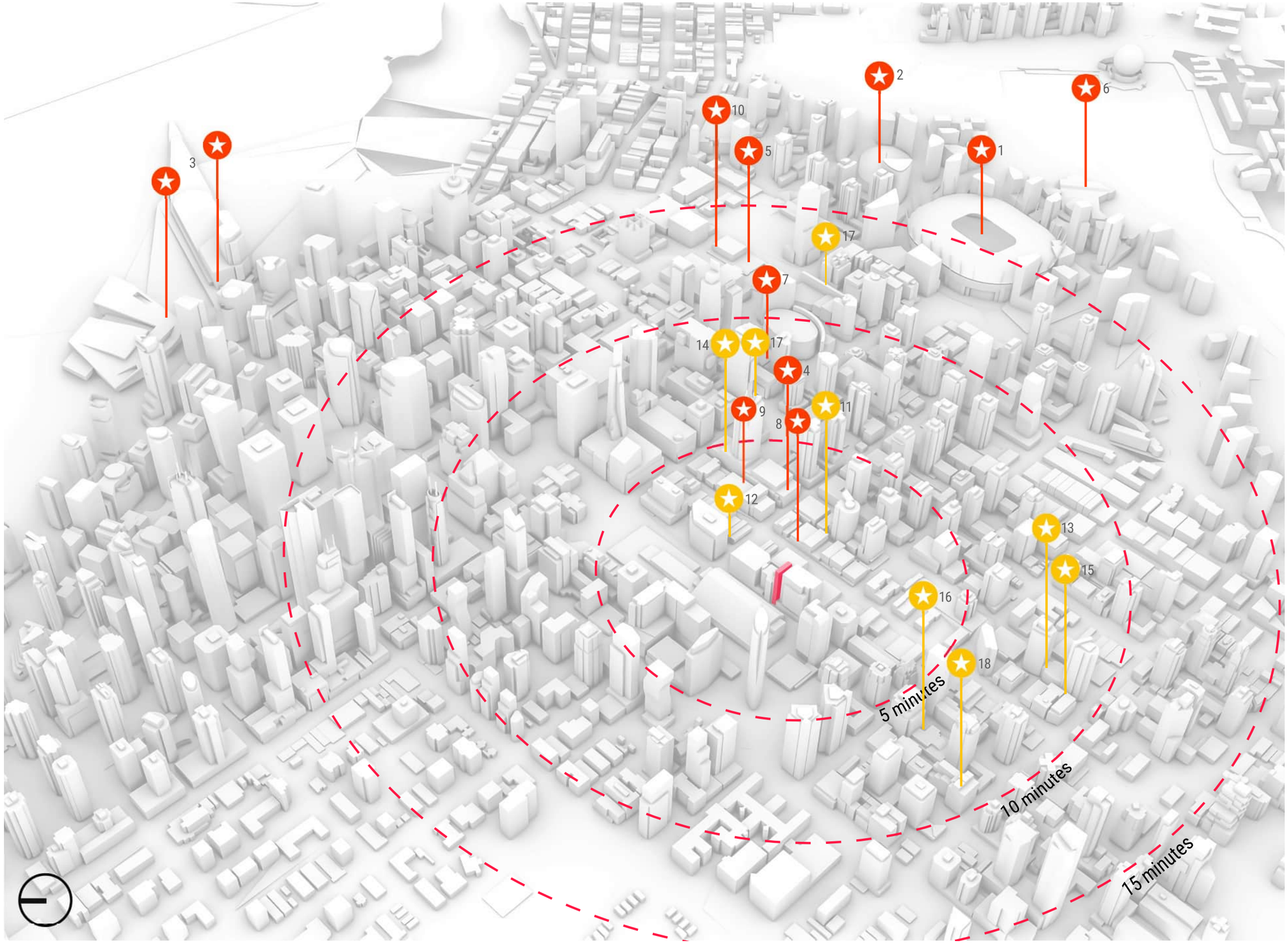
Public spaces are an essential part of Downtown Vancouver. They help foster community and creating spaces of interaction and engagement.

- Plazas
- Parks
- Private Owned Public Space (POPS)
- Atriums
- Walking Radius

2.10 Proximity to Downtown Event Venues

	Event Venue	Capacity
1	BC Place FIFA World Cup Venue, Concerts (e.g. Taylor Swift)	54,500
2	Rogers Arena	19,700
3	Vancouver Convention Centre	16,000
4	Orpheum	2,780
5	Queen Elizabeth Theatre	2,765
6	Harbour Event & Convention Centre	2,542
7	The Centre	1,800
8	Vogue Theatre	1,280
9	Commodore Ballroom	990
10	Vancouver Playhouse	668

	Small Venue	Capacity
11	The Roxy	450
12	The Pearl	275
13	VIFF Centre	260
14	Annex	193
15	Dance Centre	154
16	Cinematheque	152
17	VSO School of Music	123
18	Canadian Music Centre	50



Large Event Venue

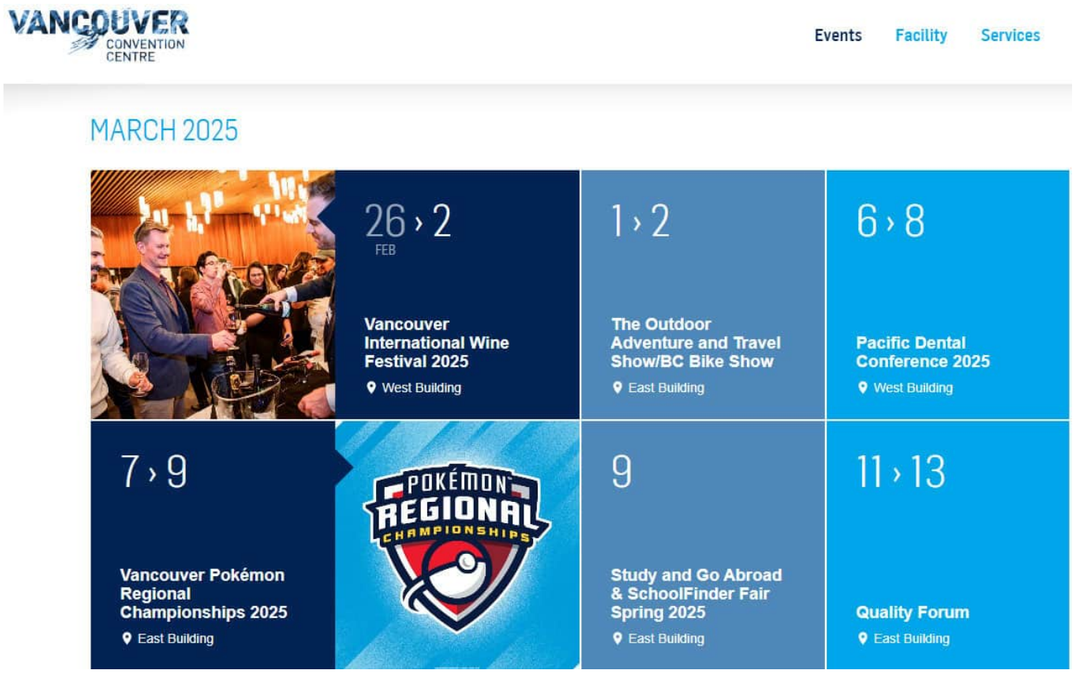
Small Event Venue

Walking Radius

2.10 Proximity to Downtown Event Venues











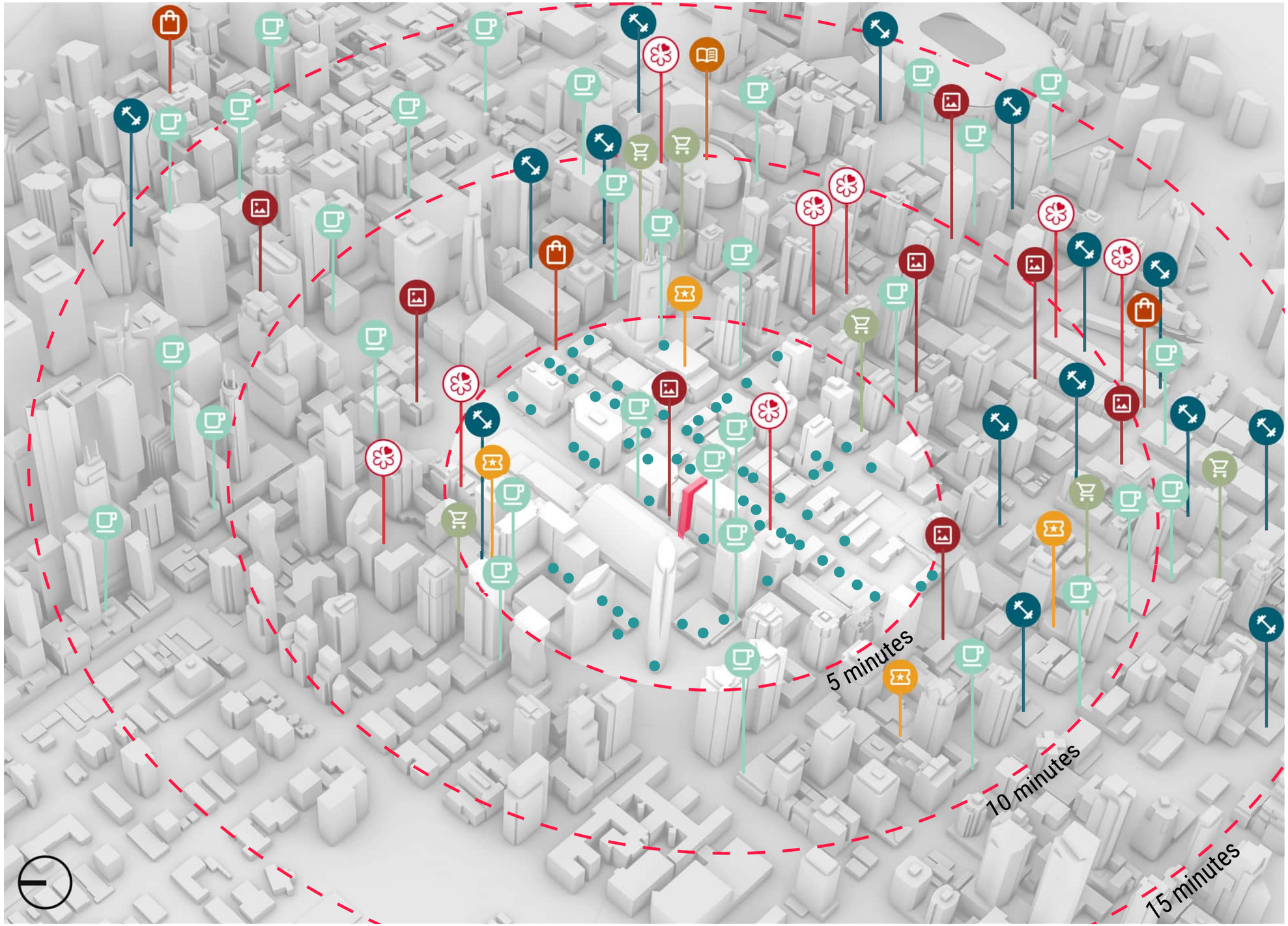
2.11 Adjacent Amenities for Visitors

Located at 948 Howe Street, the proposed site is ideally positioned in the heart of Downtown Vancouver, earning a **walkability score of 100—** signifying that daily excursions can be completed entirely on foot. Hotel guests will benefit from this prime location, with an **abundance of amenities and activities accessible within a 15-minute walking radius.**

The site offers exceptional proximity to a wide range of public spaces, cultural landmarks, and culinary destinations. In addition to renowned dining options, guests have easy access to art galleries, libraries, theatres, grocery stores, fitness facilities, and more, making it an ideal setting for modern, walkable city living. This **high level of accessibility** enhances the guest experience and reinforces the site's appeal to urban travelers seeking variety, convenience, and vibrant surroundings.

The neighborhood's culinary richness is particularly noteworthy:
5 min: over 60 food joints and restaurants
10 min: 8 **Michelin guide** restaurants
15 min: 140+ restaurants and cafes

*Map focuses on restaurants and food joints within a 5 minute walking radius



- Art gallery
- Shopping Area
- Library
- Movie Theatre
- Grocery
- Cafe
- Michelin Guide Restaurant
- Fitness
- Restaurant and food joints
- Walking Radius

2.11 Adjacent Amenities for Visitors

Michelin Guide Restaurants





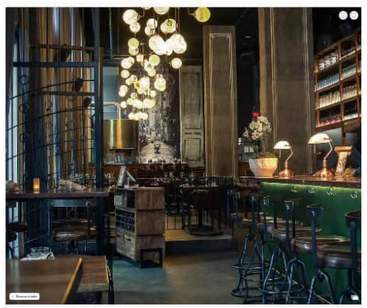












Activities to do



Cycle City Rentals and Tours
Adventure



Bill Reid Gallery of Northwest Coast Art
Arts & Culture



Vancouver Art Gallery
Arts & Culture



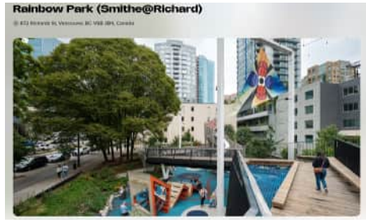
Commodore Ballroom
Arts & Culture



Robson Square Ice Rink (Rental fee)
Family & Kids

948 Howe Street

100 Daily excursions do not require a car
Grade: 100 out of 100



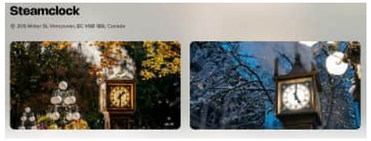












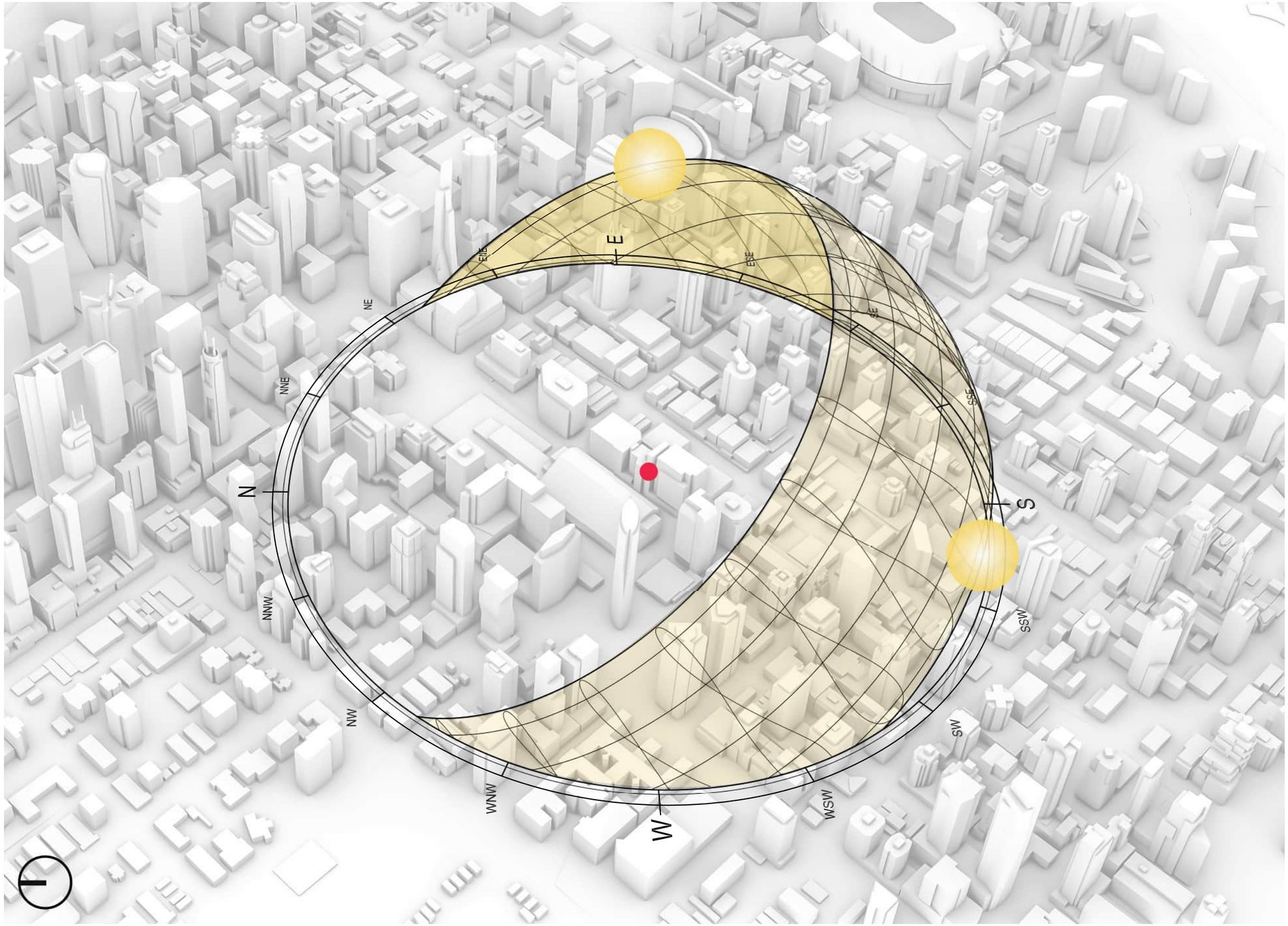


Source: Michelin Guide, Destination Vancouver

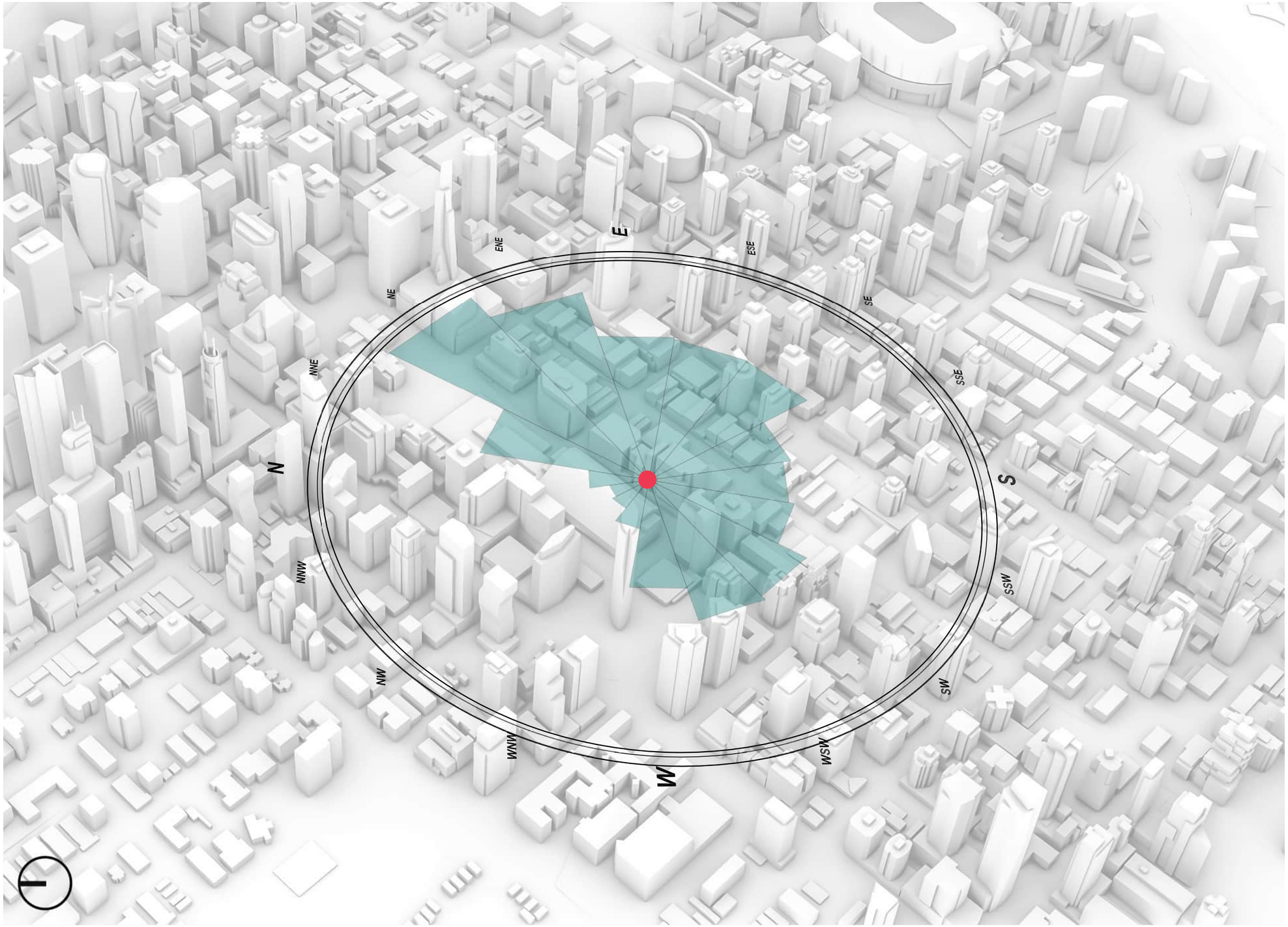
2.12 Solar Analysis

This diagram illustrates the sun's relative position throughout the year at hourly intervals.

A clear understanding of the site's solar geometry enables design optimization, maximizes positive environmental impacts, and enhances overall building performance.



2.13 Wind Analysis

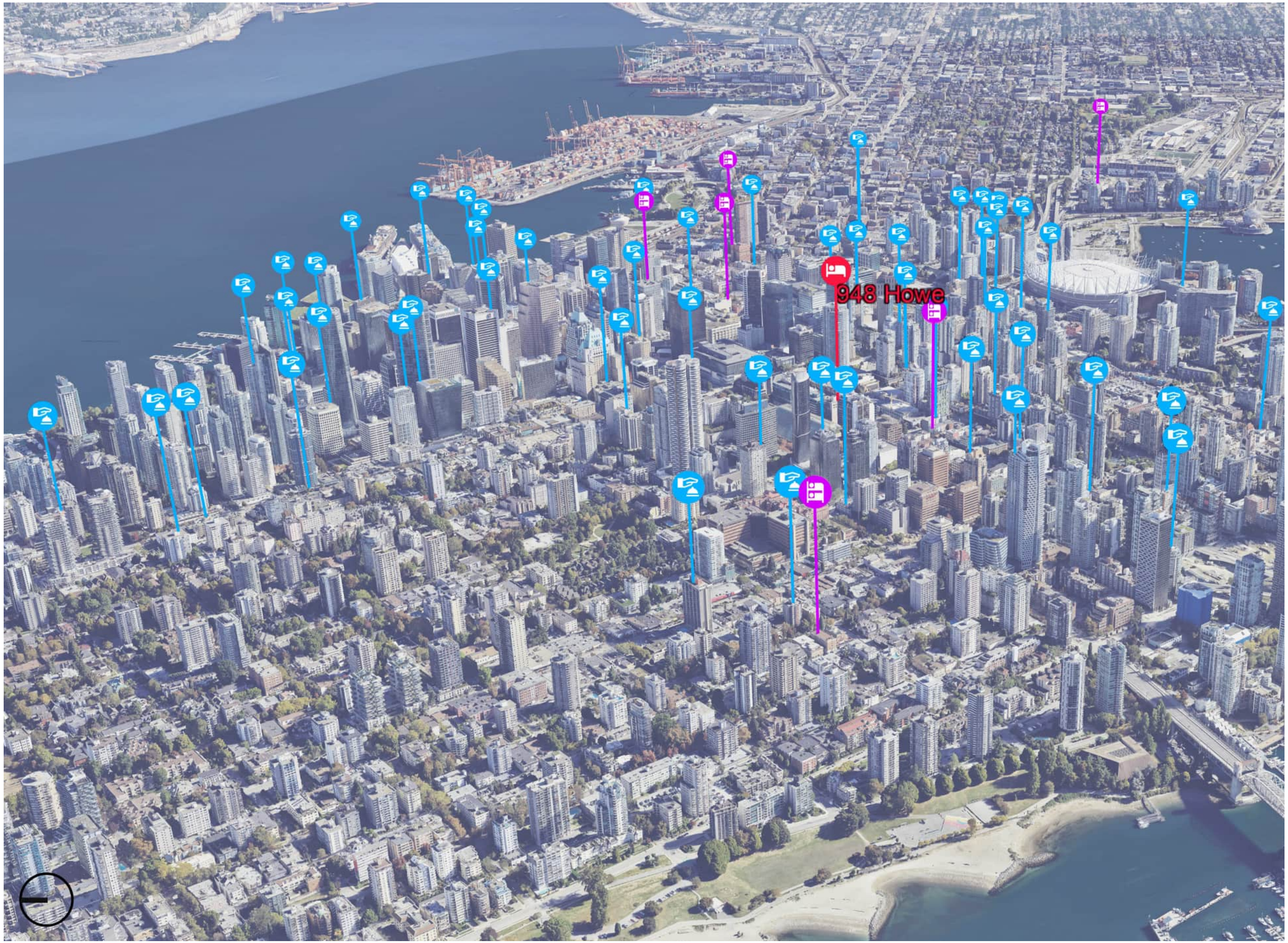


This diagram illustrates the expected wind patterns on the site. The shaded blue region indicates a prevailing northeast wind.

2.14 Existing Downtown Hotel & Hostels

Downtown Vancouver provides 97% of all hotel accommodations in the core accommodation areas and 78% of all hotels in the City.

There are six hostels in the area as shown, with four located in the Downtown core. These offer essential affordable accommodations for budget-conscious travelers, but lack in privacy and have limited supply.

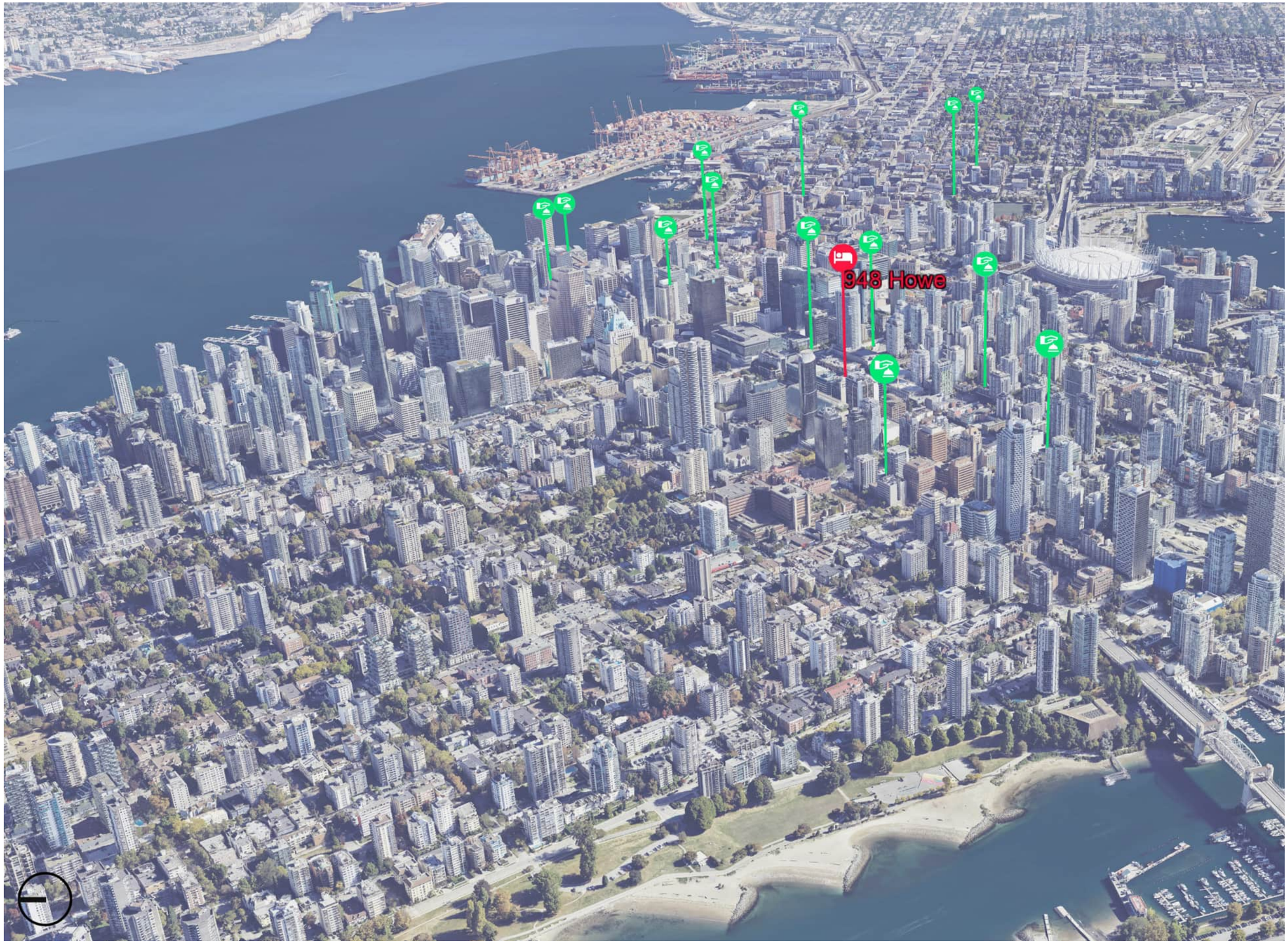


Proposed Nano Hotel

Existing Hotel

Existing Hostel

2.15 New Downtown Hotels



Potential New Hotels
(New Construction & Renovation)

Downtown

Address	# of Rooms
302 Water	33
516 W Pender	587
* 1167-1193 Granville / 717 Davie	464
* 848 Seymour	393
791 W Georgia	Former Four Seasons
1144 Burrard	Unknown
833 W Pender	106
* 475 Howe	202
2030 Barclay	292

Close to Downtown

Address	# of Rooms
* 123 Keefer	52
610 Main	10
211 Columbia	19

* Indicates New Construction

Proposed Nano Hotel

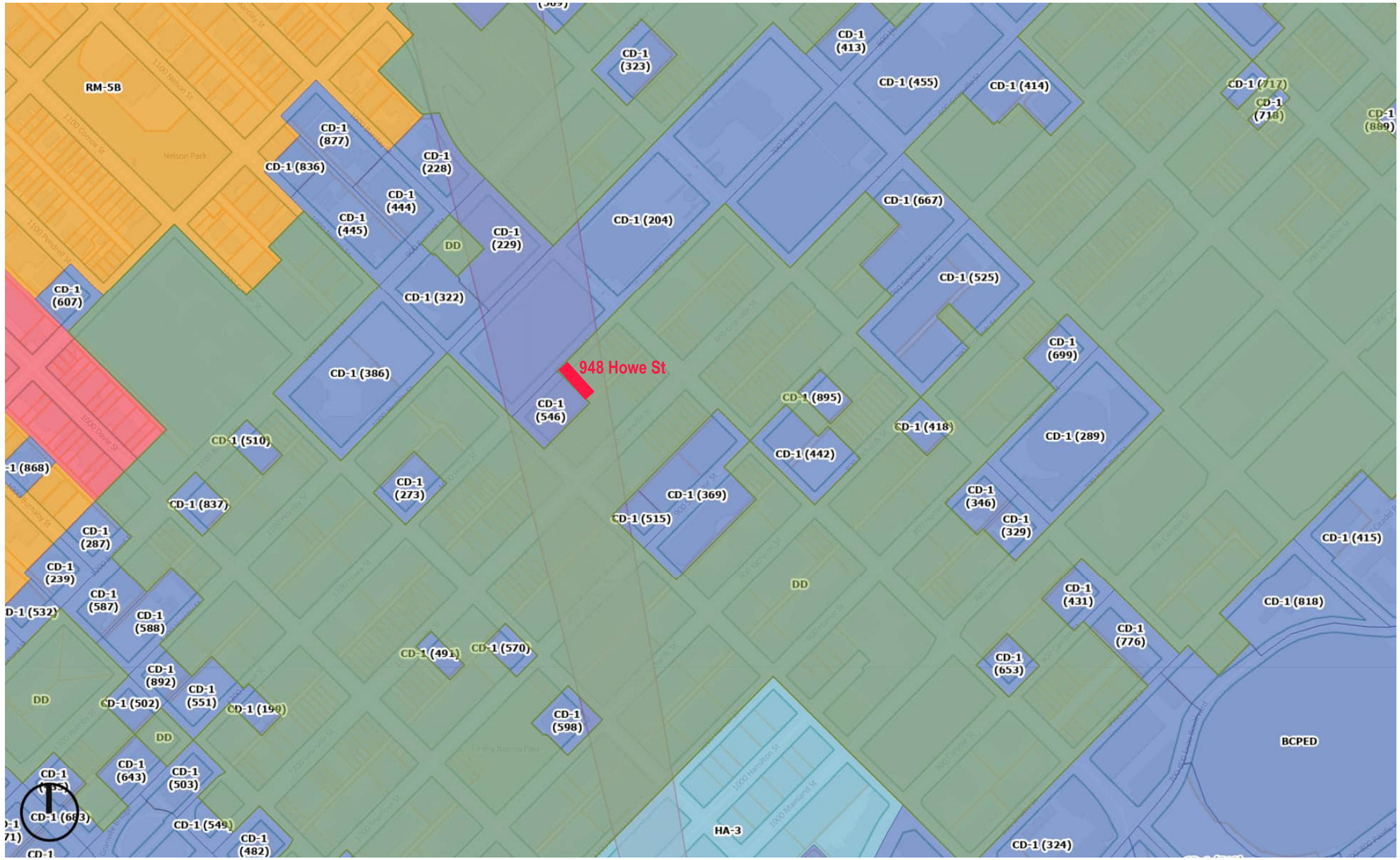
Potential New Hotel

2.16 Existing Zoning

The site is located opposite The Law Courts, on the 900 Block Howe Street, with Smithe Street to the east, Nelson Street to the west and a lane way and Granville Street to the south.

It is Downtown District (DD) Area H in the Central Business District (CBD) Shoulder. The site is adjacent to some site specific zones CD-1.

USE	PERMITTED FSR	MAXIMUM HEIGHT
DD	3.0 - 11.0	137.2 m (450')
CD-1	Site Specific	Site Specific
RM-5	1.0 - 2.75	18.3m (60')
HA-3	-	7m (22.9')



Zoning - DD

Zoning District
- Commercial
- Comprehensive Development

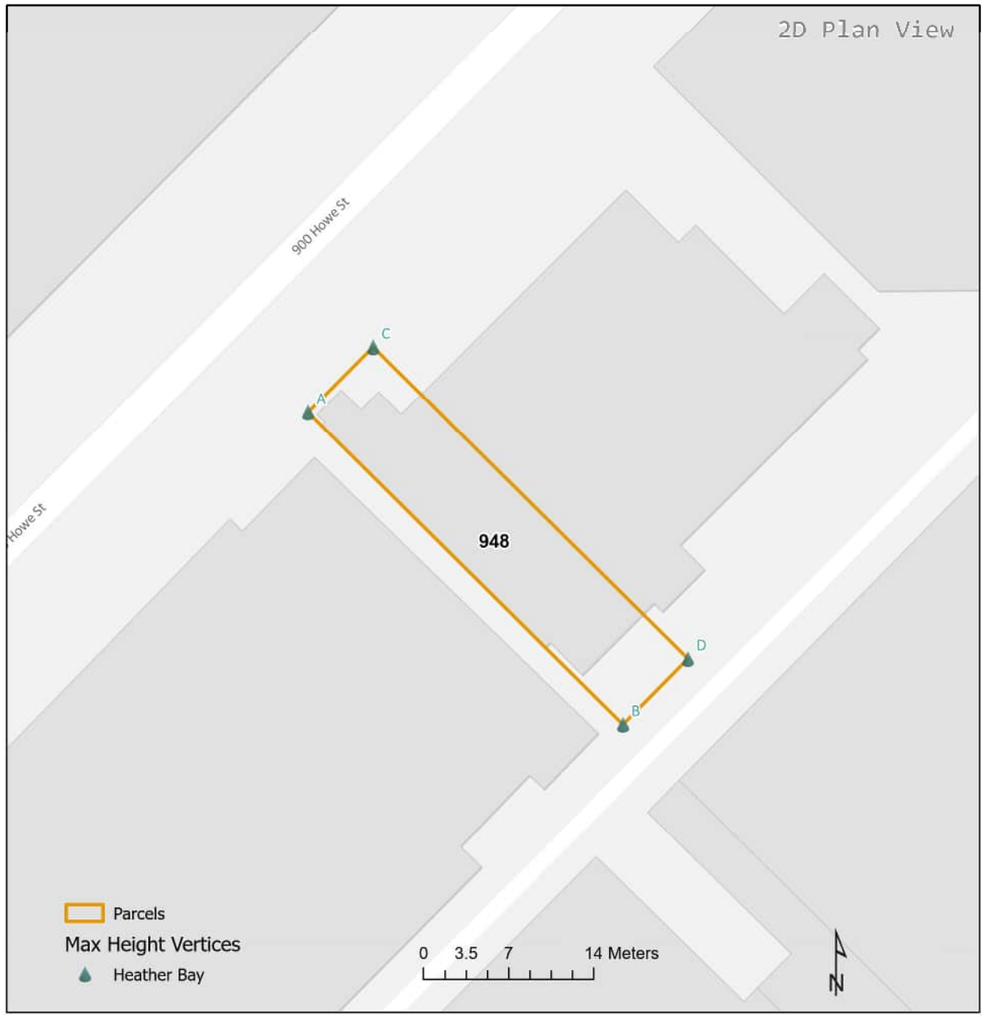
- Historical Area
- Residential
- Residential Inclusive
- D - Heather Bay

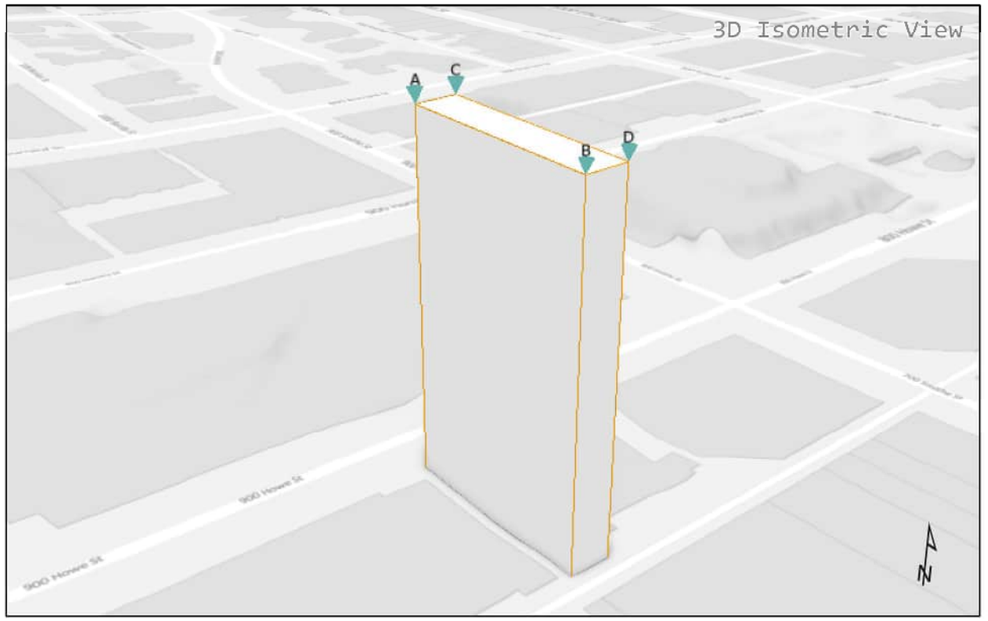
Block Outlines
- City of Vancouver
- Property Parcel Lines
- Property Parcels

Scale: 1:5,000

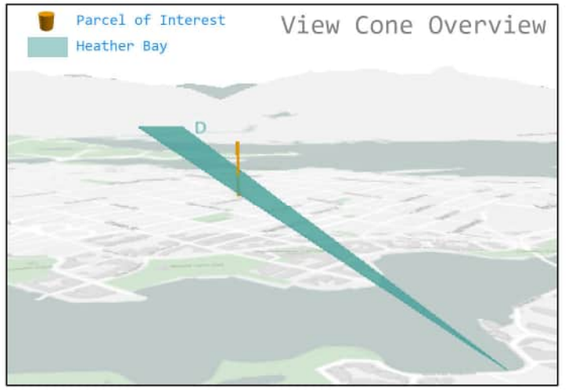
0 45 90 180 m

2.17 View Analysis





label	Geodetic Height (m)	Height from grade (m)	View	Lat	Long
A	91.36	63.24	D	49.280289	-123.123222
B	89.51	62.4	D	49.28006	-123.122864
C	91.62	63.45	D	49.280338	-123.123146
D	89.76	62.57	D	49.280109	-123.122795



View Cone D Heather Bay passes above the site.

The maximum height allowed by the view cone along Howe Street is 63.24m (207.5') and 63.45m (208.2') while it is 62.4m (204.7') and 62.57m (205.3') along the lane.

CITY OF VANCOUVER | Planning, Urban Design and Sustainability

BASIC VIEW CONE BUILDING HEIGHT LIMITS

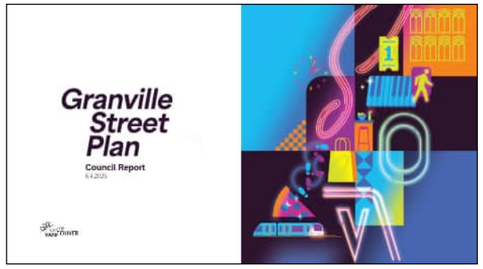
948 Howe St

The attached View Cone Illustration indicates the approximate height of the most restrictive View Cone(s) above your site.
Only the geodetic heights listed above should be considered definitive. *As building grades can change, the heights from grade listed above are estimated.
All parts of the development must be located below this height, including mechanical and other rooftop appurtenances.
The heights noted on the attached illustration supersede any previous advice supplied for this site.

Site IDs:
10976299

View cones limiting the site:
D - Heather Bay

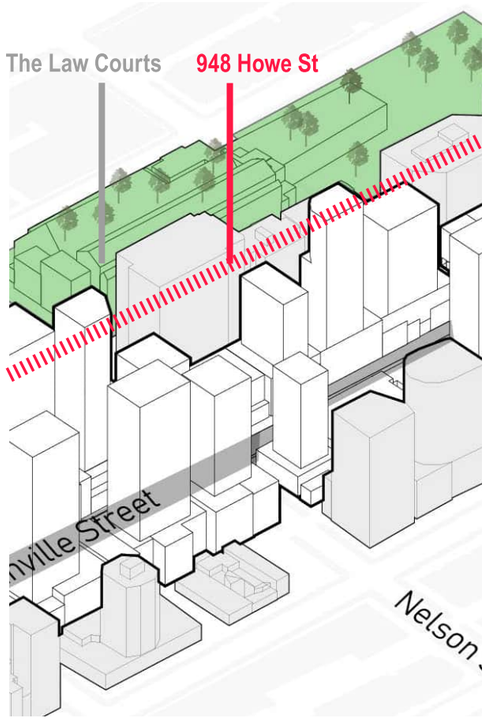
2.18 Granville Street Plan



2.18 Granville Street Plan



Granville Street Character Area: Entertainment Core



948 Howe Street benefits from its strategic location within the Shoulder Area of the Granville Street Planning Study and directly shares a back lane with the 900-block Granville Street, part of the city's designated **Entertainment Core.** This adjacency positions the site at the edge of one of Vancouver's most **vibrant cultural and nightlife destinations**, home to a diverse mix of live music venues, theatres, restaurants, bars, and nightclubs. It will be the dynamic hub designed for socializing, cultural experiences, and celebrations and as a Go-to destination for locals and visitors.

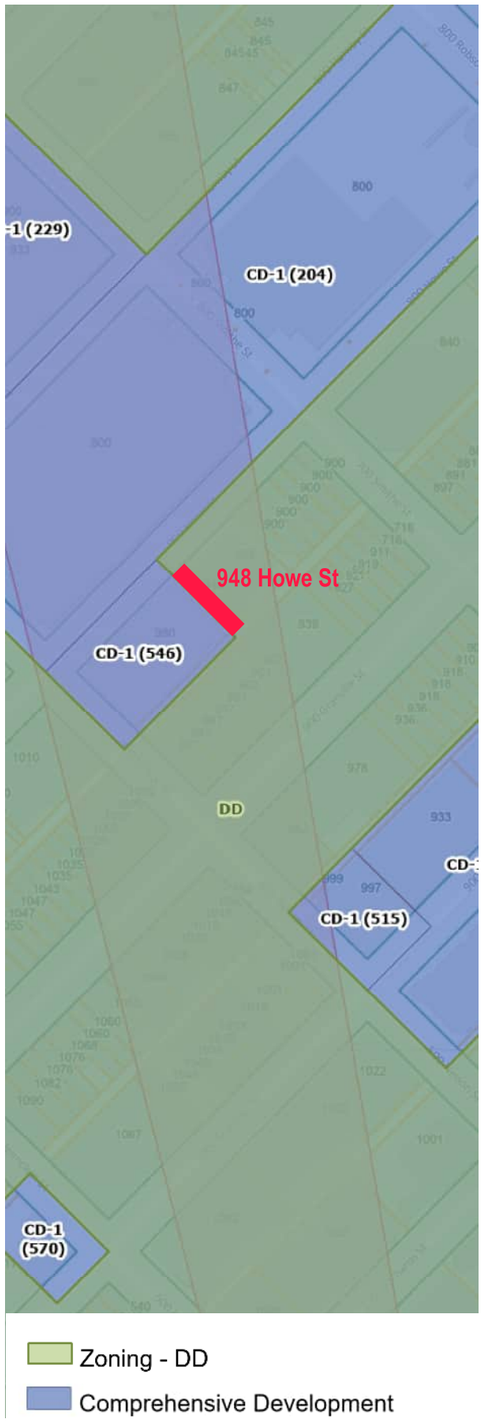
The intent of Granville Street Land Use and Development is to increase development opportunities and diversify land uses to stimulate day and night activity.

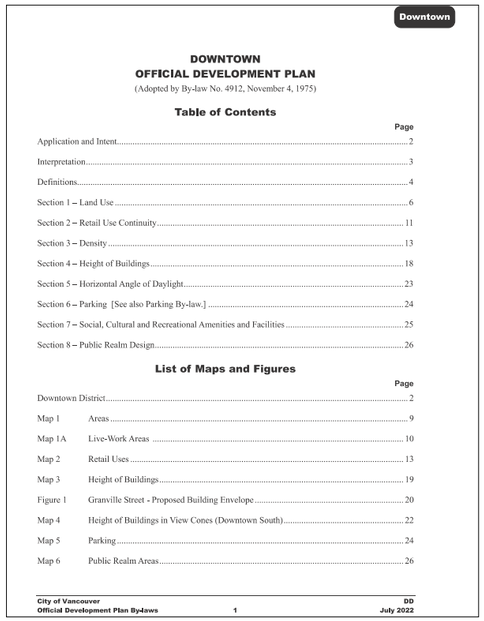
Key Directions of Entertainment Core is to ncrease height and density to support new hotel and commercial development and exclude new residential uses. Helps to mitigate direct conflict between residents and entertainment and live performance related activities.

Source: City of Vancovuer Granville Street Plan Council Report (June 4, 2025)

3.0 Rezoning Rationale

3.1 Downtown Official Development Plan





Downtown

DOWNTOWN
OFFICIAL DEVELOPMENT PLAN
(Adopted by By-law No. 4912, November 4, 1975)

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EXISTING ZONING

The existing zoning for the site is Downtown District (DD), Area “H”, located in Central Business District (CBD) Shoulder.

DOWNTOWN DISTRICT (DD)

The Downtown District is the regional centre of commercial development. It contains the greatest concentration of the working and shopping public within the region.The well being of this concentration of people requires more than the customary regulatory mechanisms in order that the build ings, the open spaces, the streets, the transportation systems and other components of the urban scene can be arranged appropriately for the benefit of the general public.

INTENT

The intent, in the adoption of this Official Development Plan and the accompanying guidelines, is as follows:

i) to improve the general environment of the Downtown District as an attractive place in which to live, work, shop and visit;

The proposal aligns with the intent of the Downtown District as a regional center for commercial development. It revitalizes a small urban parcel—considered an orphaned site by the City—through the introduction of new commercial use. By **providing new hotel in a location well served by transit, the project supports the Central Business District (CBD), creates new employment opportunities in hospitality and ancillary services**, and demonstrates a strong commitment to the neighbourhood and its continued growth.

ii) to ensure that all buildings and developments in the Downtown District meet the highest standards of design and amenity for the benefit of all users of the Downtown;

The proposal includes a sky reception area, offering hotel guests elevated views of the city. The sky bar, open to the public, presents a unique opportunity to experience Robson Square from above and serves as a valuable amenity for all users in the Downtown District.

iii) to provide for flexibility and creativity in the preparation of development proposals;

The objective of the proposal is to introduce a new form of commercial accommodation in the downtown core, incorporating creative and innovative ideas to transform an otherwise **underutilized orhpaned site.**

iv) to support the objectives of the Greater Vancouver Regional District as referred to in “The Livable Region 1976/1986” to decentralize some office employment to other parts of Greater Vancouver by discouraging office developments considered inappropriate in the Downtown District;

The Proposal is consistent with Regional and CIty scale land-use policies.

v) to improve transportation downtown by encouraging greater transit usage, discouraging automobile usage for journeys to work, and by maintaining automobile access for non-work trips including shopping, business and entertainment;

The proposal prioritizes modes of transportation other than private vehicles. No parkade is included in the project. The site is well served by transit, pedestrian, and cycling infrastructure. Given its close proximity to both large and small event venues, as well as the Granville Street Entertainment District, visitors are more likely to take advantage of public transit or travel on foot, and less likely to rely on automobiles. Although the site is in close proximity to 3 parking lots, all have high vacancy rates.

vi) to create a distinctive public realm and a unique and pleasing streetscape in the Downtown District.

The redevelopment of the site presents an opportunity to provide continuous weather protection, supporting year-round use of the sidewalk along the 900 block of Howe Street, which is currently lacking. The new hotel façade will contribute to a **unique and visually appealing streetscape in the Downtown District.**

3.1 Downtown Official Development Plan

LAND USE

In the areas denoted by the letters 'C2', 'C3', 'C4', 'G', 'H', 'J' and 'O' on Map 1 the following uses may be permitted, subject to such conditions and regulations as may be prescribed by the Development Permit Board:

(a) Hotel;

Definition: "Hotel" shall mean premises providing temporary accommodation by way of furnished sleeping, housekeeping or dwelling units.

The proposal is dedicated entirely to Hotel use (100%), specifically designed as a Pod Hotel.

RETAIL USE CONTINUITY

It is outside the retail, retail-commercial or service required zone according to the Downtown District Map 2, the protected **continous commercial frontage**.

Retail use continuity is not required on 900 Block Howe Street between Smithe and Nelson Street.

The ground-level hotel entrance extends commercial activity along existing pedestrian routes, enhancing interest and enjoyment for pedestrians.

DENSITY - FLOOR SPACE RATIO

Vancouver's Downtown is and will remain the highest-density commerical area within the City. The permitted maximum density is varied throughout the CBD and CBD Shoulder. The density for all permitted uses must not exceed a floor space ratio in DD the areas denoted by the letter s 'H' is 6.0.

The Development Permit Board may permit an increase in the floor space ratio for hotels. (See Downtown Rezoning Policy June 2025)

HEIGHT OF BUILDINGS

The basic maximum height permitted is 45.7m (150'). The increased maximum height to be no more than 137.2m (450').

The height of a building in a view cone area shown on Map 4 must not exceed the applicable basic maximum height shown on Map 4 unless, after considering Council's policies and guidelines, the Development Permit Board increases any basic maximum height set out in Map 4 by no more than 10%.

The proposed building height 204' is within the maximum allowable height of 137.2m (450') and 62.4m (204.7') to 63.45m (208.2') permitted by View Cone D Heather Bay.

HORIZONTAL ANGLE OF DAYLIGHT

Each habitable room must have at least one window on an exterior wall of a building.

The proposed development is for commercial use, not residential use.

PARKING

Parking By-law Section 4, 5, 6

The proposal will require parking relaxations and adjustments to loading expectations and requirements due to the unique nature of the pod hotel, its target clientele, and site-specific constraints.

SOCIAL, CULTURAL AND RECREATIONAL AMENITIES AND FACILITIES

The purpose is to provide in the Downtown area social and recreational amenities primarily for the enjoyment of downtown residents and employees.

The Proposal includes a publicly accessible sky bars at the top level and a roof top area. It is expected that visitors are out of the hotel during the day at meetings, events, exploring the city. **The sky bar and roof top can be used for light breakfasts such as coffee and muffins/ bakery as well as workspaces and in the evenings as bar with limited finger foods.**

There are over 60 restaurants and dining options in the immediate area. This hotel build is focused on affordable overnight stays, and the intentions is **supporting the local economy, not competing with it.** As such we are proposing to keep the amenities to bare minimum for this project.

PUBLIC REALM DESIGN

The purpose of this section is to help create distinctive areas and neighbourhoods in the Downtown through the enhancement of the public realm with special treatment of the streetscape.

The site is not located within the designated Public Realm Areas, as shown in Map 6.

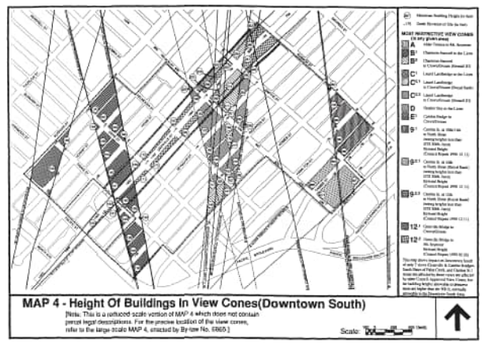
Not applicable for the Proposal.

Downtown District Map 1 - Areas

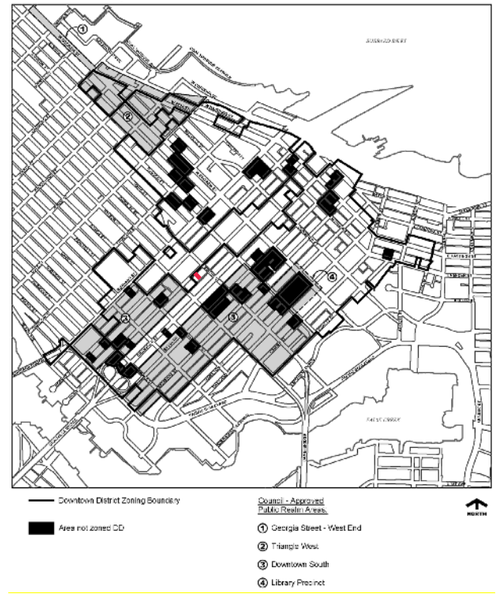


Downtown District Map 2 - Retail Uses

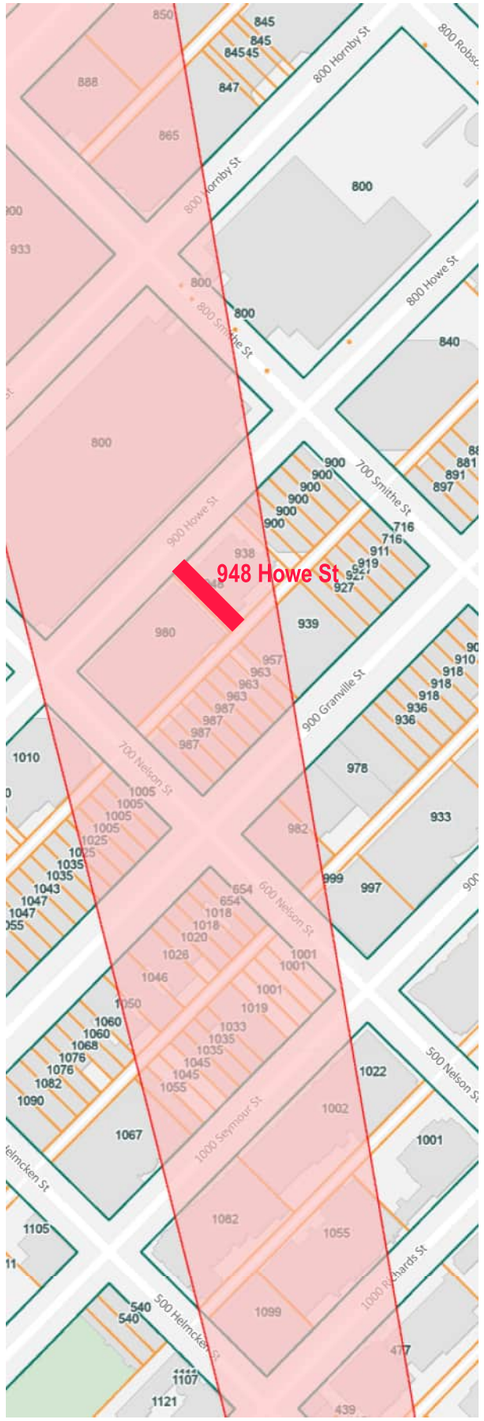


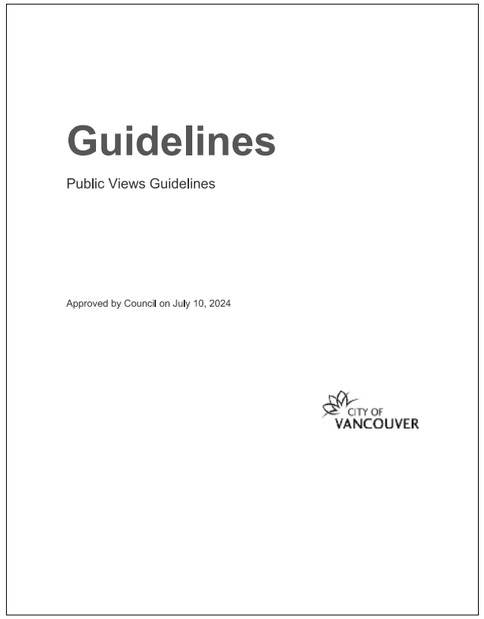


Downtown District Map 6 - Public Realm Areas



3.2 Public Views Guidelines




Guidelines

Public Views Guidelines

Approved by Council on July 10, 2024

CITY OF VANCOUVER

INTENT:

It is intended to be used in conjunction with all other applicable policies and guidelines for developments seeking approval through rezoning or development permit, and which are located on sites within the view cone boundaries of a Council-approved public view.

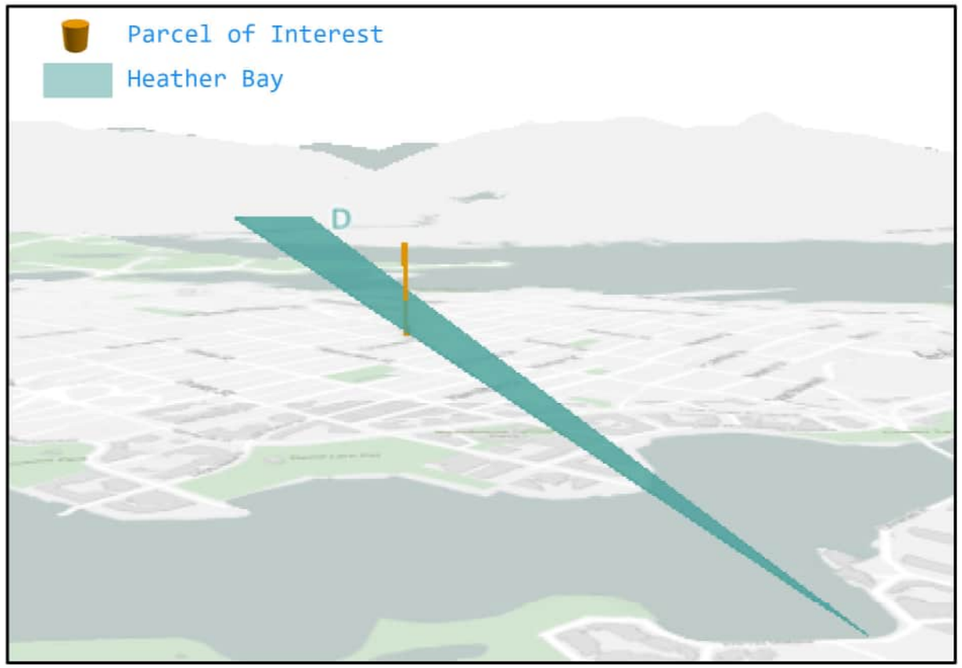
Table 1: Public Views

Reference	Origin Point	Subject	Date Approved
A – Alder Terrace	Seawall below Alder Terrace	Mount Seymour	1989 (Amended 2024)
B1 – Charleson Seawall	Charleson Seawall below Charleson Park	Ch'ich'iyúy Elxwíkn (the 'Two Sisters' or the 'Lions') Lions	1989
B2 – Charleson Seawall	Charleson Seawall below Charleson Park	Crown/Grouse and Hotel Vancouver roof	1989 (Amended 1990)
D – Heather Bay	Water's Edge at Leg-in-Boot Square	Ch'ich'iyúy Elxwíkn (the 'Two Sisters' or the 'Lions')	1989
E – Cambie Bridge	Cambie Bridge at the False Creek Seawall pedestrian stair	Mount Seymour	1989 (Amended 2024)
[illegible]	[illegible] of the Canoe Bridge	[illegible]	(Amended 2024)

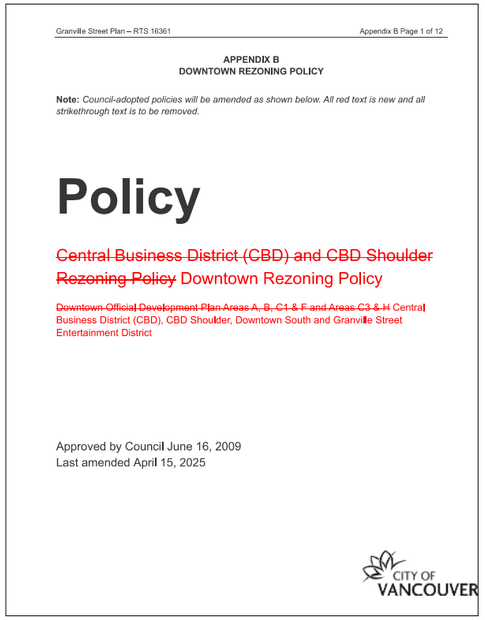
Table 1 lists the Council-approved protected public views, including origin point locations and view subjects.

There are no updates to View Cone D: Heather Bay under the Public Views Guidelines (2024).

- **The proposed building height 204' is within the maximum allowable height of 62.4m (204.7') to 63.45m (208.2') permitted by View Cone D Heather Bay.**



3.3 Downtown Rezoning Policy



Granville Street Plan – RTS 16361 Appendix B Page 1 of 12

APPENDIX B
DOWNTOWN REZONING POLICY

Note: *Council-adopted policies will be amended as shown below. All red text is new and all strikethrough text is to be removed.*

Policy

~~Central Business District (CBD) and CBD Shoulder Rezoning Policy~~ Downtown Rezoning Policy

~~Downtown Official Development Plan Areas A, B, C1 & F and Areas C3 & H~~ Central Business District (CBD), CBD Shoulder, Downtown South and Granville Street Entertainment District

Approved by Council June 16, 2009
Last amended April 15, 2025

CITY OF VANCOUVER

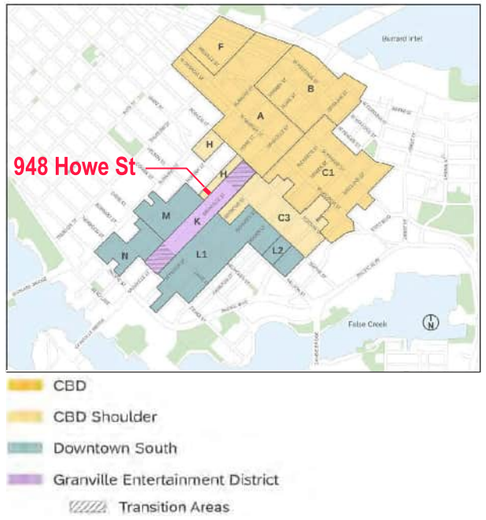
INTENT

The intent of this rezoning policy is to **provide guidance for the intensification of the Downtown to address long-term demand for job space, entertainment activities, new housing opportunities and provision of public amenities.** These areas are fundamental to meeting the future demand for job space.

The rezoning policy requires that new development be focused in specific areas identified for change through the Downtown and it stipulates the conditions by which new development may be considered to achieve public objectives.

Rezoning applications under this policy will adhere to policies and guidelines contained in the Downtown Official Development Plan (DODP), Single Room Accommodation (SRA) By-law, Granville Street Plan, Downtown South Guidelines, Public Views Guidelines, Higher Buildings Policy, and in other relevant Council-approved policies, guidelines and by-laws.

This rezoning policy applies across the Downtown area as outlined, “CBD Shoulder” is illustrated as areas C3 and H in in Map A below.



HEIGHTS

Building heights for rezonings should not exceed public view limits (except in accordance with the Higher Buildings Policy).

- The Proposal is consistent with public view limits.

DENSITY

Overall density for rezonings will be determined by urban design performance.

- The Proposal is seeking increased density to maximize the opportunity to provide much-needed hotel rooms in the downtown core.

RETAIL USE CONTINUITY

Continuous active retail, retail-commercial or service uses shall be required on the ground floor of street frontages, as designated in the Downtown Official Development Plan (DODP).

- The Proposal is consistent with Retail Use Continuity in DODP.

TOWER SEPARATION

Tower placement should demonstrate a minimum separation between existing towers and potential future towers within the block and adjacent blocks as follows:

(a) Residential-Residential: 24.4 m (80 ft.).
(b) Residential-Hotel: 18.3 m (60 ft.).
(c) Residential-Commercial (except hotel): 18.3 m (60 ft.).

- Tower separation is not required as the proposed development is a commercial hotel and the adjacent existing towers are also commercial (offices).

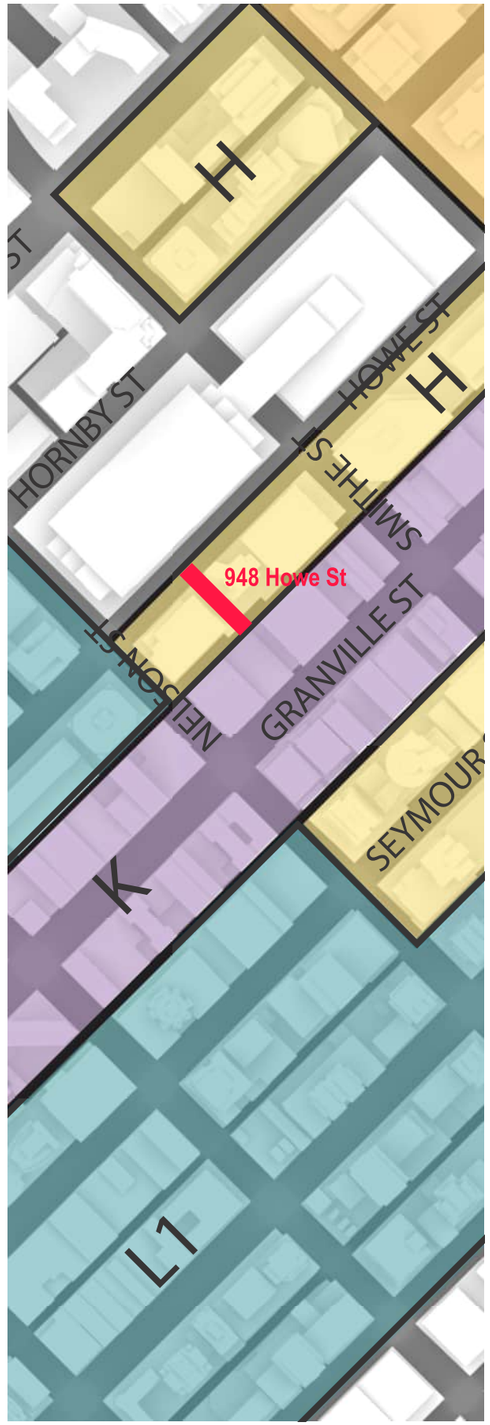
There are no tower separation requirements for Commercial-Commercial or Commercial-Hotel developments. Additionally, zero lot line construction is permitted within the CBD Shoulder, Area H.

INFRASTRUCTURE

Upgrades may be required to support future population and employment growth and will be confirmed and/or implemented concurrently with, and/or through the rezoning process. Developments may potentially be required to deliver neighbourhood-serving upgrades and/or additional management requirements, with development conditions that may impact project viability. Upgrades may be identified at time of rezoning application and will need to be coordinated between the City and regional and local partners. These upgrades include, but are not limited to, sewer and drainage, potable water, green rainwater infrastructure, groundwater management, transportation & public space and third-party utilities.

- The Proposal will provide infrastructure update required by the City.

Reference: Granville Street Plan. RTS 16361
Downtown Rezoning Policy - Last amended April 15, 2025
section 12.2 Tower Separation



3.4 Piloting Pod Hotel and Hotel Development Policy

COUNCIL MEMBERS' MOTION

3. Piloting Pod Hotels in Vancouver

Submitted by: Councillor Kirby-Yung and Councillor Dominato

WHEREAS

1. Vancouver has a severe lack of hotel rooms as identified in the September 2023 motion Addressing the Hotel Supply Gap to Support the Tourism Economy and Reduce Pressure on Local Housing;
2. Vancouver will be host to a number of upcoming large events including the Invictus Games in 2025 and FIFA in 2026;
3. Council's direction to prioritize new hotels has helped enable a number of hotels proposals that are currently in various stages of the City's zoning and approvals processes, but they will require years to complete rezoning, development approvals, building permit approvals, and construction;
4. Smaller room hotel accommodation (for example, "pod hotels") can meet the near-term (as well as longer-term) demand for affordable, high-quality, and well-managed overnight accommodation as part of Vancouver's hotel room mix, and reduce the immense pressure for short-term rentals on Vancouver's limited rental housing stock;
5. The recent construction and completion of ~3 million square feet of new office space in the Metro Core during last five years, combined with changing workplace attendance post-pandemic, has created significant office space vacancy in the city particularly in older office buildings and commercial heritage buildings; and
6. All other British Columbia municipalities administer the British Columbia Building Code (BCBC), which permits the change-of-use from existing office to hotel use with only project-based building structural upgrades for life safety and seismic hazard due to similar level of risk, while the Vancouver Building By-Law (VBBL) uniquely currently requires cost-prohibitive full-building upgrades for the same change-of-use application.

THEREFORE BE IT RESOLVED

A. THAT Council acknowledges the hotel shortage in Vancouver, and the potential for Pod Hotels to help fill the gap, support innovation, and provide a more affordable visitor accommodation option, leading up to and in time for FIFA 2026 and beyond.

B. THAT Council acknowledges there is opportunity to more fully explore Vancouver's specific developmental and building regulatory requirements as they apply to Pod Hotels integration into existing commercial office building stock, particularly with respect to the scope of structural upgrading, while duly considering safety and accessibility, and directs staff to review existing regulations and report back on the findings of the review as soon as possible;

FURTHER THAT Council direct staff to include in the report back, an assessment of how enabling ongoing temporary use and occupancy as Pod Hotels in existing commercial office space might afford the Chief Building Officer with greater authority to facilitate the administration of such projects under the current set of regulatory requirements (as well as the ability to require periodic review and improvement), vs enabling permanent use or a permanent use pilot program through changes that would align the Vancouver Building By-law with the BC Building Code for required building upgrades for the adaptive re-use of existing office space.



Councilor Sarah Kirby-Yung and Councilor Lisa Dominato brought a motion to Council to look at making it easier to set up in empty commercial spaces. (CityNews Image)

INTENT

City of Vancouver Council Member's Motion 3 Piloting Pod Hotel in Vancouver (May 29, 2024)

- Hotel shortage in Vancouver
- Prioritize new hotels
- Potential for Pod Hotels to help fill the gap, support innovation, and provide a more affordable visitor accommodation option, leading up to and in time for FIFA 2026 and beyond.

- **The Proposal will address hotel shortage by adding pod hotel in Downtown Vancouver.**

City of Vancouver
Hotel Development Policy Analysis Report

SUMMARY OF KEY FINDINGS

In analyzing Vancouver's hotel supply, industry trends, hotel demand projections, and the number of hotel rooms that are under development or planning review, the following are key findings regarding the local hotel market. These have been adapted by City staff from a recent draft report submitted to the City of Vancouver by consultants (HVS and Urban Systems).

THE HOTEL INDUSTRY IS EVOLVING AND ADAPTING TO DEMAND

- While the hotel industry was impacted by the COVID-19 pandemic, the market is recovering in Vancouver. It is projected that occupancy rates and RevPAR (Revenue Per Available Room)[1] will return to pre-pandemic levels by 2025 and 2023, respectively.
- In early 2022, Destination Vancouver forecasted that the average hotel room rate for Downtown Vancouver would be higher than in 2019, growing from $266 per night in 2019, to $280 per night in 2022.
- There are some hotel trends that may shake up the market in Vancouver, including but not limited to:
  - Automated service is emerging in lower service hotels (e.g., Sonder Hotels), resulting in a low staff-to-room ratio.
  - However, luxury and high service hotels will still need high numbers of employees to maintain high service delivery and to meet customer expectations.
  - Micro suite hotels are becoming more popular in urban core locations. These hotels offer small, affordable, units at 200 ft² or less with high-quality furnishings and common social areas.
  - Extended Stay hotels provide long term accommodation with in-suite amenities such as laundry and kitchen. These have higher margins from a lower cleaning requirement as the guests stay longer, and there is less need to turnover rooms.
  - Labour availability is a challenge as the hotel industry needs to hire, train and retain staff in order to operate in the same way as pre-pandemic where many employees in industry were furloughed.
- There is a consolidated hotel market in Canada and in Vancouver. There is a lack of independent hotel operators and as a result the market is dependent on major brands, meaning any new hotel concept will most likely need to be led by a major brand.
- Downtown Vancouver had a similar occupancy rate as other geographies within the Metro Vancouver region in 2019. However, hotel operators are able to garner a higher average rate than in Burnaby-New Westminster and in Richmond.

1 RevPAR is a key metric for judging a hotel property's performance. RevPAR evaluates the total revenue of an establishment compared to its total available rooms.

City of Vancouver, PLANNING, URBAN DESIGN & SUSTAINABILITY
City Wide & Regional Planning, Economic Development Planning
Vancouver, British Columbia
(604) 326-4633 | vancouver.ca

2022 BC's Top Employers

Hotel Development Policy April 2025

INTENT

This policy will be used in the **evaluation of rezoning and development permit enquiries and applications for the development of new hotels, the expansion of existing hotels and the demolition of hotel buildings.** It also addresses the conversion of existing hotels to other uses or the conversion of strata residential, office or other uses to hotel.

The Hotel Development Policy applies throughout the city and reflects the Vancouver Plan Land Use Strategy seeking to intensify, enhance, and expand jobs space to ensure the industrial/major employment, major office, hotel, cultural, and retail-commercial space required is available to support a thriving local and regional economy. Sub-area specific policies are outlined in section 3.2 below. This policy does not apply to affordable housing designated under the Single Room Accommodation By-law.

The policy continues to affirm the City's interest that new or existing hotels will be considered as part of area planning, as well as through rezoning and development permit enquiries and applications.

General Hotel Development Policies

a) Create Opportunities for Hotels

Development and rezoning enquiries and applications for commercial properties where hotel is permitted will be encouraged to consider increasing the number of hotel rooms in the city through the addition, retention or replacement of hotel rooms on the subject site.

During area planning initiatives, consideration will be given to the appropriateness, necessity, and supply of sites for hotel uses. Sites in downtown are particularly important due to

Policy

Hotel Development Policy

Approved by Council April 15, 2025

CITY OF VANCOUVER

their proximity to major transportation nodes, convention facilities, major offices, a large number of tourism destinations and the region's economic centre.

- The Proposal will contribute to the goal of adding 10,000 new hotel rooms by more than 400 hotel rooms.

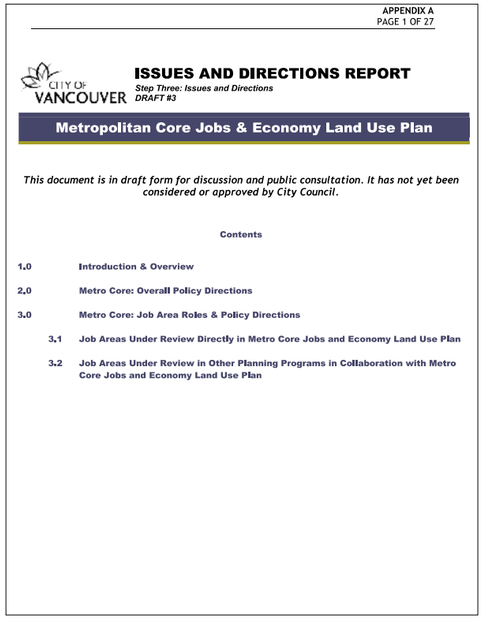
b) Expand Hotel Options

While hotels in the downtown are particularly important due to their proximity to major convention facilities, major offices, the concentration of tourism destinations, opportunities for variety in visitor experience, choice and affordability should also be encouraged. This will be furthered through consideration of hotels in varied locations and price points across the city, particularly in commercially zoned districts. Variety in room choice, especially pricing, is important to enable visitor diversity and resilient visitor growth.

Modestly priced hotel options are needed in all areas of the city. This can be accomplished through supporting the development of innovative hotel options with modest room sizes such as micro-suites and pods.

- The Proposal is a 100% hotel-use commercial development located in downtown Vancouver, featuring a hybrid model of pod and nano hotel rooms with reduced room sizes. **This innovative accommodation option will be modestly priced and designed to cater to young, budget-conscious travelers who value shared amenities and communal spaces** typical of pod hotel experiences.

3.5 Metropolitan Core Jobs and Economy Land Use Plan



APPENDIX A
PAGE 1 OF 27

CITY OF VANCOUVER

ISSUES AND DIRECTIONS REPORT

Step Three: Issues and Directions
DRAFT #3

Metropolitan Core Jobs & Economy Land Use Plan

This document is in draft form for discussion and public consultation. It has not yet been considered or approved by City Council.

Contents

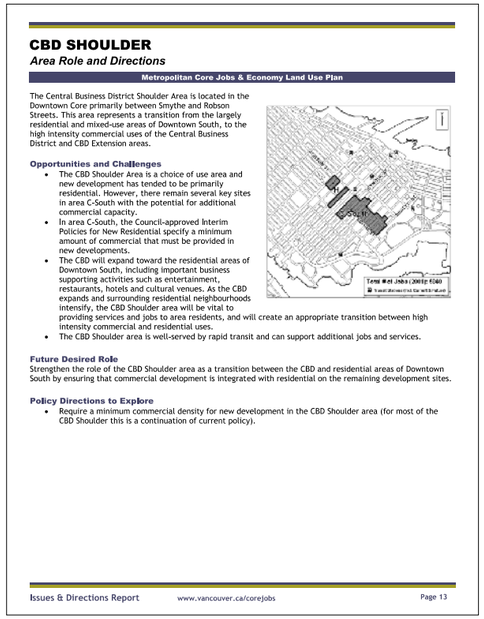
1.0 Introduction & Overview

2.0 Metro Core: Overall Policy Directions

3.0 Metro Core: Job Area Roles & Policy Directions

3.1 Job Areas Under Review Directly in Metro Core Jobs and Economy Land Use Plan

3.2 Job Areas Under Review in Other Planning Programs in Collaboration with Metro Core Jobs and Economy Land Use Plan



CBD SHOULDER

Area Role and Directions

Metropolitan Core Jobs & Economy Land Use Plan

The Central Business District Shoulder Area is located in the Downtown Core primarily between Smythe and Robson Streets. This area represents a transition from the largely residential and mixed-use areas of Downtown South, to the high intensity commercial uses of the Central Business District and CBD Extension areas.

Opportunities and Challenges

- The CBD Shoulder Area is a choice of use area and new development has tended to be primarily residential. However, there remain several key sites in area C-South with the potential for additional commercial capacity.
- In area C-South, the Council-approved Interim Policies for New Residential specify a minimum amount of commercial that must be provided in new developments.
- The CBD will expand toward the residential areas of Downtown South, including important business supporting activities such as entertainment, restaurants, hotels and cultural venues. As the CBD expands and surrounding residential neighbourhoods intensify, the CBD Shoulder area will be vital to providing services and jobs to area residents, and will create an appropriate transition between high intensity commercial and residential uses.
- The CBD Shoulder area is well-served by rapid transit and can support additional jobs and services.

Future Desired Role

Strengthen the role of the CBD Shoulder area as a transition between the CBD and residential areas of Downtown South by ensuring that commercial development is integrated with residential on the remaining development sites.

Policy Directions to Explore

- Require a minimum commercial density for new development in the CBD Shoulder area (for most of the CBD Shoulder this is a continuation of current policy).

Issues & Directions Report www.vancouver.ca/corejobs Page 13

INTENT:

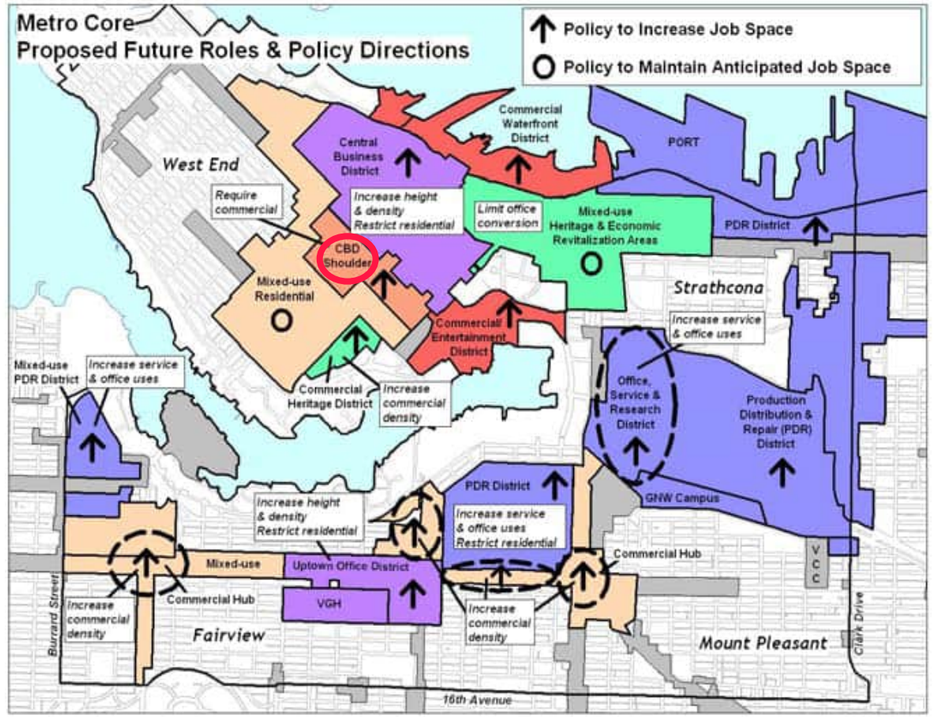
The Metropolitan Core Jobs and Economy Land Use Plan is a major review of land use needs in the Metro Core over the next 25 years. The **goal is to ensure that there is enough land supply – and transportation capacity – for future job growth**. This study was initiated to ensure that the successful development of new housing over the last several years will continue to be balanced with space to accommodate new jobs.

The Central Business District Shoulder Area represents a transition from the largely residential and mixed-use areas of Downtown South, to the high intensity commercial uses of the Central Business District and CBD Extension areas.

Opportunities and Challenges

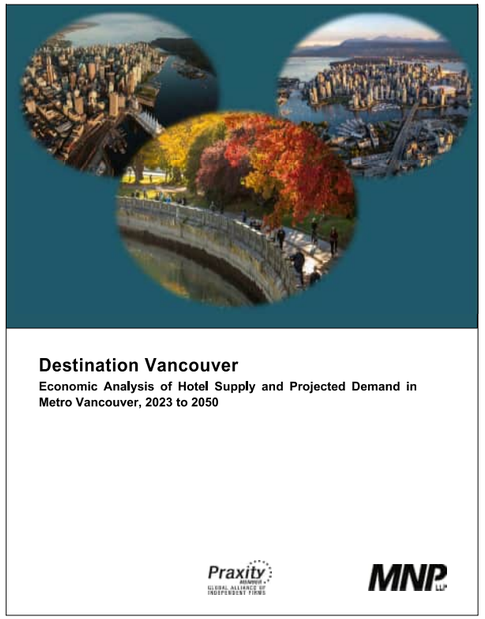
- The CBD Shoulder Area is a choice of use area and new development has tended to be primarily residential. However, there remain several key sites in area C-South with the potential for additional commercial capacity.
- The CBD Shoulder area is well-served by rapid transit and can support additional jobs and services.

- The Proposal represents a new commercial development which aligns with the intent to increase commerical development in CBD Shoulder to create new jobs and support economic growth.



Map 1: Metro Core: Proposed Future Roles and Policy Directions. Proposed policy directions for various job areas are enclosed in white boxes. Up arrows indicate a potential increase in job space beyond what is expected under current zoning. Grey areas represent other job or mixed-use areas that are not under review.

3.6 Hotel Industry Reports



Destination Vancouver - Economic Analysis of Hotel Supply and Projected Demand in Metro Vancouver, 2023 to 2050 (2023)

PURPOSE:

To study the potential economic implications of foregone hotel room demand between 2023 and 2050. **The addition of 1,000 hotel rooms in Downtown Vancouver in 2026 is projected to reduce the cumulative foregone visitor spending by $3.9 billion.** The associated foregone economic im pacts are projected to be:

- $5.8 billion in output.
- $3.1 billion in GDP.
- 32,000 FTEs of employment.
- $1.4 billion in tax revenue for all three levels of government.

- The Proposal will increase hotel rooms supply in Downtown Vancouver in near future, pending on rezoning and approval timeline.



Hotel Community Impact Assessment, Destination Vancouver & BC Hotel Association (April 2025)

PURPOSE:

It introduces a new Hotel Vision for Vancouver that will require coordinated efforts among regulators, developers, and hotel operators to bring it to fruition.

Based on the report assumptions, **Vancouver could see the following local economic impacts from meeting the anticipated demand for 10,000 additional hotel rooms over the next 25 years.**

- 5,450 direct local jobs created in hospitality and accommodations
- 5,000-8,000 indirect local jobs created in retail, recreation, transportation, and services
- $124.9 million in annual municipal tax revenue collected
- $77.9 million in annual provincial tax revenue collected

Introduction of Hotel Vision for Vancouver

Addressing hotel needs in Vancouver is not just about increasing the quantity of hotel rooms, but about delivering a diversity of hotel options that will satisfy unmet demand in the market.

Hotels that effectively match customer demand with hotel type, size, and location are better positioned to:

- Stimulate growth of new and existing visitor segments that have previously been underserved in the Vancouver market.

- Reduce the burden of tourism on urban infrastructure, including transportation infrastructure and greenspace.

- Spread out the economic benefit of the visitor economy throughout Vancouver's commercial districts.

- Maximize positive social, cultural, and community development impacts of hotel projects.

- Seamlessly integrate with, and contribute to, the urban design of the districts they are situated in.

The Proposal supports the diversification of hotel options by introducing a new standalone pod hotel in Downtown Vancouver. It presents **an opportunity to attract a growing segment of younger visitors who prefer accommodations accessible by Vancouver's well-connected public transit network.**

With no on-site parking provided, the hotel encourages guests to explore downtown Vancouver by foot, bicycle, or transit. Sharing a lane with the Granville Street Entertainment Core, the hotel is well-positioned to integrate seamlessly with the vibrancy and cultural activities of the Granville Street corridor.

This hotel is not only a response to current market needs but a forward-looking model for sustainable, community-oriented hospitality in Vancouver.

The hotel scenario analysis revealed several unique challenges and risks affiliated with various types of hotel development. Common challenges include:

• Difficulty accessing suitable sites and permits

• Difficulty competing with other land uses

• High development and financing costs

• High sensitivity of hotel performance to market forces

Recommendations for de-risking hotel development include:

a) Pursuing opportunities to reduce development costs, including deferring development cost charges, using low- cost construction techniques on smaller developments, and reducing room sizes.

b) Designing hotels that seemlessly integrate with, and capitalize on, the unique offerings of the district in which they are situated, including marketing the neighbourhood as part of their service offering.

c) Pre-zoning hotels for added density in commercial areas and transit-oriented areas to ensure they can compete with other uses without having to go through a lengthy rezoning process. One way to do this is to remove back of house operational spaces from density calculations.

d) Exploring creative solutions to meeting parking and loading needs for hotels without taking up significant ground-floor space on site.

e) Establishing strategic partnerships to generate consistent hotel demand, reduce operating costs, and augment guest experience.

The Proposal, **as a standalone pod hotel, pursues opportunities to reduce development costs through compact, efficient design.** The use of prefabricated construction methods, and the introduction of sleeping pods and nano-sized hotel rooms—ensuring financial viability without compromising the guest experience.

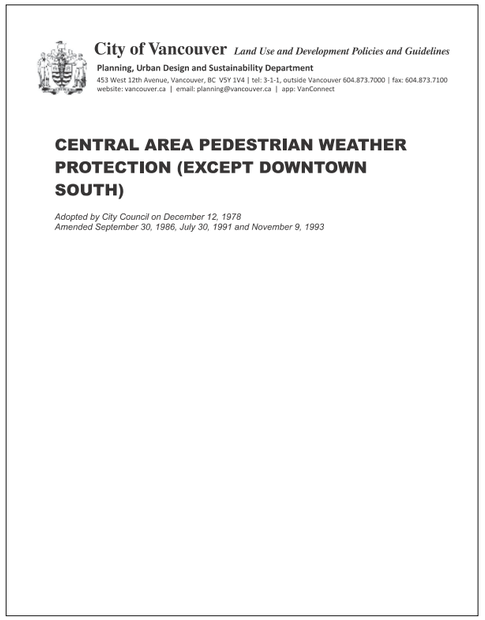
Seamlessly integrated into the urban fabric, the hotel is designed to reflect and capitalize on the unique cultural and entertainment offerings of the surrounding district. By positioning the neighbourhood as an extension of the hotel experience, **the concept enhances guest engagement with local businesses, events, and amenities, while reinforcing the vibrancy of the area.**

Hotel use is permitted under the site's current zoning. The proposed additional density and height maximize the opportunity to deliver much-needed, economically accessible hotel rooms for a new generation of travelers who might otherwise be unable to afford accommodations in Downtown Vancouver. Lengthy rezoning processes can deter development by contributing to increased construction costs, including rising labour, material, and borrowing expenses. The exclusion of back-of-house operational spaces from density calculations is a welcome approach that supports the feasibility of this proposal.

With no commercial kitchen for the sky bar and in-house laundry, the loading and unloading requirements for this project are minimal. However, a loading relaxation is necessary, as current requirements are based on traditional hotel models with full-service amenities.

Marriott, Hilton and IHG, the three largest brands in the world have been confirmed to show interest in this hotel type. Wanting to invest and expand in this new typology.

3.7 Relevant Policies



City of Vancouver *Land Use and Development Policies and Guidelines*

Planning, Urban Design and Sustainability Department

453 West 12th Avenue, Vancouver, BC V5Y 1V4 | tel: 3-1-1, outside Vancouver 604.873.7000 | fax: 604.873.7100
website: vancouver.ca | email: planning@vancouver.ca | app: VanConnect

CENTRAL AREA PEDESTRIAN WEATHER PROTECTION (EXCEPT DOWNTOWN SOUTH)

Adopted by City Council on December 12, 1978
Amended September 30, 1986, July 30, 1991 and November 9, 1993

Central Area Pedestrian Weather Protection (Except Downtown South) (1999)

GENERAL OBJECTIVES:

The existing guidelines and policies documented in the following sections are intended to achieve the following main objectives:

a) Weather Protection
i) The development of a comprehensive continuous pedestrian weather protection system in the form of awnings, canopies, building recesses and arcades, along significant pedestrian public streets and through private development areas;

b) Livability and Amenity
i) The encouragement of greater movement of people on foot and by public transit within the Central Area of the city;
ii) The emphasis of the pedestrian function of public streets and the provision of a supportive environment for such activities as window shopping, and other active pedestrian street uses.

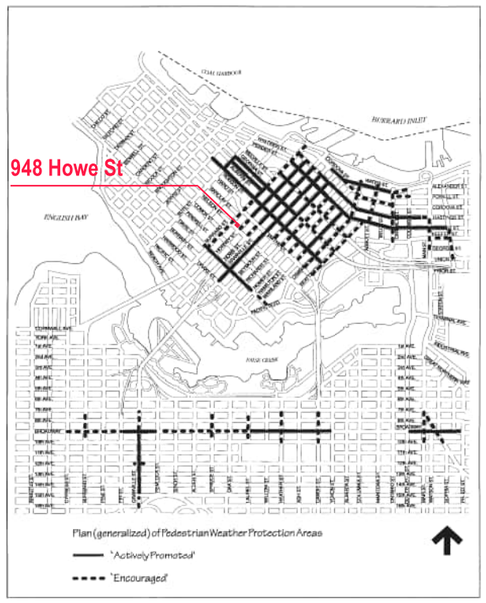
Pedestrian Weather Protection Areas

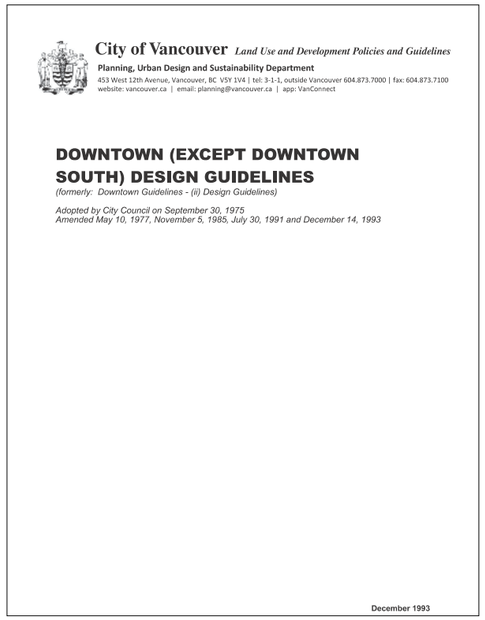
Map 1 indicates street areas where weather protection should be “actively promoted” or “encouraged” as part of private development proposals.

(a) Downtown District (DD Zone) - HOWE STREET, from Smithe to Nelson (900 Block Howe Street) is “encouraged”.

- **The Proposal will provide continuous weather protection at 900 Block Howe Street, supporting year-round use of the sidewalk along the 900 block of Howe Street, which is currently lacking. It is consistent with the above objectives.**

MAP 1





City of Vancouver *Land Use and Development Policies and Guidelines*

Planning, Urban Design and Sustainability Department

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website: vancouver.ca | email: planning@vancouver.ca | app: VanConnect

DOWNTOWN (EXCEPT DOWNTOWN SOUTH) DESIGN GUIDELINES

(formerly: Downtown Guidelines - (ii) Design Guidelines)

Adopted by City Council on September 30, 1975
Amended May 10, 1977, November 5, 1985, July 30, 1991 and December 14, 1993

December 1993

Downtown (Except Downtown South) Design Guidelines (1993)

GENERAL OBJECTIVES:

To provide varied, accessible, and, where appropriate, interconnected open spaces to be used by a wide range of people throughout the year. “Open” space in this context means spaces open to the public whether or not they are open to the sky or partially or fully covered for weather protection.

a) Public Open Space
Semi Public Open Spaces Above Grade and on Low Roof Levels

b) Views
Public viewing areas should be developed on the roofs of buildings where special panoramic views are available;

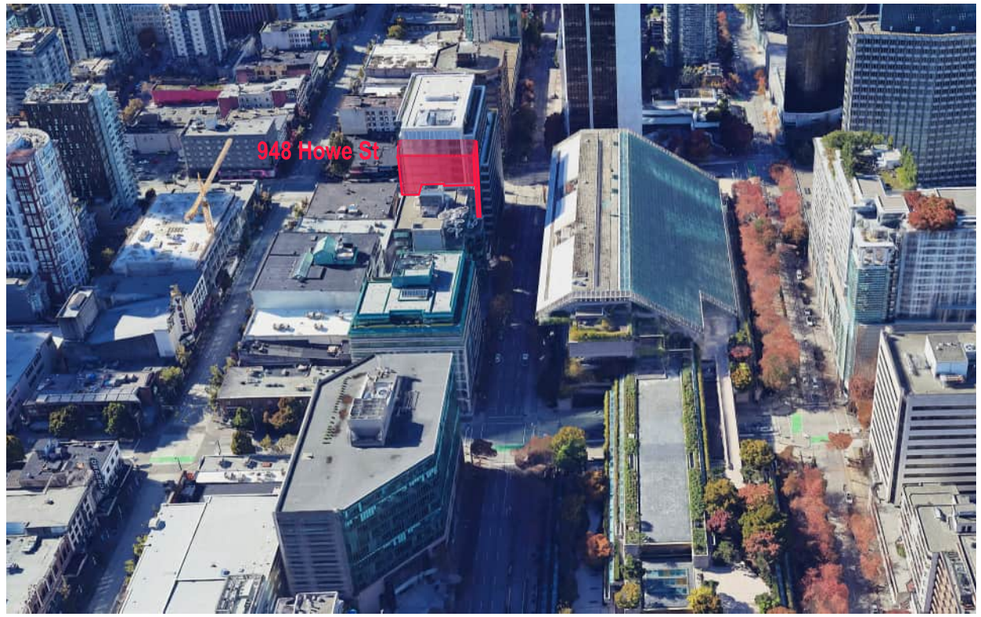
c) Environmental
Such environmental considerations as provision of sunlight, weather protected pedestrian routes, etc. to ensure continual pedestrian use and a vital Downtown.

d) Physical Design
The physical urban environment of Downtown should be of a very high quality with environmenal considerations.

- The Proposal is consistent with above objectives with the goal to provide “open” space to public. Despite being one of the smallest lots in the CBD Shoulder—measuring only 3,000 square feet—the proposal includes publicly accessible space in the form of a sky lobby at the top level and a rooftop bar.

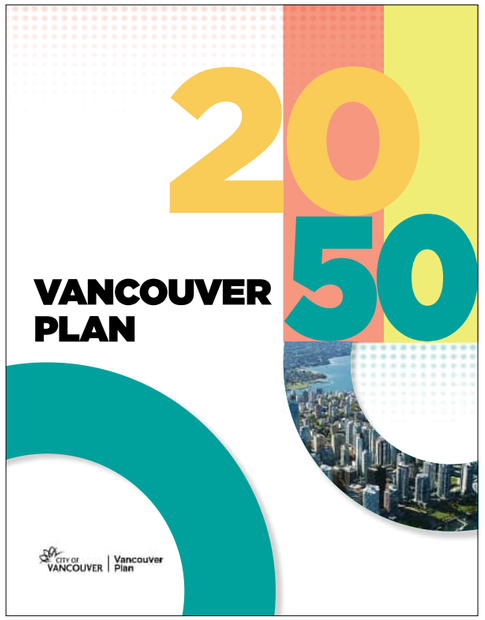
This space in sky lobby will offer panoramic views of the three-block Robson Square complex, located in the heart of downtown Vancouver. Robson Square is home to the Law Courts and features a spectacular open-air plaza that includes a block-long rooftop reflecting pool, three waterfalls, a footbridge, a man-made mountain, and extensive landscaping with trees, shrubs, and ground cover.

Currently, general public have little opportunity to enjoy the spectacular open-air plaza from above as the surrounding buildings are mostly offices or residential buildings.



Three block complex with open-air plaza designed by Architect Arthur Erickson.

3.7 Relevant Policies



Vancouver Plan 2050 (2022)

GENERAL OBJECTIVES:

a) A Strong, Inclusive Economy
i) Protect and grow industrial, commercial, and employment lands.
ii) Support small, local, and culturally diverse businesses.
iii) Integrate jobs and services into neighbourhoods near transit.

b) Climate Protection & Restored Ecosystems i) Reduce carbon pollution through sustainable buildings and transportation.
ii) Protect and restore natural habitats, waterfronts, and green spaces.
iii) Integrate nature-based infrastructure into urban design.

c) People-First Transportation
i) Prioritize walking, biking, and public transit over car use.
ii) Create safe, accessible, and connected streets and greenways.

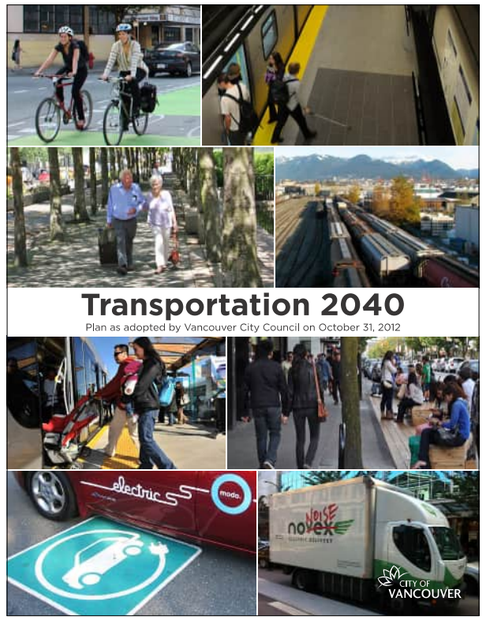
d) Public Space, Arts, Culture & Heritage
i) Create vibrant, inclusive, and accessible public spaces.
ii) Celebrate and protect cultural heritage and Indigenous connections to land.
iii) Support community gathering places and arts infrastructure.

f) Watershed & Water Resource Protection
i) Improve stormwater management and flood resilience.
ii) Protect and restore waterways and natural hydrological systems.

- This proposal aligns strongly with above objectives by introducing new public space through a sky lobby and a rooftop bar that offers panoramic views of Robson Square. With few rooftop patios currently available in downtown Vancouver, this addition will not only enhance the urban experience but also attract more foot traffic, supporting nearby businesses and contributing to the street's vibrancy.

  The project promotes sustainable transportation by taking advantage of its highly accessible location and providing no on-site parking—encouraging visitors to walk, cycle, or use transit instead of driving. This supports the city's efforts to reduce emissions and prioritize people-first mobility.

  Additionally, **the absence of a full commercial kitchen presents an opportunity to collaborate with local food businesses such as Railtown Café and Pallet Coffee Roasters.** These partnerships can provide catering for hotel guests while supporting the local economy and reducing the project's environmental footprint.



Transportation Plan 2040 (2012)

GENERAL OBJECTIVES:

a) Support a Thriving Economy
i) Improve movement of goods, services, and people within the city and region.
iii) Strengthen Vancouver's role as an international tourism, trade, and business hub.

b)Promote Healthy Citizens and Safe Mobility
i) Make walking, cycling, and transit safe, comfortable, and convenient.
ii) Reduce traffic-related injuries and fatalities toward zero.
iii) Create vibrant public spaces that encourage social interaction and active lifestyles.

c) Protect and Enhance the Environment
i) Reduce greenhouse gas emissions from transportation.
ii) Support compact, transit-oriented development to limit sprawl.
iii) Increase climate resilience and reduce fossil fuel dependence.

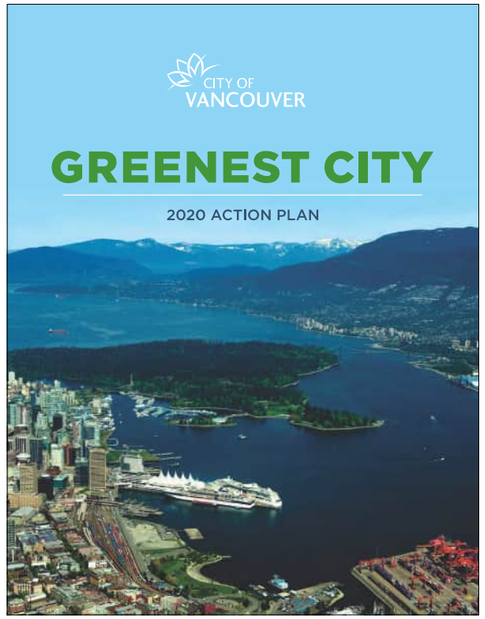
d) Prioritize Walking
i) Design streets for safety, accessibility, and comfort for pedestrians of all ages and abilities.
ii) Expand and improve the pedestrian network, public plazas, and gathering spaces.

e) Make Cycling for All Ages and Abilities
i) Build and maintain a connected, safe cycling network.
ii) Provide abundant bicycle parking and end-of-trip facilities.
iii) Integrate cycling with transit and other travel modes.

f) Provide Excellent Transit
i) Expand rapid and local transit services, especially on high-demand corridors like Broadway.
ii) Improve transit speed, reliability, accessibility, and comfort.
iii) Enhance connections between transit, walking, and cycling.

g) Manage Motor Vehicle Use
i) Reduce car dependence while maintaining essential vehicle access.
ii) Support the shift to low- and zero-emission vehicles.
iii) Manage road space to prioritize sustainable modes.

- This project aligns with the Transportation 2040 goals by locating in a transit-rich downtown site, eliminating on-site parking, and encouraging walking, cycling, and transit use. Its compact, high-density design optimizes land use while reducing car dependency, traffic, and emissions. Guests can easily explore the city without a vehicle, aligning with Vancouver's goals for sustainable, transit-oriented growth.



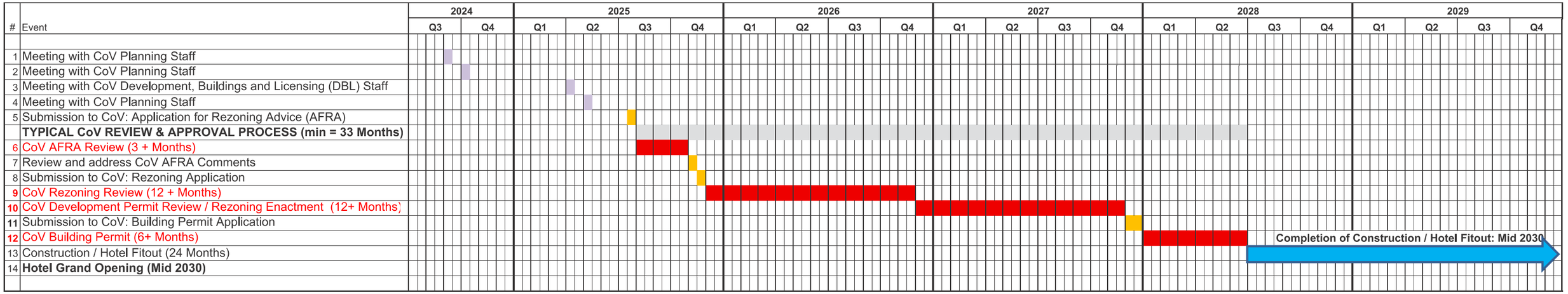
Greenest City 2020 Action Plan (2012)

GENERAL OBJECTIVES:

This action plan outlines a vision for a healthy, prosperous, and resilient future, addressing climate change, urban livability, and ecological sustainability. It integrates 10 goal areas that focus on carbon, waste, and ecosystems—ranging from transportation and buildings to food systems and clean air. The plan emphasizes measurable targets, public engagement, and partnerships with residents, businesses, and all levels of government.

- The Nano Hotel supports Greenest City goals by delivering high-density, low-carbon accommodation in a transit-rich downtown location with no on-site parking. Its compact design reduces material use, embodied carbon, and operational energy. With the addition of public spaces this assists in the activation of an underused block. This strengthens the local economy and community.

3.8 Project Schedule



MEETINGS WITH CITY OF VANCOUVER (CoV)

#1 September 9, 2024

Meeting with CoV Planning Staff:
- Sean Martinez
- Hamid Shanyan

Purpose: Initial land use, massing and building height review

The presentation outlined massing options for a proposed standalone pod hotel at 948 Howe Street, designed as a 100% pod hotel use.

#2 October 3, 2024

Meeting with CoV Planning Staff:
- Thomas Daley
- Miro Jacopo
- Sean Martinez
- Hamid Shanyan

Purpose: Building elevations, urban development form review

In response to Planning Staff's request, the second presentation included all building elevations, with proposed height measured to the underside of the view cone D, consistent with the height of the adjacent 980 Howe Street (Manulife Building).

#3 April 14, 2025

Meeting with CoV Development, Building and Liscensing (DBL) Staff
- Michelle Au
- Matthew Lam
- Kevin Lau
- Tracy Lee

Purpose: Initial code compliance review

Presentation of the updated standalone 100% pod hotel building, incorporating a hybrid mix of full-height sleeping pods and reduced-size traditional hotel rooms to meet accessibility requirements as per building code.

There are no major code compliance concerns identified by DBL staff; however, planning and zoning-related concerns have been raised.

#4 May 7, 2025

Meeting with CoV Planning Staff:
- Sean Martinez
- Matthew Bourke

Purpose: Discuss planning and zoning-related concerns raised in CoV meeting with DBL staff CoV staff to define Pod Hotel use and establish associated by-law and code requirements.

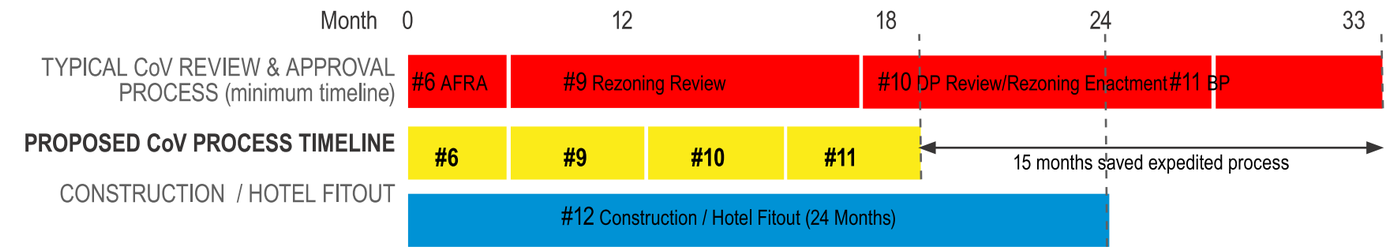
DEMAND FOR HOTEL SPACE IN VANCOUVER IS CURRENTLY OUTSTRIPPING SUPPLY.

Urgent Action Required: Expedite CoV Hotel Approval Process

in 2022, Destination Vancouver estimated that Vancouver needs an additional 10,000 hotel rooms between 2023 and 2050. This respresents more than a 70% increase from today's invenory. Vancouver is approaching 80% average annual occupany in its hotels, with most pressure felt in peak season from April to September, where occupancy can be as high as 95%.

High room rates in Downtown Vancouver are driven both by a hotel room shortage and a luxury-heavy hotel offering mix, which account for approximately 50% of the existing hotel inventory. As a result, affordable hotel options in the downtown core are extremely limited.

The proposed Nano Hotel aims to address this gap by offering affordable accommodation options targeted toward budget-conscious travelers aged 18–34. While hotel use is permitted within the Downtown District (DD) zoning, the required City of Vancouver (CoV) review and approal processes are anticipated to significantly exceed the actual construction and hotel fit-out timelines (CoV review & approaval process 33+ months vs 24 months for construction to hotel grand opening), creating delays that hinder the timely addition of much-needed hotel supply in the downtown core. (See bar chart below for comparative timelines.)



The proposal seeks an 18-month CoV Review and Approal timeline. With 24 months of construction, **the proposed Nano Hotel could open by late 2028 or early 2029,** well ahead of the mid-2030 timeline under typical CoV processes.

If City of Vancouver considers waving the rezoning requirement, the project can immediately progress to DP and put the project ahead of the schedule for at least one year.

3.9 900 Block Howe Street

The site is on 900 Block Howe Street, which is located opposite The Law Courts, in between Smithe Street and Nelson Street and share a lane way with Granville Street.

As Downtown District (DD) Area H in the Central Business District (CBD) Shoulder, the existing developmentd of 900 Block Howe Street are all commercial use. There is no existing residential use in this block.

The CBD Shoulder is vital in supporting the functionality and growth of the Central Business District (CBD) in the downtown core. Commercial uses in this area provide essential services and employment opportunities for local residents, while also helping to accommodate long-term demand for job space. Additionally, the CBD Shoulder serves as a transitional zone between the high-density commercial core and the residential neighbourhoods to the south.

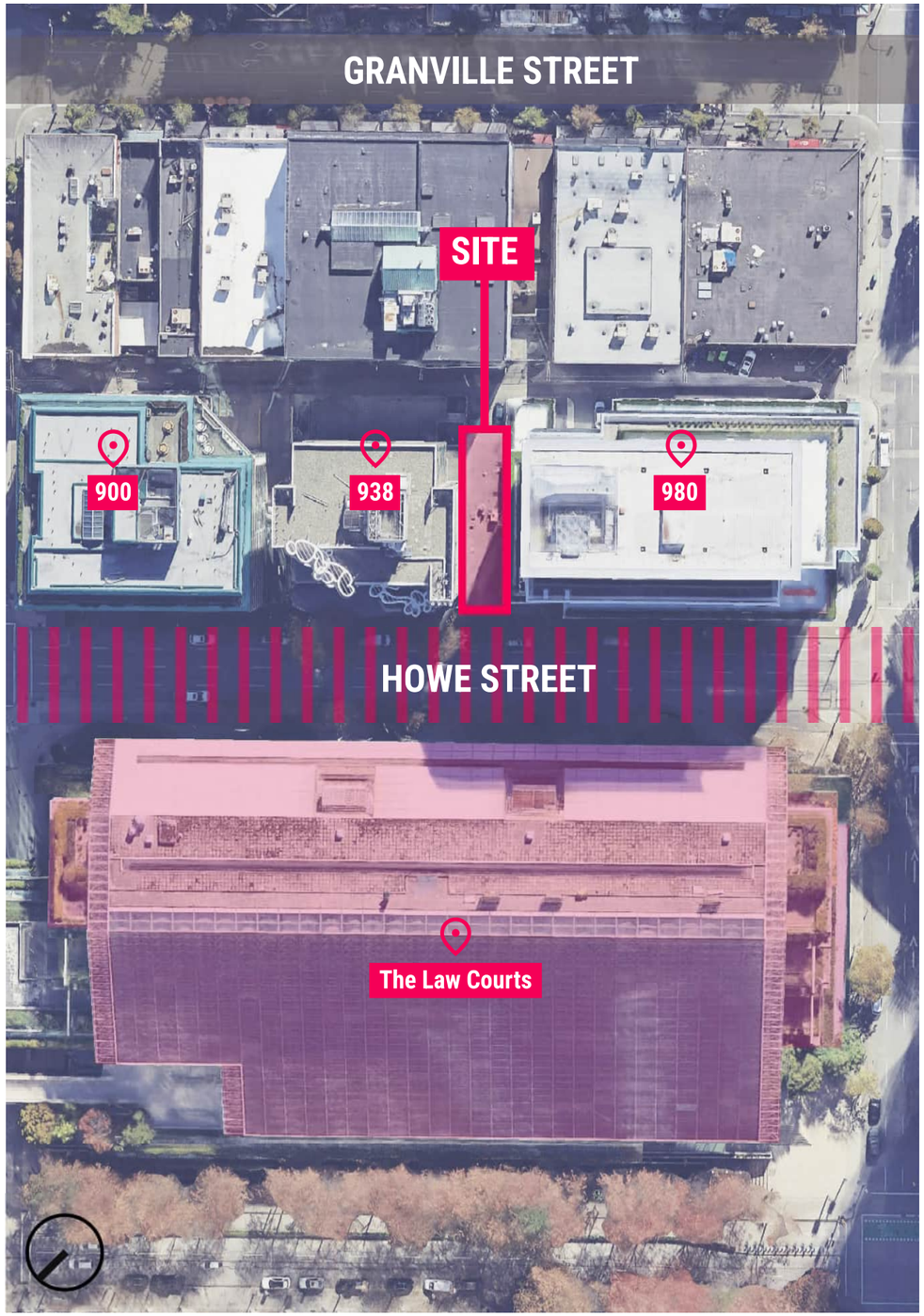
Existing commercial-commercial properties - zero lot line construction.

948 Howe Street (25’ - 2/F building)

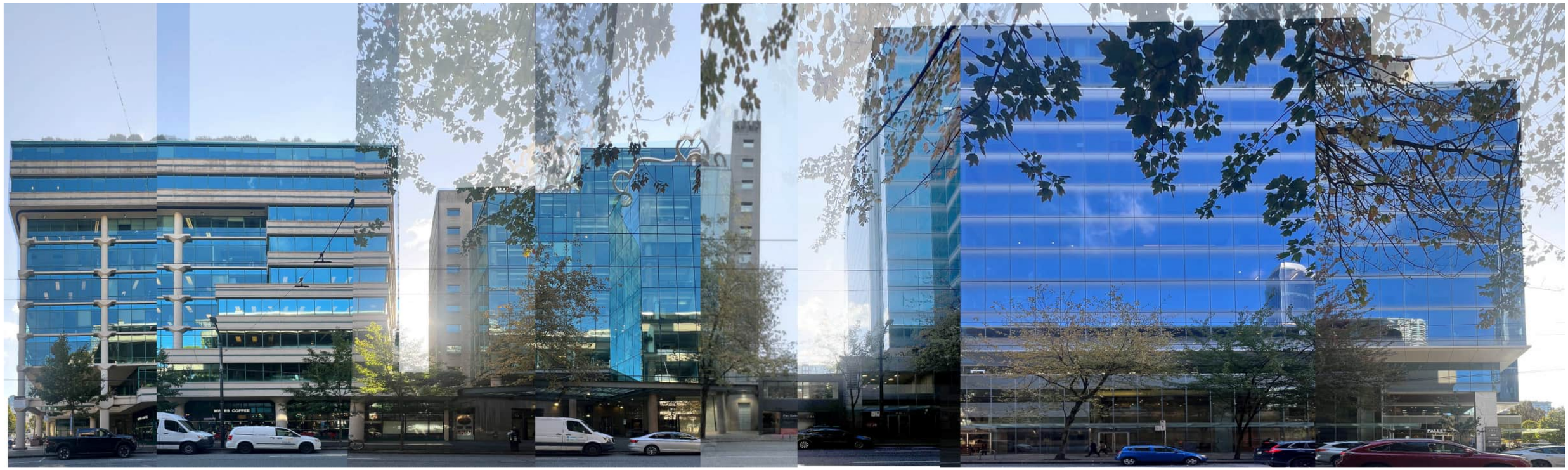
Existing tower separations:

900 & 938 Howe Street = 12 ‘

938 & 980 Howe Street = 25’ + 14’ = 39’



3.9 900 Block Howe Street



900 Howe St
Zoning: DD
Use: Commerical
(Cafel at ground level + Office)

938 Howe St
Zoning: DD
Use: Commerical
(BC Alliance for Arts + Culture at ground level + Office)

948 Howe St
Zoning: DD
Use: Commerical
(Retail at ground level + Office at upper level)

980 Howe St (Manulife Building)
Zoning: CD-1
Use: Commerical
(Cafe at ground level + Office)

3.10 Adjacent to Granville Street Entertainment Core

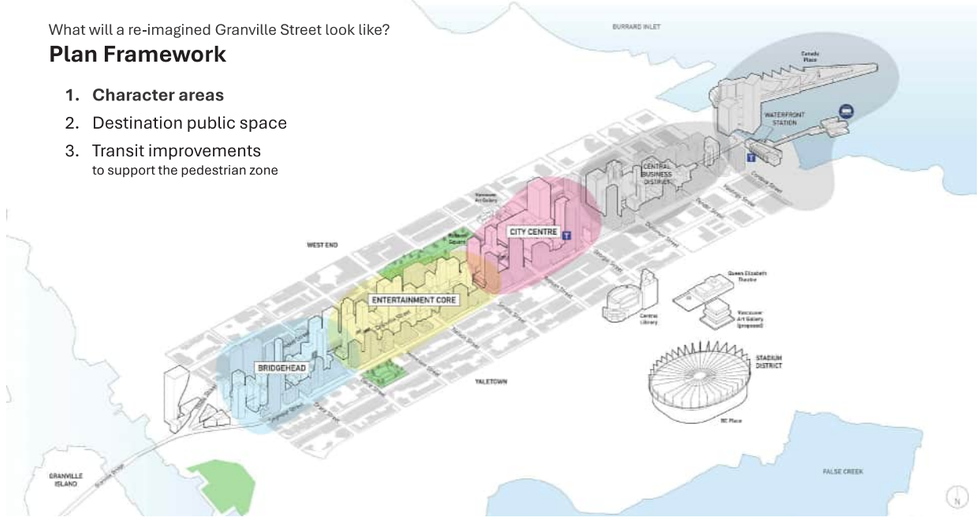
As outlined in the City's planning vision, the intent for the Granville Street area is to increase height and density for hotel and commercial development while excluding residential uses. This approach supports extended day-to-night activity and minimizes conflicts between entertainment operations and residential occupancy.

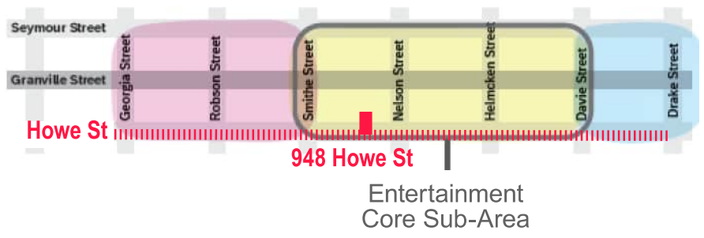
Proposed site 948 Howe Street is ideally suited for a hotel use, aligning with policy directions that encourage tourism, cultural activation, and economic development in the Downtown core. Its location offers future guests immediate access to dynamic amenities and experiences, while also meeting planning objectives for intensified commercial land use in the area.

What will a re-imagined Granville Street look like?

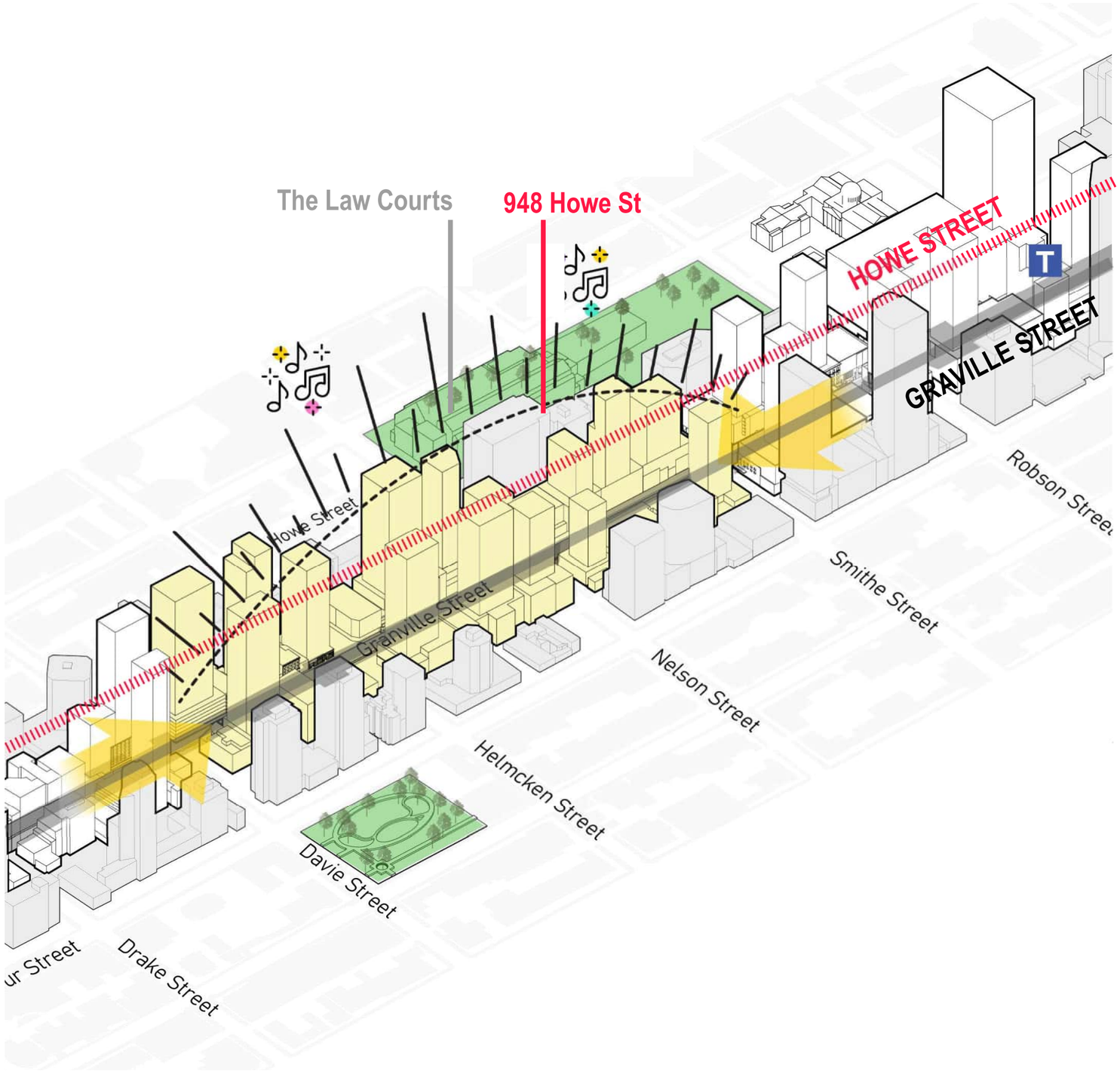
Plan Framework

1. **Character areas**
2. Destination public space
3. Transit improvements
   to support the pedestrian zone





Entertainment
Core Sub-Area



3.10 Adjacent to Granville Street Entertainment Core



Potential build out of a block in the Entertainment Core

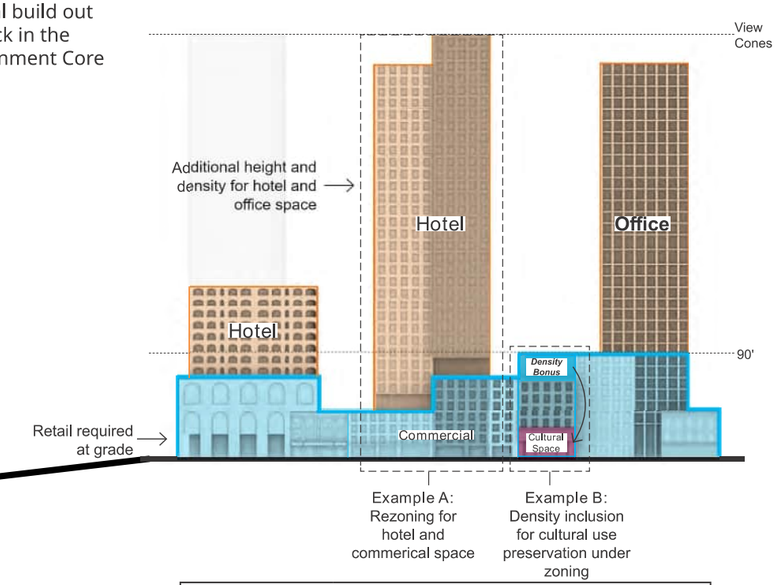
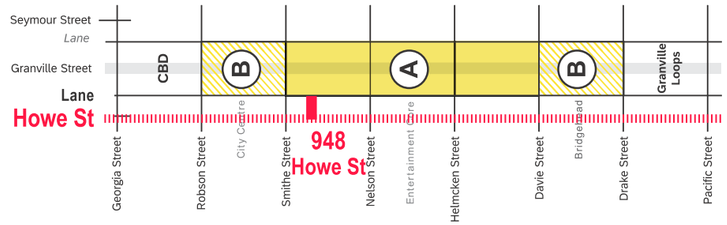


Table 2 Applicable Land Use Policies and Regulations: Entertainment Core

Policy Direction	Zoning: Downtown District Schedule (DD) – Area K	Rezoning for commercial and service uses
Uses	Hotel, office, service/retail, cultural, institutional*	Hotel, office, service/retail, cultural, institutional
Requirements	N/A	a) Commercial Linkage Fee
Housing Tenure	N/A	N/A
Max Height	90 ft.	To the underside of the most restrictive View Cone
Density	3.5 FSR; plus sensity relaxations of cultural space density relaxation (Area K); Heritage density relaxation	Determined by urban design performance
Reference Policies	*See DODP for more details.*	*See the Downtown Rezoning Policy for more details.*

*Pending future approval of a new Downtown District Schedule to replace the Downtown Official Development Plan (D-ODP)



Entertainment Core from Smithe to Davie Street will be a dedicated arts and nightlife hub, featuring expanded live music venues, outdoor performances, rooftop patios and commercial buildings, including new hotels.

Granville Street Entertainment Core will transform with a:

- Variety of attractions, live music venues, theatres, restaurants, bars, and nightclubs
- Dynamic hub designed for socializing, cultural experiences, and celebrations
- Go-to destination for locals and visitors

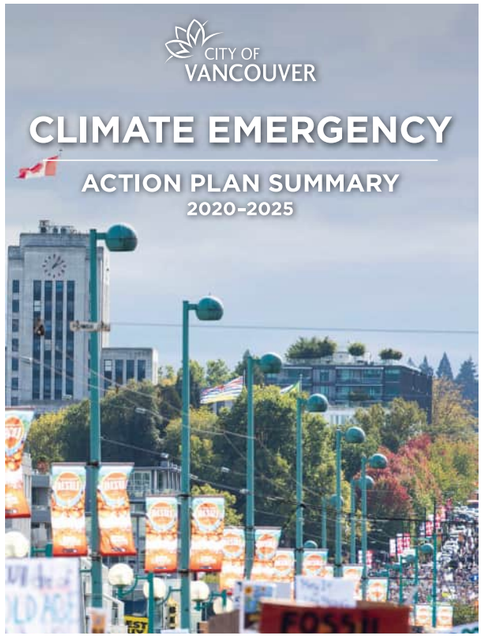
The plan is increase height and density to support new hotel and commercial development and exclude new residential use.

The proposed site, with 100% hotel use, is well-aligned with the land use objectives and future plans to increase building height, density, and hotel supply along the Granville Street Entertainment Core. The proposed new hotel will contribute directly by enhancing affordable visitor accommodation supply, supporting tourism, and activating the area with consistent day and night presence, all while aligning with the City's goals for a more dynamic urban core.

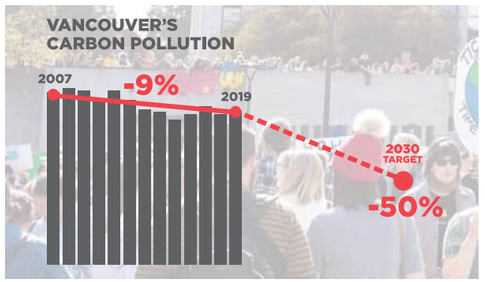
Source: City of Vancovuer Granville Street Plan Council Report (June 4, 2025)

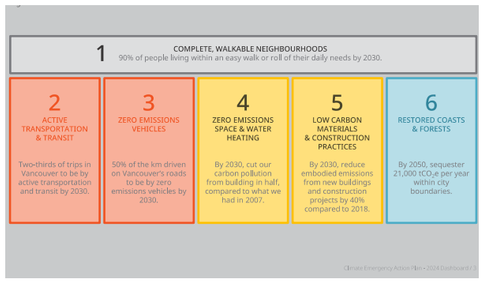
4.0 Sustainability and Resilience

4.1 Climate Emergency Response









Climate Emergency Action Plan (CEAP) Summary 2020-2025

In 2019, the City of Vancouver, along with thousands of cities worldwide, acknowledged the need for stronger action in response to the climate emergency and committed to aligning its goals with the global target of limiting warming to 1.5° Celsius.

In 2020, the City of Vancouver adopted the Climate Emergency Action Plan (CEAP), which aims to reduce Vancouver's carbon pollution by 50% by 2030 and become carbon neutral by 2050. CEAP is built around six (6) Big Moves.

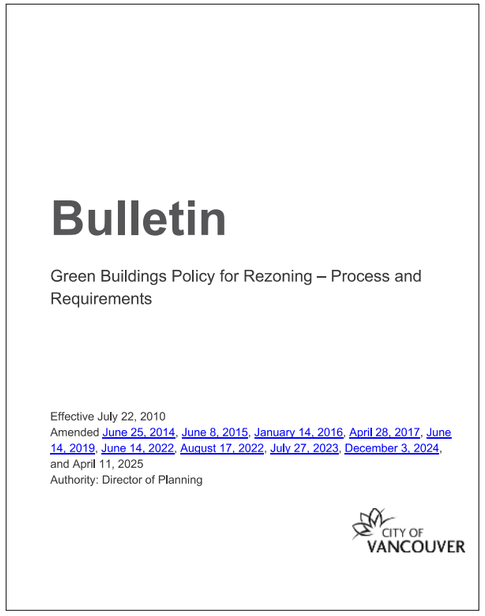
Climate Emergency Action Plan (CEAP) Annual Report 2024 Dashboard

The City has two plans that guide its climate actions: CEAP and the Climate Change Adaptation Strategy (CCAS). CCAS was updated in early 2024 as a two-year action plan (2024-2025) with the goal of increasing Vancouver's readiness and resilience in the face of climate change.

The City's work to reduce carbon pollution is expected to continue focusing on the two largest sources of carbon emissions in Vancouver: buildings and transportation.

CEAP six (6) Big Moves:	Why the target is at-risk today	The proposed Nano Hotel helps close the gap today
#1 COMPLETE, WALKABLE NEIGHBOURHOODS 90% of people living within an easy walk or roll of their daily needs by 2030. (addresses land use)	CEAP 2024 deems the goal "unlikely" because new housing and amenities are not arriving fast enough downtown.	• 948 Howe St scores **a perfect Walk Score 100 and places > 60 eateries within 5 min**, 8 Michelin venues in 10 min and 140 + cafés/ restaurants in 15 min. • Zero guest parking and a concierge that promotes transit / micromobility reinforce a car-free stay.
#2 ACTIVE TRANSPORTATION & TRANSIT Two-thirds of trips in Vancouver to be by active transportation and transit by 2030. (addresses how we move around the city)	Still "unlikely" without major corridor upgrades and road-space reallocation.	• **One block to SkyTrain, protected bike routes and bus-priority corridors;** guest app pushes transit journey-planning. • Bike storage for staff and hotel guests. Potential partnership with local bike-share for guest discounts.
#3 ZERO EMISSIONS VEHICLES 50% of the km driven on Vancouver's roads to be by zero emissions vehicles by 2030. (addresses how we move around the city)	CEAP classifies progress "at risk" and stresses need for more charging and curb management.	• No on-site guest parking (removes incentive to drive). • Back-lane loading bay pre-wired for 100 % EV charging—suitable for delivery fleets. • Guest app lists nearby EV car-share pods.
#4 ZERO EMISSIONS SPACE & WATER HEATING By 2030, cut our carbon pollution from building in half, compared to what we had in 2007. (addresses how we use energy in our buildings and how we build them)	Buildings still the city's single largest emitter (57 % of 2023 inventory) ; target now tagged "unlikely".	• Ultra-compact rooms **cut conditioned volume approx. 70 % per guest**, slashing energy intensity. • Commitment to VBBL Zero-Carbon Step-Code compliance.
#5 LOW CARBON MATERIALS & CONSTRUCTION PRACTICES By 2030, reduce embodied emissions from new buildings and construction projects by 40% compared to 2018. (addresses how we use energy in our buildings and how we build them)	City needs broader uptake of mass-timber & parkade-lite design; CEAP rates target "likely" if new requirements land in 2024 .	• Modular mass-timber/steel hybrid floors, approx. **35 % lower embodied CO_2 than concrete.** • Small units use approx. 30 % less interior finish material per key. • Whole-building LCA will accompany rezoning in line with 2025 bulletin requirements.
#6 RESTORED COASTS & FORESTS By 2050, sequester 21,000 tCO2e per year within city boundaries. (addresses natural climate solutions that capture and sequester carbon)	CEAP 2024 marks target "at risk" and proposes moving natural-solutions actions into adaptation strategy .	• The redevelopment will maintain existing street trees at grade and will introduce general planting in common areas, contributing to the City's Urban Forest Strategy and Biodiversity Strategy.

4.2 Green Building Policy Rezoning


Bulletin

Green Buildings Policy for Rezoning – Process and Requirements

Effective July 22, 2010
Amended June 25, 2014, June 8, 2015, January 14, 2016, April 28, 2017, June 14, 2019, June 14, 2022, August 17, 2022, July 27, 2023, December 3, 2024, and April 11, 2025
Authority: Director of Planning

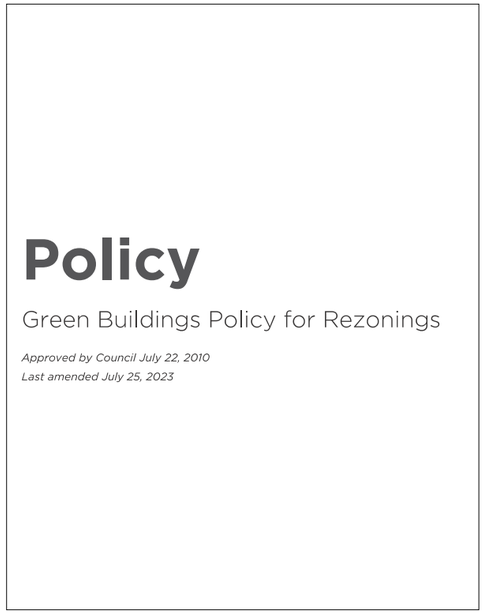
CITY OF VANCOUVER

Bulletin Green Buildings Policy for Rezoning-Process and Requirement (April 2025)

PURPOSE:

The bulletin is a guidance document to tell rezoning applicants exactly what sustainability-related materials they must submit, and when to comply with the Green Buildings Policy for Rezonings. It translates the policy's high-level goals (zero-carbon operation, low embodied carbon and climate resilience) into a step-by-step list of deliverables, such as energy-and-emissions models, embodied-carbon life-cycle assessments, a Resilient Buildings Planning Worksheet, and commitment letters for enhanced commissioning and energy sub-metering.

The bulletin ensures that projects lock in low-carbon, energy-efficient and climate-resilient design measures early in the approval process, helping the City advance its Zero Emissions Building Plan and other climate objectives.


Policy

Green Buildings Policy for Rezonings

Approved by Council July 22, 2010
Last amended July 25, 2023

Green Buildings Policy for Rezonings (2023)

INTENT:

The policy **leverages the rezoning stage to lock-in low-carbon, energy-efficient, and climate-resilient design before construction**. It aligns new projects with Vancouver's Zero Emissions Building Plan, Climate-Emergency Action Plan, and Embodied-Carbon Strategy.

Submissions:
At rezoning, applicants must provide:

1. Energy & Emissions Design Report

- The proposed project will include an energy model demonstrating that the building will meet future Vancouver Building By-law limits on operational energy use and greenhouse gas emissions.

2. Embodied-Carbon Design Report

- The submission will include whole-building life-cycle assessment (LCA) demonstrating compliance with embodied-carbon caps.

3. Resilient Buildings Planning Worksheet

- The proposed project will include Resilient Buildings Planning Worksheet which identifies climate risks and measures for thermal resilience, flood, seismic, and smoke events.

4. Owner Letter of Commitment covering:

- Enhanced Commissioning by a third-party CxA to CSA Z5000 / ASHRAE standards
- Energy Sub-Metering for all major end-uses to enable ongoing performance tracking
- The project team pledges full enhanced commissioning to CSA Z5000-18 / ASHRAE standards.
- The project will have separate utility meters and sub-metering of all major loads will be installed.

5. Updated reports are resubmitted at Building-Permit stage; commissioning and metering are verified during construction and post-occupancy.

- The project will adhere to the requirement.

- The proposed Nano Hotel will comply with the Green Building Policy for Rezonings and the associated bulletin by meeting submission requirements at each required stage. Its compact design will demonstrate how the project can achieve the City's carbon, energy, and resilience targets while delivering affordable accommodations in the downtown core.
- Its compact, modular design inherently drives down energy demand and embodied carbon, positioning the project as a low-carbon, resilient, and affordable addition to Downtown Vancouver.
- The Study by AME Consulting Group and Aspect Engineers both show 35% improvement in Embodied Carbon comparing to benchmark. See Appendix for full report.

4.3 Sustainability - Environmental

Mass Timber project examples



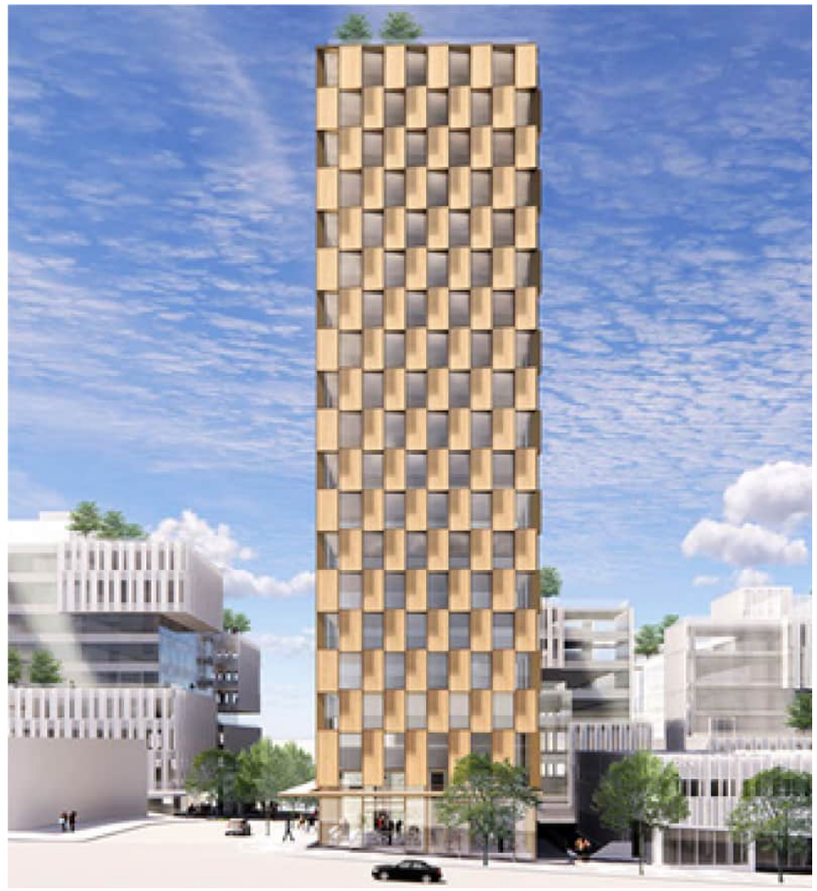
Brock Commons Tallwood House
Acton Ostry Architects

- Hybrid Mass Timber Construction
- Installation Time: 8 hrs / floor



ON5
Hemsworth Architecture

- 25’ x 120’ lot
- Mass Timber
- Off-site fabrication
- Insulative CLT assemblies and damage-resistant seismic design
- High-performance energy-saving design
- Fire-resistant CLT constructino
- Breathable and insulative prefabricated CLT panels



M5
Henriquez Partners

- Hybrid Mass Timber Construction
- Net Zero Lifecycle Carbon Rental Housing
- Targeting low carbon, zero-emission standards for the project’s materials, construction and operation
- The project features a zero-parking strategy that encourages waking, cycling, and taking public transit

Sustainability and Resilience Strategy of the proposed Nano Hotel is anchored in its ultra-compact room typology.

The Nano Hotel achieves deep cuts in both operational and embodied carbon, produces a measurable share of its own electricity, and is engineered to keep guests safe and comfortable during climate-related disruptions. The proposed Nano Hotel becomes a showcase of affordable, low-carbon, and climate-resilient hospitality for the downtown core.

Focus Area	Key Measures	Resulting Benefits
Ultra-compact room typology	• Nano Pods (+/- 33 ft^2) and Nano Rooms (+/- 105 ft^2) cut floor area per key by 60-80% vs. traditional hotel rooms.	• Lower heating, cooling, and lighting loads; reduced operational energy and GHGs • Less percentage of concrete and steel per guest room; easier compliance with whole-building embodied-carbon caps
Green Building Policy Compliance	• Energy- & Emissions Design Report and Embodied-Carbon LCA submitted at rezoning. Owner letter commits to enhanced commissioning and sub-metering of all major end-uses.	• Locks in performance that meets future VBBL limits on energy, GHGs, and embodied CO_2; granular data enables continuous optimisation
Individual Ventilation & IAQ	• Dedicated supply/exhaust to each pod/room; MERV-13 filtration; demand-controlled fans	• High indoor-air quality and comfort
Water & Waste Efficiency	• Low-flow fixtures and potential heat-recovery system	• 25-30% potable-water savings vs. code baseline
Passive Resilience & Backup Power	• High-performance envelope maintains safe temperatures for 48h in a power outage	• Improves occupant safety during extreme heat/ smoke events; reduces reliance on diesel generators
Seismic & Fire Design	• Light, repetitive modular structure reduces seismic mass; full sprinkler coverage in each room	• Compliance to current code with highest seismic and fire safety requirements
Mobility & Site Impacts	• 100 Walk Score; transit-oriented infill with no on-site parking; staff access only secure bike room for both staff and hotel guests	• Eliminates guest car trips, cutting local congestion

4.5 Sustainability - Social + Economical

Proposed Nano Hotel welcomes young travelers to stay in the heart of Vancouver experience and enjoy Downtown, Granville Street vibrancy without the luxury-price tag

Social inclusion and affordability

By offering Nano Pods (+/-33 ft²) and Nano Rooms (+/-105 ft²) at nightly rates far below the downtown average, the hotel **widens access to the city centre for younger travelers, students, digital nomads, and value-conscious visitors** who are currently priced out of luxury-heavy inventory. This supports Vancouver's goal of an inclusive tourism sector and helps distribute the benefits of downtown amenities—arts, culture, transit, public space—to a broader demographic.

Community activation

Located on the edge of the Granville Street Entertainment Core, the project adds 408 keys that sustain day-and-night foot-traffic for neighbouring theatres, live-music venues, cafés, and small retailers. **A street-level concierge and rooftop terrace/bar further animate the public realm**, strengthening the district's role as a social and cultural hub without introducing residential uses that could conflict with nightlife noise.

Local job creation & skills development

Construction of a smaller-footprint, modular building yields more keys per square foot, translating into a higher ratio of operational jobs (housekeeping, food and beverage, maintenance, concierge) per square metre than a traditional hotel. Management plans can include partnerships with local hospitality schools for internships and on-the-job training, **creating entry-level career pathways for Vancouver residents**.

Economic efficiency & resilience

Compact room sizes cut construction material by 30-40 %, lowering upfront capital cost per key and improving project feasibility on tight urban parcels. **Higher key counts within the same zoning envelope boost revenue-generating floor area**, helping secure financing and speeding delivery of badly needed rooms. The hotel's high-performance envelope reduce utility expenses, enabling competitive rates even as costs rise elsewhere.

Circular local spending

By retaining visitors in the downtown core with affordable hotel option, the proposed Nano Hotel prevents leakage of tourism dollars to outside of City of Vancouver, and less sustainable, driving-oriented locations. **Each additional Downtown guest night increases expenditures on local transit, restaurants, arts venues, and retail**, amplifying the economic multiplier effect the City has identified as crucial for post-pandemic recovery.

5.0 Design Rationale

5.1 Pod Hotel (Capsule Hotel) History

The first capsule hotel in the world opened in 1979 was Capsule Inn Osaka, located in Osaka's lively Umeda district.

It was designed by award winning Japanese Architect Kisho Kurokawa, he transformed his early conceptualization of a revolutionary idea for residence, Nakagin Capsule Tower (in Tokyo's Ginza district completed in 1972) into a commercial version. He believed architecture as a means of rebuilding war-torn communities and supporting Japan's rapid industrialization.

This accommodation is traditionally geared more towards businessmen than tourists, these establishments offered an affordable place for salarymen to spend the night if they missed the last train home. It is for men only.

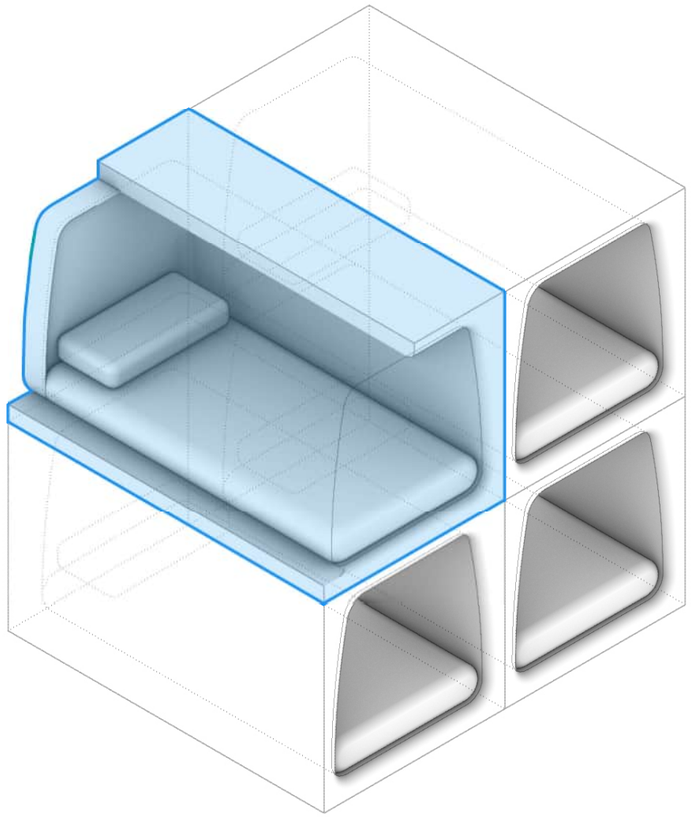
There are many capsule hotels located in most major cities across Japan. They tend to be located near train stations, making them an extremely convenient accommodation option which is affordable, clean, safe and pleasant to stay.







5.2 Pod Hotel Original Concept



Sleeping Pod (Capsule)
Capacity = 1 person
Dimension (approx.)
1 m (W) x 2 m (L) x 1 m (H)
3’-3” (W) x 6’-6” (L) x 3’-3” (H)
Area = 2 sm / 22 sf

+



Common Shower Area



Washroom



Locker

Sleeping Zone

Shared Zone

5.3 Pod Hotel - Examples in Japan

Sleeping Area
Half Height Pod (Capsule)

NINE HOURS (9h)

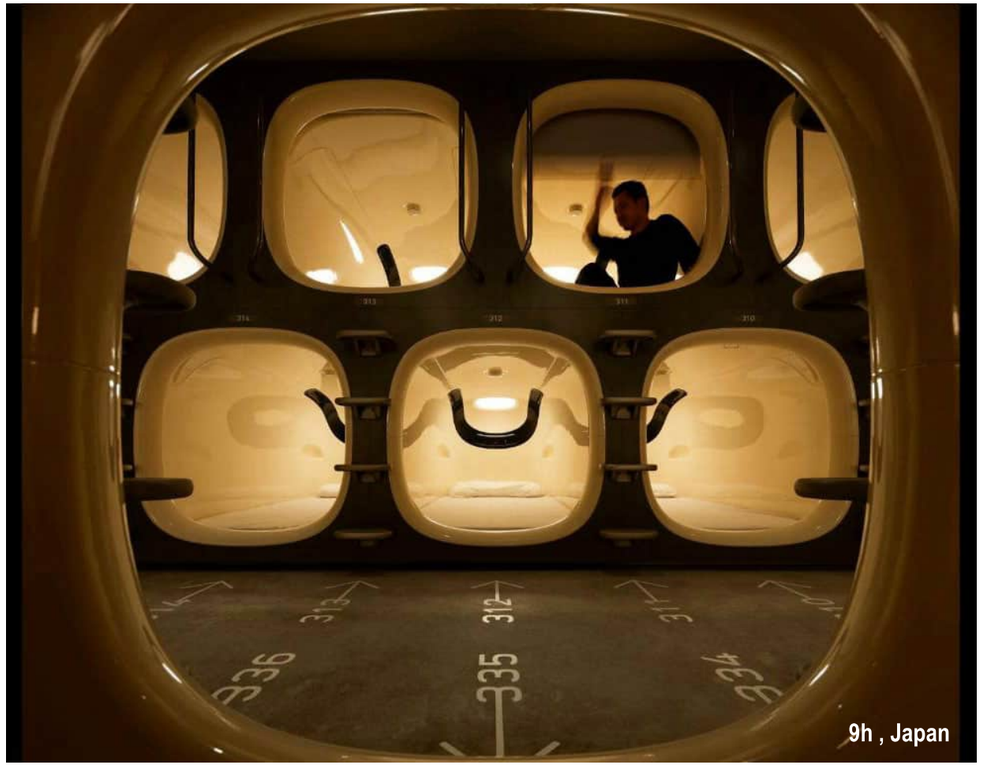
Purpose-built Pod (Capsule) Hotel Buildings in different cities of Japan. (majority except in airport locations)

Locations: 13 locations - Tokyo (Shinjuku, Akasaka, Narita Airport, etc.), Kyoto, Osaka, Nagoya, Sendai, Hakata

Nine Hours is one of the most well-known capsule hotel chains in Japan, named after the time it takes to shower, sleep, and get ready (one hour to shower, seven hours of sleep, and one hour to get ready. 1h + 7h + 1h). The hotels are designed with a futuristic and minimalist aesthetic, featuring sleeping pods equipped with a mattress, pillow, and personal light, as well as shared bathrooms, showers, and lockers. The hotel also provides 24-hour access to the facilities, making it ideal for travelers with late arrivals or early departures.

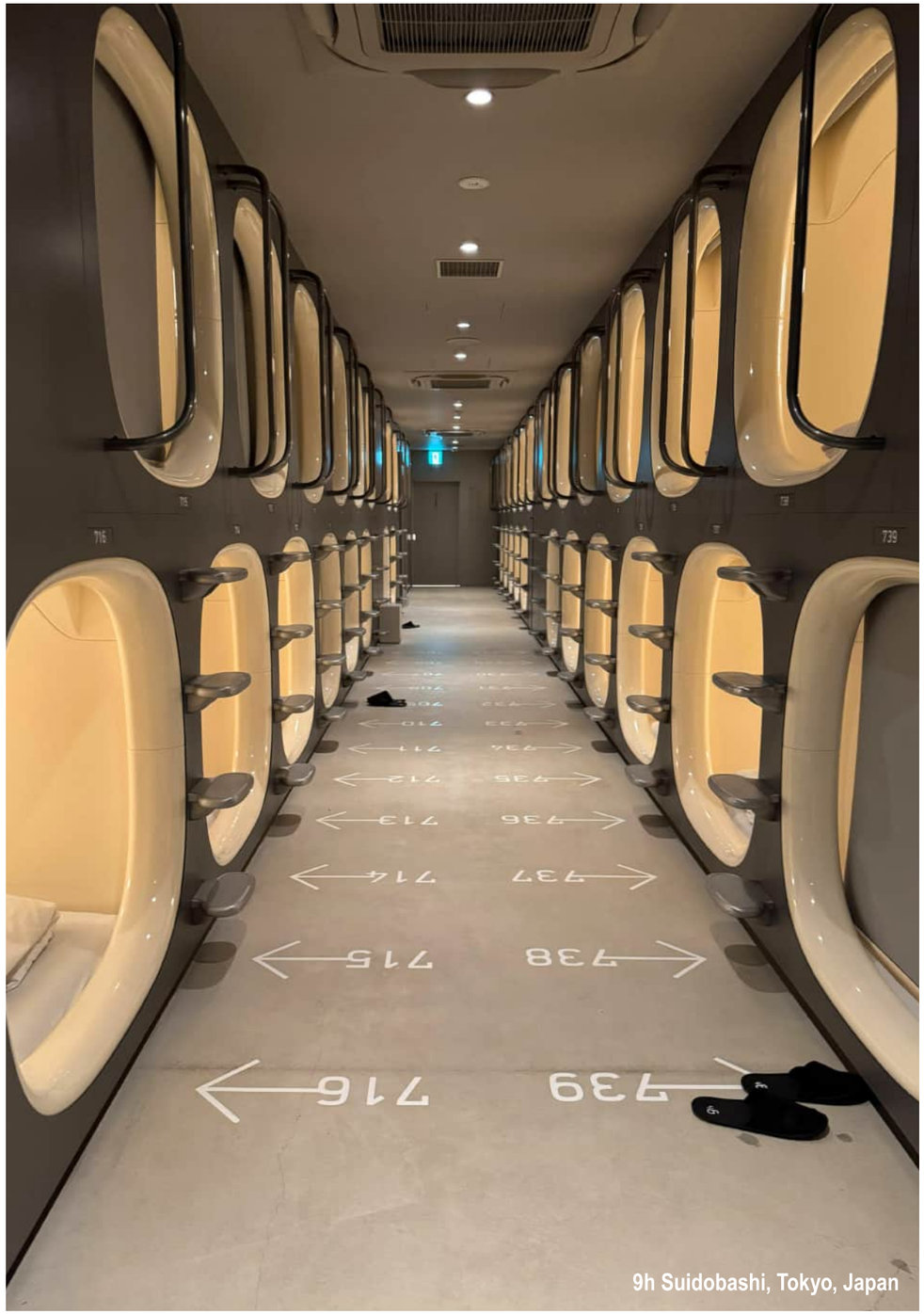
The original sleeping pods at 9h nine hours are crafted from Fiber Reinforced Plastic (FRP), boast a soft form that eliminates any industrial feel. With a shape reminiscent of a cocoon, they provide a spacious and reassuring environment with no sharp edges. Lighting can be adjusted with a knob, and there are outlets available for charging electronic devices.

Sleeping Pod
Won Good Design Award 2018



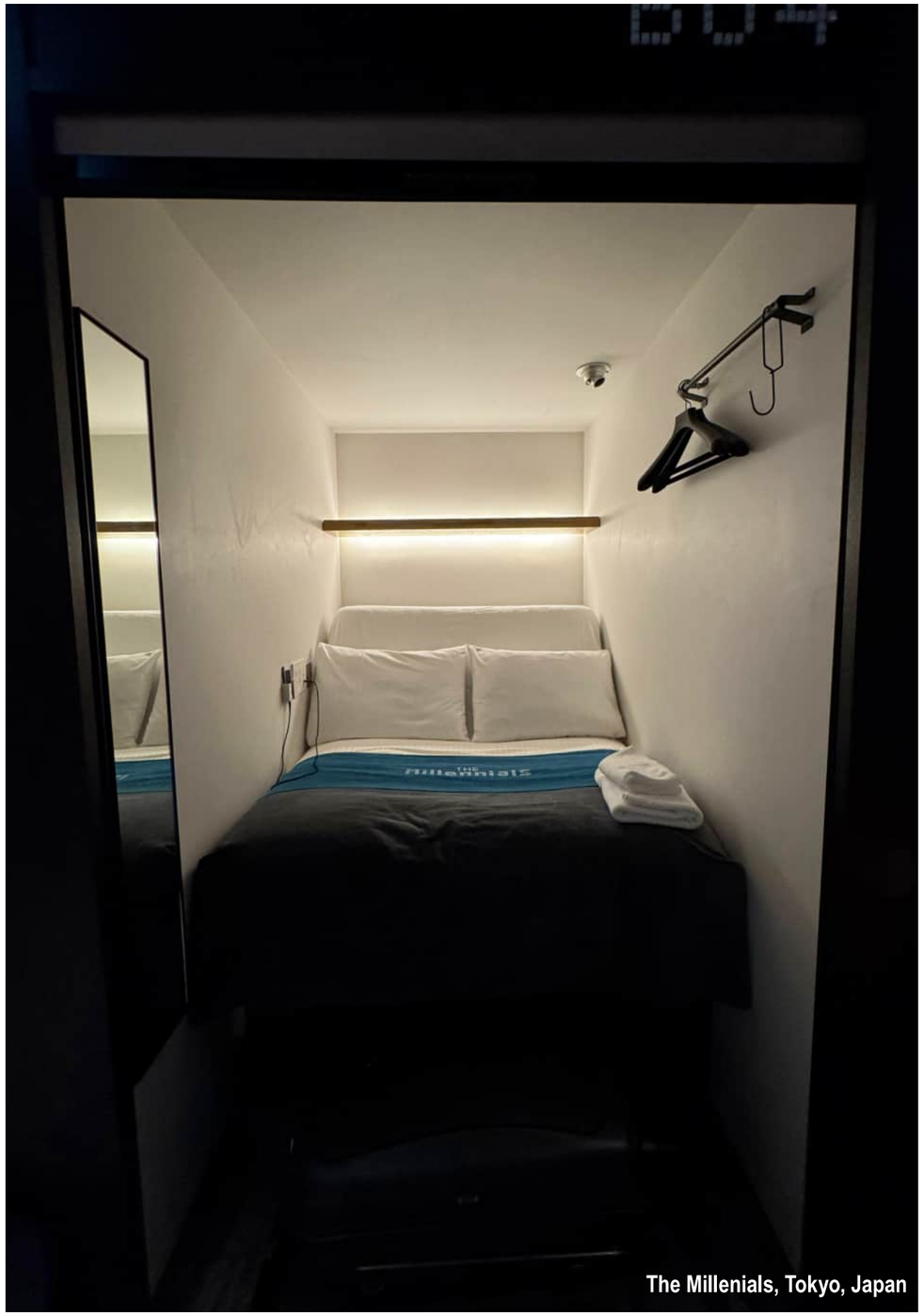
9h , Japan


9h , Japan

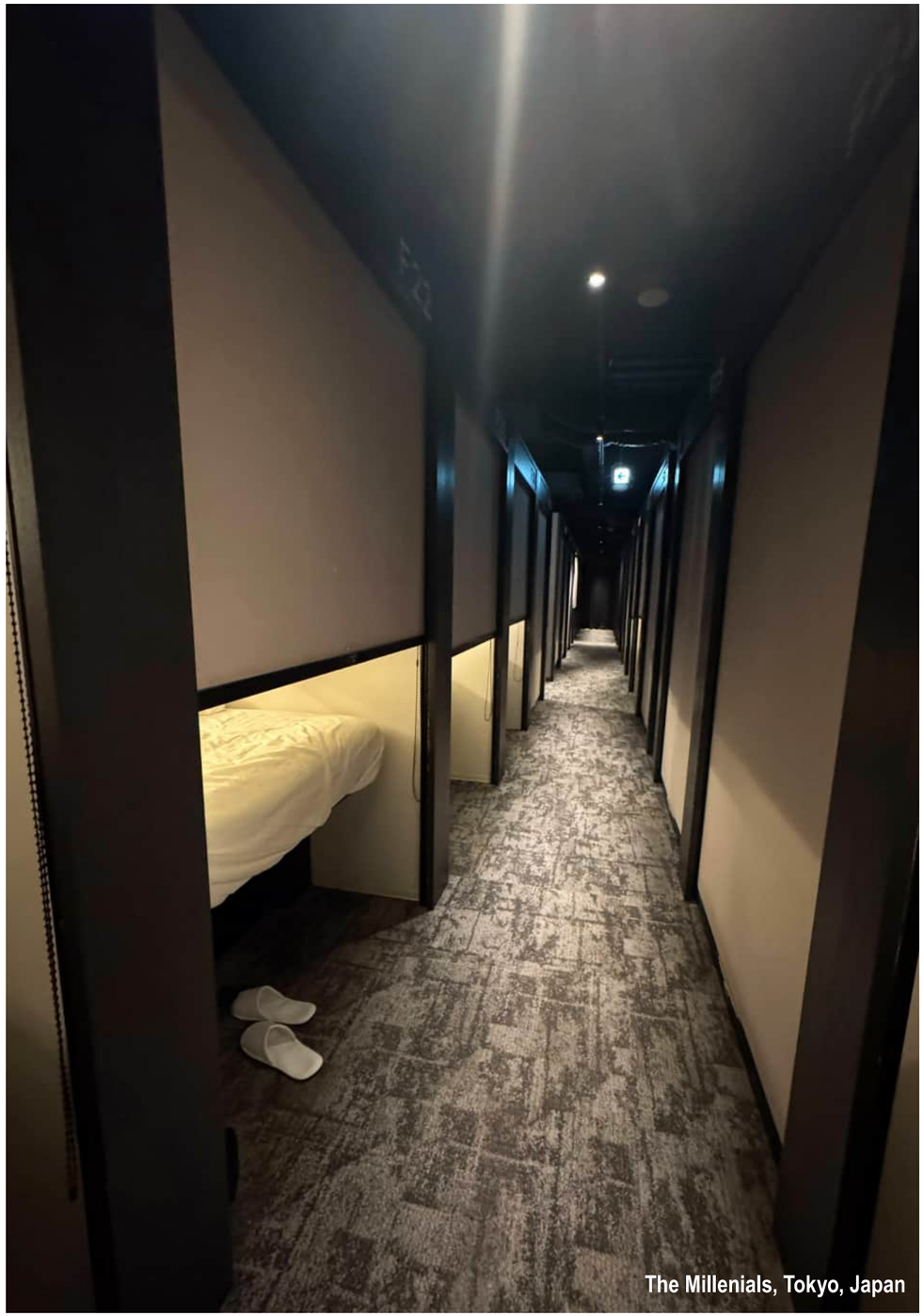


9h Suidobashi, Tokyo, Japan

5.3 Pod Hotel - Examples in Japan



The Millenials, Tokyo, Japan


The Millenials, Tokyo, Japan

Sleeping Area
Full Height Pod

The Millenials

Purpose-built Pod (Capsule) Hotel Builidngs in Tokyo and Kyoto. Fukuoka location occupies one level in Lively Hotel Fukuoka (Lively Hotel Brand).

Locations: 3 locations - Tokyo (Shibuya), Kyoto (Kawaramachi), Fukuoka (Hakata)

The Millennials is a modern, tech-savvy capsule hotel in Japan designed for convenience and comfort, targeting digital nomads and travelers. Each “smart pod” is spacious, equipped with a reclining bed that converts into a sofa, and controlled via a provided iPod. The hotel features stylish common areas, including workspaces, kitchens, and lounges, fostering a co-living atmosphere. Key amenities include free Wi-Fi, complimentary breakfast, and beer happy hours. Located in cities like Tokyo, Kyoto, and Fukuoka, The Millennials offers an affordable, futuristic stay experience ideal for solo travelers, remote workers, and those seeking both comfort and community.

It aims for a New Kind of Accommodation for a New Generation.

Feel, Stay, Work, Play.

Having fun while working.

Working while traveling.

5.4 Pod Hotel - Examples Around The World

Asia - Hong Kong

SLEEEP

Pod (Capsule) Hotel with award-wining patented capsule design typically occupied one level in existing buildings.

Locations: 3 locations - Hong Kong (Central , Sheung Wan, Causeway Bay) and Fujinomiya, Japan

SLEEEP is a minimalist capsule hotel that focuses on sustainability and sleep quality. It offers “SLPer Pods” equipped with smart mattresses, custom lighting, and soundproofing, an intelligent sleeping capsule that is comfortable, scalable and renewable, made to improve quality of life. It is an award-winning patented smartbed for one with complete privacy and to sleeep well. They are meticulously designed for quality sleep through material selection, thoughtful geometries, and intelligent environmental controls of light, sound and air. Best known to-date for its capsule living network, SLEEEP® transforms underutilized spaces into urban oases with the wellness technology and infrastructure.

SLPer Sleeping Pod

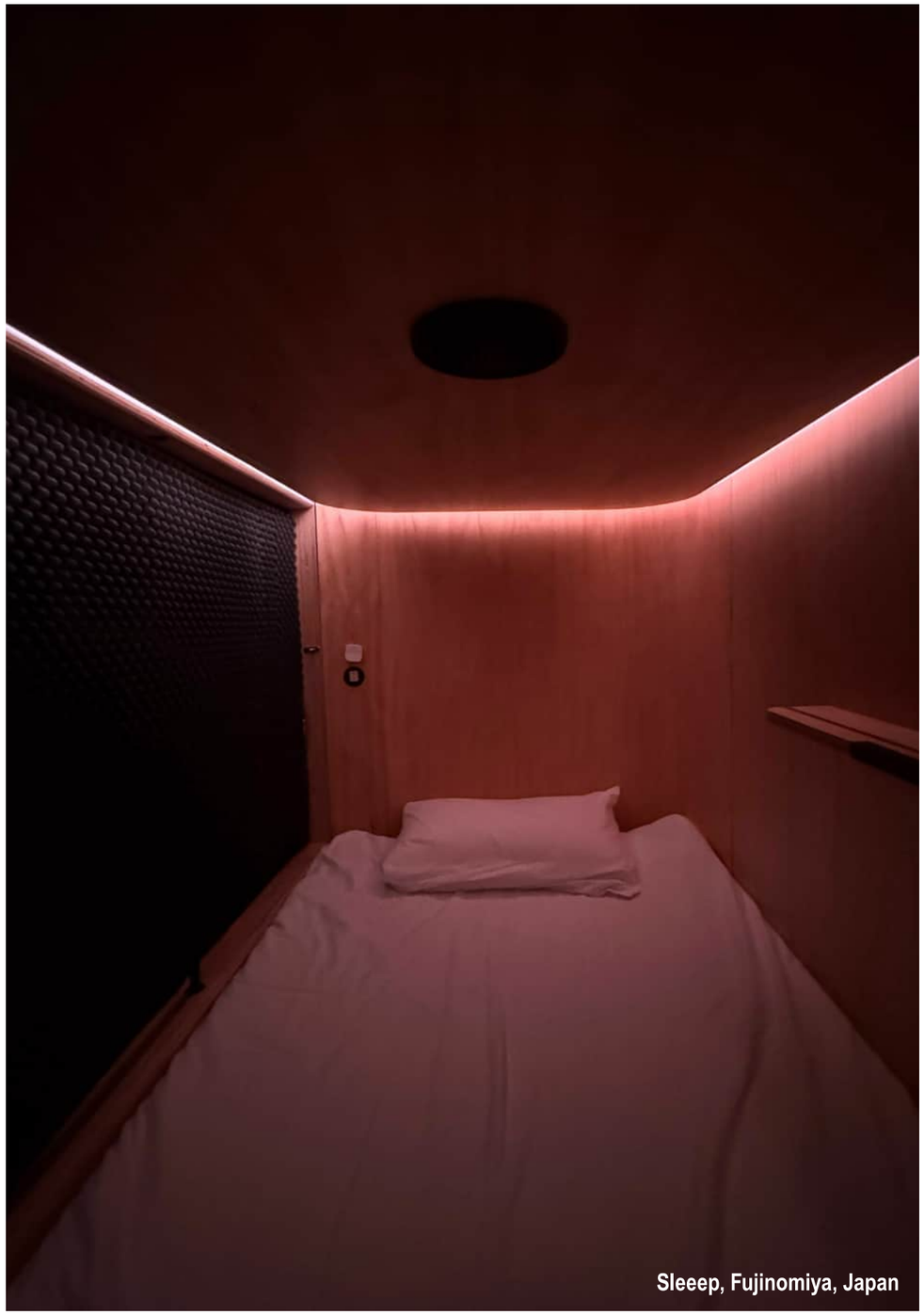
Won Red Dot design award 2018, Patented Design, Magnet curtain with privacy, 100% real pine wood, Customizable light, Relaxation soundtracks, Adjustable airflow, SINOMAX mattress, Natural wake-up.



Award Winning SLPer Sleeping Pod



Sleeep, Fujinomiya, Jap

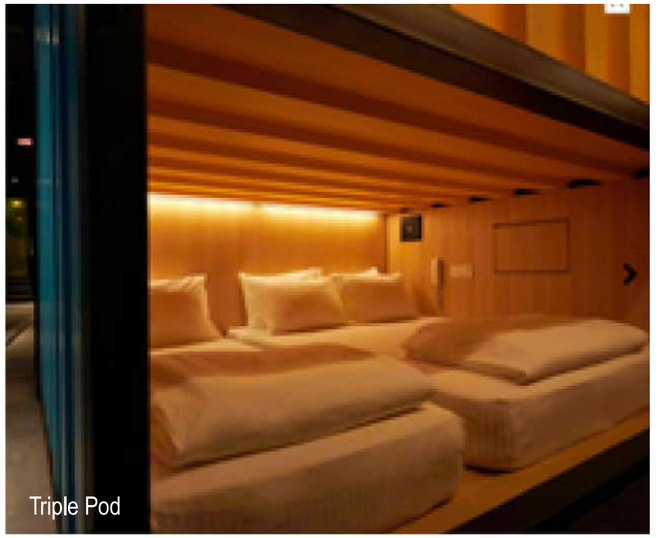


Sleeep, Fujinomiya, Japan

5.4 Pod Hotel Examples - Around The World


Single Pod


Double Pod


Triple Pod

Asia

Capsule by Container Hotel

Locations: Kuala Lumpur International Airport, Kuala Lumpur City Centre

Capsule by Container Hotel provides a unique capsule experience with a design inspired by shipping containers. It offers standard, private, and single female pods, each equipped with a comfortable bed, reading lights, and charging ports. The hotel also has shared bathrooms, a lounge, and other communal areas. Located at the Kuala Lumpur International Airport, it's perfect for travelers in transit.


Capsule Hotel in Xian, China



Capsule Hotel in Ho Chi Minh, Vietnam

Space Capsule Hotels in China & Vietnam

They feature prefabricated capsule units with different design and color options.

5.4 Pod Hotel - Examples Around The World

Europe - Switzerland

Capsule Hotel Lucerne

Location: Luzern, Basel, Zurich Airport Switzerland

Capsule Hotel Lucerne is Switzerland's first capsule hotel, offering pods equipped with comfortable beds, USB charging ports, personal lockers, and ventilation systems. Located near the train station in Lucerne, it is a great choice for travelers looking for affordable, minimalist accommodation in a central location.







5.4 Pod Hotel - Examples Around The World





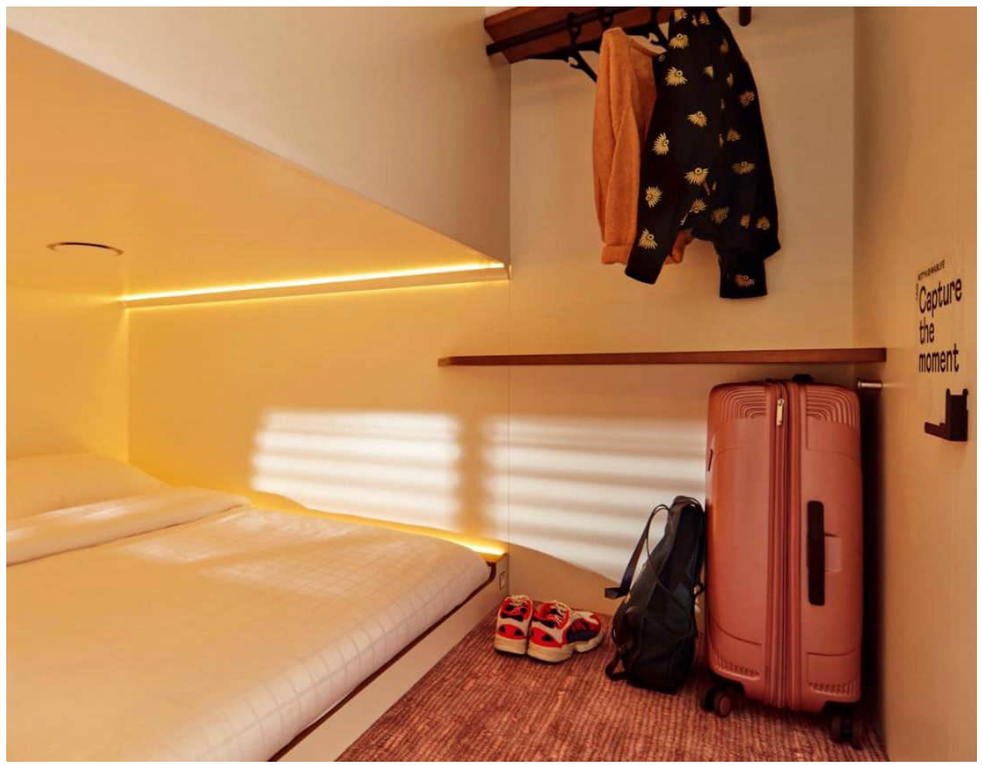
Europe - different cities

CityHub

Locations: Amsterdam and Rotterdam, Netherlands; Copenhagen, Denmark; Reykjavik, Iceland

CityHub offers a modern twist on capsule hotels with private sleeping hubs in a shared space, equipped with a double bed, personal lighting, and audio streaming capabilities. The hotels provide communal areas, including a bar and lounge, and are aimed at tech-savvy travelers. Guests can control various features in their hub and hotel amenities through a dedicated app.





5.4 Pod Hotel - Examples Around The World

Europe - London, UK

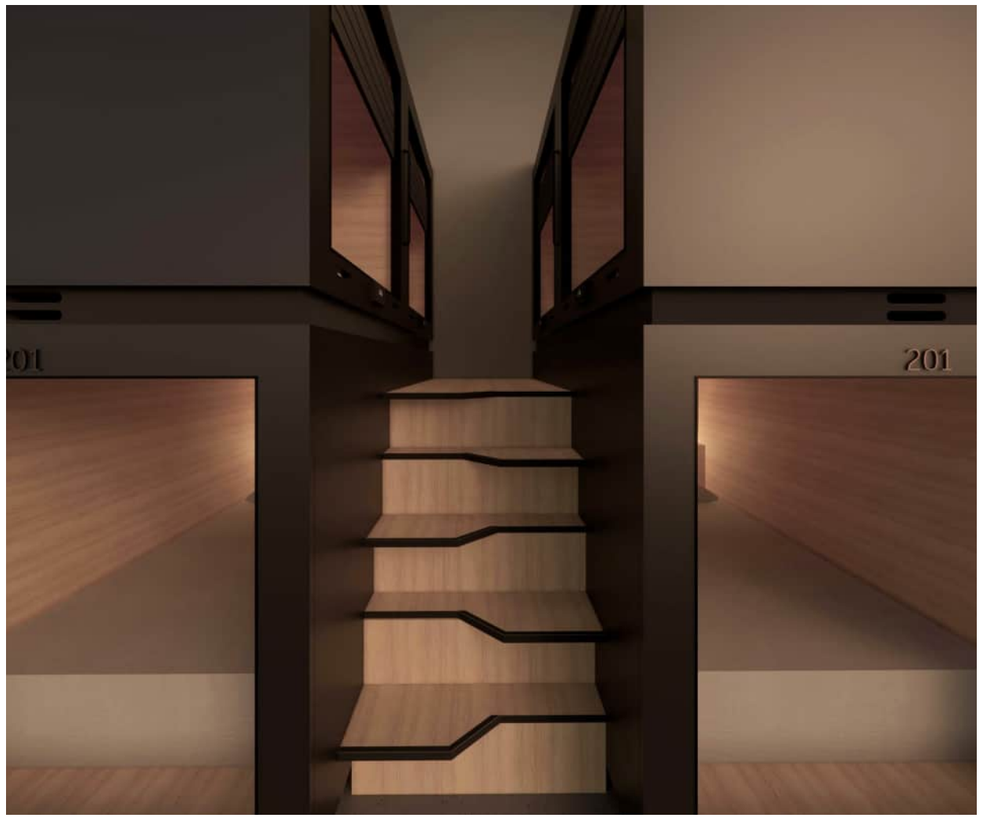
Zedwell Capsule Hotel Piccadilly Circus

Location: London, UK

Zedwell Capsule Hotel Piccadilly Circus in London offers a wellness-focused, sleep-optimized stay in the city's bustling West End. The hotel prioritizes rest with windowless, minimalist pods, Hypnos mattresses, and purified air systems. Designed for solo travelers and groups, it includes shared bathrooms, co-working spaces, and a gym. Conveniently located above Piccadilly Circus Station, Zedwell blends affordability, modern design, and tranquility, making it ideal for urban travelers seeking peace amid London's energy.

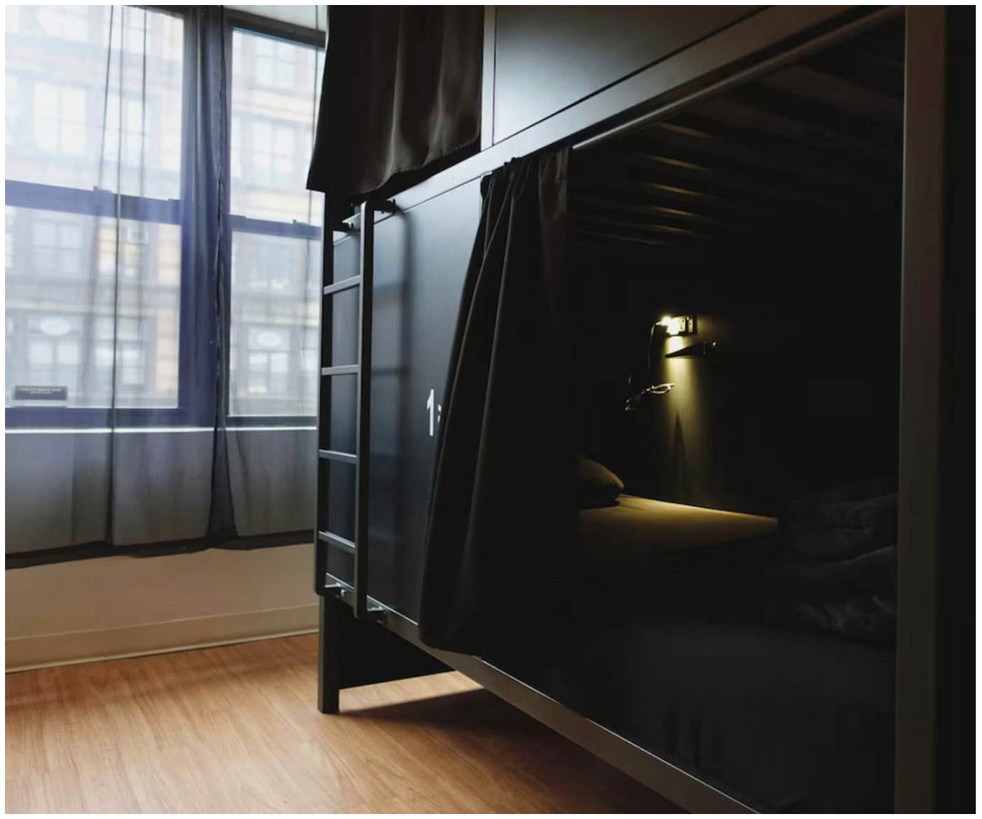














North America - New York, USA

Nap York Sleeping Station

Location: 4 locaions in Central Park, Empire Express, Midtown Manhattan, JFK Airport, New York

Nap York offers a unique capsule hotel experience aimed at providing short-term napping and resting options in the heart of New York City.

It provides small sleeping pods that can be rented by the hour, as well as a relaxation lounge, nap rooms, and wellness-focused amenities.

There are different style and options:
Economy Pod (6 Bed Mixed Shared Room)
Economy Pod (6 Bed Female Shared Room)
Economy Pod (4 Bed Mixed Shared Room)
Economy Pod (4 Bed Female Shared Room)
Economy Pod (2 Bed Mixed Shared Room)
Economy Pod (2 Bed Female Shared Room)
Business Pod (2 Bed Mixed Shared Room)
Private Cabin

5.4 Pod Hotel Examples - Around The World

Canada - Montreal QC

Capsule Hotel Montreal

Location: Montreal, Quebec, Canada

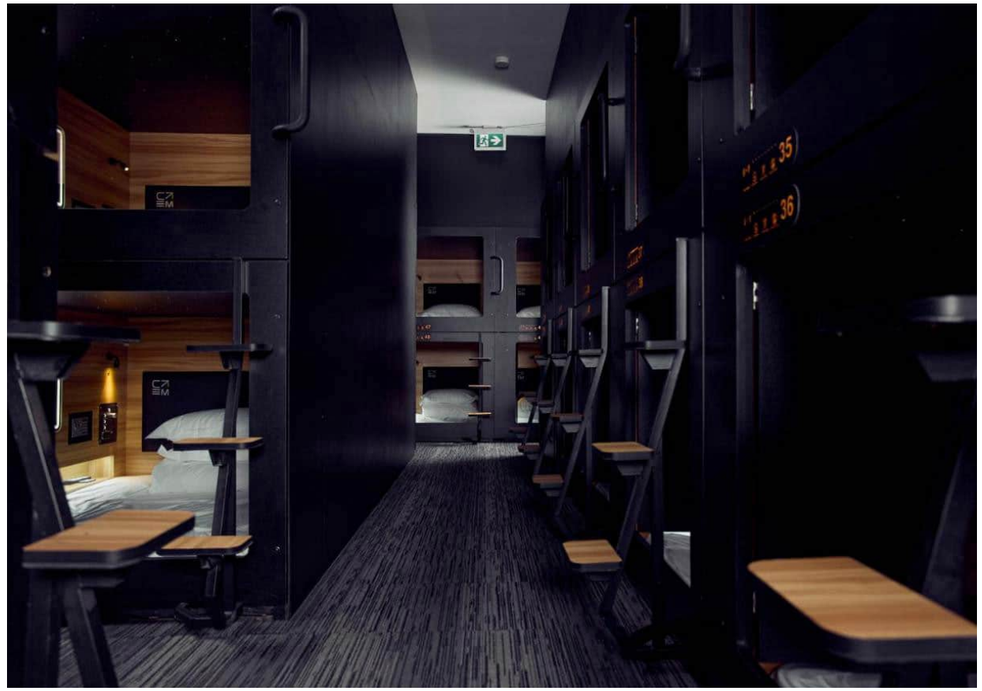
Capsule Hotel Montreal offers compact sleeping pods with modern amenities such as personal screens, reading lights, and USB ports. The hotel is located centrally, making it ideal for budget-conscious travelers exploring Montreal.

There are different style and options:
Bed in 10-Bed Mixed Dormintory
Single Bed in Mixed Dormintory









5.4 Pod Hotel - Examples Around The World





Canada - Whistler and Richmond BC

Pangea Pod Hotel

Location: Whistler, British Columbia

Pangea Pod Hotel, located in the heart of Whistler Village, is Canada's first pod hotel. It offers 88 individual sleeping pods, each designed with privacy in mind, featuring blackout curtains, personal lighting, and USB charging ports. The hotel includes shared amenities such as a lounge, a bar, a rooftop patio, and a common kitchen area. It is a popular choice for skiers, snowboarders, and outdoor enthusiasts visiting Whistler.





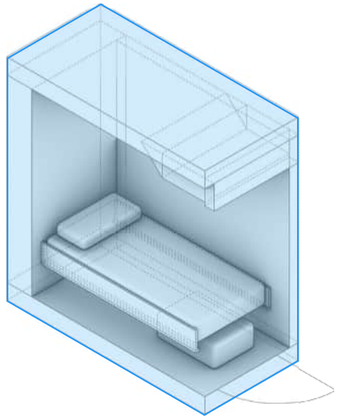
Panda Pod Hotel

Location: Richmond, British Columbia

The Panda Pod Hotel is the first capsule-style hotel in the Greater Vancouver area, located in Richmond, close to Vancouver International Airport. It offers Japanese-inspired sleeping pods equipped with essential amenities like memory foam mattresses, personal lighting, ventilation, and USB charging ports. The hotel provides shared bathrooms, a common lounge area, a kitchenette, and free Wi-Fi, making it an excellent choice for budget-conscious travelers.

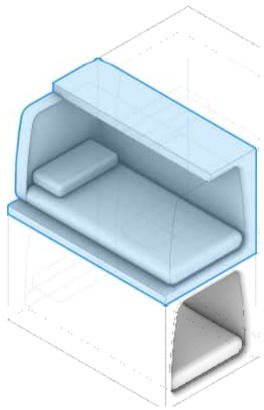
5.5 Pod Hotel Concept Analysis

Pod Hotel Modern Concept



Full Height Sleeping Pod

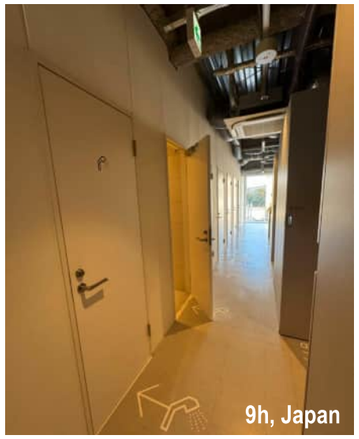
OR



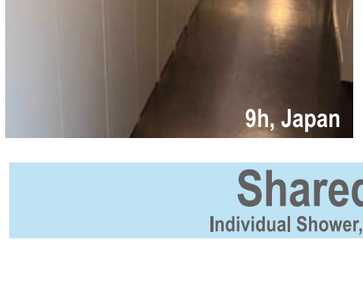
Half Height Sleeping Pod (Capsule)

Sleeping Zone

+













Shared Zone:
Individual Shower, Washroom, Locker

+



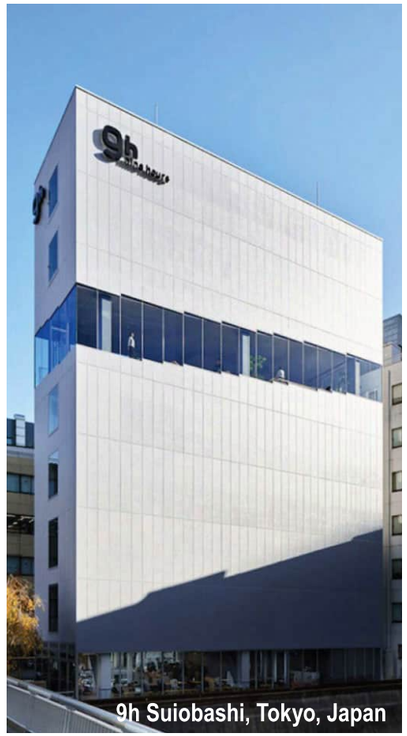




Amenity (Basic)
cafe, common area

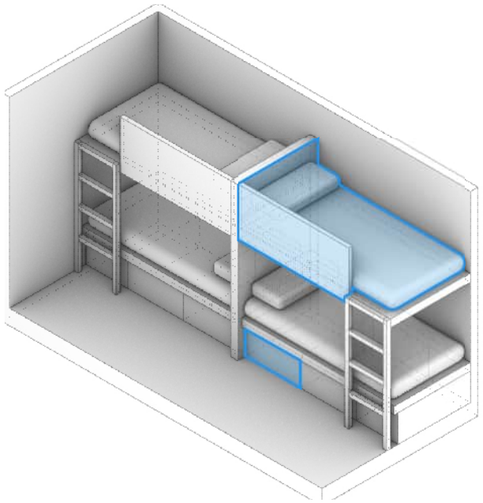
Modern Pod Hotel
- Sleeping Pod Varieties
- Improved Shared Zone
- New Add-ons: Amenity

=



Pod Hotel Building

Similar Concept
Hostel (Dormintory) Concept



Half Height &
Half Bunk Bed

Sleeping Zone







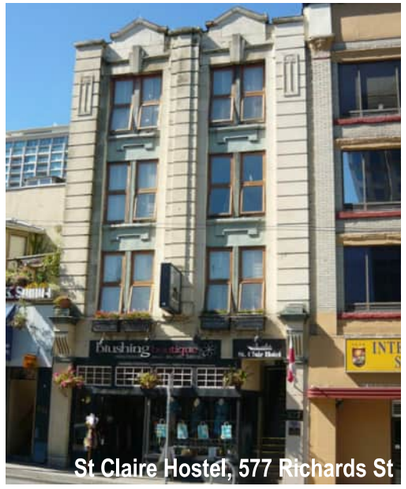
Shared Zone:
Shower, Washroom, Locker







Amenity (Basic)
common area, shared kitchen, laundry





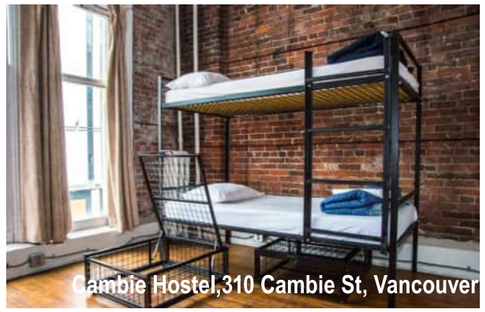
Hostel Building

5.5 Pod Hotel Concept Analysis

Hostel Concept

A communal and social lodging experience designed for budget-conscious travelers—prioritizing shared spaces and affordability over privacy, security, and sleep or acoustic quality.

Typically, hostels prioritize communal living. Guests usually share dormitories and bathrooms, with large social areas for mingling, group activities, and budget meals. Hostels are favored by backpackers, students, and extroverted travelers who value cultural exchange and low-cost lodging over personal space or quiet. There is no acoustic separation between guests.


Cambie Hostel,310 Cambie St, Vancouver


Hi Hostel, 1114 Burnaby St, Vancouver


St Clair Hostel, 577 Richards St, Vancouver

Pod Hotel Half Height (Capsule) Concept

An upgraded take on the hostel concept, the capsule model places greater emphasis on privacy, security, and acoustic comfort.

Pod Hotel (Capsule Hotel) with half height capsules are compact, efficient accommodations offering individual sleeping pods stacked in rows. Guests enjoy privacy within small, enclosed space, often with minimal amenities beyond sleeping, showering, and locker storage. These are ideal for solo travelers, business commuters, or budget-conscious visitors seeking quiet rest, especially in urban or transit-heavy locations like train stations and airports. Social interaction can be minimal. Acoustic separation between pods is pod dividers and a curtain or a sliding blind.


Panada Pod Hotel, Richmond



Pangea Pod Hotel, Whistler


Zedwell Capsule Hotel, London

Pod Hotel Full Height Concept

An upgrade of the capsule concept, the full-height pod enhances comfort with stand-up space while offering greater privacy, improved security, and better acoustic performance than half-height capsules.

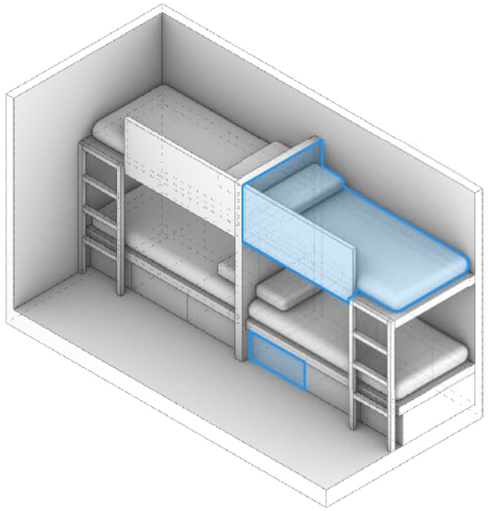
Pod hotels with full-height concepts present diverse experiences tailored to various traveler profiles. Some prioritize minimalism and functionality, offering soundproof, compact pods ideal for short stays or transit guests seeking quiet rest and essential amenities. Others appeal to younger, tech-savvy travelers by providing vibrant communal spaces, such as co-working areas, social lounges, creating a more interactive and modern stay. Acoustic separation between pods is walls and a curtain or a sliding blind.


The Millenials, Tokyo, Japan

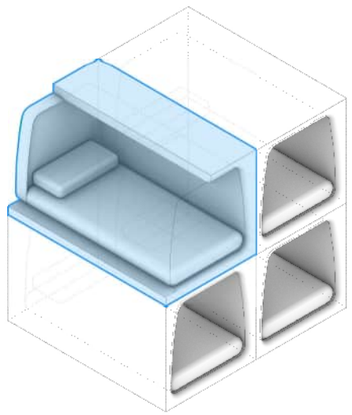

First Cabin, Tokyo, Japan


Nap York, New York

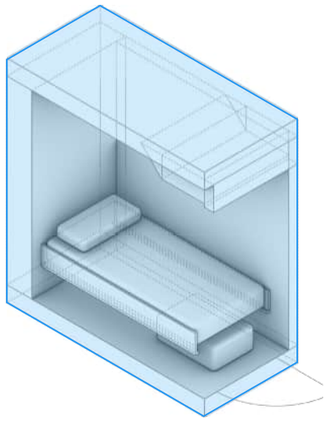
5.5 Pod Hotel Concept Analysis



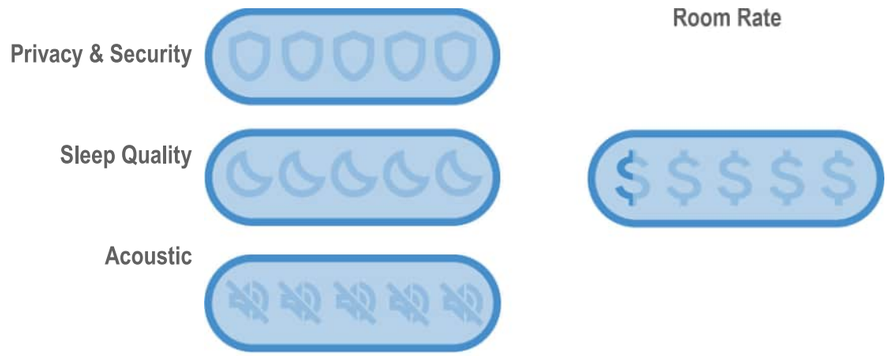
Half Height & Half Bunk Bed
Dimension (approx.)
Area = 1 m (W) x 2 m (L)
/ 3’-3” (W) x 6’-6” (L) = 2 sm / 22 sf
Height = 0.8-1.1 m / 2’-6”-3’-6”

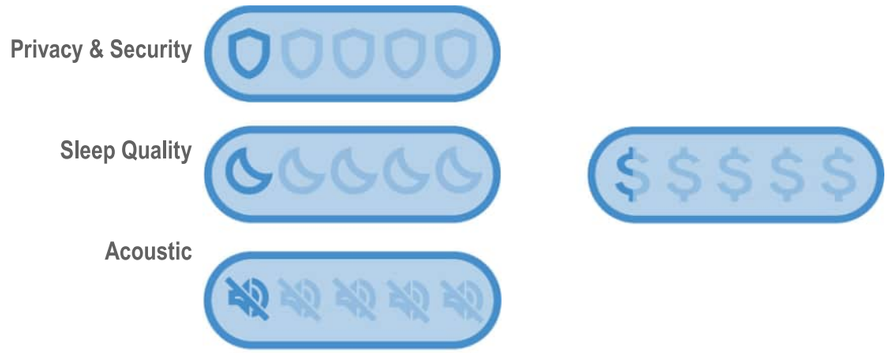


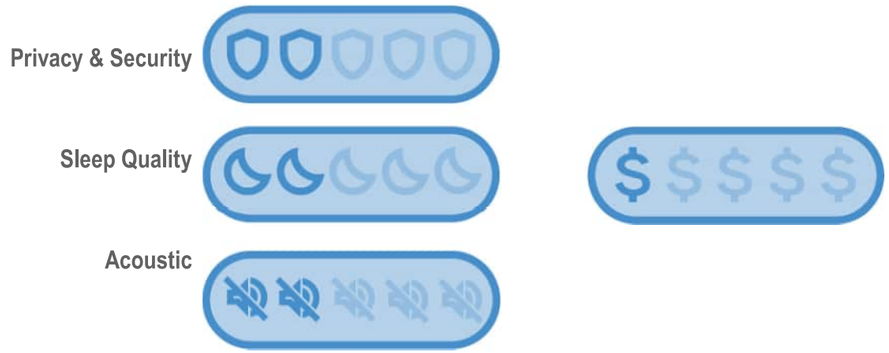
Half Height Sleeping Pod
(Capsule)
Dimension (approx.)
Area = 1 m (W) x 2 m (L)
/ 3’-3” (W) x 6’-6” (L) = 2 sm / 22 sf
Height = 1 m / 3’-3”



Full Height Sleeping Pod
Dimension (approx.)
Area = 1 m (W) x 2 m (L)
/ 3’-3” (W) x 6’-6” (L) = 2 sm / 22 sf
Height = 2.1 m / 7’-0”







5.6 Urban Development Form

The site is on 900 Block Howe Street, which is located opposite The Law Courts, in between Smithe Street and Nelson Street and share a lane way with Granville Street.

As Downtown District (DD) Area H in the Central Business District (CBD) Shoulder, the **existing development of 900 Block Howe Street are all commercial use**. There is no existing residential use in this block.

The CBD Shoulder is vital in supporting the functionality and growth of the Central Business District (CBD) in the downtown core. Commercial uses in this area provide essential services and employment opportunities for local residents, while also helping to accommodate long-term demand for job space. Additionally, the CBD Shoulder serves as a transitional zone between the high-density commercial core and the residential neighbourhoods to the south.

Existing commercial-commercial properties - zero lot line construction.

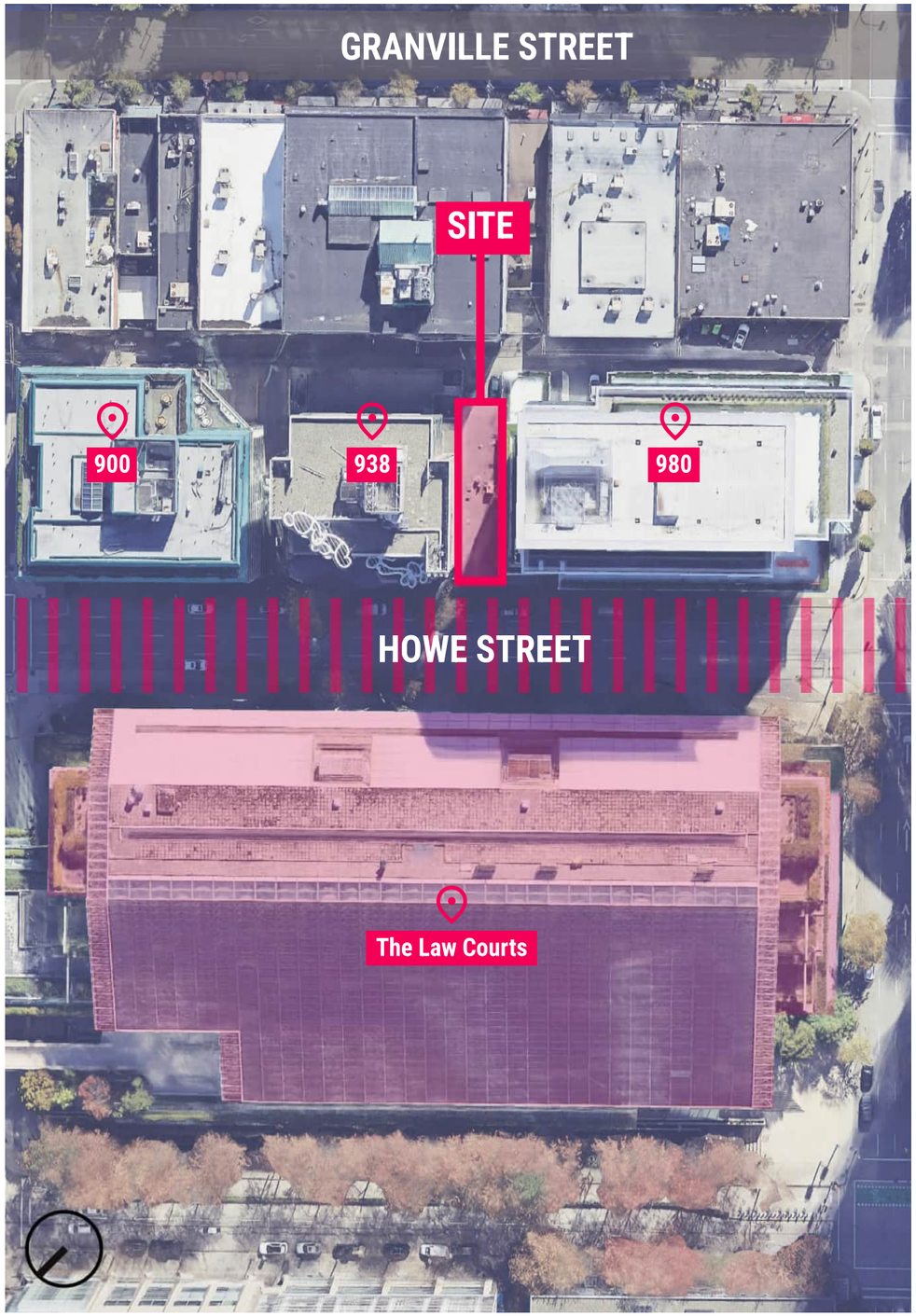
948 Howe Street (25' - 2/F building)

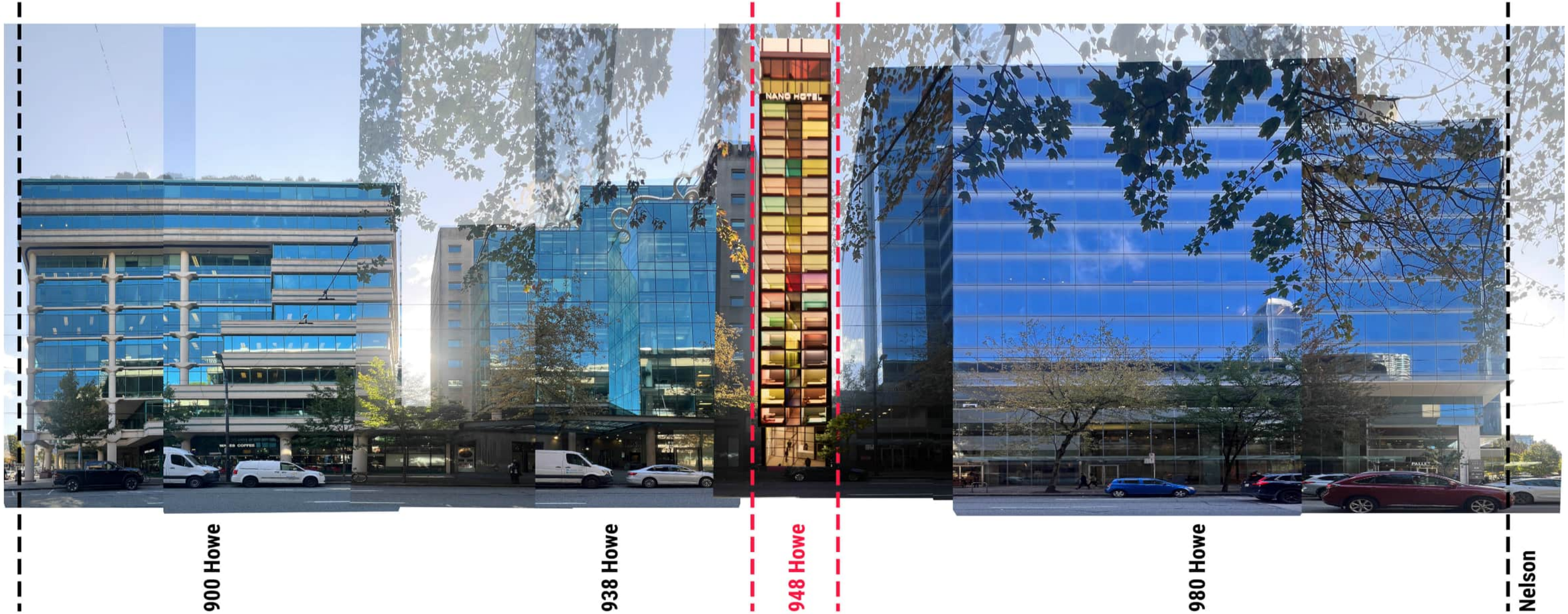
Existing tower separations:

900 & 938 Howe Street = 12 '

938 & 980 Howe Street = 0'

948 & 980 Howe Street = 14'





900 Howe St
Zoning: DD
Use: Commerical
(Cafel at ground level + Office)

938 Howe St
Zoning: DD
Use: Commerical
(BC Alliance for Arts + Culture at ground level + Office)

948 Howe St
Zoning: Proposed CD-1
Use: 100% Hotel

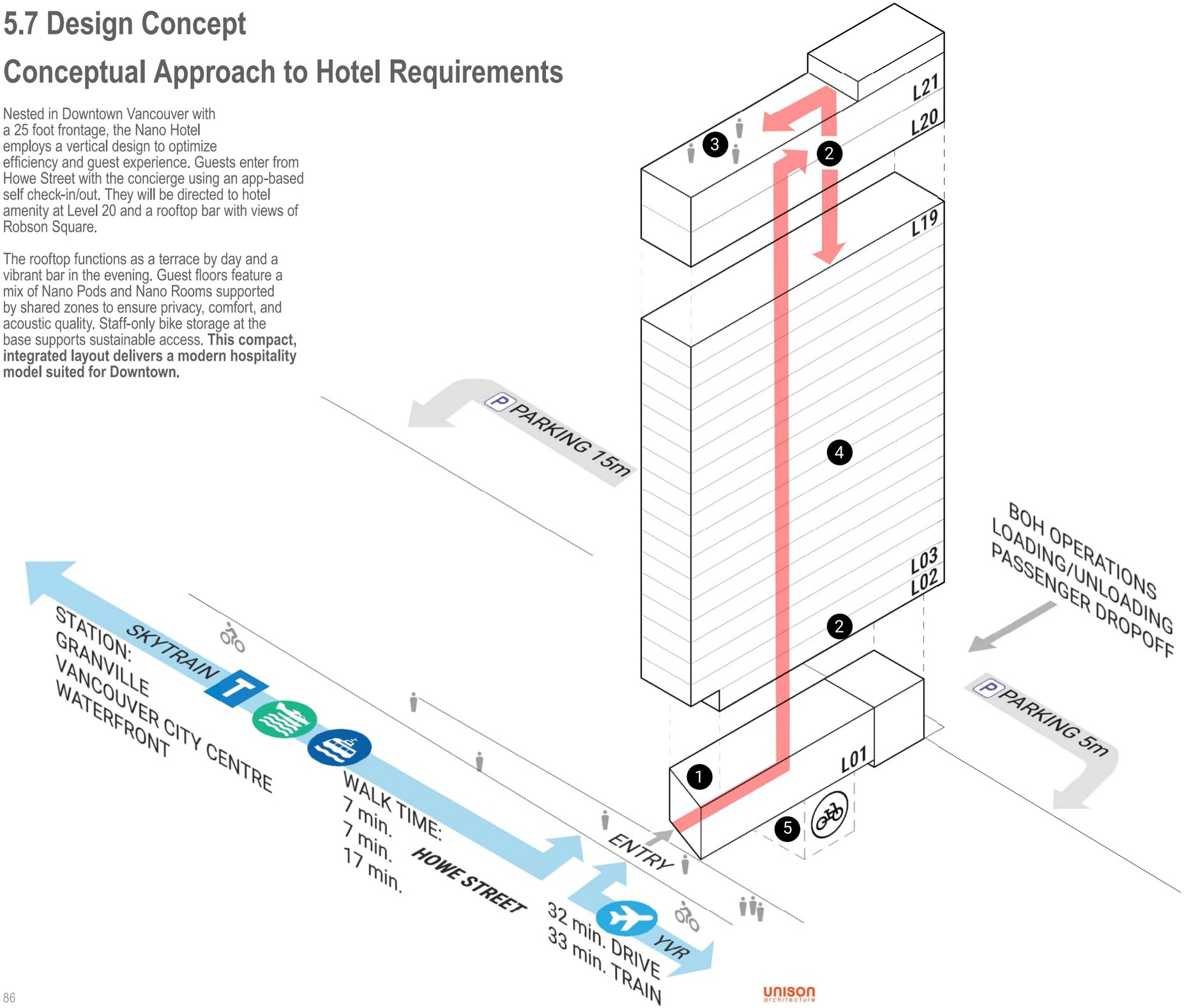
980 Howe St (Manulife Building)
Zoning: CD-1
Use: Commerical
(Cafe at ground level + Office)

5.7 Design Concept

Conceptual Approach to Hotel Requirements

Nested in Downtown Vancouver with a 25 foot frontage, the Nano Hotel employs a vertical design to optimize efficiency and guest experience. Guests enter from Howe Street with the concierge using an app-based self check-in/out. They will be directed to hotel amenity at Level 20 and a rooftop bar with views of Robson Square.

The rooftop functions as a terrace by day and a vibrant bar in the evening. Guest floors feature a mix of Nano Pods and Nano Rooms supported by shared zones to ensure privacy, comfort, and acoustic quality. Staff-only bike storage at the base supports sustainable access. **This compact, integrated layout delivers a modern hospitality model suited for Downtown.**



1. **HOTEL CONCIERGE + LOBBY SELF CHECK IN-OUT VIA APP**
2. **HOTEL AMENITY**
3. **ROOFTOP BAR**
4. **HOTEL (L03 - L19)**
5. **BIKE STORAGE - STAFF ACCESS ONLY**

ROOFTOP BAR



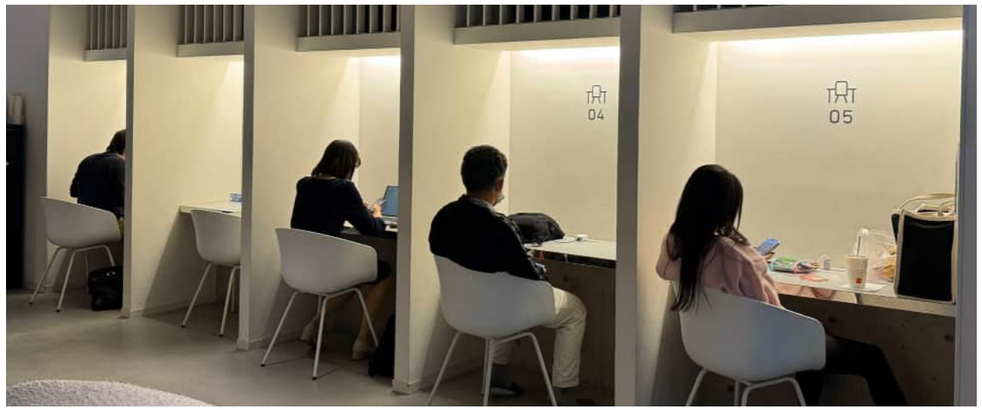


SKY LOBBY





HOTEL AMENITY





5.7 Design Concept



L01 Hotel Conciegre



L01 Seating Area



L01 BOH Waste Management



B01 Staff Area



B01 Staff Area



B01 Staff Area



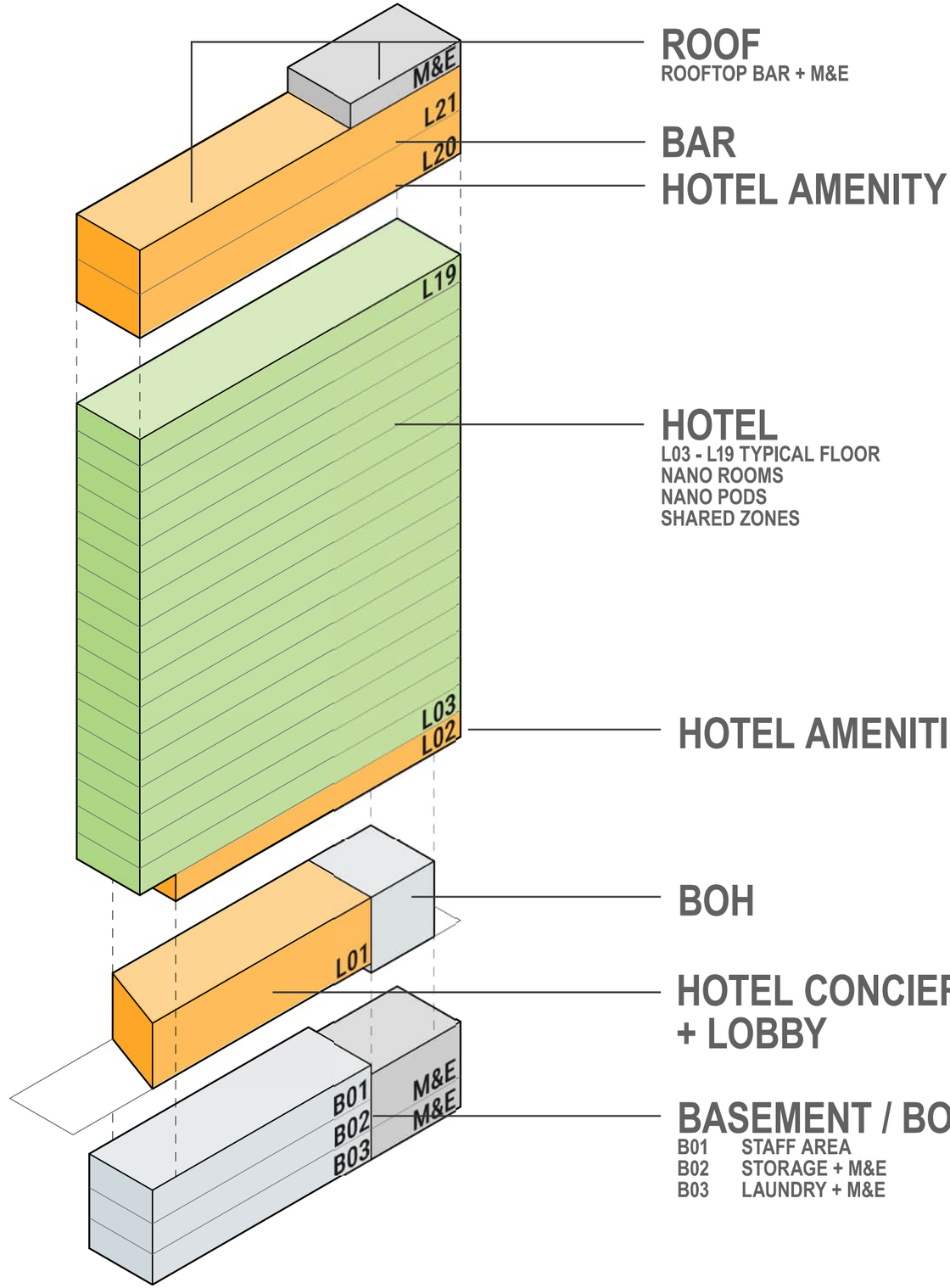
B02 Storage



B03 In-house Laundry

Hotel Program

- Public
- Hotel Guests
- Staff only
- Staff only



ROOF
ROOFTOP BAR + M&E

BAR

HOTEL AMENITY

HOTEL
L03 - L19 TYPICAL FLOOR
NANO ROOMS
NANO PODS
SHARED ZONES

HOTEL AMENITIES

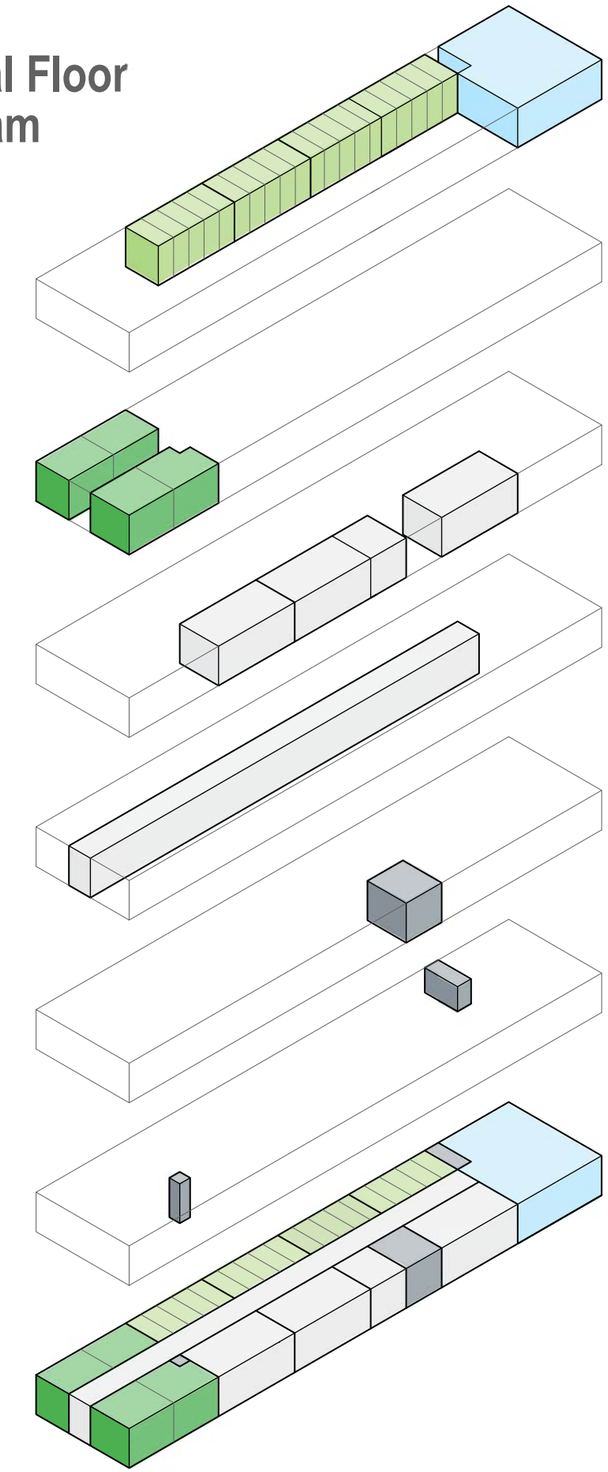
BOH

HOTEL CONCIERGE + LOBBY

BASEMENT / BOH
B01 STAFF AREA
B02 STORAGE + M&E
B03 LAUNDRY + M&E

5.7 Design Concept

Typical Floor Diagram



NANO PODS & SHARED ZONE

NANO ROOM

VERTICAL CIRCULATION

HORIZONTAL CIRCULATION

MECHANICAL + ELECTRICAL (M&E)

BACK OF HOUSE (BOH)

The Nano Hotel **typical floor** efficiently fits **20 Nano Pods** (+/- 33 sq ft each) and **4 Nano Rooms** (+/- 105 sq ft each), supported by a shared zone for essentials like washrooms and shower.

Within a 2,845 sq ft footprint, over half the floor area is dedicated to hotel guest use, while the remainder accommodates vertical and horizontal circulation, mechanical/electrical systems, and back-of-house functions.

Nano Rooms offer fully self-contained units with en-suite washrooms, while Nano Pods provide compact, sleep-focused full height spaces.

The **layout optimizes room density and operational efficiency**, making it well-suited for compact urban setting in Downtown where cost, privacy, and performance matter most.

The proposed Nano Hotel will provide **17 floors of hotel with Nano Room and Nano Pod,** total 408 guest rooms, with 21 Nano Rooms designed to meet accessibility standards in compliance with building codes.

While the hotel and hotel amenity levels are reserved for registered guests only, the Sky Lobby and Rooftop are open to the public. Basement levels and M&E areas are restricted to staff access only.

5.7 Design Concept

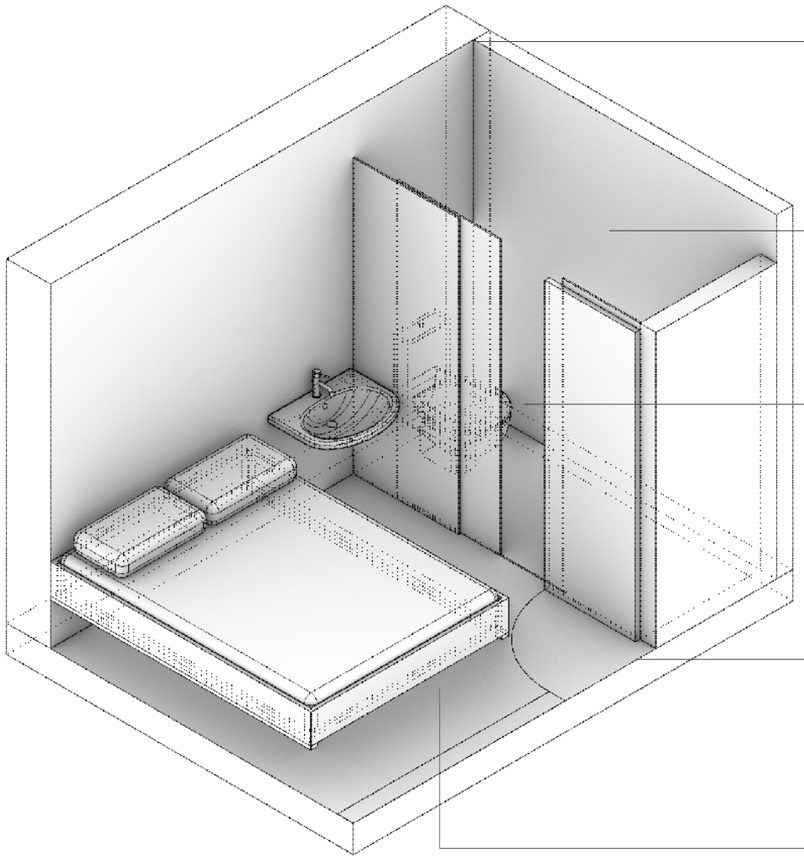
NANO ROOM

The Nano Room, **+/- 105 square feet, offers a highly efficient, self-contained alternative to the traditional 250 + sq ft hotel room,** delivering essential comfort, privacy, and functionality in a fraction of the space.

Designed with full-height walls, acoustic insulation, and a private en-suite washroom and shower, it **maintains the core experience of a conventional hotel stay while significantly reducing construction and operating costs**. This reduction enables more rooms per site and more affordable rates for guests, without compromising sleep quality, thermal comfort, or personal security.

Features such as a comfortable bed, individual ventilation system, acoustic door, and under-bed storage further enhance usability and guest satisfaction, making the Nano Room ideal for Downtown where space, affordability, and efficiency are critical.

It will offer the best hotel room rate for a new hotel with basic amenity in Downtown.



Reduced hotel room size

Improve affordability without compromising core guest comfort. Walls with acoustic insulation to support better sleep quality

Indivual ventilation system

Ensures fresh air circulation in both the room and washroom, with thermal comfort individually controlled

En-suite washroom & shower

The compact private en-suite washroom and shower provide the essential comforts needed for a fully self-contained small hotel room

Acoustic Door

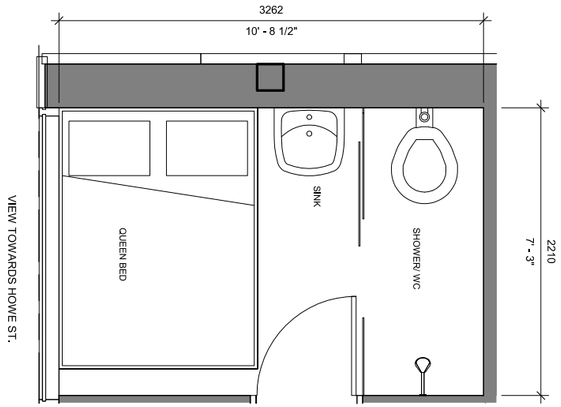
Enhances security and sound separation and significantly improves sleep quality through reduced noise intrusion

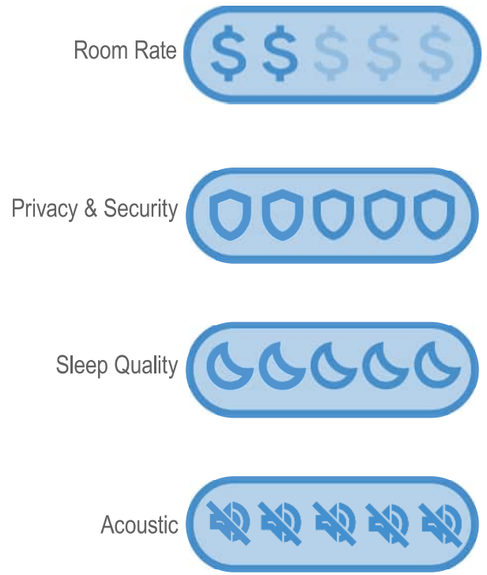
Under-Bed Storage

Maximizes usable space to provide secure storage

Typical Nano Room 3D

Typical Nano Room Floor Plan

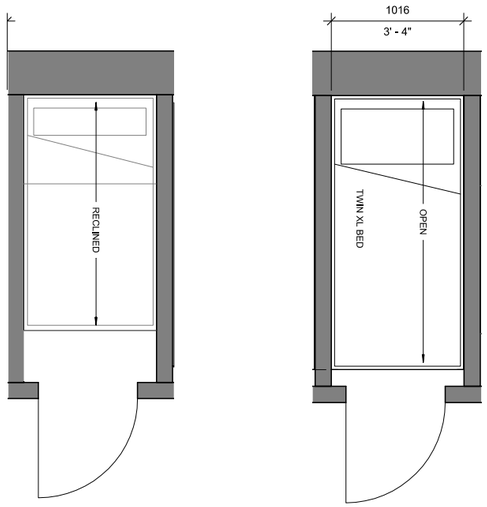


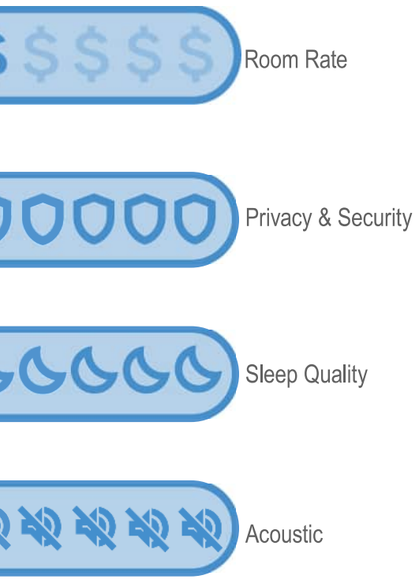


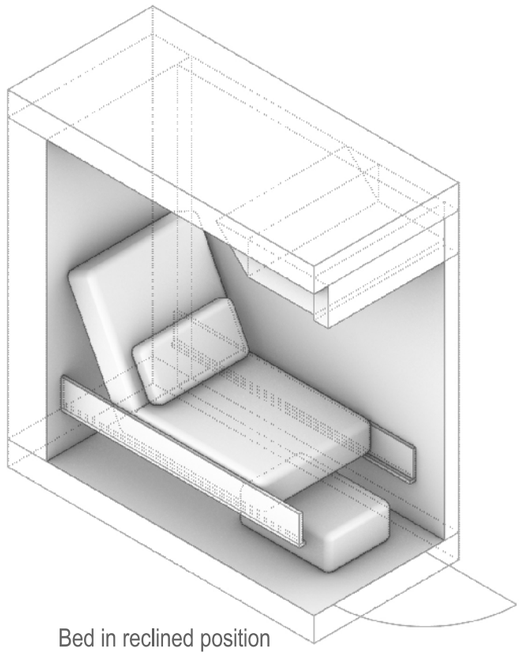
5.7 Design Concept

NANO POD

Typical Nano Pod Floor Plan

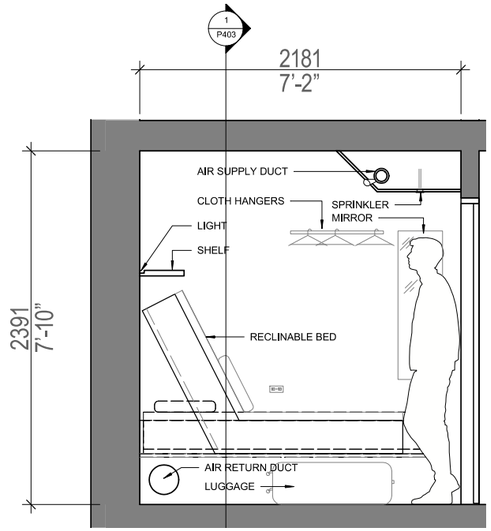


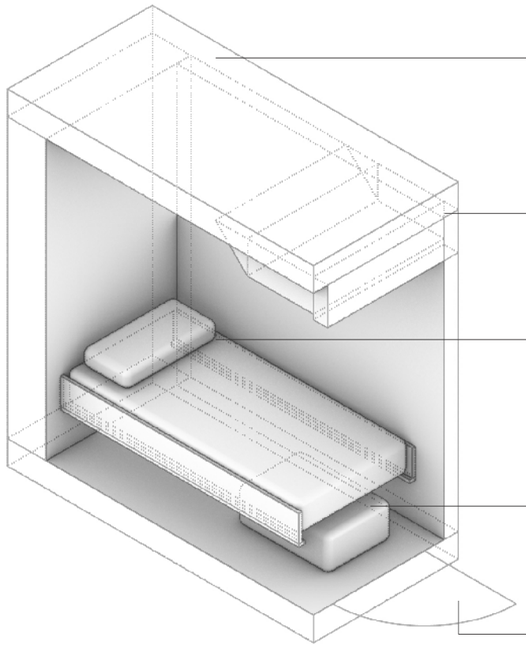




Bed in reclined position

Typical Nano Pod Section





Typical Nano Pod 3D

Bed in flat position

Compact room size

Engineered for efficiency with walls featuring acoustic insulation to support better sleep quality

Indivual ventilation system

Ensures fresh air circulation and thermal comfort tailored to each guest in each pod

Reclinable Bed

Adjustable between flat and upright positions to support both rest and relaxation within a small footprint

Under-Bed Storage

Maximizes usable space to provide secure storage

Acoustic Door

Enhances security and sound separation and significantly improves sleep quality through reduced noise intrusion

An evolution of the full-height pod concept, the Nano Pod enhances the guest experience with stand-up space while delivering privacy, security, and acoustic performance comparable to traditional hotel rooms.

With **area of +/- 33 sq ft**, the Nano Pod is thoughtfully designed to offer a quiet, private, and restful environment within a compact layout. Its full-height structure accommodates standard doors, acoustic-insulated walls, improved ventilation, and full compliance with building code requirements—including individual sprinkler protection.

The result is a **space-efficient, self-contained room that promotes quality sleep and personal privacy—**making it an ideal solution for urban travelers who value practicality, design, and affordability without compromise.

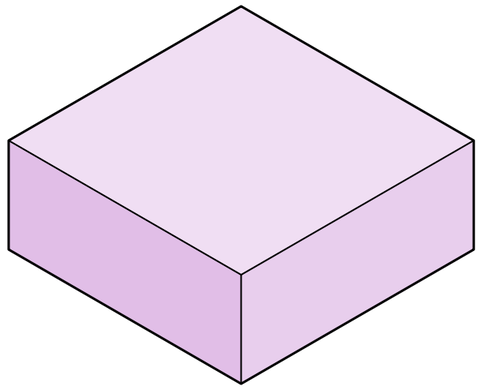
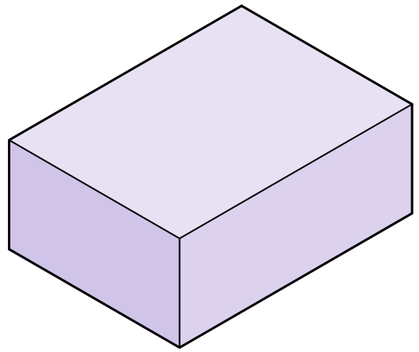
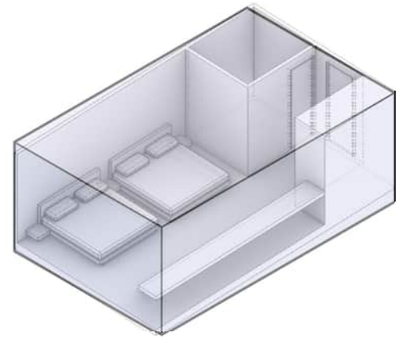
It will offer accommodation with the best Value in Downtown, in a new hotel building with basic amenity.

5.7 Design Concept

Downtown Vancouver's hotel market is largely shaped by upscale and luxury accommodations with room sizes over 275 sq ft and high nightly rates—primarily serving older, higher-income guests aged 35–55+. This leaves younger travelers (ages 18–34) priced out of convenient, centrally located hotel options.

To meet growing tourism demand and promote inclusivity, it is critical to expand affordable hotel offerings in the downtown core. Meeting the accommodation needs of this demographic is crucial not only for sustaining long-term tourism growth, but also for ensuring that Downtown **remains inclusive, accessible, and welcoming to a broader spectrum of travelers** from diverse backgrounds and income levels.

Downtown Hotels

Commercial Accommodation Typology:	Upper Upscale & Luxury Hotel	Upper Midscale & Upscale Hotel	Economy & Midscale / Limited Service Hotel
			
Room Area:	> 37 sm / 400 sf	> 26 sm / 275 sf	+/- 23 sm / 250 sf
Room Rate:	$$$$$	$$$$$	$$$$$
Target Guests Demographics:	Age: 35 - 55+	Age: 35 - 55+	Age: 35 - 55+
Amenity:	High to Luxury	Mid to High	Mid to Basic

More than 50% of Downtown hotels are Upper Upscale & Luxury Hotel. Source: Hotel Community Impact Assessment April 2025

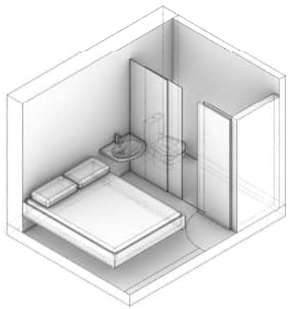
Traditional Hotel Room
Private Sleeping Zone + Private washroom & Shower

- Proposed Nano Hotel
- Existing Hotel
- Existing Hostel
- Potential New Hotel

5.7 Design Concept

PROPOSED NANO HOTEL

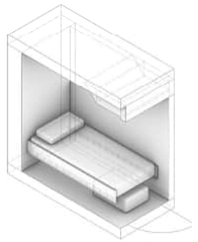
NANO ROOM



+/- 10 sm / 105 sf
(Reduced Size)

$ $ $ $ $

NANO POD



+/- 3 sm / 33 sf
(Full Height Pod)

$ $ $ $ $

Age: 18 - 34

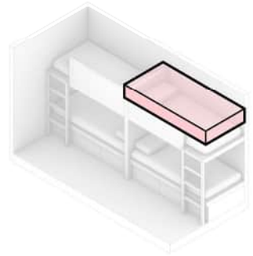
Modern hotel guests embrace a new travel mindset—lean, intentional, and experience-driven—focused on essentials, privacy, security, sleep quality, and aligned values.

Basic

Traditional Hotel Room
Private Sleeping Zone + Private washroom & Shower

Sleeping Zone

Downtown Hostels



+/- 2 sm / 22 sf
(Half Bunk Bed)

$ $ $ $ $

Age: 18 - 34

Minimum to Basic

Sleeping Zone

Proposed Nano Hotel
New Dynamics in Downtown

The Proposed Nano Hotel is designed to cater to young travelers under the age of 35 who are currently who are currently unable to afford accommodation in downtown Vancouver.

By offering compact room layouts (Nano Rooms) and full-height sleeping pods (Nano Pods) with well-designed shared amenities, the proposed Nano Hotel delivers a practical and **cost-effective accommodation experience** tailored to the evolving needs of a growing demographic that values both privacy and sleep quality.

The proposed Nano Hotel will be a new construction in Downtown Vancouver, fully compliant with current building codes. It will introduce over 400 brand-new hotel rooms offering an affordable option just a seven-minute walk from the City Centre SkyTrain Station. In addition, the hotel will create 45-60 direct jobs and 55-75 indirect jobs.

The Nano Hotel will significantly **expand and diversify accommodation choices for travelers** in a high-demand, transit-oriented location. Its proximity to the Granville Street Entertainment District further enhances its appeal to budget-conscious and experience-driven young visitors.

Source: Hotel Community Impact Assessment, April 2025

5.8 Zoning Summary and Project Statistics

SITE INFORMATION

Civic Address:
948 Howe Street, Vancouver BC

Legal Description:
LOT 11, BLOCK 72, DISTRICT LOT 541, GROUP 1, NEW WESTMINSTER DISTRICT, PLAN 210

Community Plan:
CBD Shoulder

Site Area:
278.7 sq m / 3,000 sq ft

ZONING SUMMARY

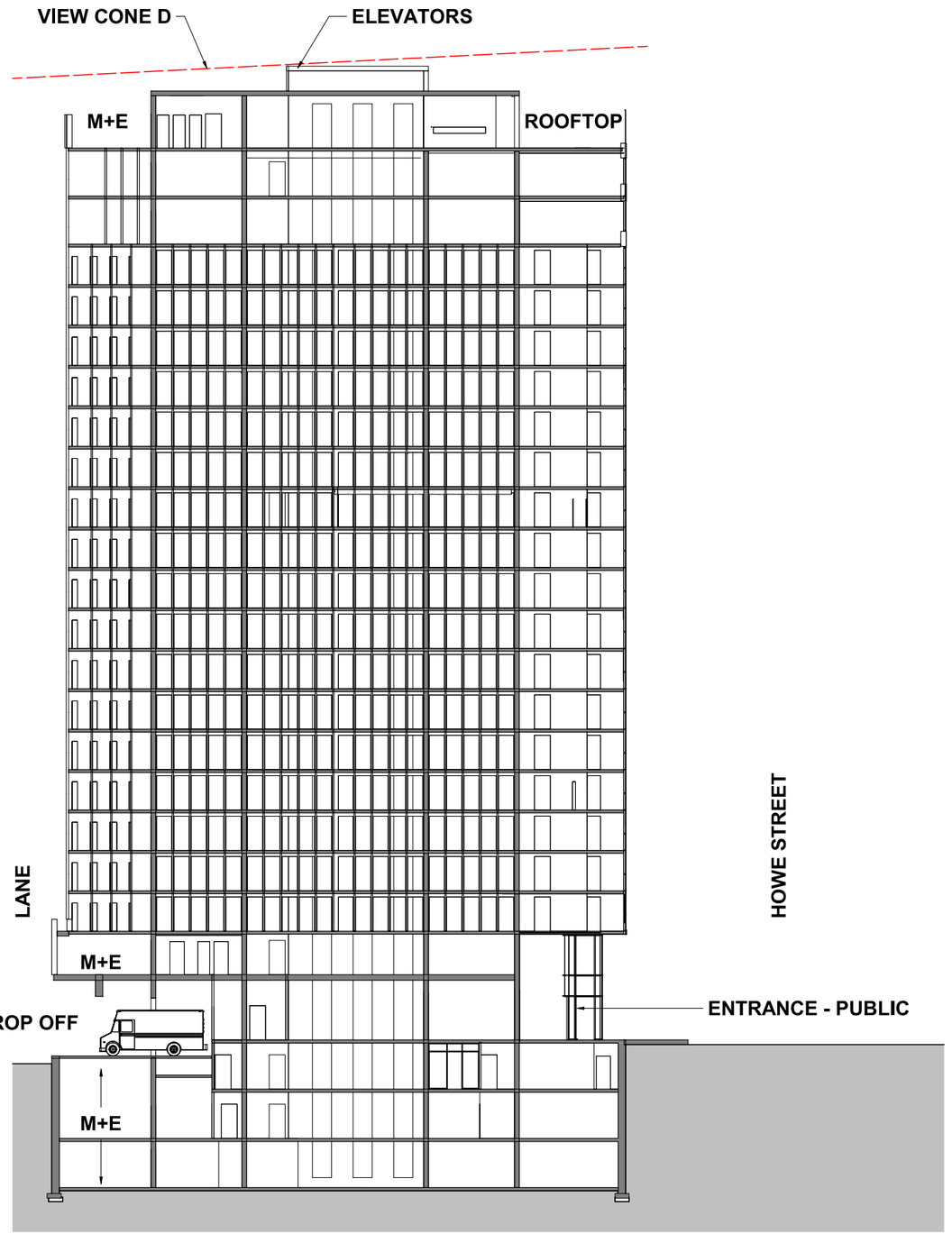
Zoning	Existing: DD (AREA H)	Proposed: CD-1
Uses	Hotel Light Industrial Office Commercial Other Commercial Parking Area and Parking Garage Parks and Open Space Public and Institutional Dwelling Uses Retail Commercial Social, Recreational, and Cultural	Hotel
Frontage	Not Applicable	Not Applicable
Height	45.7 , / 150' (Outright) 62.4 m / 204' (View Cone D Height Limit / Conditional) 137.2 m / 450' (Conditional)	62.4 m / 204' (To underside of View Cone D)
Setbacks	Not Applicable	3'-0" at Lane
FSR	6.0	18.5
Site Coverage	Not Applicable	100%
Retail Continuity	Not Applicable	Maintain retail continuity

PROPOSED USES AND UNIT BREAKDOWN

Hotel Level	Use	# of Floors	# of Rooms / Floor	Total # of Rooms	Room Mix (%)
Rooftop	Rooftop Bar + M&E				
L21	Bar	1			
L20	Hotel Amenity	1			
L03 - L19	Nano Room	17	3 to 4	47	12%
L03 - L19	Nano Room (Accessible)	17	1 to 2	21	5%
L03 - L19	Nano Pod	17	20	340	83%
L02	Hotel Amenity	1	0	0	N/A
L01	Main Entrance + Lobby	1			
B01 - B03	Basement	3			
Total				408	100%

	Existing	Proposed
Number of Nano Pods	0	340
Number of Nano Rooms	0	68 (21 Accessible)
Bicycle Storage	0	15 Class A + 6 Class B
Loading Bay	0	1 Class B
Parking	2	0
Levels Above Ground	2	21
Levels Below Ground	0	3

5.9 View Cone Assessment

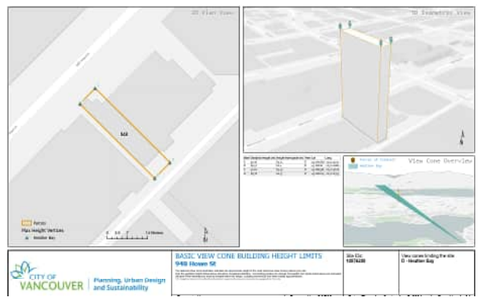


Our proposed building height is constrained by View Cone D: Heather Bay. View Origin Point: At the midpoint of Leg-in Boot Square as marked by paving.



View Subjects: Ch'ích'iyúy Elx̱wi̱n (the 'Two Sisters' or the 'Lions') and Brunswick Mountain.

Our site is located in the CBD, within the Downtown Core, and within DD Area H that allows for building heights of 45.7 m (150') outright and discretionary height of up to 137.2m (450'). **Our proposal will respect View Cone D.**



5.10 Current shift in industry standard

Brookfield acquires Generator Hostels' European assets for quite an amount

Published on 16/05/25



“Brookfield Asset Management has acquired Generator Hostels’ European portfolio for €776 million.”

The platform includes 15 hostels across 10 European countries, offering around 2,749–2,800 rooms, located in major cities such as London, Berlin, Paris, Madrid, Rome, Amsterdam, Barcelona, Copenhagen, Dublin, Stockholm, Hamburg, Venice

Brookfield views Generator as a strategic entry into the **hybrid hostel-hotel segment**, combining affordability and social experiences in prime urban locations. Having plans to scale the brand via acquisitions and third-party hotel management agreements

This deal illuminates how institutional investors are shifting toward flexible borderless lodging models that blend affordability with experience. As Generator joins Brookfield’s portfolio, we can expect further regional expansion, possible brand innovation, and increased visibility for the hybrid hostel-hotel format.

Source: https://hospitality-on.com/en/mergers-and-acquisitions/brookfield-acquires-generator-hostels-european-assets-quite-amount

Lylo To Launch European Expansion Of Pod Hotel Concept

Published on 07/01/25



“LyLo is looking for buildings of 15,000 to 50,000 sq ft to transform into a pod hotel, which could include office or retail conversion projects or appropriate basement space.”

LyLo, a **budget-friendly**, design-led pod hotel brand under Australia-based EVT (Event Hospitality & Entertainment), has announced its European market entry—targeting London as the first location.

The company launched in 2022 and currently operates in New Zealand (Auckland, Queenstown, Christchurch) and Australia (Brisbane), with two more sites in Gold Coast and Fremantle in development.

Current Capacity:
- 608 pods
- 40 private rooms
- 170 ensuite rooms
- 4 F&B outlets

Core Demographic:
- Solo travelers
- 18–35 age group
- Digital nomads
- Sports groups & families

LyLo’s European debut in London marks a bold move to scale its tech-forward, social accommodation concept. Designed for modern, budget-conscious travelers, the pod hotel model offers privacy, affordability, and vibrant communal experiences, with strong potential to disrupt the hospitality landscape in urban Europe.

Source: https://www.hospitalitynet.org/news/4125260.html

“The concept of micro hotels is simple: provide guests with a pared-down offering at a slightly lower price. The model’s benefits for investors is also easy to understand: penetrate a popular market with a smaller footprint, while reducing expenses.”

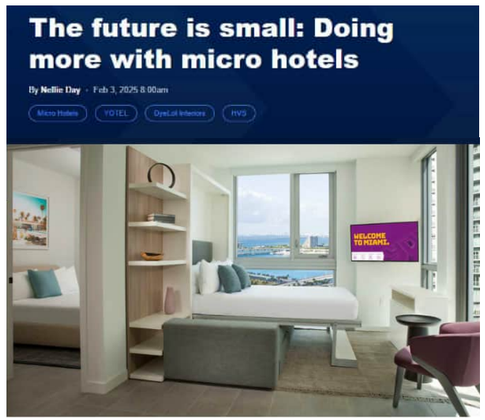
Micro hotels offer streamlined, compact rooms at marginally lower prices, making them attractive for budget-conscious guests and cost-efficient for developers and investors.

Preferred by solo business travelers and younger guests—especially Millennials and Gen Z—who gravitate toward dense urban centers, value affordability, and seek experiential stays rather than room time.

YOTEL’s CDO Rohan Thakkar describes this cohort as aligned with the “Generation Go” mindset, which emphasizes flexibility, seamless work leisure integration, and efficiency

Experts highlight brands like Moxy Times Square and YOTEL Boston, which achieve high guest satisfaction by emphasizing thoughtful design that makes guests feel “seen and supported” despite small spaces

Source: https://www.hotelmanagement.net/business-strategy/future-small-doing-more-micro-hotels



Zedwell Tower Bridge to launch in former office block

Published on 27/05/25



“The owner of the Zedwell capsule hotel brand has acquired a former office block in London’s Tower Bridge for its next location.”

Criterion Capital is converting Mansell Court, a former office block near Tower Bridge, into the next Zedwell hotel. Situated close to major attractions like the Tower of London and key transport hubs such as Aldgate and Tower Hill stations, this will be Zedwell’s second capsule hotel in the City of London, after the One Princes Street site.

The hotel will host 200 windowless “cocoon” rooms—a brand staple designed to optimize sleep. These rooms are soundproofed and feature ambient lighting, purified air, and body cushioning mattresses to minimize sensory distractions.

The project underscores Zedwell’s emphasis on adaptive reuse—repurposing existing structures to **reduce environmental impact while boosting urban revitalization.**
The addition of Tower Bridge brings Zedwell’s UK development pipeline to over 9,000 rooms, with future openings planned in York, Manchester, Edinburgh, and additional London sites. The expansion aligns with the City of London’s ‘Destination City’ initiative, aimed at boosting culture, tourism, and sustainable urban activity.

Halima Aziz, Head of Hotels at Criterion, emphasized that this development not only furthers Zedwell’s visibility in high-traffic areas but also reaffirms their commitment to **delivering accessible, environmentally responsible, and thoughtfully designed urban retreats.**

Source: https://www.thecaterer.com/news/zedwell-tower-bridge-to-launch-in-former-office-block

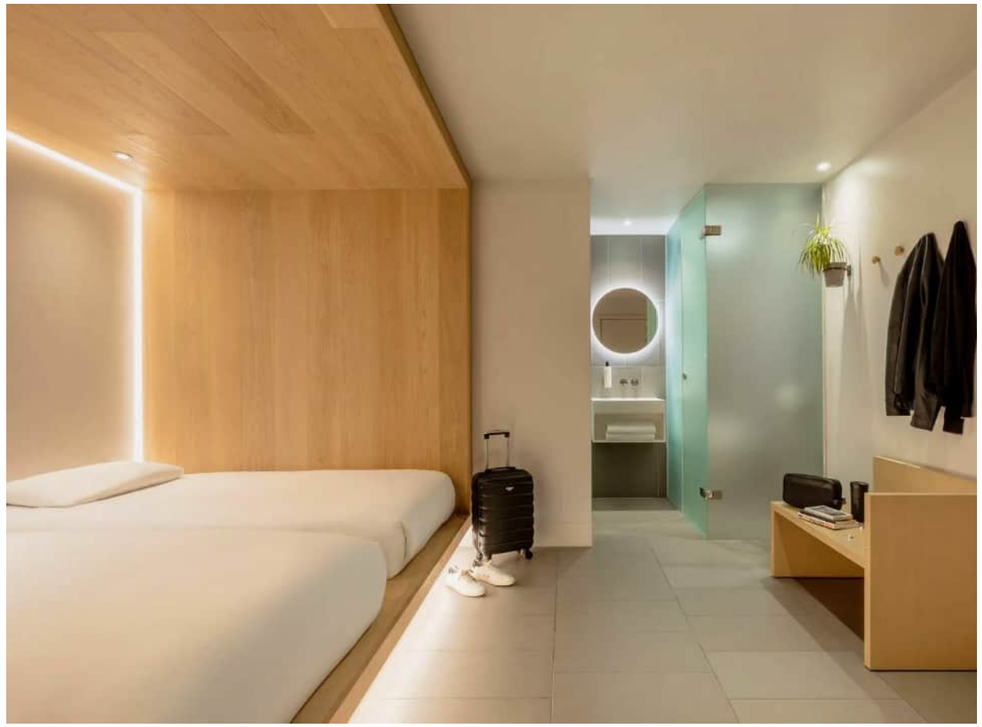
Zedwell to open windowless hotel close to Tower of London

Published on 05/31/25













Source: https://www.businesstraveller.com/business-travel/2025/05/31/zedwell-to-open-windowless-hotel-close-to-tower-of-london/

5.11 Demographics

← WORLD'S GREATEST PLACES 2023

Vancouver: World's Greatest Places 2023



An aerial view of Vancouver, British Columbia, Canada. Source: Times Magazine

Vancouver has made Time Magazine's 50 greatest places to visit in 2023. The annual listing of 50 extraordinary travel destinations ranges from big-name cities to off-the-grid sites.

According to Destination Vancouver, the City of Vancouver welcomed 10.9 million overnight visitors in 2023, an increase of 24% compared to 2022. This upward trend is expected to continue in the coming years. However, the current hotel capacity is not keeping pace with the growing number of overnight visitors, highlighting an urgent need for expanded and diversified accommodation options.

Lack of hotel capacity in Vancouver could cost the city billions in lost economic impact.

Between 2022 and 2050, the cumulative economic impacts are projected to be:

$30.6 billion in foregone output.
$16.6 billion in forgone GDP.
168,000+ FTEs of foregone employment.
$7.5 billion in foregone tax revenue for all three levels of government.

Capsule Hotel Market Research Review:

Growing Global Capsule Market Size:

2024 - USD $ 117.4 million
2033 - USS $ 252.9 million
Compound Annual Growth Rate
CAGR (2025 - 2033) = 8.46 %

The market is experiencing steady growth driven by the growing number of solo travelers, millennials, and digital nomads seeking unique and cost-effective lodging options, rising importance of affordability in travel choices, and urbanization and high real estate costs.



Source: Grandview Research

Demographic Profile For Capsule Hotel

18–24 years:
Young adults aged 18 to 24 represent the primary demographic for capsule hotels, holding a 41.2% market share. Their preference is driven by affordability, central locations, and access to modern amenities. They prioritize experiences and convenience over traditional luxury hotel stays.

25–39 years:
Projected to experience a CAGR of 9.2% from 2025 to 2030, this demographic seeks affordable yet modern accommodations that blend privacy, convenience, and connectivity.

40-54 years and 55+ years
Although representing a smaller share of the market, this trend reflects a growing interest that may signal broader acceptance of capsule hotels among older demographics

Generation Z (born 1997–2012):
Expected to show the fastest growth over the forecast period, with projections indicating a revenue of $69.9 million by 2028, up from $42.9 million in 2020. Gen Z travelers are known for their tech-savvy nature and desire for unique experiences. They are drawn to capsule hotels due to the innovative and efficient nature of these accommodations.

Traveler Typology for Capsule Hotel

By traveler type, the capsule hotel market is classified into solo and group travelers.

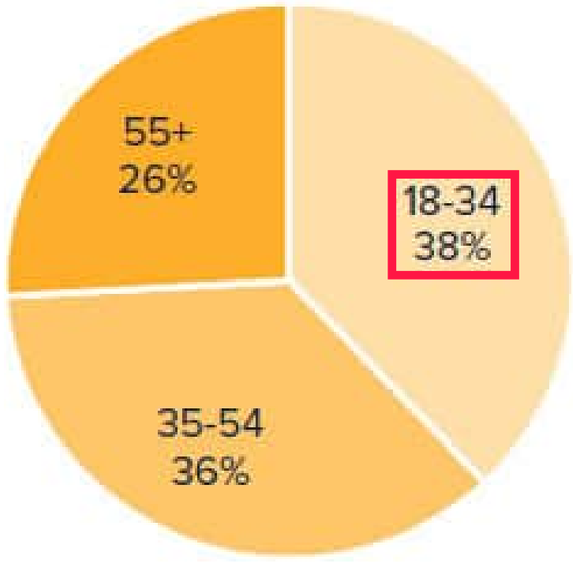
Solo travelers dominate the market, accounting for 70.6% of the market share in 2024. Solo travel is undertaken by a single/solo people. Solo travel destinations have been gaining traction owing to the ability to customize the whole travel experience according to their preference, which help the traveler gather new experiences, meet new people, and attain a sense of empowerment.

Solo travelers, including backpackers, digital nomads, and individuals on business trips, are drawn to capsule hotels due to their **affordability, convenience, and suitability for single occupants.** These travelers often seek cost-effective accommodation options that provide a comfortable and secure place to stay while exploring new destinations or attending work-related events.

Group travelers include friends, families, or small tour groups who choose to stay in capsule hotels for various reasons.

Source: Capsule Hotel Market Report by Traveler Type (Solo, Group), Booking Mode (Online Booking, Offline Booking), Age Group (Generation X, Generation Y, Generation Z), Application (Office Workers, Tourists, and Others), and Region 2025-2033; Grandview Research; IMARC Group.
Source: Grandview Research

City of Vancouver welcomed 10.9 million overnight visitors in 2023, an increase of 24% compared to 2022. Over one third of visitors to Vancouver are under 35.

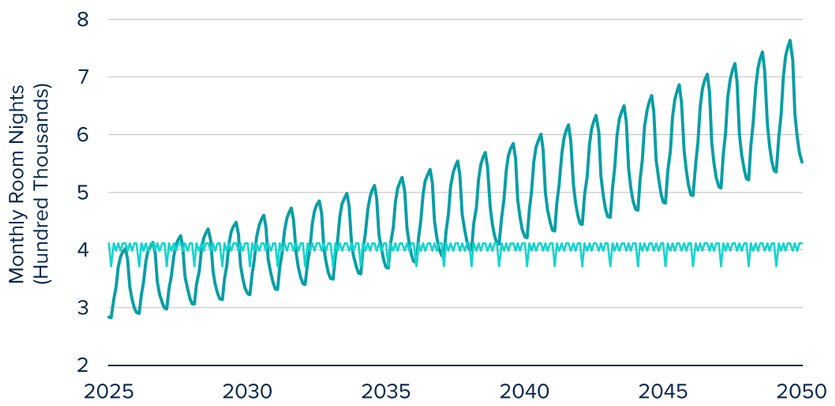


Vancouver Visitor Demographics
Source: Destination Vancouver Air Exit Survey, Spring 2024





Source: Destination Vancouver



Forcast City of Vancouver Room Night Supply & Demand
Source: Destination Vancouver: Economic Analysis of Hotel Supply and Projected Demand in Metro Vancouver, 2023 to 2050

Proposed Nano Hotel

Over one third of visitors to Vancouver are under 35. Younger travelers often seek budget-friendly accommodations that offer modern amenities and proximity to city attractions.

The unique design and novelty of the proposed Nano Hotel are expected to attract a broad range of guests, particularly young travelers aged 18 to 35, representing 38% of all visitors to Vancouver in Spring 2024. Hotels that cater to this demographic, such as hostels and limited-service hotels, are limited in Downtown Vancouver.

Target Demographics and Profile:

Age: 18 - 34 (majority)

Budget-Conscious:
Traveler swho prioritize cost-effective stays without compromising on comfort.

Experience-Oriented:
Individuals seeking unique authentic experiences over traditional luxury.

Tech-Savvy:
Digital nomads who appreciate app-based check-ins, self-service kiosks, and fast Wi-Fi.

Minimalist Lifestyle:
Guests preferring functional spaces and shared amenities over large private rooms.

Potential guests group:
Graduate Students who attend international conferences at Vancouver Convention Centre with their professors. These students often forgo attending conferences in Vancouver due to budget constraints and the high cost of accommodation.

University or high school students who join school field trip or sports team to Vancouver and/or BC.

The Proposed Nano Hotel is thoughtfully designed to **accommodate young travelers aged 18 to 34**, a demographic frequently priced out of downtown accommodations. These visitors prioritize affordability and efficiency, especially given financial pressures. It also caters to urban travelers seeking cost-effective alternatives to traditional hotels.

By introducing an innovative accommodation model, a hybrid of new compact hotel rooms and new full height secured and private sleeping pod concept, **this new hotel will add a fresh and vibrant dynamic to the downtown area**, attracting a more diverse visitor demographic and contributing to the new Granville Street plan and continued revitalization. Its budget-friendly average room rates, combined with thoughtfully designed shared facilities and amenities, will provide a comfortable and engaging stay experience in Downtown Vancouver.

Source: Hotel Community Impact Assessment, April 2025

5.12 Downtown Commercial Accommodation Analysis

Downtown Hotel Typology and Inventory

Most hotels in downtown Vancouver are full-service or boutique/lifestyle properties, typically offering above-average to high nightly rates. The supply of economy and midscale hotel rooms in the downtown area remains very limited.

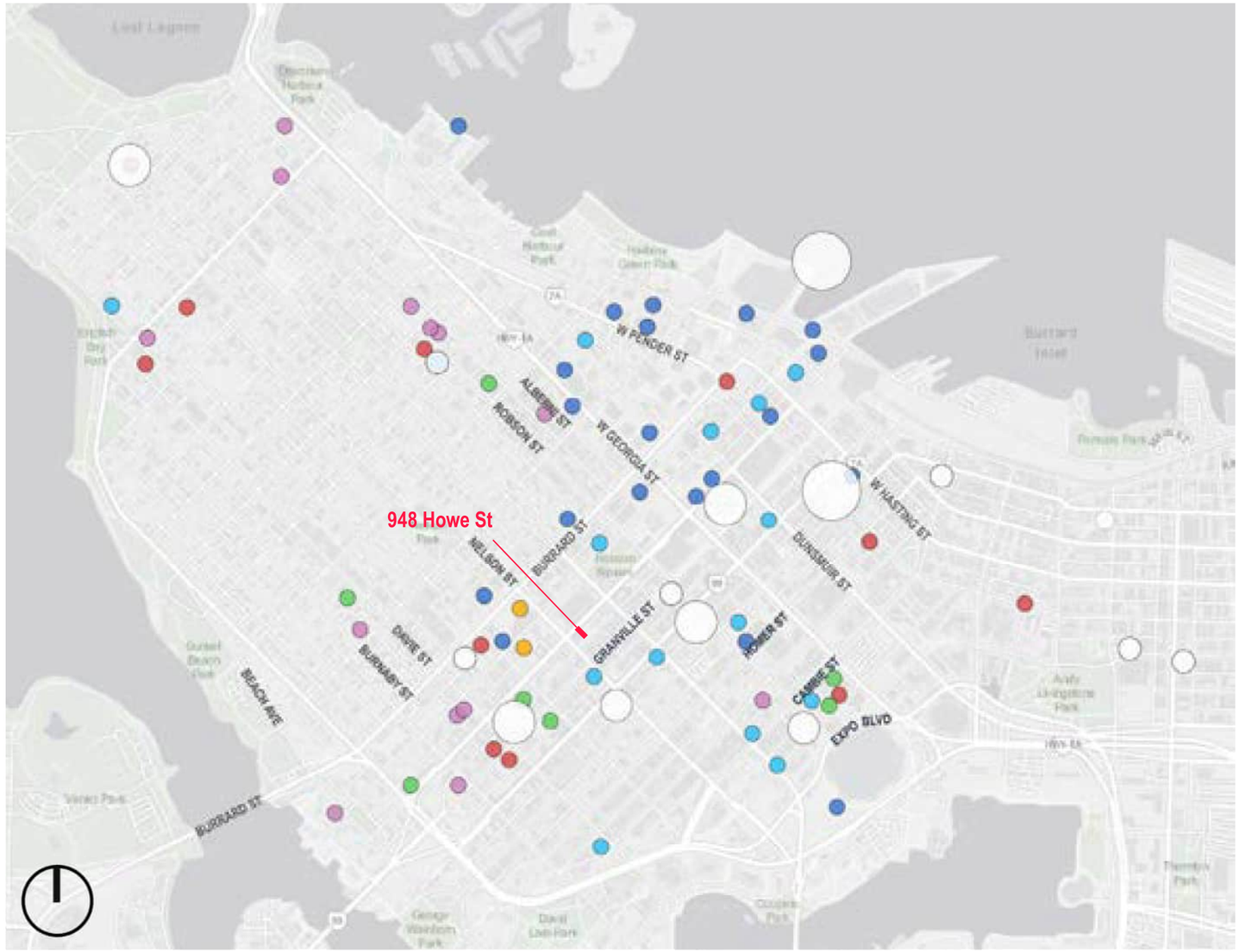
In terms of selection of hotel types, the most common hotel types in the core accommodation areas are Full-Service (30%) followed by Boutique/Lifestyle (20%). Downtown Vancouver offers hotel options across the spectrum of services (Full-Service, Limited Service, Select-Service, Boutique/Lifestyle, Extended Stay, and Time-Share).

As of the first quarter of 2025, the City has approximately 4,200 rooms in the hotel development pipeline across 22 projects. Development pipeline statistics include projects that are either in application, approved but not started, under construction or recently completed. The statistics do not include projects in the enquiry phase.

Figure 1: Overview of Hotel Types

TYPE	BROAD AMENITY DESCRIPTION	VANCOUVER EXAMPLES
Full-service	Food and beverage and meeting space	Fairmont Pacific Rim, Paradox Vancouver Hotel, Century Plaza Hotel
Limited service	No food and beverage service	Cambie Hotel, Sand Motor Hotel, Barclay Hotel
Select-Service	Some food and beverage and meeting space, but only a limited amount	Chateau Granville, Holiday Inn (Howe Street), Blue Horizon Hotel
Extended-Stay	Typically has limited food and beverage, guestrooms with full kitchens to accommodate 5+ day stays	Residence Inn by Marriott, English Bay Apartment Hotel, Sunset Inn & Suites
Boutique/Lifestyle	Typically is a full-service hotel with an elevated design style	The Douglas Hotel, Opus Lounge, Wedgewood Hotel, Sylvia Hotel
Time-Share	Variable - an ownership model of vacation property whereby multiple owners have exclusive use of a property for a period of time	WorldMark Vancouver, Embarc Vancouver, Rosedale on Robson

Source: City of Vancouver Hotel Development Policy Analysis Report (2023).



HOTEL SUPPLY & DEMAND

Downtown **Vancouver hotel** performance

71.8%
Occupancy (-0 point)
March 2025

68.1%
Occupancy (+1.1 point)
Jan-Mar 2025

$245
ADR (+2%)
March 2025

$245
ADR (+2.7%)
Jan-Mar 2025

$176
RevPAR (+0.7%)
March 2025

$167
RevPAR (+3.8%)
Jan-Mar 2025

Downtown Vancouver average nightly rates will reach $422 during the summer, nearly double the national average.

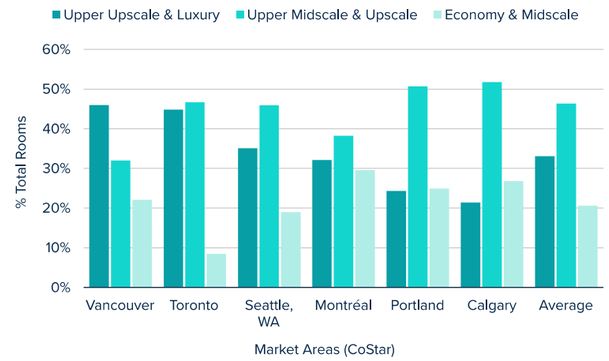
Vancouver Hotel Demand and Downtown Hotel Performance

In 2022, Destination Vancouver commissioned a specialized study on hotel supply, demand and economic impacts. The study found that, to close the gap between current supply and projected demand, **approximately 20,000 new hotel rooms are needed in Metro Vancouver by 2050**. The city of Vancouver's share of this total would be approximately 10,000 rooms.

More than 75% of hotel rooms in Vancouver are in the Upper upscale & Luxury and Upper Midscale & Upscale Class Distribution. See Hotel Room Class Distribution from Hotel Impact Assessment, April 2025 which includes Full-Service Hotel Type and Boutique/Lifestyle Hotel Type.

There are limited Economy & Midscale hotel rooms in Downtown Vancouver. Vancouver's hotel offerings trend toward expensive, downtown hotels, with the average daily room rate hovering around $230 in winter and $430 in summer.

Source: Destination Vancouver website; CoStar 2024 Performance Data for Downtown Vancouver, Hotel Impact Assement April, 2025.



Hotel Room Class Distribution
Source: Hotel Impact Assessment, April 2025.
CoStar Inventory Data Nov 2024.

5.12 Downtown Commercial Accommodation Analysis

Downtown Vancouver is predominantly served by conventional accommodation types, particularly midscale to upscale hotels, leaving **a gap in the market for more affordable and diverse accommodation options** to meet the needs of a broader range of travelers.

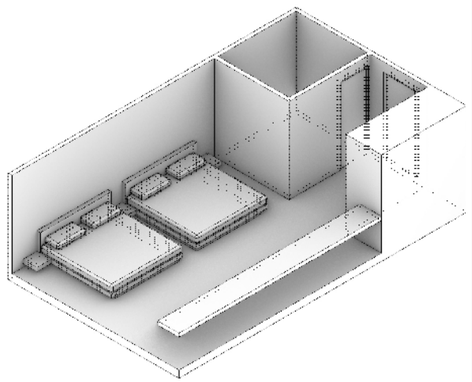
Economy and limited-service hotels are in limited supply in Downtown, while most potential new hotels continue to be upscale, high-amenity type.

Only a small number of hostels currently offer affordable lodging options for budget-conscious travelers, indicating a gap in the market for more accessible and diverse hotel offerings.



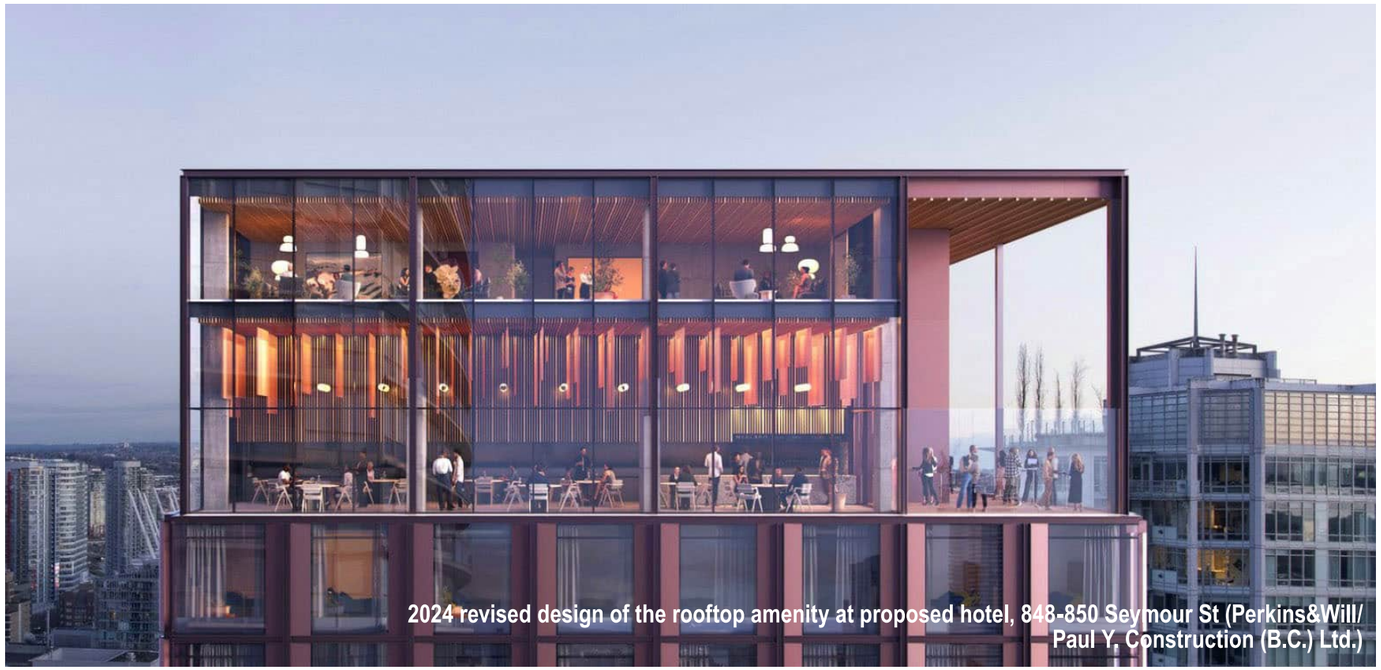
- Proposed Nano Hotel
- Existing Hotel
- Existing Hostel
- Potential New Hotel

Hotel Concept



Traditional Hotel Room
Private Sleeping Zone + Private washroom & Shower

+



2024 revised design of the rooftop amenity at proposed hotel, 848-850 Seymour St (Perkins&Will/ Paul Y. Construction (B.C.) Ltd.)



Proposed Hotel at 516 W Pender St (Henriquez)



Rooftop Amenity at Proposed New Hotel at 717 Davie St (MCM)

Amenity (Basic - High/Luxury)
grand hotel lobby with lounge, restaurant, gym, swimming pool, spa, conference rooms etc.

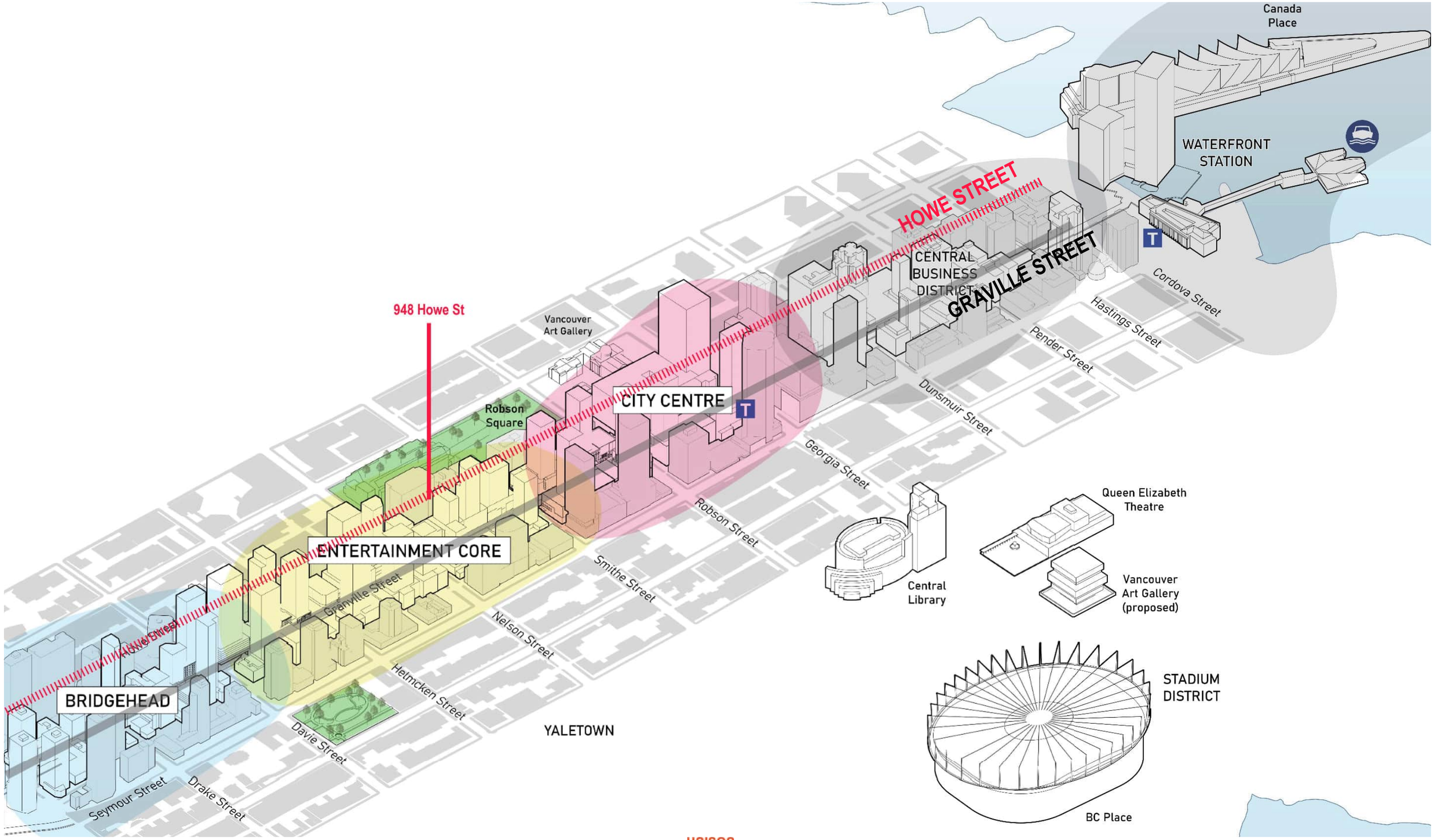
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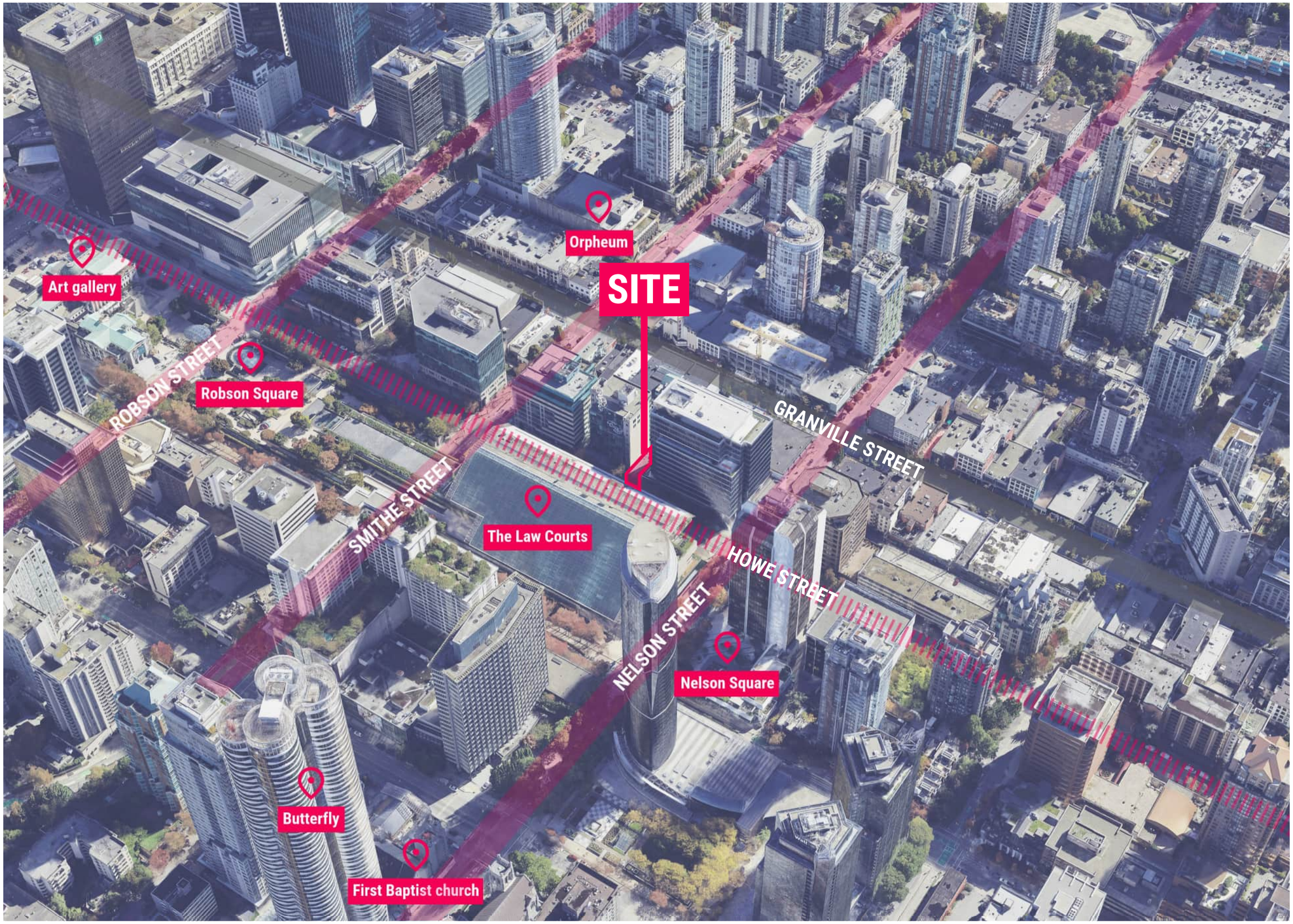
Proposed Hotel at 516 W Pender St (Henriquez)

Hotel Building

5.15 Relationship with Granville Street Entertainment Core



5.15 Relationship with Granville Street Entertainment Core



The proposal, as a standalone new hotel building, **pursues opportunities to reduce development costs through compact, efficient design**, the use of prefabricated construction methods, and the introduction of sleeping pods and nano-sized hotel rooms—ensuring financial viability without compromising the guest experience.

Seamlessly integrated into the urban fabric, the hotel is **designed to reflect and capitalize on the unique cultural and entertainment offerings of the surrounding district**. By positioning the neighbourhood as an extension of the hotel experience, the concept enhances guest engagement with local businesses, events, and amenities, while reinforcing the vibrancy of the area.

Sharing a lane with the Granville Street Entertainment Core, the hotel is well-positioned to integrate seamlessly with the vibrancy and cultural activities of the Granville Street corridor.

6.0 Architectural Drawings

6.1 Cover page

Proposed Nano Hotel

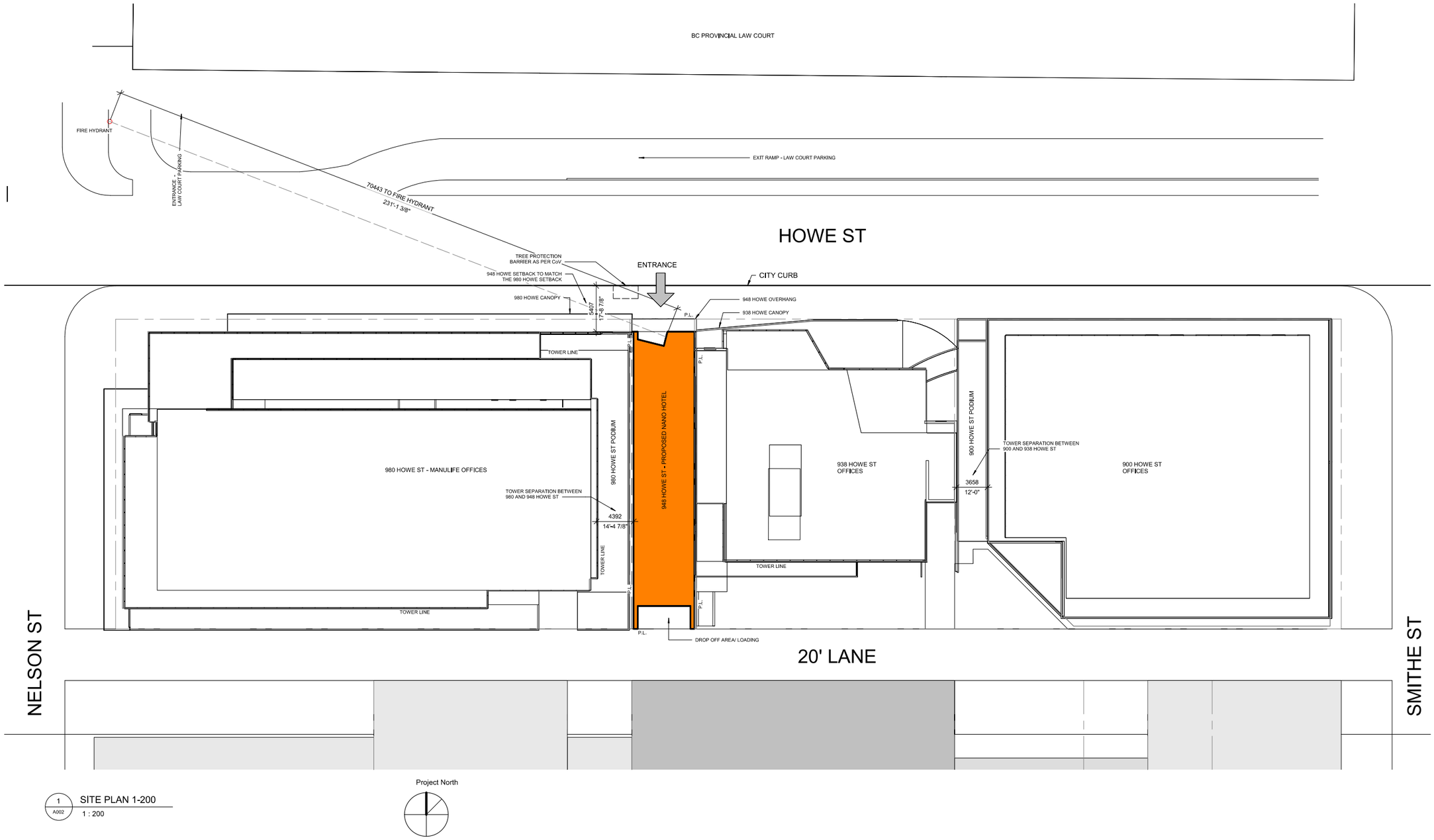
Front Elevation
Dynamic + Interactive + Ever Changing Façade

Daytime:
- Potential art display at end of corridor
- Periodic change of art display

Evening/ Nighttime:
LED Light Colours Controlled By
- Hotel Guests
- Hotel Management at special occasions e.g. Canada Day
- Potential digital art display by local artists (Arts + Culture Engagement)



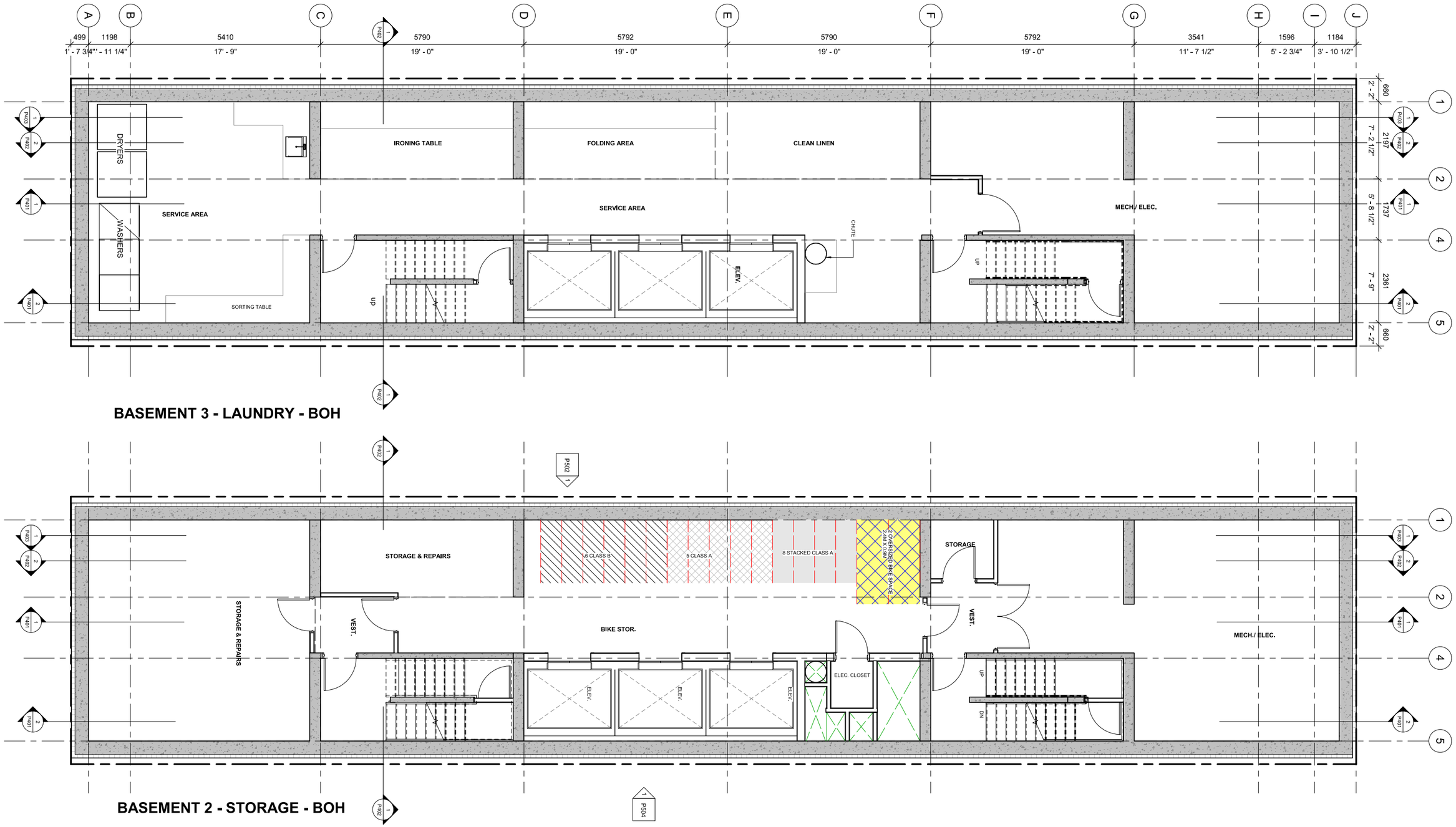
6.2 Site Plan

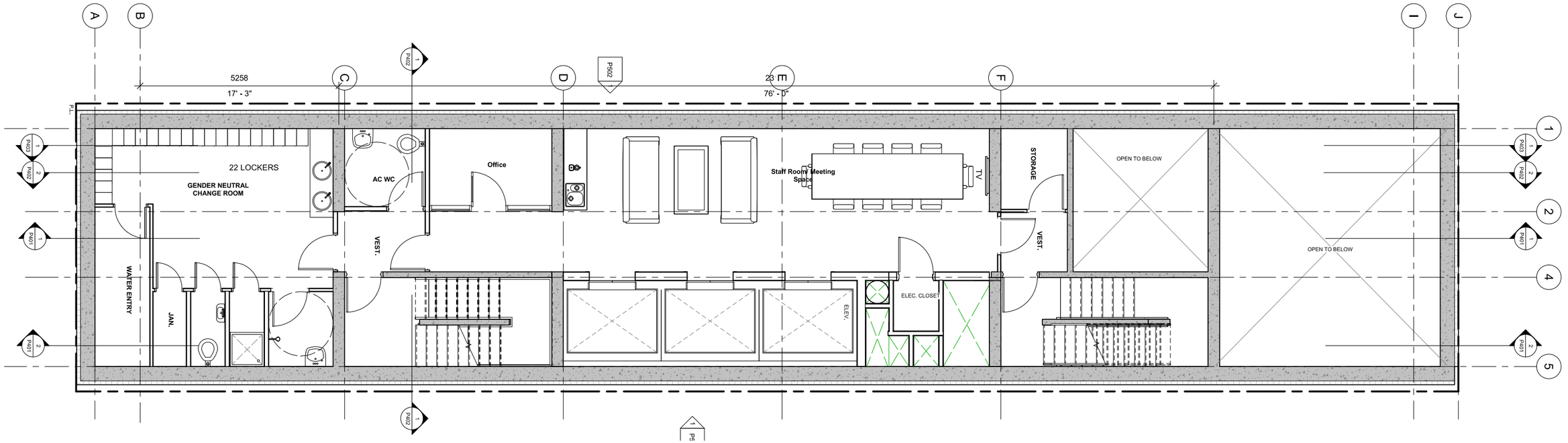


1 / A002 SITE PLAN 1-200
1 : 200

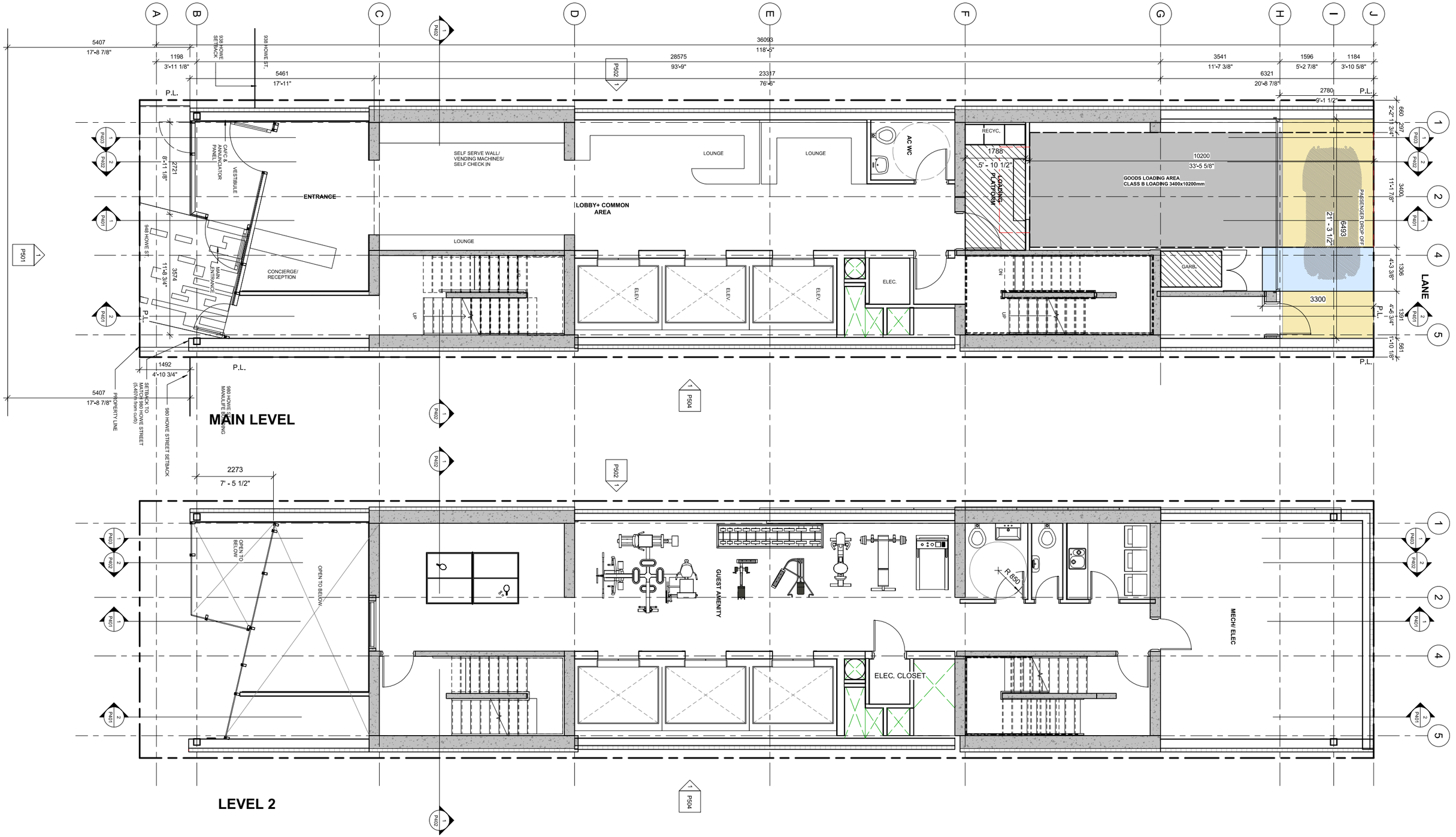
Project North

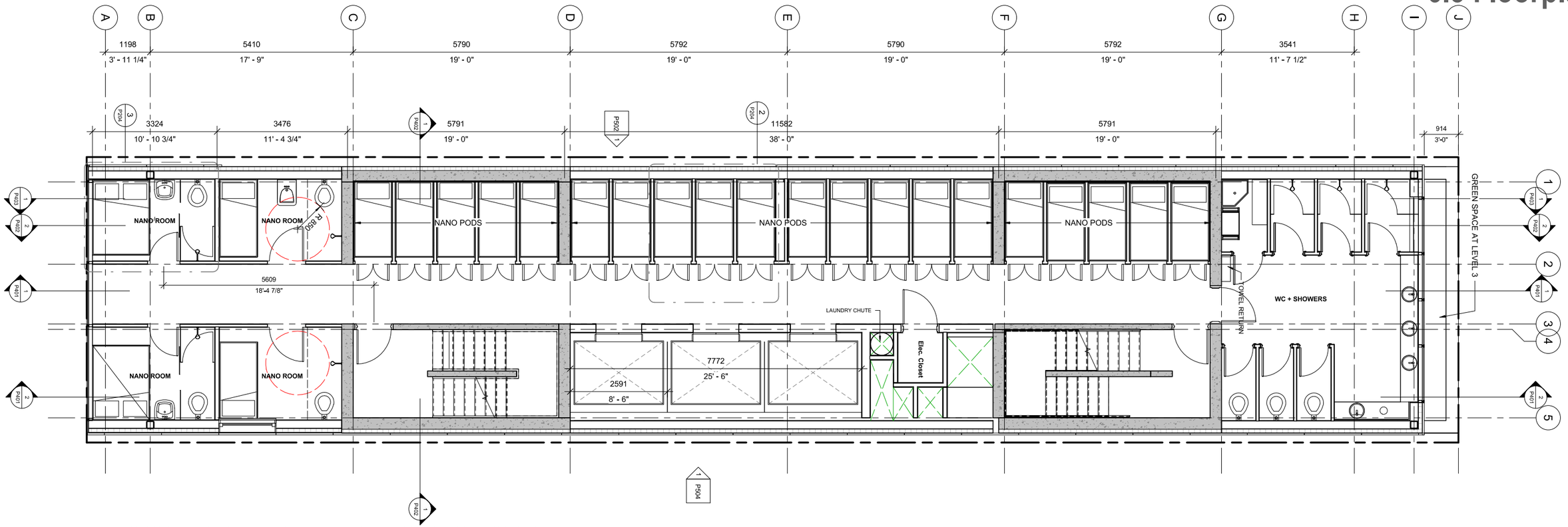
6.3 Floor plans



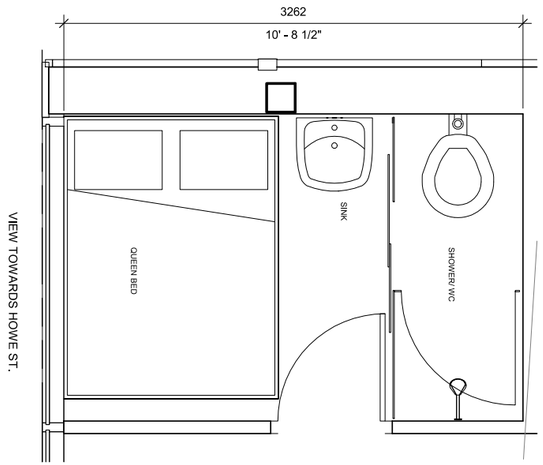

A
B
C
D
E
F
I
J
1
2
4
5
5258
17' - 3"
23
76' - 0"
P402
P502
P401
P403
22 LOCKERS
GENDER NEUTRAL
CHANGE ROOM
AC WC
Office
Staff Room / Meeting
Space
TV
STORAGE
OPEN TO BELOW
OPEN TO BELOW
VEST.
VEST.
WATER ENTRY
JAN.
ELEC. CLOSET
ELEV.

6.3 Floor Plans

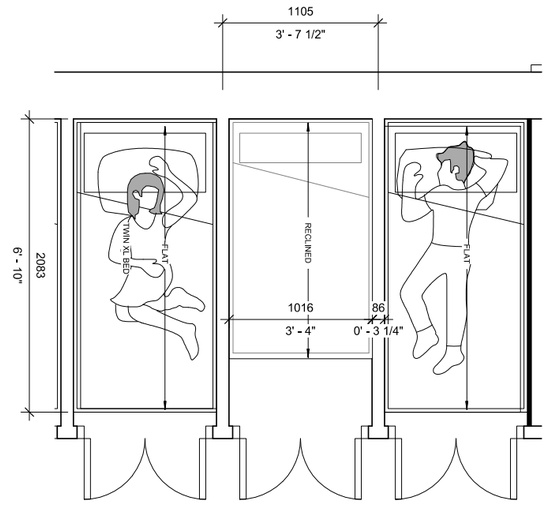




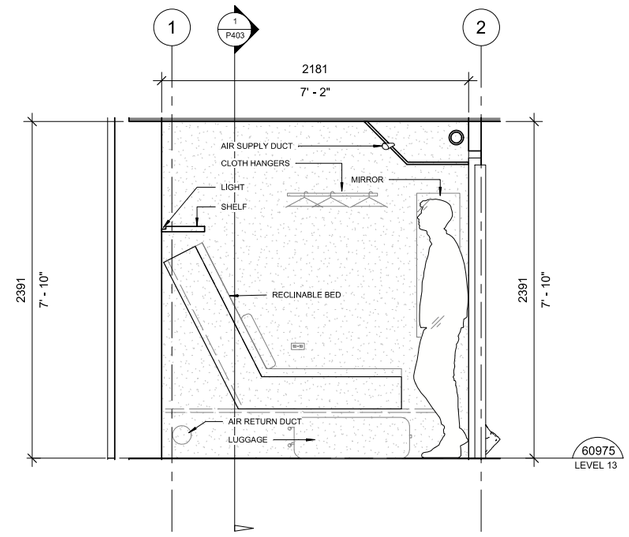
LEVEL 3-19 GUEST AREA - SLEEPING NANO UNITS + ROOMS



TYPICAL NANO ROOM PLAN

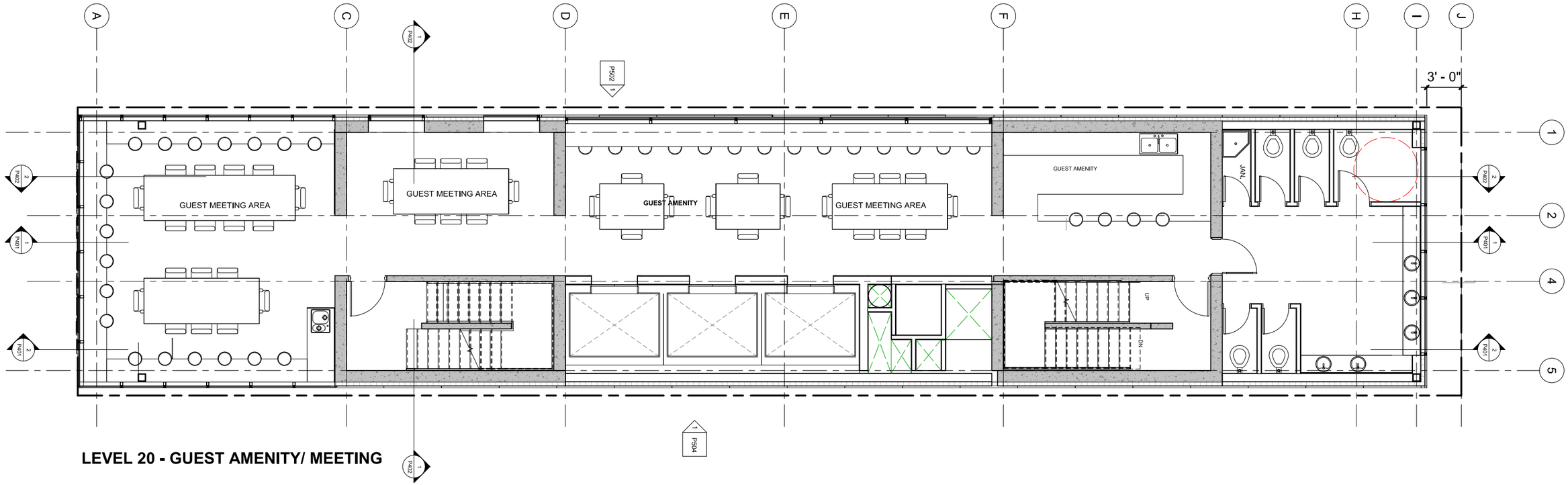


TYPICAL NANO POD PLAN

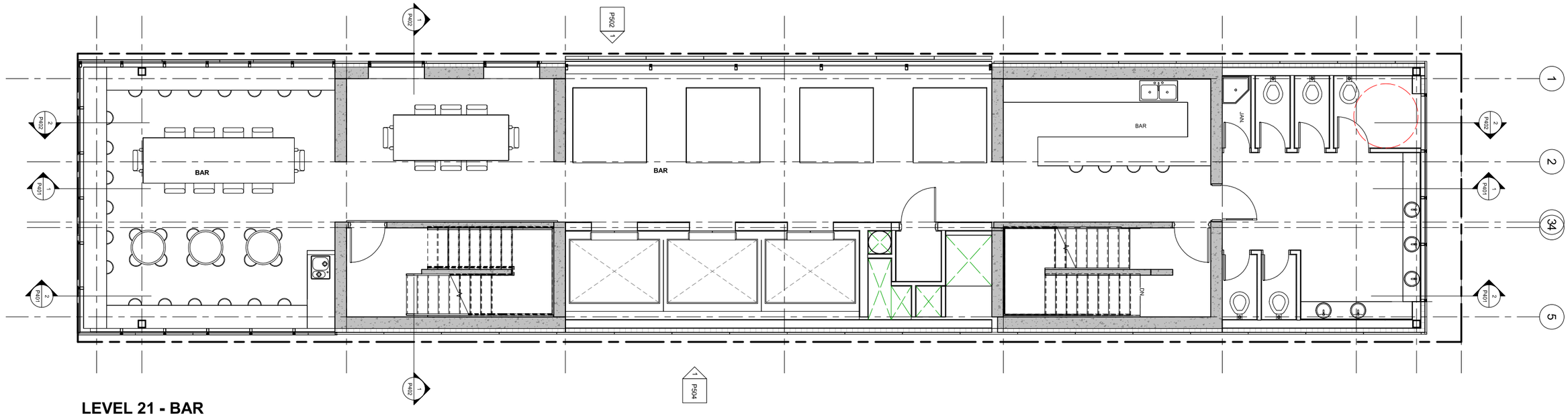


TYPICAL NANO POD SECTION

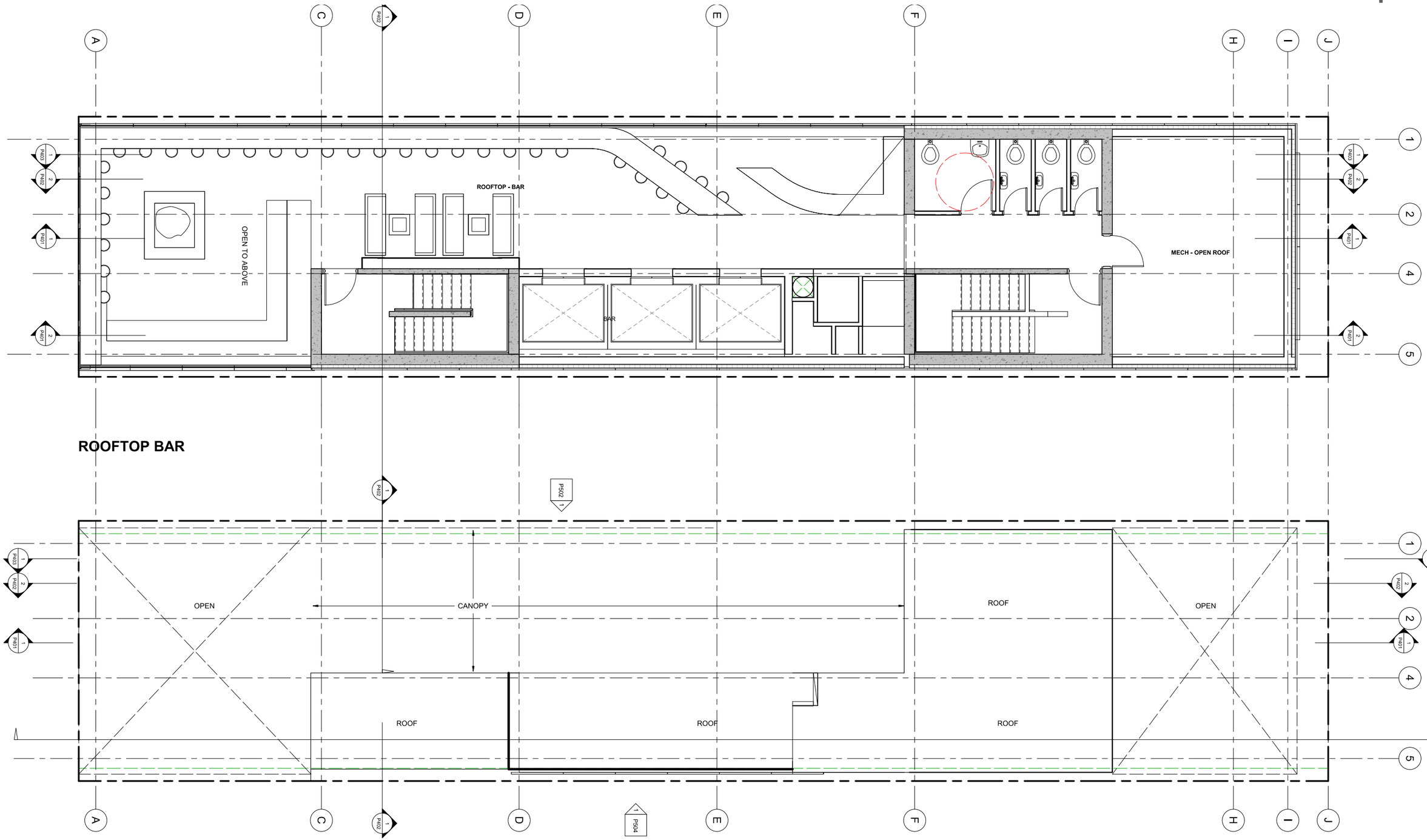
6.3 Floor Plans



LEVEL 20 - GUEST AMENITY/ MEETING



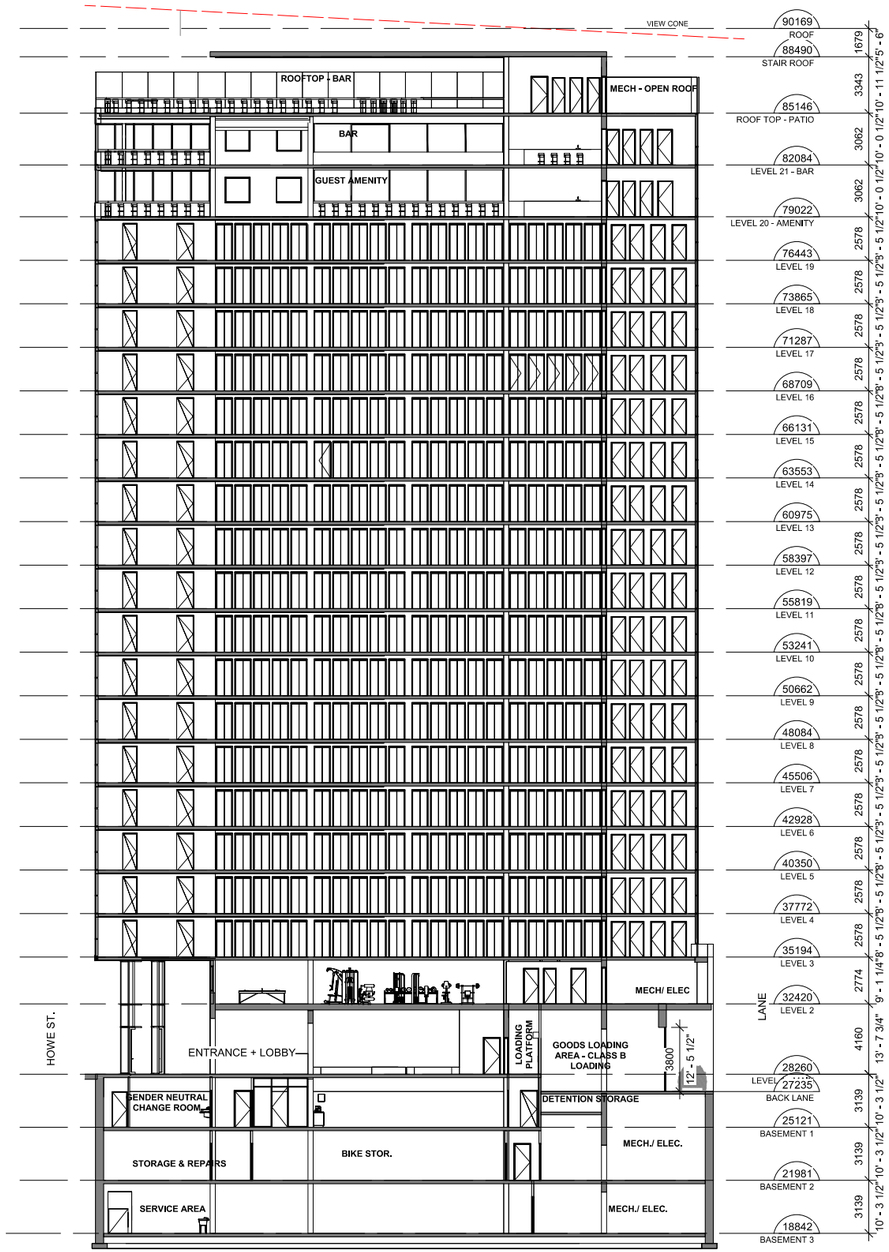
LEVEL 21 - BAR



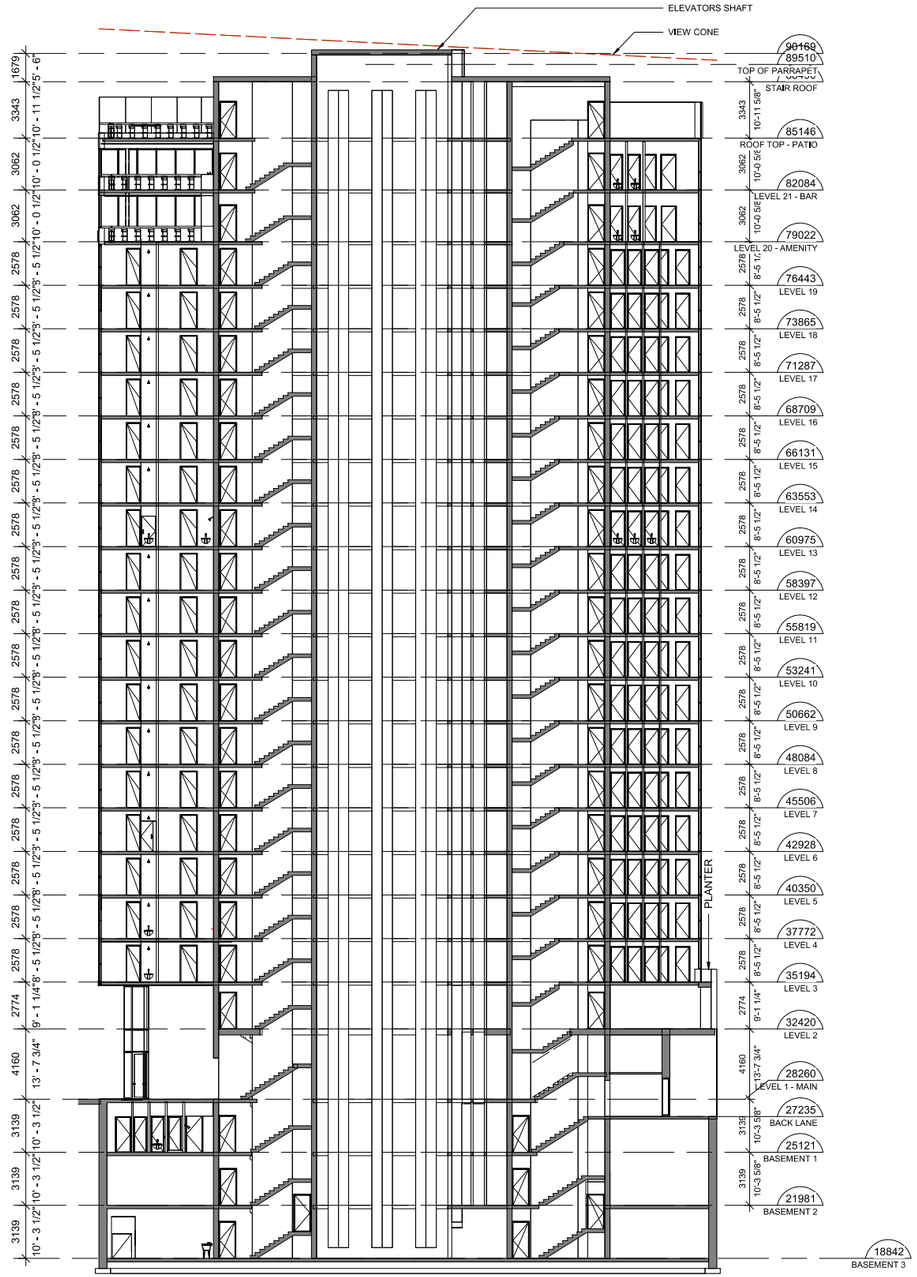
ROOFTOP BAR

ROOF PLAN

6.4 Sections

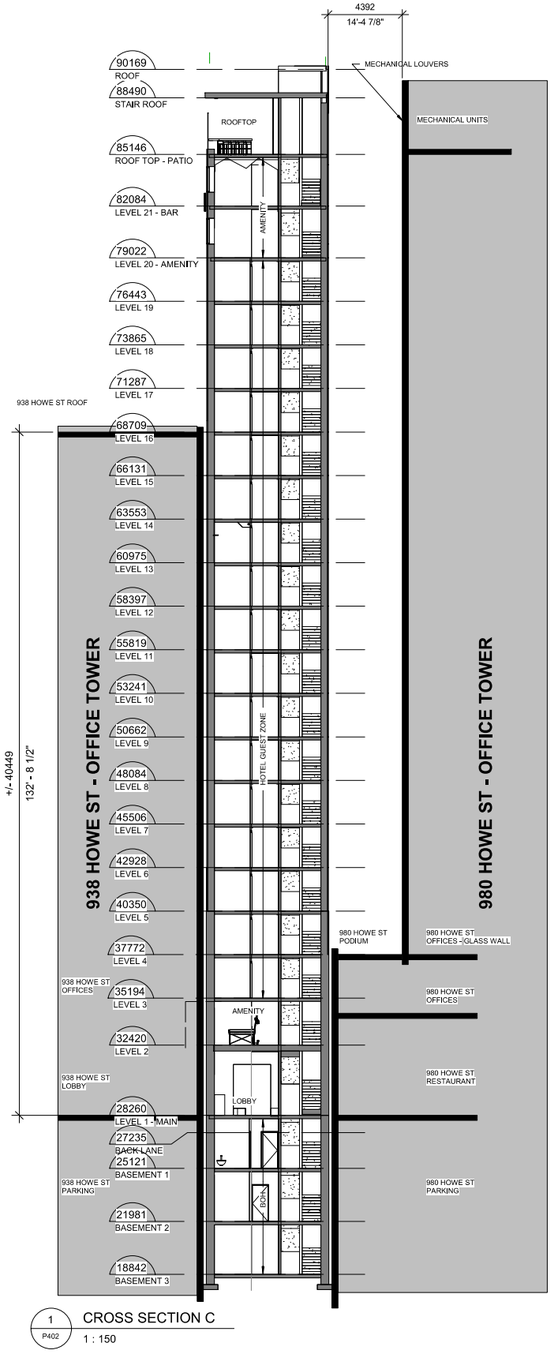


1 A301 CROSS SECTION A
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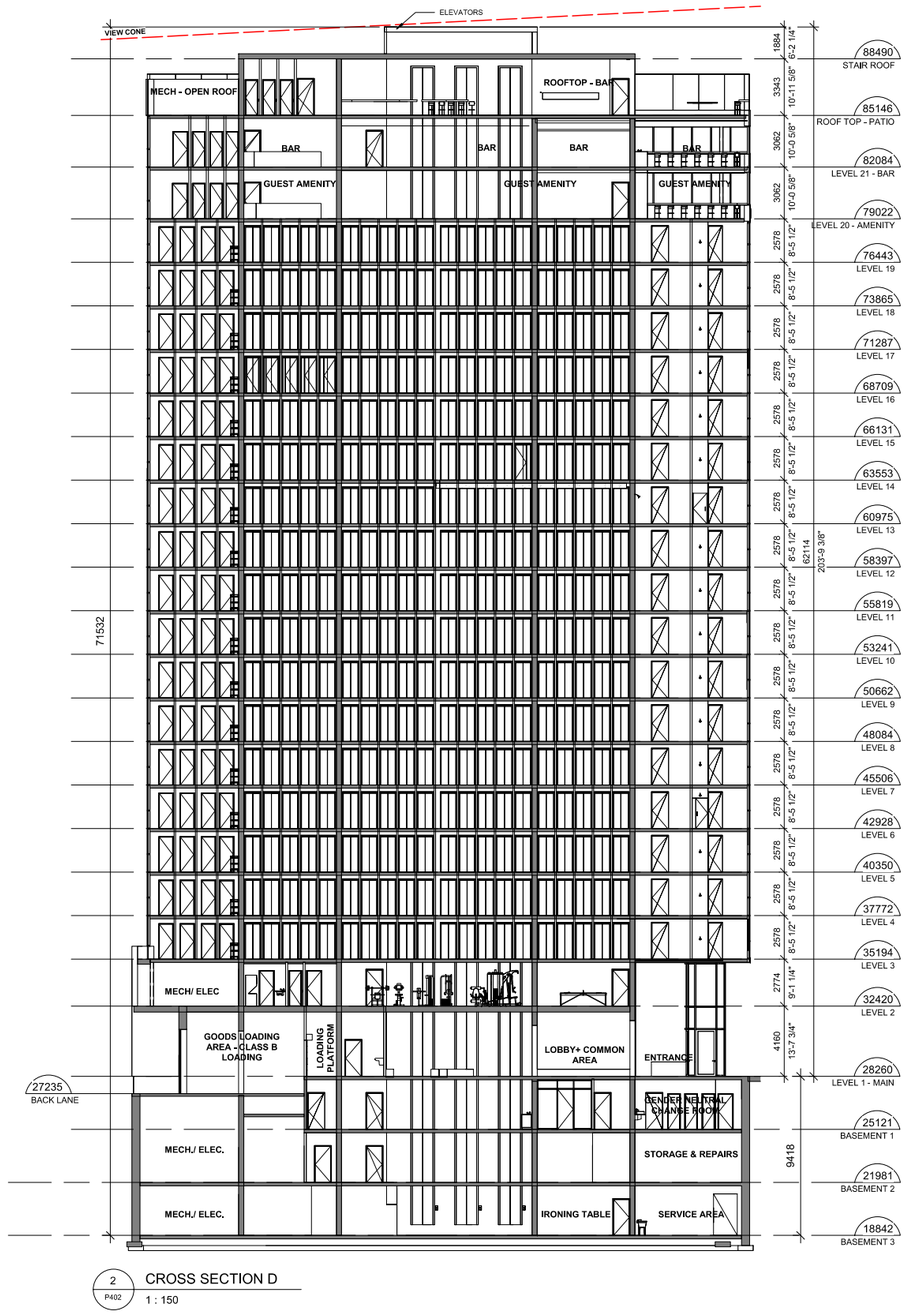


2 A301 CROSS SECTION B
1 : 150

6.4 Sections

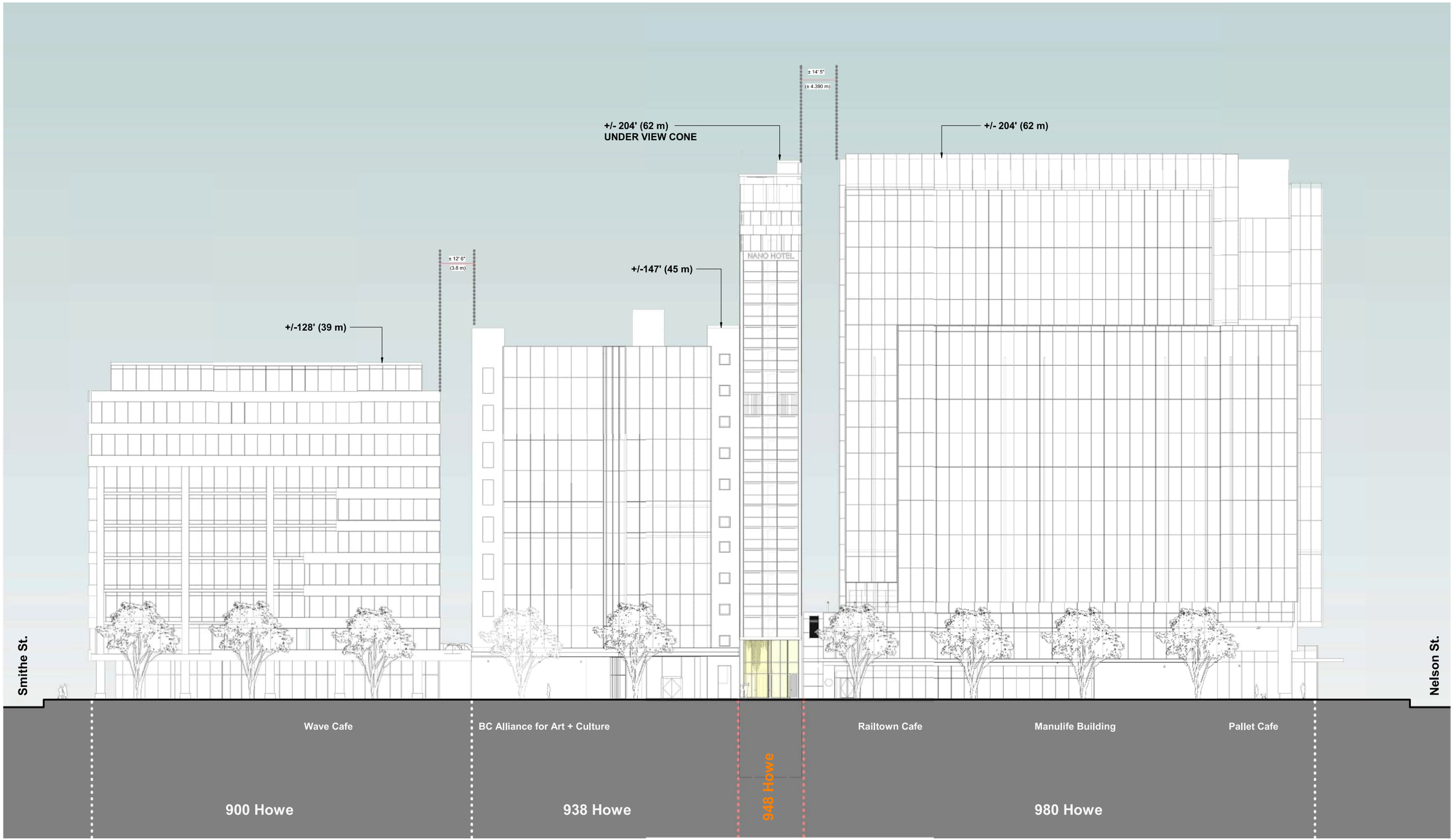


1 P402 CROSS SECTION C
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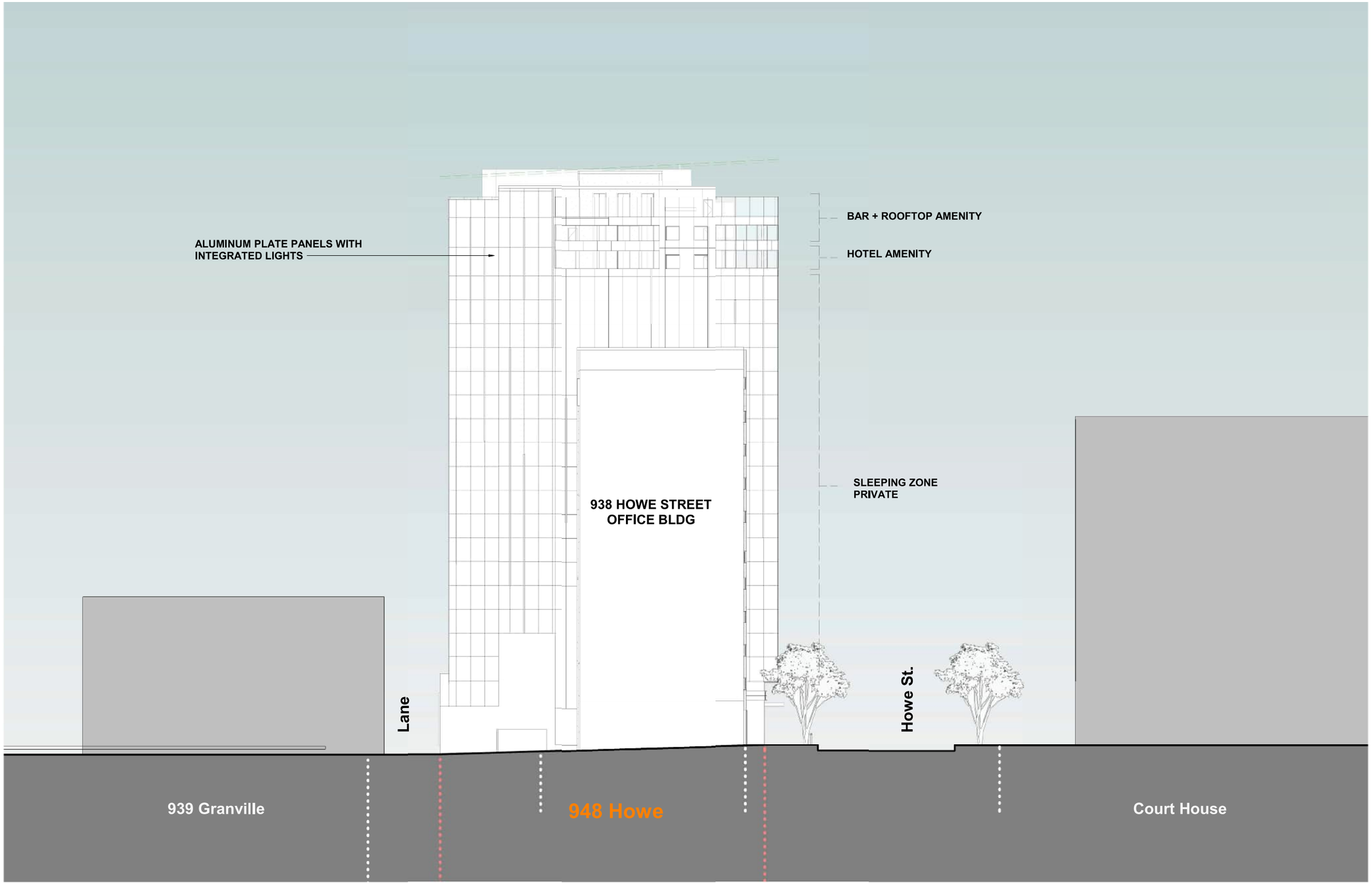


2 P402 CROSS SECTION D
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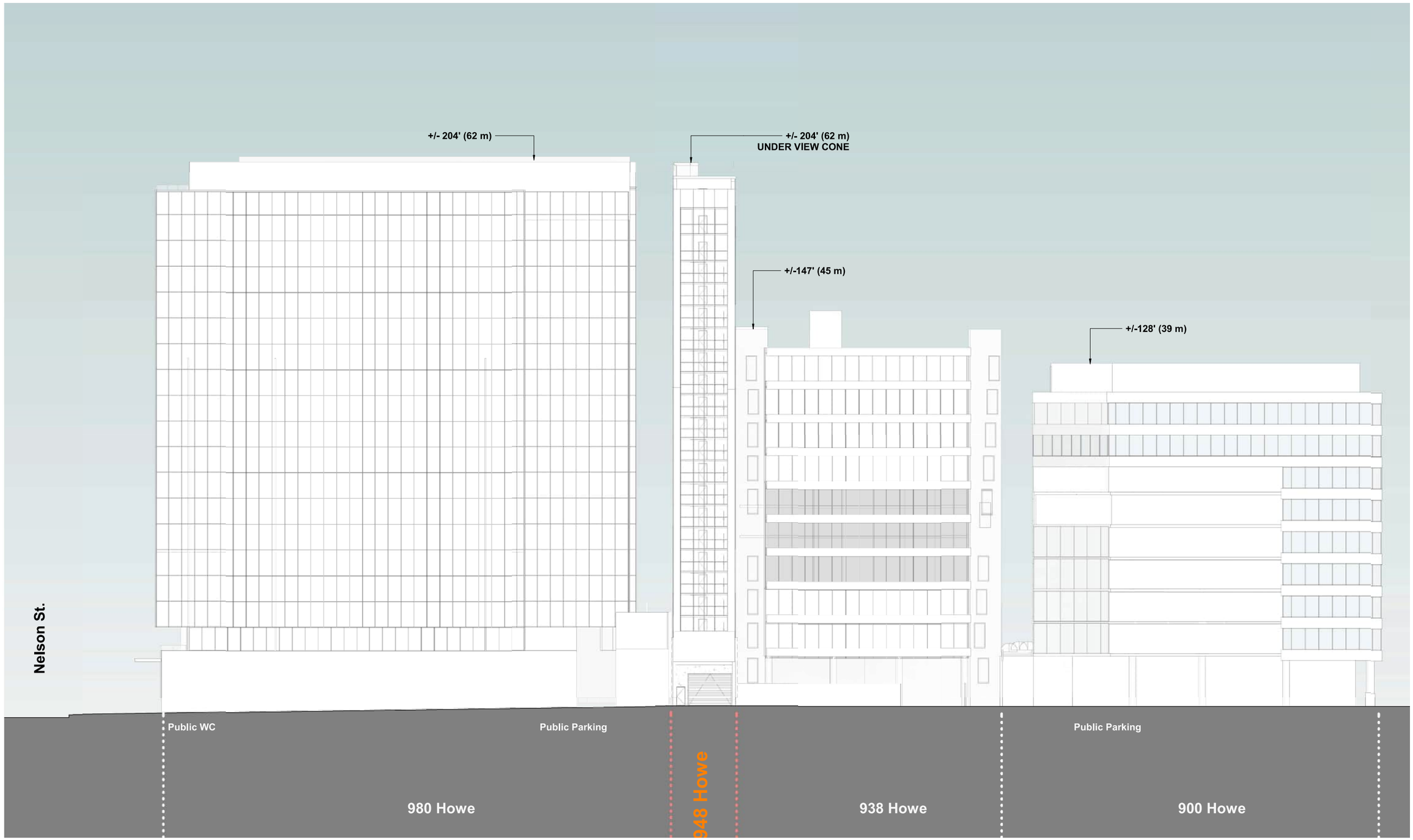
6.5 Elevations



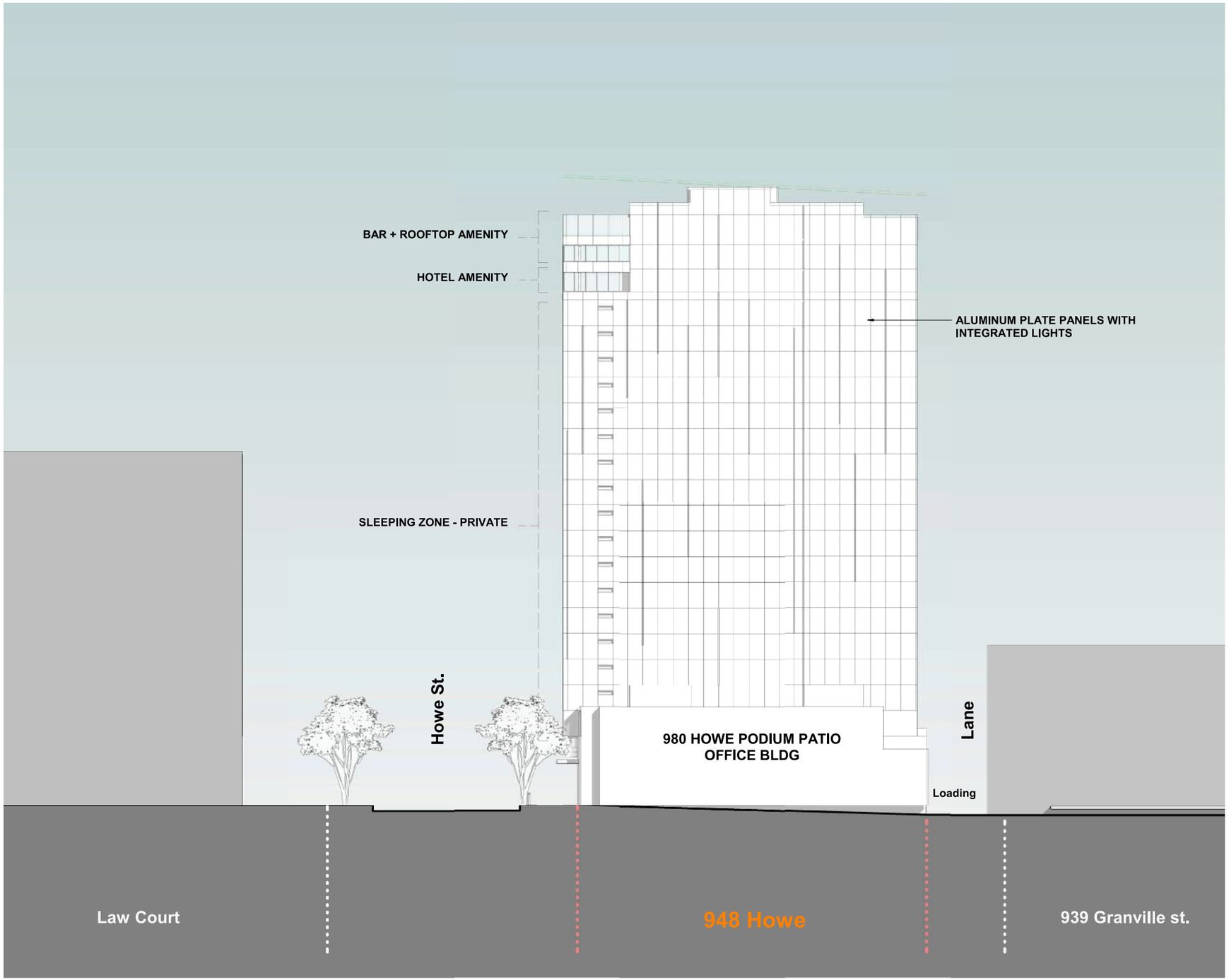
6.5 Elevations



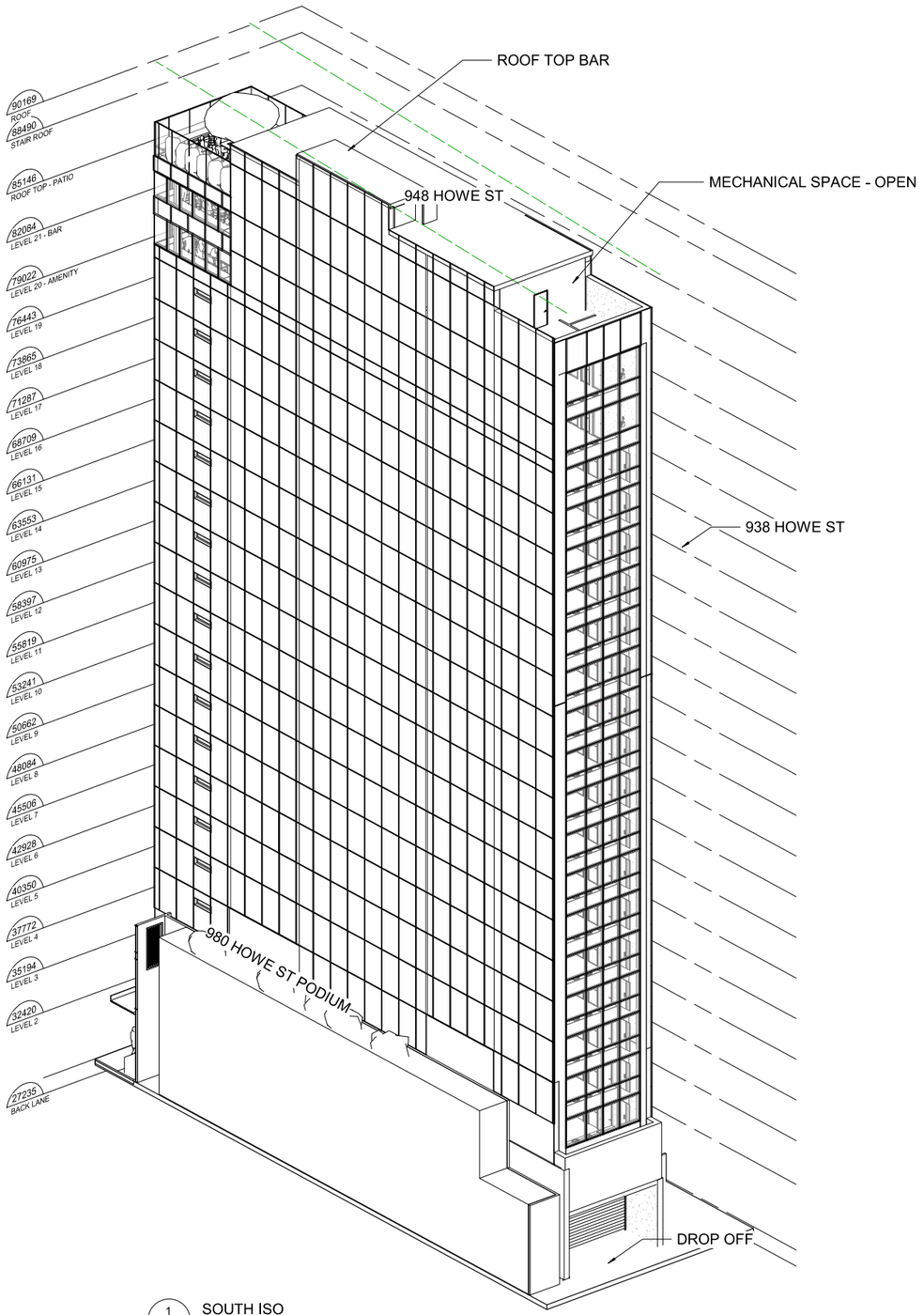
6.5 Elevations



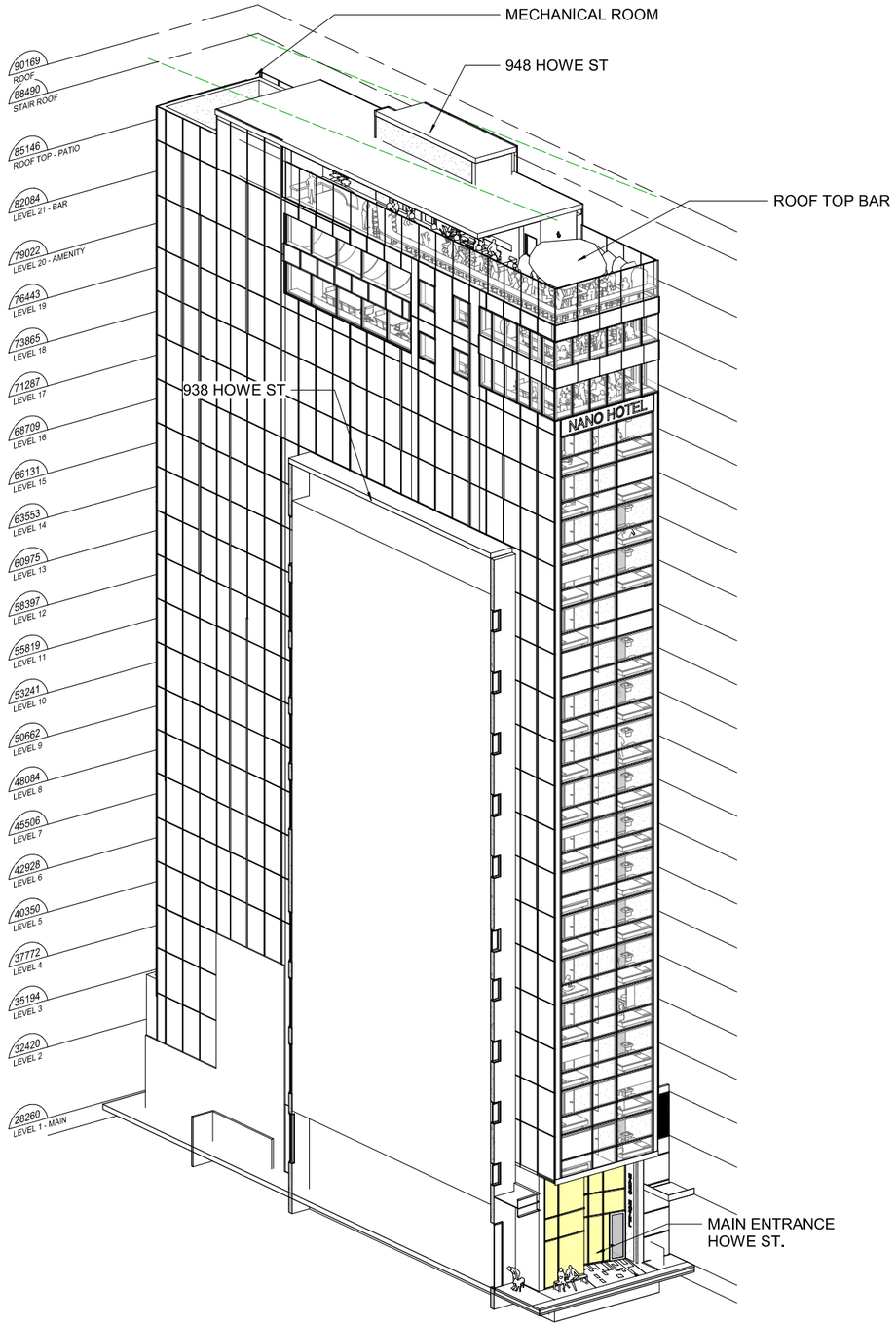
6.5 Elevations



6.6 Isometric Views

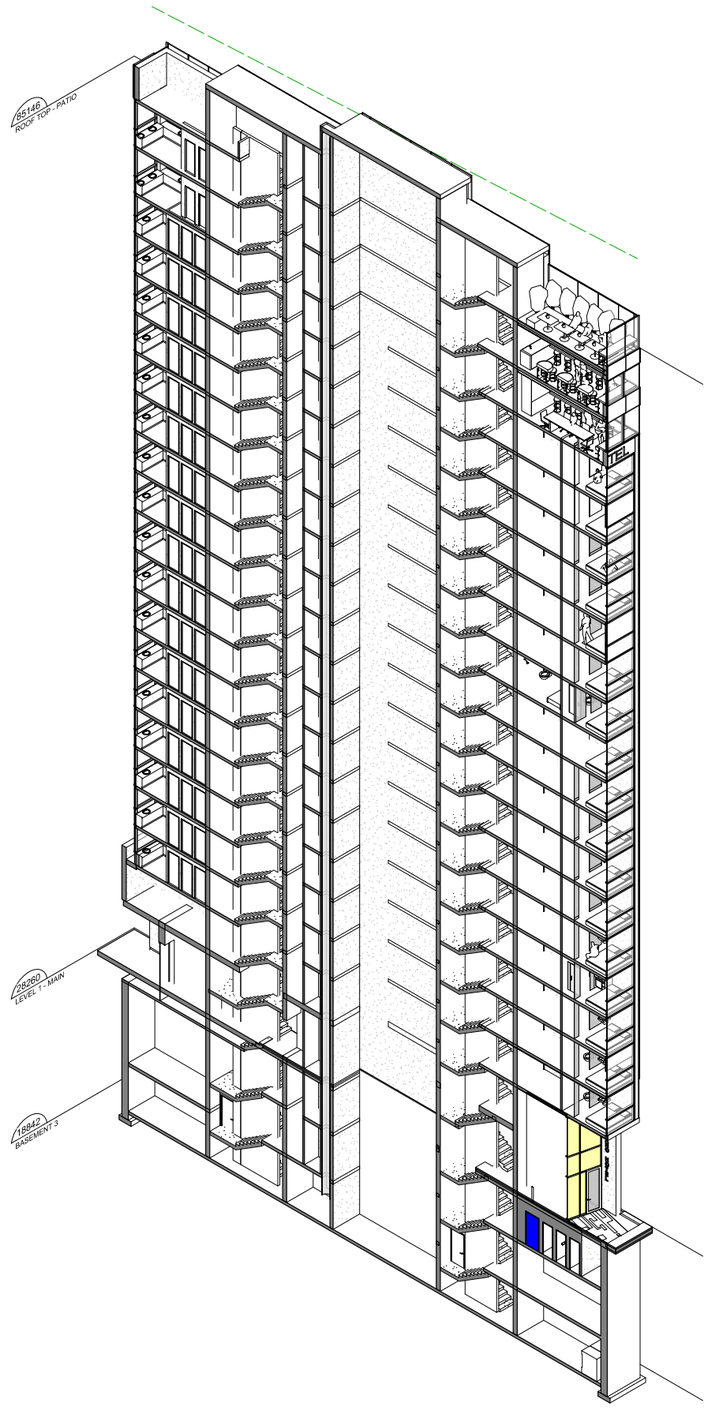


1 P601 SOUTH ISO

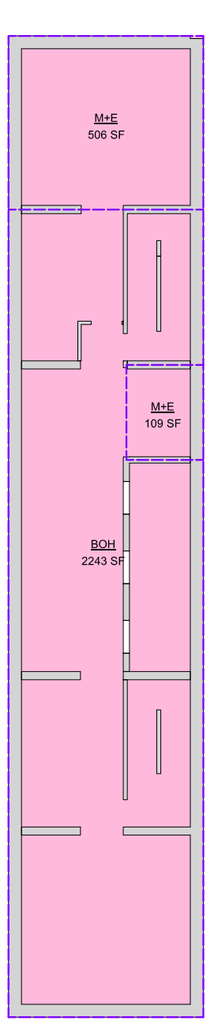


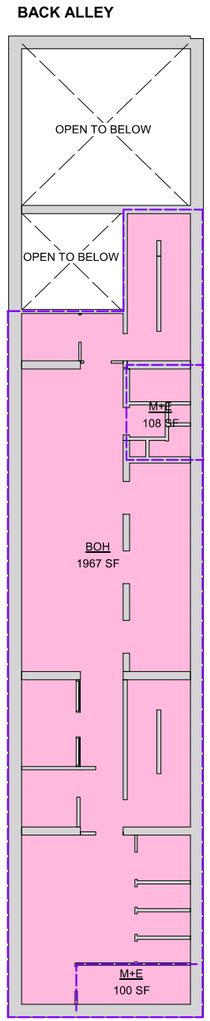
2 P601 NORTH ISO

6.6 Isometric Views

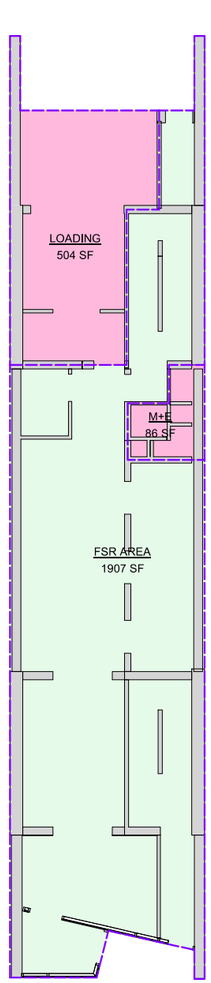


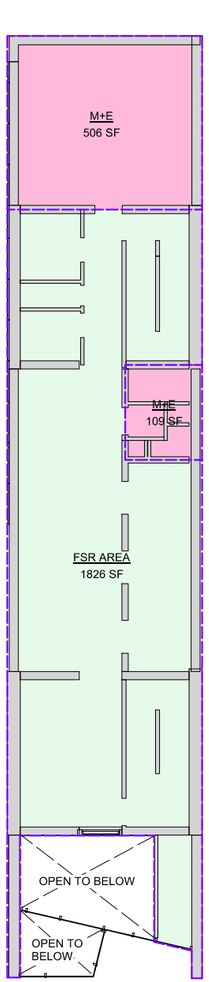
6.7 Area Plans

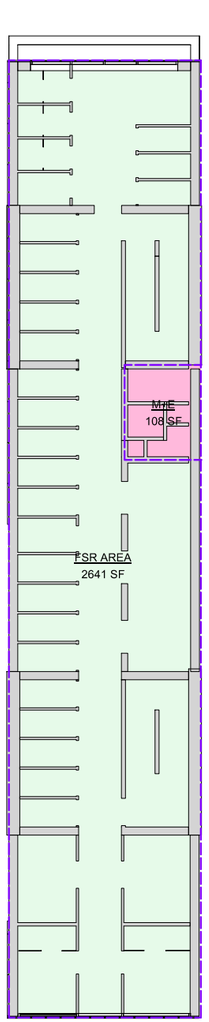


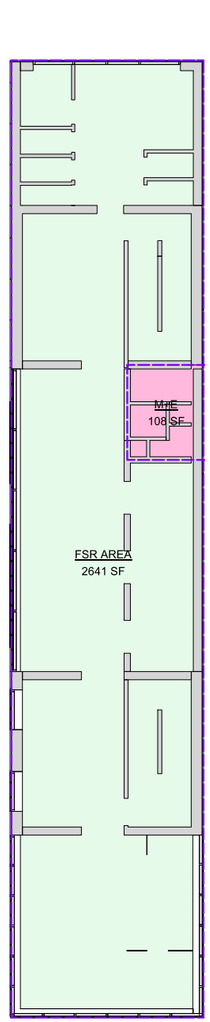


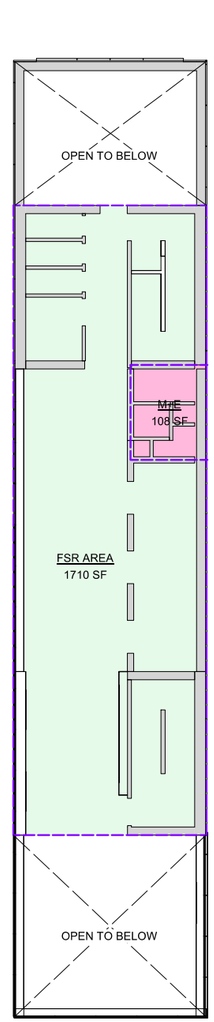
948 HOWE ST.











Legend
- BOH
- M+E

1 P704 BASEMENT 3 + 2
1 : 100

Legend
- BOH
- M+E

2 A002 BASEMENT 1
1 : 100

Legend
- FSR AREA
- LOADING
- M+E

3 A002 LEVEL 1 - MAIN
1 : 100

Legend
- FSR AREA
- M+E

4 A002 LEVEL 2
1 : 100

Legend
- FSR AREA
- M+E

5 A002 LEVEL 3 -19
1 : 100

Legend
- FSR AREA
- M+E

6 A002 LEVEL 20 + 21
1 : 100

Legend
- FSR AREA
- M+E

7 A002 ROOF TOP - PATIO
1 : 100

GROSS FLOOR AREA (FSR EXCLUSION)

Level	Name	Area	AREA (SQ.M)	FSR EXCLUSION
BASEMENT 3	BOH	2243 ft²	208.39 m²	Yes
BASEMENT 3	M+E	109 ft²	10.16 m²	Yes
BASEMENT 2	BOH	2858 ft²	265.54 m²	Yes
BASEMENT 1	BOH	1967 ft²	182.76 m²	Yes
BASEMENT 1	M+E	108 ft²	10.04 m²	Yes
LEVEL 1 - MAIN	M+E	86 ft²	7.96 m²	Yes
LEVEL 1 - MAIN	LOADING	504 ft²	46.79 m²	Yes
LEVEL 2	M+E	109 ft²	10.16 m²	Yes
LEVEL 3	M+E	108 ft²	10.07 m²	Yes
LEVEL 4	M+E	108 ft²	10.07 m²	Yes
LEVEL 5	M+E	108 ft²	10.07 m²	Yes
LEVEL 6	M+E	108 ft²	10.07 m²	Yes
LEVEL 7	M+E	108 ft²	10.07 m²	Yes
LEVEL 8	M+E	108 ft²	10.07 m²	Yes
LEVEL 9	M+E	108 ft²	10.07 m²	Yes
LEVEL 10	M+E	108 ft²	10.07 m²	Yes
LEVEL 11	M+E	108 ft²	10.07 m²	Yes
LEVEL 12	M+E	108 ft²	10.07 m²	Yes
LEVEL 13	M+E	108 ft²	10.07 m²	Yes
LEVEL 14	M+E	108 ft²	10.07 m²	Yes
LEVEL 15	M+E	108 ft²	10.07 m²	Yes
LEVEL 16	M+E	108 ft²	10.07 m²	Yes
LEVEL 17	M+E	108 ft²	10.07 m²	Yes
LEVEL 18	M+E	108 ft²	10.07 m²	Yes
LEVEL 19	M+E	108 ft²	10.07 m²	Yes
LEVEL 20 - AMENITY	M+E	108 ft²	10.07 m²	Yes
LEVEL 21 - BAR	M+E	108 ft²	10.07 m²	Yes
ROOF TOP - PATIO	M+E	108 ft²	10.02 m²	Yes
Grand total: 28		10152 ft²	943.13 m²	

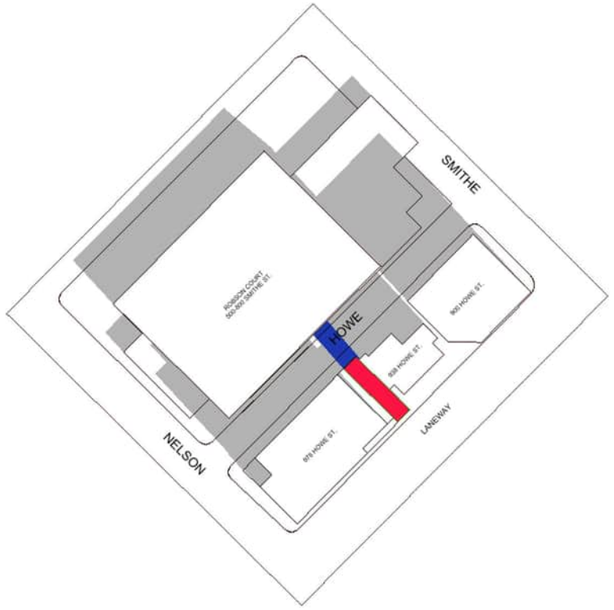
GROSS FLOOR AREA (FSR)

Level	Area	Area (SQ.M)	FSR EXCLUSION
LEVEL 1 - MAIN	1907 ft²	177.20 m²	No
LEVEL 2	1826 ft²	169.66 m²	No
LEVEL 3	2641 ft²	245.31 m²	No
LEVEL 4	2641 ft²	245.31 m²	No
LEVEL 5	2641 ft²	245.31 m²	No
LEVEL 6	2641 ft²	245.31 m²	No
LEVEL 7	2641 ft²	245.31 m²	No
LEVEL 8	2641 ft²	245.31 m²	No
LEVEL 9	2641 ft²	245.31 m²	No
LEVEL 10	2641 ft²	245.31 m²	No
LEVEL 11	2641 ft²	245.31 m²	No
LEVEL 12	2641 ft²	245.31 m²	No
LEVEL 13	2641 ft²	245.31 m²	No
LEVEL 14	2641 ft²	245.31 m²	No
LEVEL 15	2641 ft²	245.31 m²	No
LEVEL 16	2641 ft²	245.31 m²	No
LEVEL 17	2641 ft²	245.31 m²	No
LEVEL 18	2641 ft²	245.31 m²	No
LEVEL 19	2641 ft²	245.31 m²	No
LEVEL 20 - AMENITY	2641 ft²	245.31 m²	No
LEVEL 21 - BAR	2641 ft²	245.31 m²	No
ROOF TOP - PATIO	1710 ft²	158.90 m²	No
Grand total: 22	55614 ft²	5166.71 m²	

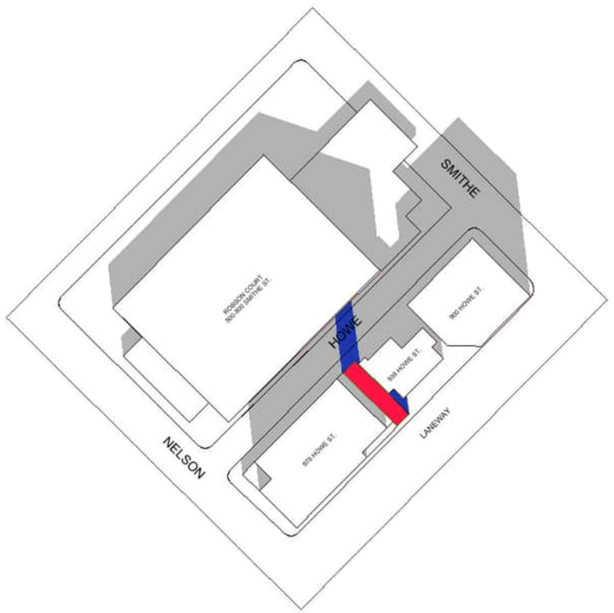
BASE FSR: 6
LOT SIZE: 25 X 120 = 3,000 SQ.FT
FSR: 55,614 / 3,000 = 18.5

FLOOR AREA	PROPOSED (sq.ft)	PROPOSED (sq.m)
GROSS	55,614	5,166.7

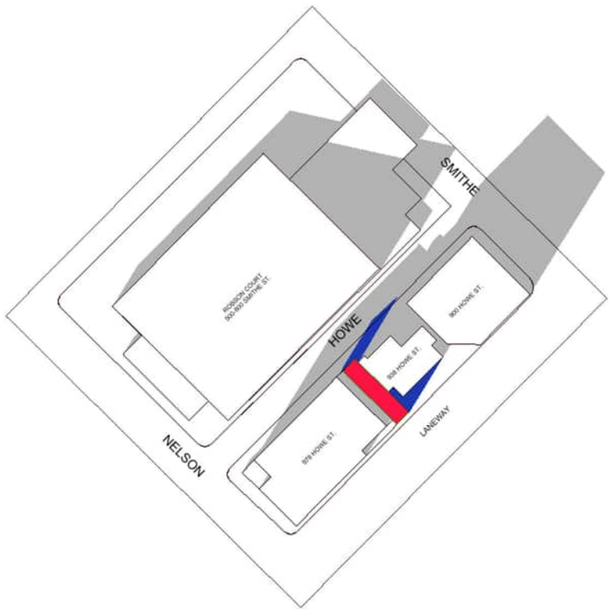
6.8 Shadow Analysis



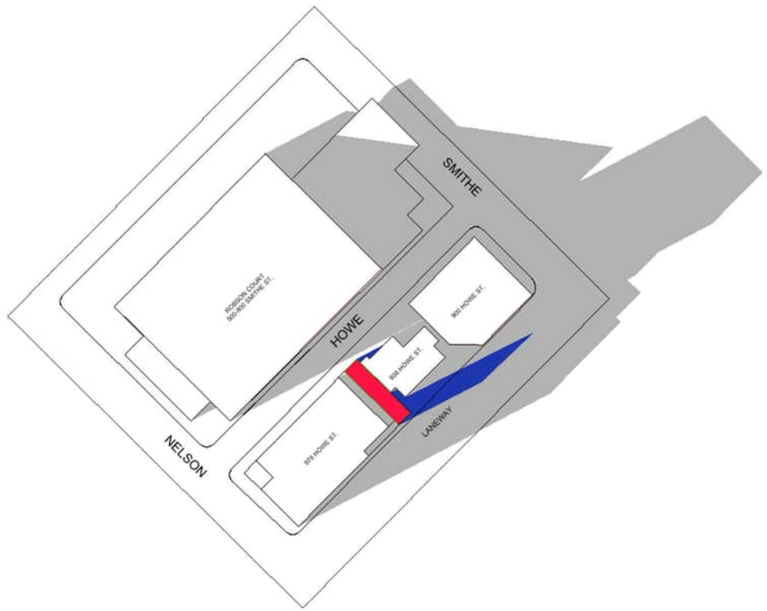
Mar 21/Sep 21 - 10am



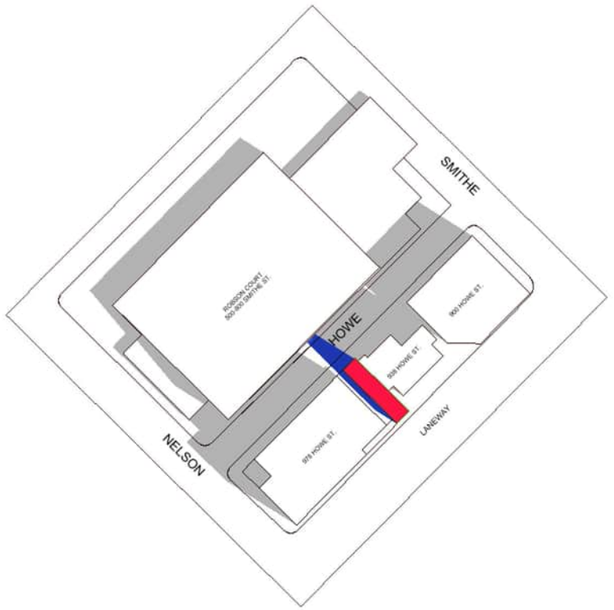
Mar 21/Sep 21 - 12pm



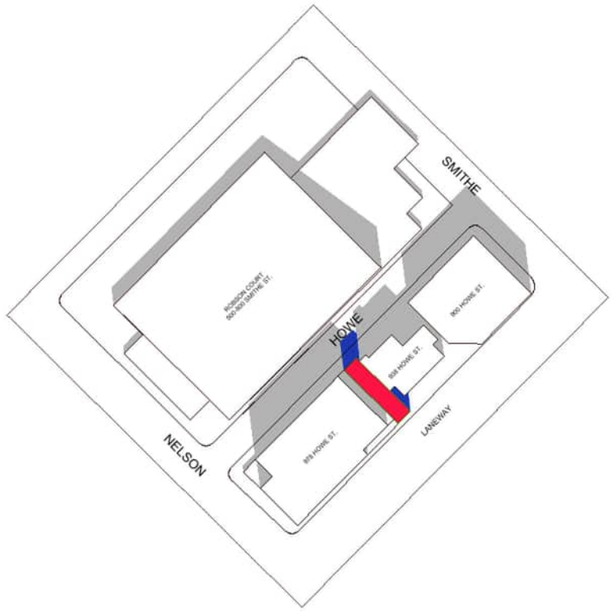
Mar 21/Sep 21 - 2pm



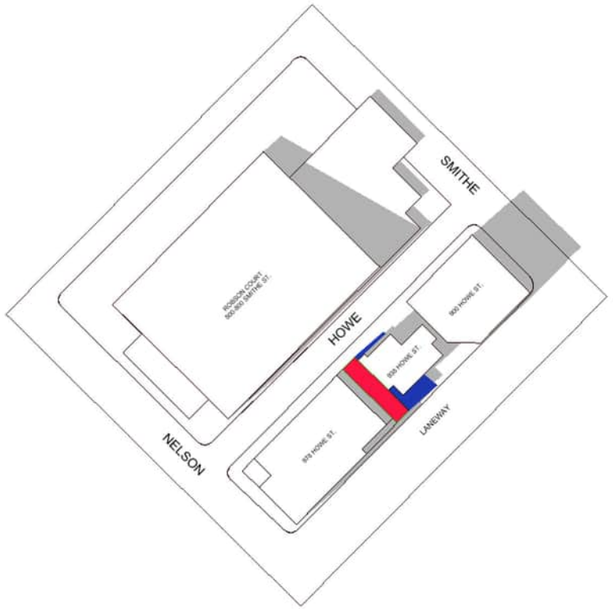
Mar 21/Sep 21 - 4pm



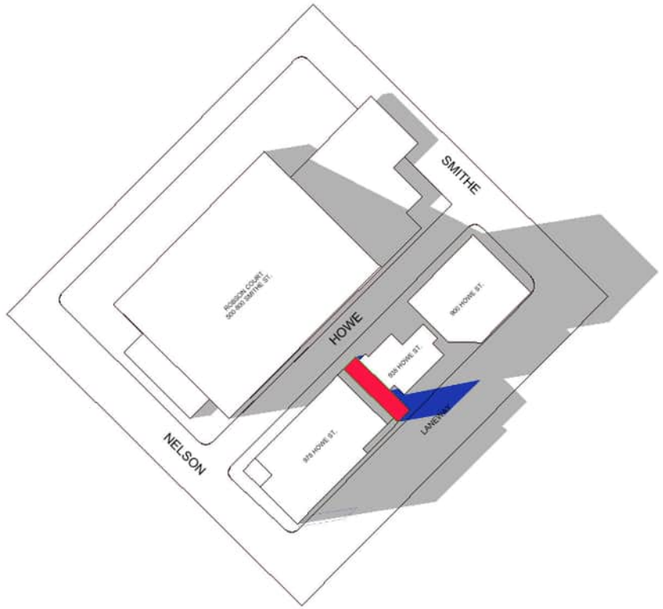
Jun 21 - 10am



Jun 21 - 12pm



Jun 21 - 2pm



Jun 21 - 4pm

6.9 Landscape Architecture

The landscape design focuses on creating a welcoming and beautiful yet functional and efficient public realm that enhances guest experience, encourages social interaction, and activates the site as a lively destination.

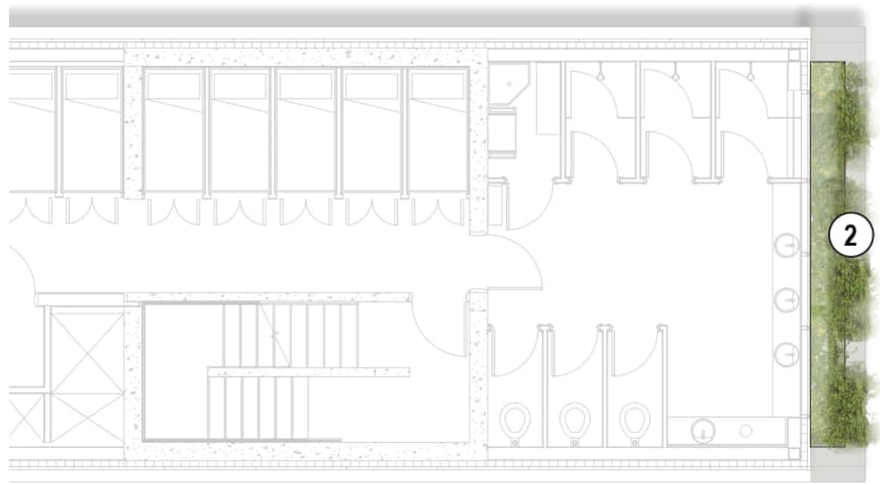
At the main entrance on the ground level, the stone paving functions as a direct extension of the architectural interior, continuing seamlessly through the vestibule and into the concierge and hallway spaces. The decorative diagonal pattern of the stone paving reinforces a sense of movement and emphasizes the dynamic and energetic relationship between the interior and exterior spaces.

On Level 3, evergreen shrubs and trailing cotoneaster are planted within linear planters facing the rear lane. Their consistent greenery softens the building edge and brightens the lane with a lush, year-round presence.

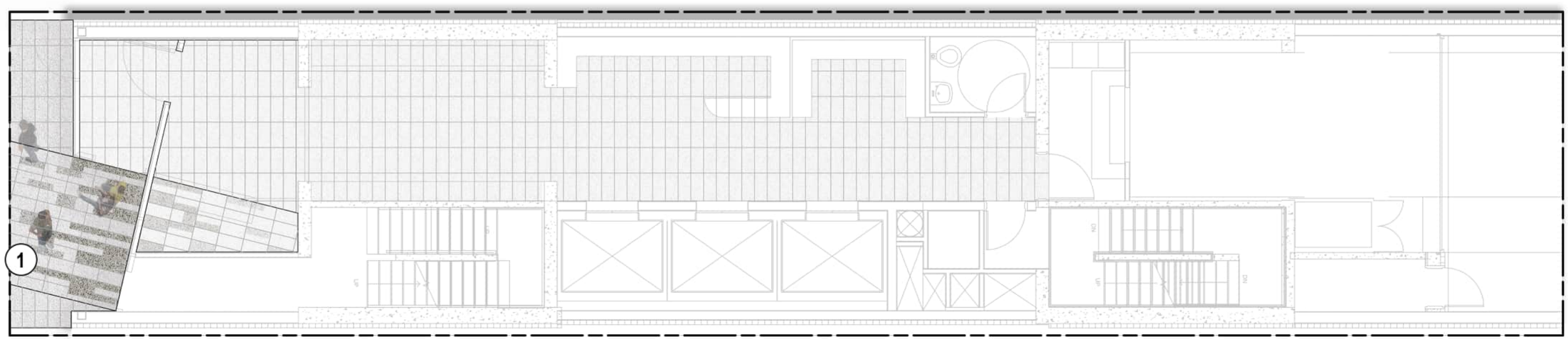
An outdoor bar and gathering space is located on the roof level. Upon arrival via elevator, the service bar becomes a clear focal point, immediately orienting visitors. A long bar table connects the service counter to the exposed outdoor patio area, creating a continuous social zone. Overall the space is envisioned to function as a flexible social area. Along the perimeter wall, a fire wall with casual seating provides warmth and comfort, encouraging year-round use and creating an inviting atmosphere during cooler seasons.

The exposed patio space is organized around a central maple tree, which serves as both a visual focus and a spatial divider. A bar table wraps around the tree trunk, offering an informal gathering point beneath the canopy. Along the north edge, the bar table extends from the covered area, offering broad views of the surrounding urban context and bringing the city experience onto the rooftop.

A banquette seating area is envisioned along the south side of the space. This seating area is nestled within a planted edge, creating an intimate experience while maintaining an open and comfortable atmosphere.



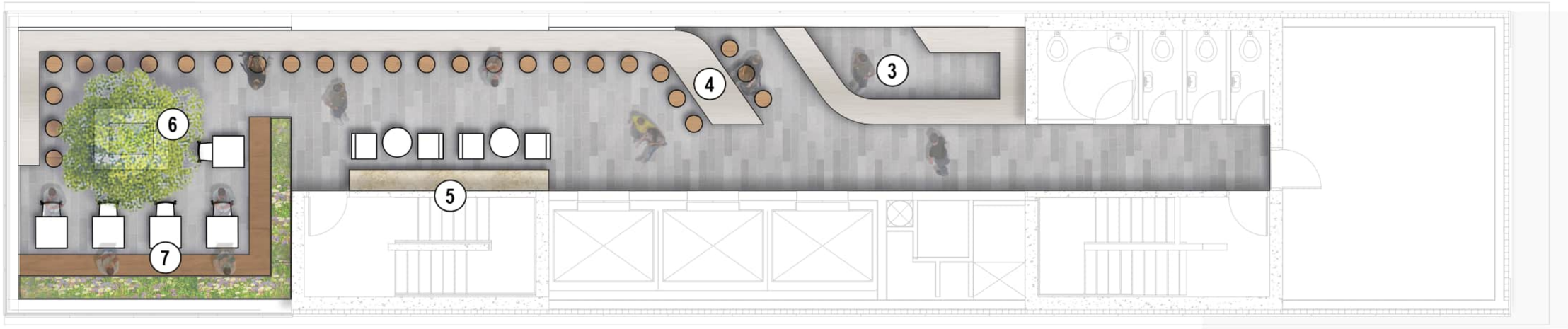
LEVEL 3 PLAN



GROUND LEVEL PLAN

SCALE - 1:100
WHEN PRINTED IN 11" X 17"

0 1 2 3 4 5M

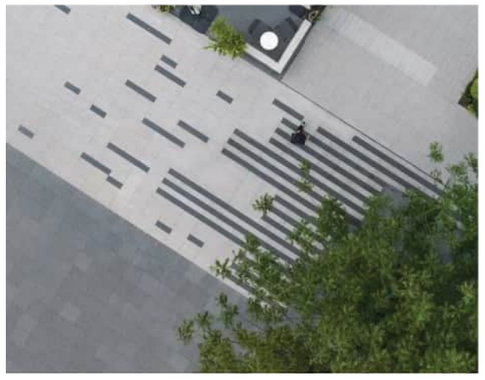


ROOF LEVEL PLAN

SCALE - 1:100
WHEN PRINTED IN 11" X 17"

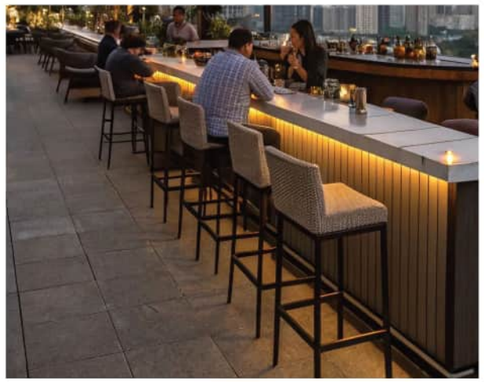
0 1 2 3 4 5M

1 BUILDING MAIN ENTRANCE W/ DECORATIVE PAVING
2 EVERGREEN & TRAILING COTONEASTER PLANTING
3 SERVICE COUNTER
4 BAR TABLE & CHAIRS
5 FIRE WALL W/ CASUAL SEATING
6 BAR TABLE W/ TREE PLANTING
7 BANQUETTE SEATING W/ RAISED PLANTER


Decorative paving


Banquette seating w/ planting


Fire wall & casual seating


Bar counter


Bar table w/ vegetation

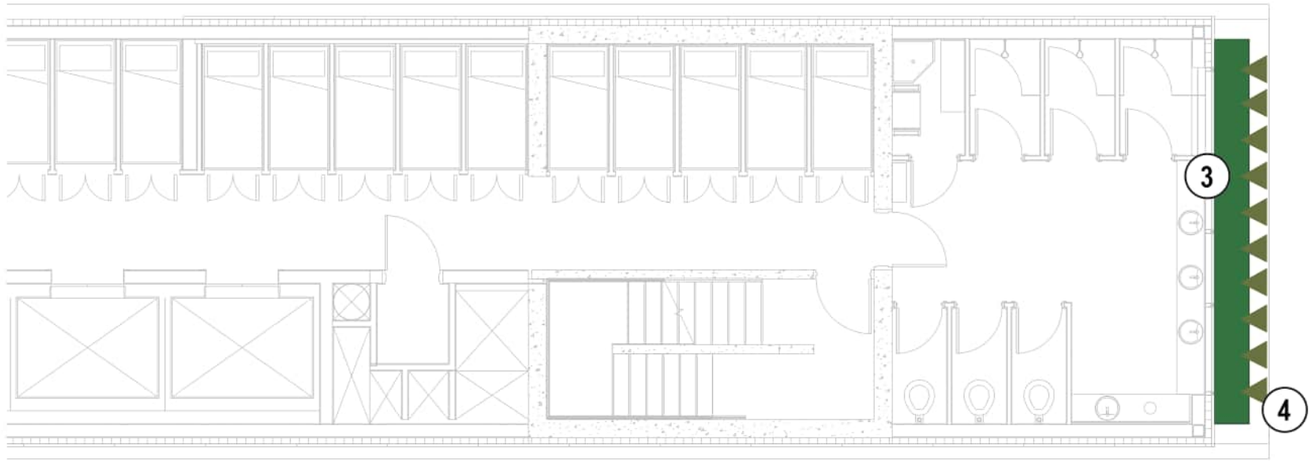
6.9 Landscape Architecture

The planting design integrates a series of evergreen shrubs, and grasses to ensure year-round seasonal interest while maintaining low ongoing maintenance.

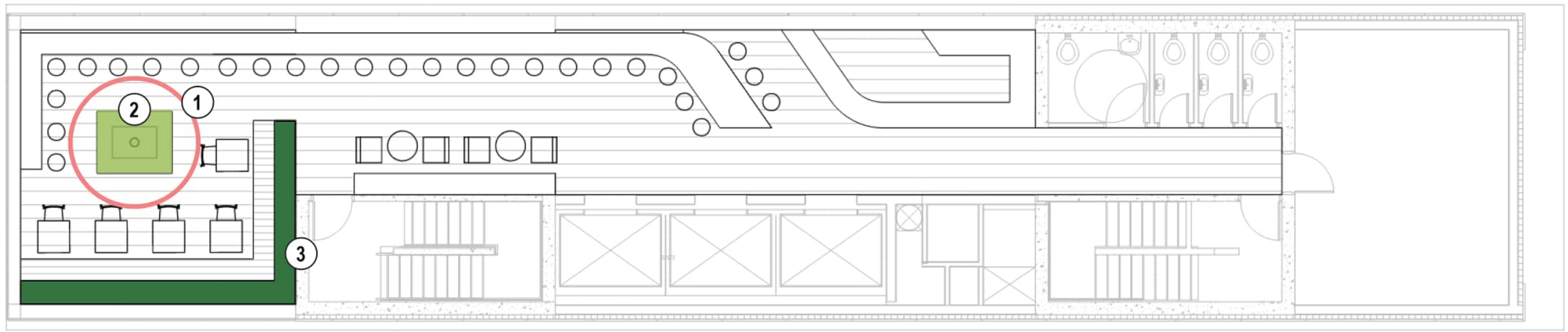
Trailing cotoneaster and evergreen shrubs are planted in the linear planter on Level 3 facing the rear lane, bringing a lively green presence that enlivens the lane and softens the built edge.

Linear raised metal planters on the roof level feature low evergreen planting, with *Ilex crenata* forming a continuous deep-green edge along the banquette seating, providing visual definition and year-round structure.

A Japanese maple is planted as a central focal tree within the exposed patio seating area, with *Carex oshimensis* used as groundcover beneath. The maple's rich seasonal coloration enhances visual interest, adds warmth, and helps to brighten and unify the space, reinforcing a welcoming and memorable guest experience.



LEVEL 3 PLAN PLANTING DIAGRAM



ROOF LEVEL PLAN PLANTING DIAGRAM

SCALE - 1:100
WHEN PRINTED IN 11" X 17"

0 1 2 3 4 5M



Acer palmatum - Japanese Maple



Carex oshimensis 'Everillo' - Japanese Sedge



Ilex crenata 'Soft Touch' -
Soft Touch Japanese Holly



Cotoneaster dammeri - Bearberry Cotoneaster

6.10 Rendering




NANO HOTEL

7.0 Appendix

Appendix A - Code Consultant Report (GHL)

Appendix A - Code Consultant Report (GHL)

GHL CONSULTANTS
A PART OF JS|HELD

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Vancouver, BC V6C 1G8 | CA
+1 604-689-4449
www.ghl.ca

PRELIMINARY APPROACH TO BUILDING CODE COMPLIANCE

PROJECT: **Nano Hotel**

ADDRESS: **948 Howe Street, Vancouver, BC**

DATE: **January 30, 2026**

GHL FILE: **9675.00**

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1. Purpose

This report outlines the preliminary approach to Building Bylaw compliance for the Nano Hotel (pod hotel) located at 948 Howe Street in Vancouver, BC. This report is based on architectural drawings prepared by Unison Architecture Ltd and are included in *Attachment 1*.

It is noted that early discussions were conducted with the City of Vancouver Building Department, with meeting minutes provided in *Attachment 2*.

2. Applicable Building Bylaw

The applicable Building Bylaw for this project will be the Vancouver Building Bylaw 2025 (Building Bylaw). All references indicated in this report refer to Division B of the Building Bylaw, unless otherwise indicated.

3. Project Description

The project will consist of a 22-storey building with 3 levels of below-grade basement and an occupied rooftop. It is noted that the occupied rooftop is the 22nd storey as the rooftop contains enclosed washrooms, as such, does not conform to the exemption in Sentence 3.2.1.1.(1).

The building will be sprinklered, provided with a fire alarm system, and provided with high building features per Subsection 3.2.6.

The building will be used as a pod hotel, which consists generally of accommodation providing bed-sized sleeping rooms (i.e., pods) arranged in rows.

The project faces Howe Street to the north, a lane to the south, and property lines to the east and west.

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4. Building Characteristics

This building will have the following characteristics:

- Building Height 22 storeys
- Building Area Approximately 258m²
- Sprinklered Yes
- Basement 3 storeys

Based on its use as a pod hotel, the major occupancy classification for this building will be Group C.

5. Construction Requirements

Based on the building characteristics and proposed major occupancy of the building, construction requirements will be based on application of Article 3.2.2.47, "*Group C, Any Height, Any Area, Sprinklered*". Based on Article 3.2.2.47, the following construction requirements are applicable:

	Article 3.2.2.47
Occupancy	Group C
Building Height Maximum (storeys)	Unlimited
Building Area Maximum (m^2)	Unlimited
Type of Construction	Noncombustible*
Sprinklered	Yes
Floor Construction	2h fire separation
Mezzanine Construction	1h fire resistance rating
Roof Construction	No rating if unoccupied 2h fire separation is occupied

Loadbearing structural supports will have a fire resistance rating equal to the rating of the supported assembly.

At this time, due to weight and on-site construction challenges, it is proposed to utilize encapsulated mass timber (cross-laminated timber) floor fire separations. As the building height exceeds 18 storeys, Article 3.2.2.93 for encapsulated mass timber construction is not applicable to this project; as such, Alternative Solution 1 will be provided to addresses the use of structural mass timber floors.

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6. Fire Separation Requirements

Fire separations will be provided based on the following:

Separation around	*FRR of Separation*
Exits	2h
Basement elevator lobbies	2h
Elevator shafts and machine rooms	2h
Garbage, refuse, and recycling rooms	1h
Janitor's room	Unrated
Covered loading bay to other portions of the building	1.5h
Electrical room (unsprinklered per NFPA 13)	2h
Electrical room required by the Electrical Code (sprinklered)	1h
Service rooms with fuel fired appliance	1h
Service rooms without fuel fired appliance	None
Emergency generator room	2h
Room protecting EM conductors for fire alarm system	2h
Sleeping rooms (i.e., Nano rooms)	1h*

* See section below for approach to address fire separation of suites.

Suite and Public Corridor Fire Separations

A fire separation is not prescribed for the public corridor per Clause 3.3.1.4.(4)(a) as the travel distance from any part of the floor area to an exit is less than 45m. In other words, a fire separation is not prescribed between the suite and the public corridor.

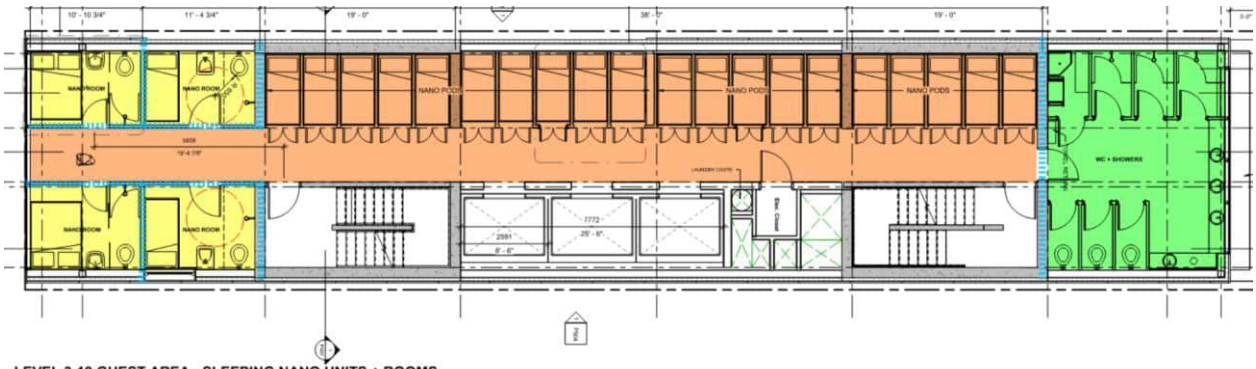
A 1h fire separation is prescribed between adjoining suites per Sentence 3.3.1.1.(1) which would apply to the walls between suites. Although the sleeping pods meet the definition of suite, i.e., under a separate tenancy and consistent with any typical hotel room, the sleeping pods do not reflect the same level of hazard as a typical suite or hotel room. For example, due to the small size and controlled nature of the facility, it is unlikely for substantial accumulation of combustibles (i.e., furniture) to be present within the pod. The pod is only expected to be used for sleeping, i.e., there will be no cooking operations (including microwaves) which could occur in a typical hotel room or suite.

As such, the following approach is proposed to meet the intent of the Building Bylaw with respect to compartmentation at the 3rd to 19th storeys:

- A 1h fire separation is provided for the sleeping rooms.
- A 1h fire separation is provided for the washroom.
- The remainder of the floor area, which includes the sleeping pods, is a separate 1h fire compartment, separated from the sleeping rooms and washroom.
- Each sleeping pod will be sprinklered and provided with a smoke detector with sounder base.

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This is illustrated in the below diagram with the 1h fire separation for the sleeping rooms and washroom shown in blue dashed lines (noting that some locations will inherently have a greater fire resistance rating of 2h, e.g., exit fire separations, shaft separation, etc).



LEVEL 3-19 GUEST AREA - SLEEPING NANO UNITS + ROOMS

It is noted that this approach may need to be documented as Alternative Solution 9

Fire and/or Smoke Dampers

Per Article 3.1.8.7, fire dampers are required in ducts and air transfer openings at every fire separation, and fire and smoke dampers (or a combination fire/smoke damper) are required at every fire separation serving a residential occupancy unless the dampers are exempt by Article 3.1.8.8 or 3.1.8.9. Exemptions per Articles 3.1.8.8 and 3.1.8.9 that apply for this project include:

a) Smoke dampers are not required per Clause 3.1.8.9.(1)(b) if all inlet and outlet openings of the ducts are serving the same fire compartment or if the duct forms part of a smoke control system.

b) Fire dampers are not required per Clause 3.1.8.8.(1)(c) for ducts or air-transfer openings that penetrate a vertical fire separation not required to have a fire resistance rating.

c) Fire dampers are not required per Clause 3.1.8.8.(1)(d) for noncombustible ducts or air-transfer openings that penetrate a horizontal fire separation not required to have a fire resistance rating.

d) Fire and smoke dampers are not required per Clauses 3.1.8.8.(2) and 3.1.8.9.(2) if the ducts are noncombustible with a melting point greater than 760C and the ducts:

   i. have a cross sectional area less than 0.013m^2, serve only air conditioning units or combined air-conditioning and heating units, and discharge air not more than 1.2m above the floor, **or**
   ii. extend not less than 500mm inside exhaust duct risers that are under negative pressure with airflow upwards per Article 3.6.3.4.

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If the above waivers cannot be applied for this project, Alternative Solution 2 may be proposed to waive smoke dampers based on engineering analysis to demonstrate that with continuously moving air and a layout that does not recirculate return / exhaust air in an emergency, smoke migration is limited.

7. High Building

Subsection 3.2.6 applies to this building of Group C occupancy as the building is greater than 18m above grade. The following table provides a summary of high building measures in Subsection 3.2.6.

Code Reference	Division B Acceptable Solutions
Article 3.2.6.2	***Limits to Smoke Movement*** - Pressurized exit stairs will serve storeys above and below the lowest exit level as proposed by Alternative Solution 3. - Residential corridor pressurization fans to stay on during fire alarm. Manual switches and emergency power for such fans. - 2h shafts for pressurization ducts serving below grade stairs. - Air moving fans stop upon in duct smoke detection in a system serving more than 2 storeys. Manual switches for such fans. - Elevators which service storeys below the lowest exit storey provided with 2h fire rated vestibules at below grade levels. - Vertical service spaces, other than elevator shafts, will be provided with firestop at the floor assembly of the storey immediately below the lowest exit storey or vented to the outdoors at top during a fire emergency. (For the linen chute, refer to Section 10 of this report, which prescribes a vent to the outdoors at top and inherently meets this provision for high building).
Article 3.2.6.4	***Emergency Operation of Elevator*** - Automatic and manual emergency recall features for elevators. - Elevator car emergency switches and status indicators.
Article 3.2.6.5	***Elevator for Use by Firefighters*** - All elevators should be capable of operating on emergency power. - At least one elevator at a time is required to operate on emergency power. - At least one elevator should comply to Sentences (4) through (6). - Minimum usable area of 2.2m^2 and load capacity of 900kg. - 2h fire rated shaft with closures having 1½h fire protection rating. - 1h fire rating for emergency electrical conductors.
Article 3.2.6.6	***Venting to Aid Firefighting*** - Openable windows or provision of manually controlled smoke exhaust system at a rate of six air changes/h.

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Code Reference	Division B Acceptable Solutions
Article 3.2.6.7	***Central Alarm and Control Facility*** - At the 1st storey, in close proximity to Fire Department response point.
Article 3.2.6.8	***Voice Communication System*** - An emergency voice communication system is prescribed.
Article 3.2.7.4	***Emergency Lighting and Power*** - 2h duration under full load.
Article 3.2.7.8	***Fire Alarm Emergency Power*** - 2h duration under full load and 24h supervisory power.
Article 3.2.7.9	***Emergency Power for Building Services*** - 2h operation for all emergency systems, firefighters' elevator, and elevators if building is more than 36m high.
Article 3.2.7.10	***Protection of Electrical Conduit*** - Electrical conductors will be protected against exposure to fire for a period of not less than 1h (i.e., located within 2h service spaces). This includes entire fire alarm system, voice communication system, firefighter elevator, emergency lighting, and smoke control measures to the floor or zone of operation. - Distribution panels serving emergency lighting units located on other storeys separated from floor area by 1h fire separation.

8. Spatial Separation Requirements

The project faces Howe Street to the north, a lane to the south, and property lines to the east and west.

Spatial separation calculations in accordance with Subsection 3.2.3 are included in *Attachment 3*.

The north exposing building face is permitted 100% unprotected openings based on a limiting distance greater than 9m, measured to the centreline of Howe Street.

The east and west exposing building faces are prescribed maximum 0% unprotected openings, 1h fire resistance rating, noncombustible construction, and noncombustible cladding for the exterior wall, based on a limiting distance of 0m. Alternative Solution 4 addresses the use of sprinkler-protected glazing for openings within the east and west exposing building faces of the 20th and 21st storeys (however, it is noted that glass with a 1h fire resistance rating, tested to CAN/ULC-S101 will be explored – if such a glass product is utilized then Alternative Solution 4 is not required).

The south exposing building face of the 2nd to 22nd storeys is prescribed maximum 70.7% unprotected openings and a 45min fire resistance rating for the exterior wall for the 2nd to 22nd storeys based on a limiting distance measured to the centreline of the lane. The south exposing

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building face of the 1st storey is prescribed maximum 82.3% unprotected openings, a 1h fire resistance rating, and noncombustible cladding for the exterior wall. Alternative Solution 5 addresses the use of a water curtain sprinkler system to protect the opening of the 1st storey loading bay.

Exit exposure conditions at exit discharge paths will be addressed by glass block, wired glass, closures, or sprinkler water curtain per Article 3.2.3.13.

9. **Exit and Egress Systems**

Travel Distance and Location of Exits

Each storey of the building will be provided with at least two exits per Sentence 3.4.2.1.(1) with travel distance limited to a maximum of 45m per Clause 3.4.2.5.(1)(c).

The distance between exits is prescribed to be as follows in accordance with Article 3.4.2.3:

a) The distance between exits in the same floor area will be minimum half the maximum diagonal of the floor area but not less than 9m.
b) The distance between the exterior discharges of the exit stairs serving the same floor area will be not less than 9m.

Dead-End Corridors

Dead-end portions of corridors are prescribed to be limited to 6m. Currently, the drawings show a 7m dead-end portion of corridor on the north side of the 3rd to 19th storeys. This can be addressed by providing a fixed planter or furniture at the end of this corridor, such that the walking path of the dead-end portion is maximum 6m. If this is not provided, Alternative Solution 6 is proposed to address the extended dead-end corridor.

Egress Doors

Rooms are permitted to be served by a single means of egress per Table 3.3.1.5.-B, provided:

a) the room is not more than 200m^2 if assembly occupancy, or 300m^2 if Group F-3 (i.e., service/storage) occupancy,
b) the travel distance from anywhere within the space/room to the egress door is not more than 25m, and
c) the occupant load in the room is not more than 60 persons.

Rooms that are required to be served by two means of egress will have egress doors located at a minimum distance of one third the maximum overall diagonal dimension of the room per Sentence 3.3.1.5.(2).

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Occupant Load and Exit Capacity

Occupant load and exit capacity calculations are included in *Attachment 4*.

It is noted that the occupant load of an individual sleeping pod is one person while the occupant load of a sleeping room is 2 persons as prescribed by Clause 3.1.17.1.(1)(b). Although the sleeping pod could be considered a sleeping room, it is not within a dwelling unit as referenced by Clause 3.1.17.1.(1)(b) and the intent is for these pods to only have one occupant based on its small size. We understand that the hotel operator will have operational controls in place to ensure that only one occupant is using an individual sleeping pod. This is primarily to address water closet requirements – it is noted that sufficient exit capacity is provided even if the sleeping pods are considered to have 2 occupants each.

Doors for Sleeping Pods

As these doors for the pod hotel open into a facility that provides access to exit from a suite (i.e., access to exit from the sleeping pods), Sentence 3.3.1.13.(1) prescribes the active leaf to provide a clear opening of minimum 850mm.

To limit the sleeping pod doors from substantially encroaching onto the corridor width, double-leaf doors are proposed, where each leaf is approximately 430mm wide; an occupant would open both doors to access or egress the sleeping pod. This will be addressed by Alternative Solution 8.

10. **Laundry (Linen) Chutes**

Article 3.6.3.3 applies to linen and refuse chutes. The following table provides a summary of provisions applicable to linen chutes (i.e., laundry chutes) as the building will be provided with a laundry chute.

Code Reference	Division B Acceptable Solutions
Sentence 3.6.3.3.(1)	Linen chutes are to be impervious to moisture, have a smooth internal surface, be corrosion-resistance, be constructed of noncombustible material, and be located in a shaft in which there are no other services other than noncombustible drain, waste, and vent piping or noncombustible water piping.
Sentence 3.6.3.3.(2)	A shaft containing a linen chute is to have a: - 1h fire resistance rating if the chute outlet for the discharge room is protected by an automatic, self-latching closure held open by a fusible link, or - 2h if no closure is provided at the chute outlet into the discharge room.
Sentence 3.6.3.3.(3)	An interior linen chute is to extend not less than 1m above the roof with a vent which: - Has an unobstructed area not less than the cross-sectional area of the chute, and

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Code Reference	Division B Acceptable Solutions
	- Is equipped with a cover that will open automatically, or that can be opened manually in the event of a fire in the chute.
Sentence 3.6.3.3.(4)	Intake openings for a linen chute are to: - have an area not more than 60% of the cross-sectional area of the chute, and - be fitted with a closure designed to close automatically and latch after use.
Sentence 3.6.3.3.(5)	Intake openings for a linen chute are to be located in rooms that: - have no dimension less than 750mm, - are provided with a 45min fire separation, - are designed for no other purpose, and - do not open directly into an exit. As the intake openings for the linen chute will be located in the corridor serving the sleeping pods and sleeping rooms, Alternative Solution 7 is proposed to address Sentence 3.6.3.3.(5).
Sentence 3.6.3.3.(6)	Sprinklers are prescribed at: - the top of each linen chute, - at alternate floor levels, and - in the room or bin into which the chute discharges.
Sentence 3.6.3.3.(7)	A 1h fire separation is prescribed for the room into which a linen chute discharges.

We understand that the chutes provided in this building will not be used for refuse, i.e., garbage.

11. Fire Protection Systems

Fire protection systems to be provided for this building include:

- Automatic sprinkler system.
- Standpipe and hose system.
- Fire alarm and detection system.
- Radio antenna system.
- Emergency lighting and power.
- Smoke control measures (applicable for high building requirements).

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12. **Fire Department Access**

The building will face Howe Street to the north which will be the Fire Department access route.

The primary Fire Department response location will be the main entry lobby, i.e., principal entrance facing Howe Street. This will be within 3m to 15m of the Fire Department access route as prescribed by Article 3.2.5.5.

The Fire Department connections for the sprinkler and standpipe systems will be visible from the street, located horizontally within 5m of the principal entrance, and have unobstructed access for minimum 1m per Article 3.2.5.15.

13. **Water Closets**

The number of water closets prescribed for a residential occupancy is at least one for each 10 persons of each sex per Sentence 3.7.2.2.(8). The number of water closets for staff is based on Table 3.7.2.2.-B for business and personal services occupancy.

Refer to *Attachment 5* for the water closet calculations.

14. **Accessibility**

Accessibility will be in compliance with Section 3.8. The key design features will be provided at a future date; the below summarizes high-level provisions applicable to this project.

Doors in Accessible Paths of Travel

In general, the 2025 edition of the Building Bylaw has revised door width requirements to be consistent between different provisions. Generally, a door in an accessible path of travel is prescribed an 850mm clear width. Similarly, Sentence 3.3.1.13.(1) prescribes a door opening into a facility providing access to exit from a suite to have a clear opening of not less than 850mm.

It is noted that door widths for the sleeping pods will be less than 850mm, as such, will be addressed as an interpretation on the basis that these sleeping pods are not intended to be accessible; the sleeping pods are not a suite and the sleeping pods only serve one occupant each.

Accessible Sleeping Rooms

Sentence 3.8.2.13.(1) prescribes at least one for every 20 sleeping rooms in a hotel to be an accessible sleeping room conforming to Article 3.8.3.23.

Washrooms

Sentence 3.8.2.8.(4) prescribes one universal washroom at the entrance storey (1st storey), unless there is an accessible path of travel to a universal washroom elsewhere in the building.

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Sentence 3.8.2.8.(1) prescribes at least one universal washroom at each location where washrooms are provided.

It is noted that the 3rd to 19th storeys have washrooms. However, a universal washroom is not provided on these storeys based on the following interpretation; these washrooms are intended for occupants of the sleeping pods which are inherently not accessible. Occupants who require access will be located in the accessible sleeping room, which is proposed to have washroom facilities conforming to the requirements for a universal washroom. Similarly, the 2nd storey has washrooms; however, there are no accessible sleeping rooms in this storey such that a person with a disability would not be in the 2nd storey accommodation.

Elevators

All passenger elevators are to be designed in accordance with Article 3.5.2.1. At least one elevator will be sized to the dimensions described in A-3.5.4.1.(1) to accommodate a stretcher 2010mm long by 610mm wide as required by Sentence 3.5.4.1.(1). Additional elevator requirements, in excess of those in the Building Code, are to be provided in accordance with the Safety Standards Act and Appendix E of ASME A17.1/CAS B44, *"Safety Code for Elevators and Escalators"* per Sentences 3.5.2.1.(1) and (3).

Adaptability

Based on information provided in the Information Bulletin No. B24-09-R2 published by the Building and Safety Standards Branch, dated July 24, 2024, adaptable dwelling unit provisions in Subsection 3.8.5 are not applicable to temporary accommodation such as hotels.

15. Alternative Solutions

Solution 1 Encapsulated Mass Timber (Cross-Laminated Timber) Floors

Article 3.2.2.47 is applicable for this project and prescribes noncombustible construction. It is proposed to provide encapsulated cross-laminated timber floors with a 70min encapsulation rating and 2h fire resistance rating.

Solution 2 Smoke Damper Waiver

If the smoke damper waivers in Article 3.1.8.8 cannot be applied for this project, an alternative solution may be proposed to waive smoke dampers based on engineering analysis to demonstrate that with continuously moving air and a layout that does not recirculate return / exhaust air in an emergency, smoke migration is limited.

Solution 3 Pressurized Exit Stairs

Article 3.2.6.2 prescribes exit stairs serving storeys below the lowest exit level to be separated from exit stairs serving storeys above the lowest exit level.

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Exit stairs for this building will serve storeys above and below the lowest exit level, as such, it is proposed to mechanically pressurize the exit stairs. The pressurization system is proposed to actuate automatically upon activation of the fire alarm system, with manual control available at the CACF.

Solution 4 Sprinkler-Protected Glazing for Building-to-Building Exposure

The east and west exposing building faces of the 20th and 21st storeys will have glazing exceeding the limits in Clause 3.2.3.1.(1)(b) for unprotected openings; a listed window sprinkler system, such as Tyco WS™ Horizontal Sidewall sprinklers, will be used to protect the glazing. This system has been tested to achieve a 2h fire resistance rating.

A back-up water tank for the window sprinkler system will be provided if a sprinkler-protected glazing system is used to address spatial separation; the water tank will be sized based on a 1h duration demand calculation (i.e., the actual expected demand of the system and not just the required supply per NFPA 13).

However, it is noted that glass with a 1h fire resistance rating, tested to CAN/ULC-S101 will be explored – if such a glass product is utilized then Alternative Solution 4 is not required (and the back-up water tank will not be proposed).

Solution 5 Exposure Protection at Loading Bay

The 1st storey loading bay have unprotected openings on the south exterior face which exceed the limits in Clause 3.2.3.1.(1)(b); a water curtain sprinkler system based on design criteria in NFPA 13 is proposed to address the loading bay opening.

Solution 6 Extended Dead-end Portion of Corridor

Dead-end corridors are limited to a maximum length of 6m per Sentence 3.3.1.9.(6). Extended dead-end corridors will be addressed on an alternative solution basis.

Solution 7 Intake Openings for Linen Chutes

Intake openings for linen chutes are prescribed to be located in rooms that are provided with a 45min fire separation and designed for no other purpose per Sentence 3.6.3.3.(5).

It is noted that at the time that this requirement was introduced in the Building Bylaw, rated closures for chute intakes were not readily available (i.e., typically unrated steel doors). Currently, fire-rated closures are available for installation.

For this project, it is proposed to have the intake openings directly open into the corridor serving the sleeping pods and sleeping rooms. The following features will be proposed:

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- A self-closing device for the closure serving the intake opening will be provided.
- The closure serving the intake opening will be secured and only opened/operated by staff (and will require a key or other locking system to open). This will increase the probability that the closure maintains the fire separation prescribed for the linen chute
- The closure will be connected to the fire alarm system to sound a trouble signal if the closure is not closed properly.

Solution 8 Double-Leaf Door Width for Sleeping Pods

Sentence 3.3.1.13.(1) prescribes the active leaf of multi-leaf doors to provide a clear opening of minimum 850mm if the door provides access to exit from a suite.

Double-leaf doors are proposed for the sleeping pods, where each leaf is approximately 430mm wide; Alternative Solution 8 will be based on the following:

- The sleeping pods are different from suites envisioned by the Building Bylaw in a typical residential building; each pod is only small enough to contain a bed for a single occupant (which will be controlled and managed by the staff). In other words, there is limited probability that a sleeping pod occupant will be delayed in egress due to the door width.
- These sleeping pods are not intended for accessibility, as such, a clear opening width less than 850mm is still suitable for a single sleeping pod occupant.

Solution 9 Approach to Compartmentation of Sleeping Pods

The following approach is proposed to meet the intent of the Building Bylaw with respect to compartmentation at the 3rd to 19th storeys:

- A 1h fire separation is provided for the sleeping rooms.
- A 1h fire separation is provided for the washroom.
- The remainder of the floor area, which includes the sleeping pods, is a separate 1h fire compartment, separated from the sleeping rooms and washroom.
- Each sleeping pod will be sprinklered and provided with a smoke detector with sounder base.

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16. Summary

This report will be further developed in the future for the building permit submission.

Prepared by,
GHL Consultants
Permit to Practice 1000290

Reviewed by,

Dilip Rathinakumar, M Eng, P Eng, CP

Andrew Harmsworth, M Eng, P Eng, CP, FEC

Enclosure

* Limitation of Liability *

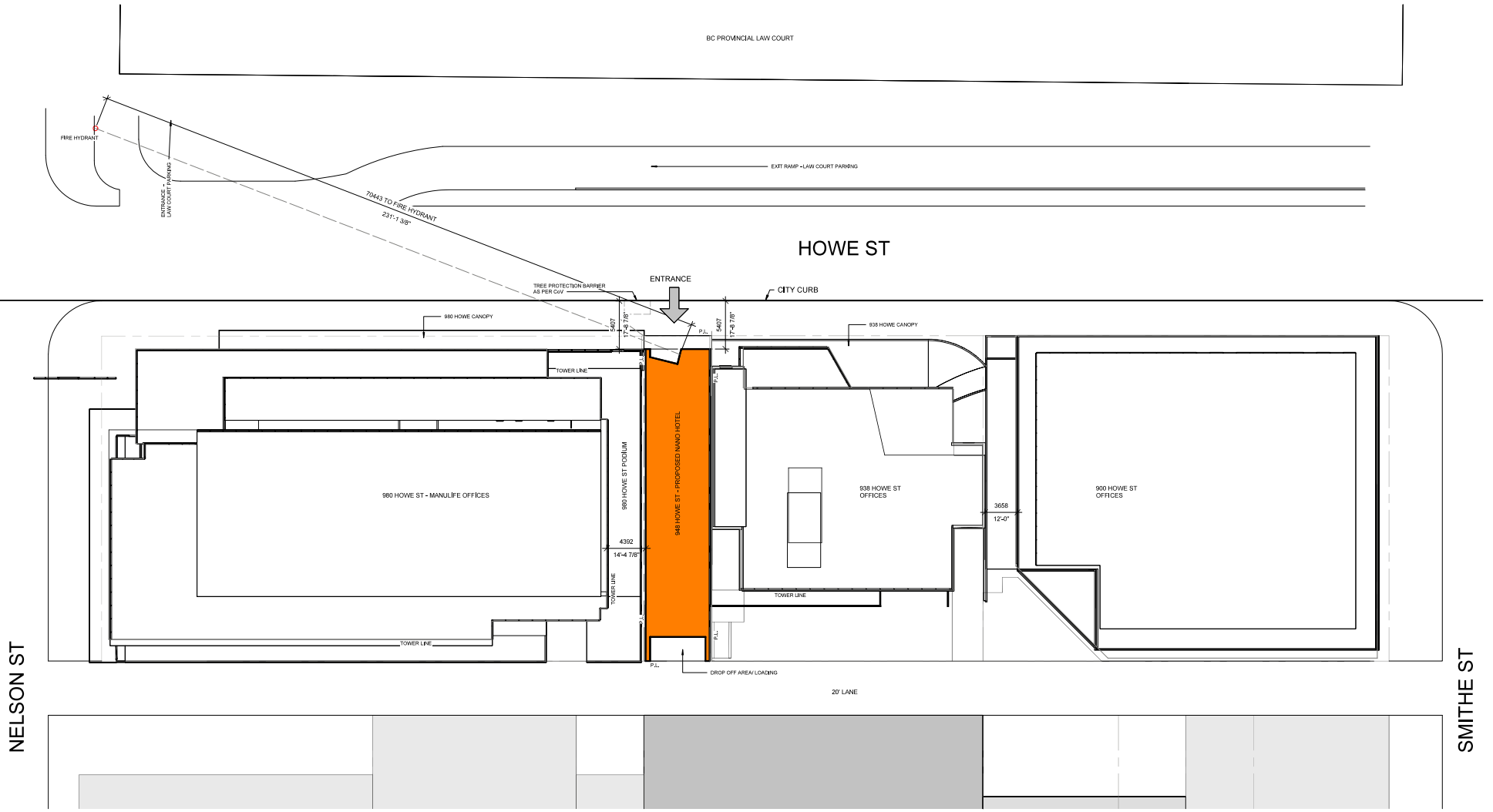
This technical report addresses only specific Building Code issues under the GHL/Client agreement for this project and shall in no way be construed as exhaustive or complete. This technical report is issued only to the Authority Having Jurisdiction, the Client, Prime Consultants and Fire Suppression Designer to this project and shall not be relied upon (without prior written authorization from GHL) by any other party.

DR/AH/cye/dh \Box\GHL - Projects\PRJ\96\9675 - 948 Howe Street - Pod Hotel, Vancouver\Report\2026-01-30 Outline Report (9675.00) D8.docx

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Attachment 1

Project Drawings



1 A002 SITE PLAN 1-200
1 : 200

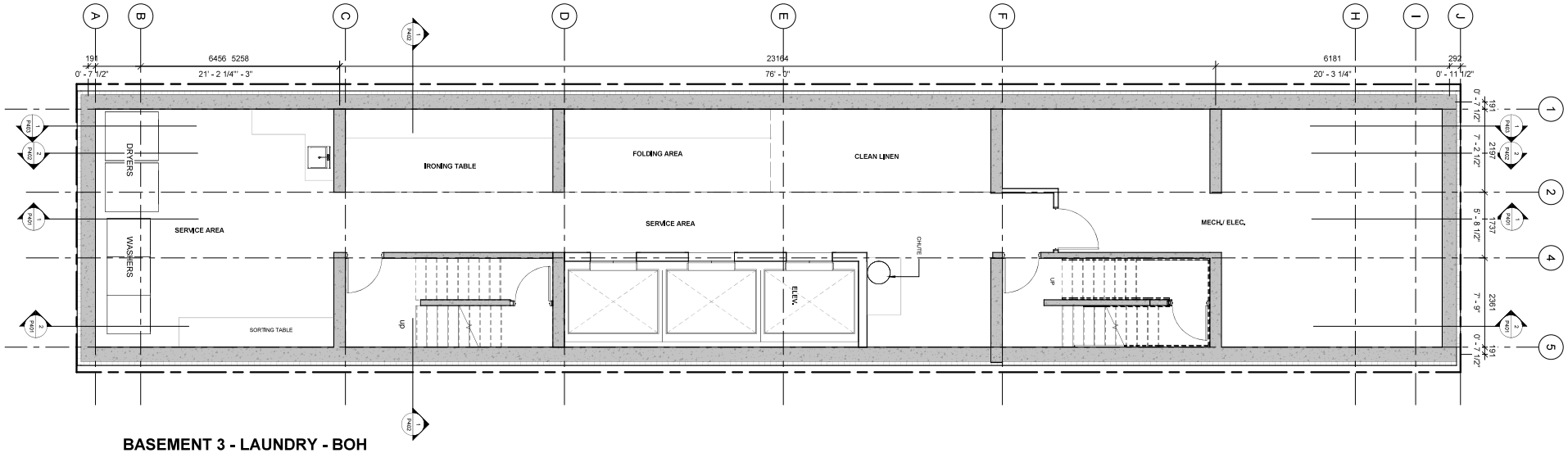
Project North

948 HOWE NANO HOTEL

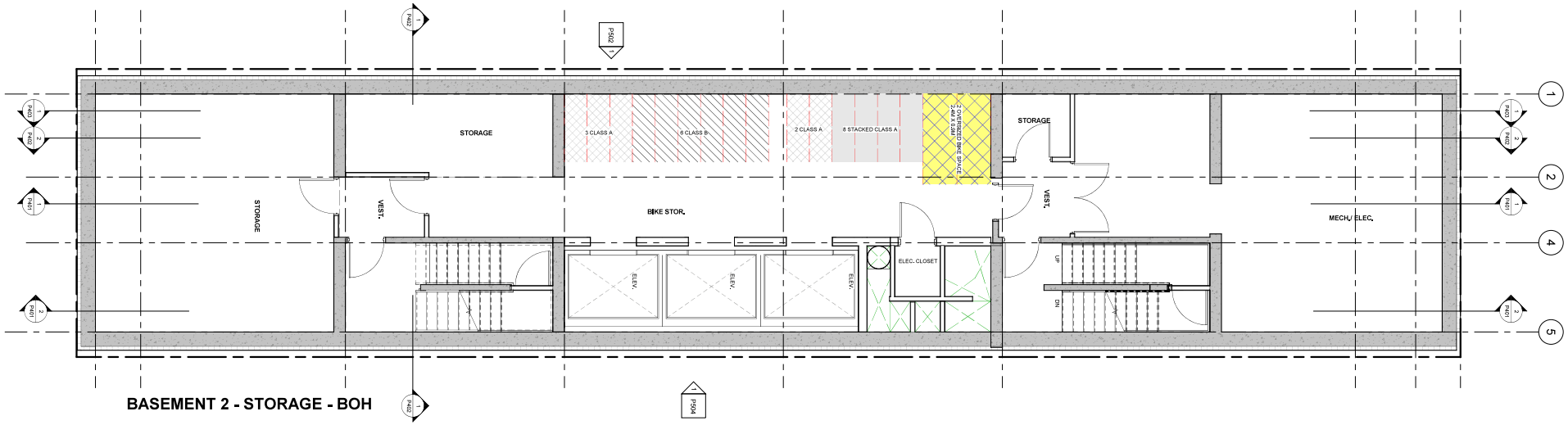
P101 SITE

UNISON Architecture Ltd.

January 26, 2026



BASEMENT 3 - LAUNDRY - BOH



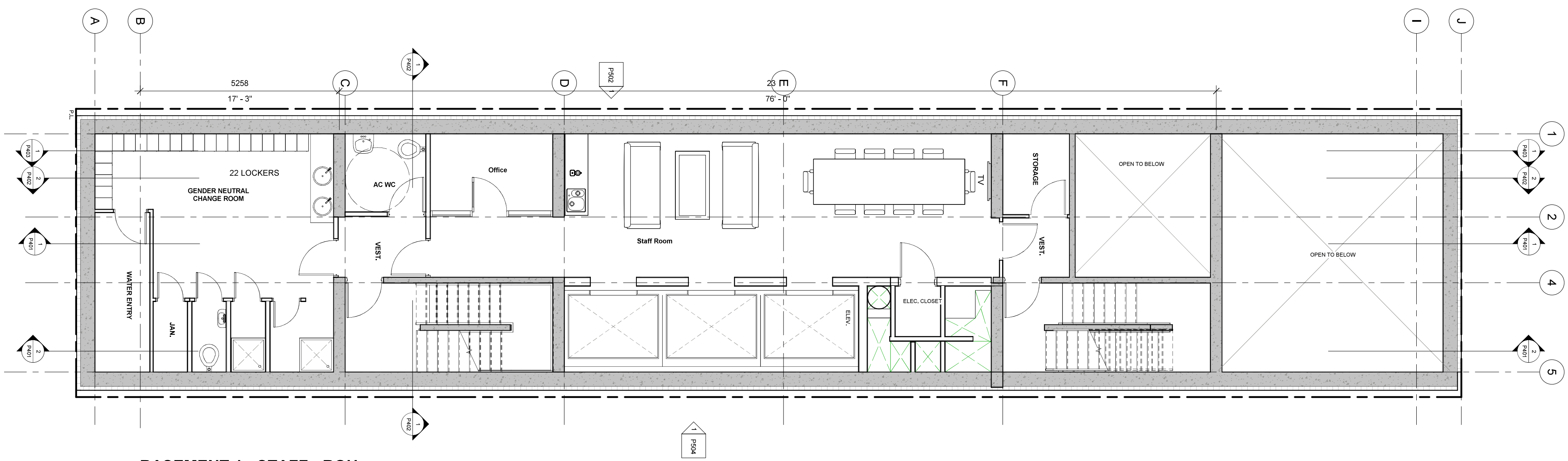
BASEMENT 2 - STORAGE - BOH

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P201 BASEMENTS 3- 2

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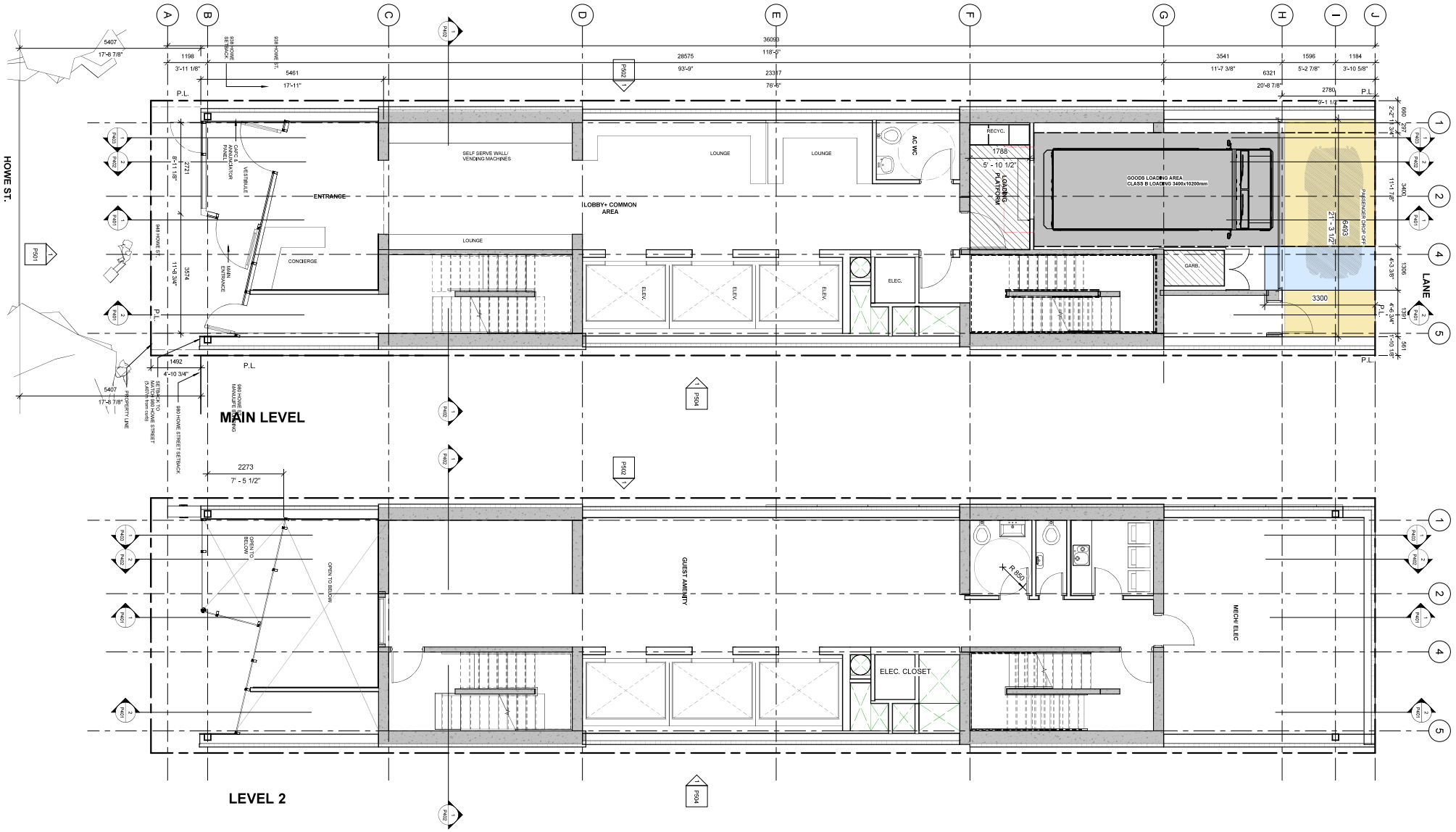
BASEMENT 1 - STAFF - BOH

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P202 BASEMENT 1

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January 26, 2026

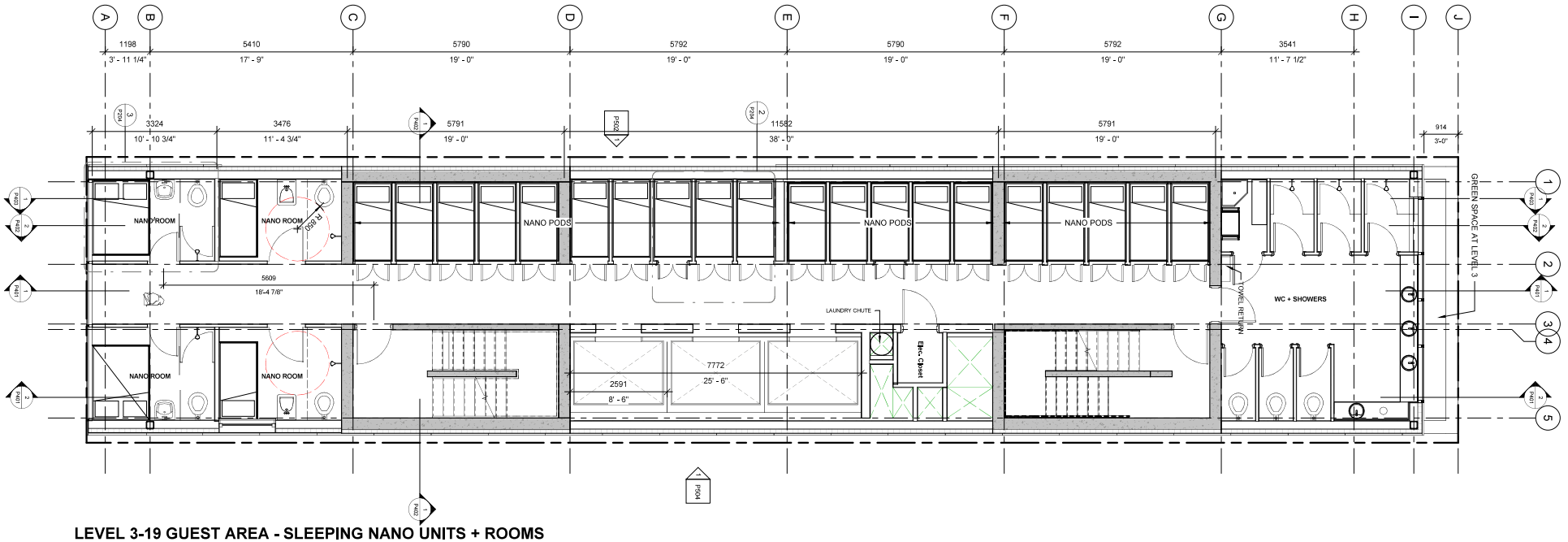


948 HOWE NANO HOTEL

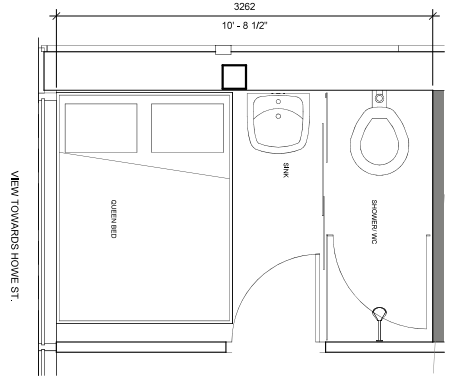
P203 FLOOR PLANS L1-L2

UNISON Architecture Ltd.

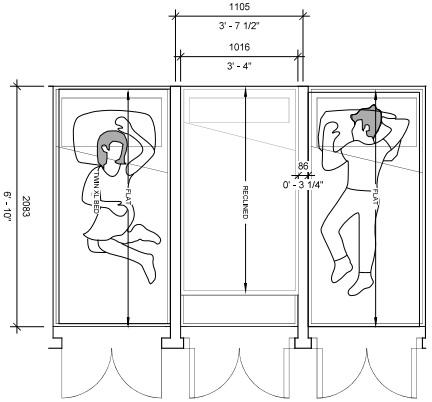
January 26, 2026



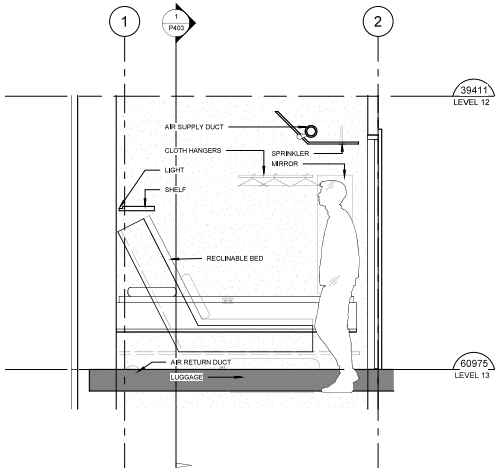
LEVEL 3-19 GUEST AREA - SLEEPING NANO UNITS + ROOMS



TYPICAL NANO ROOM PLAN



TYPICAL NANO POD PLAN



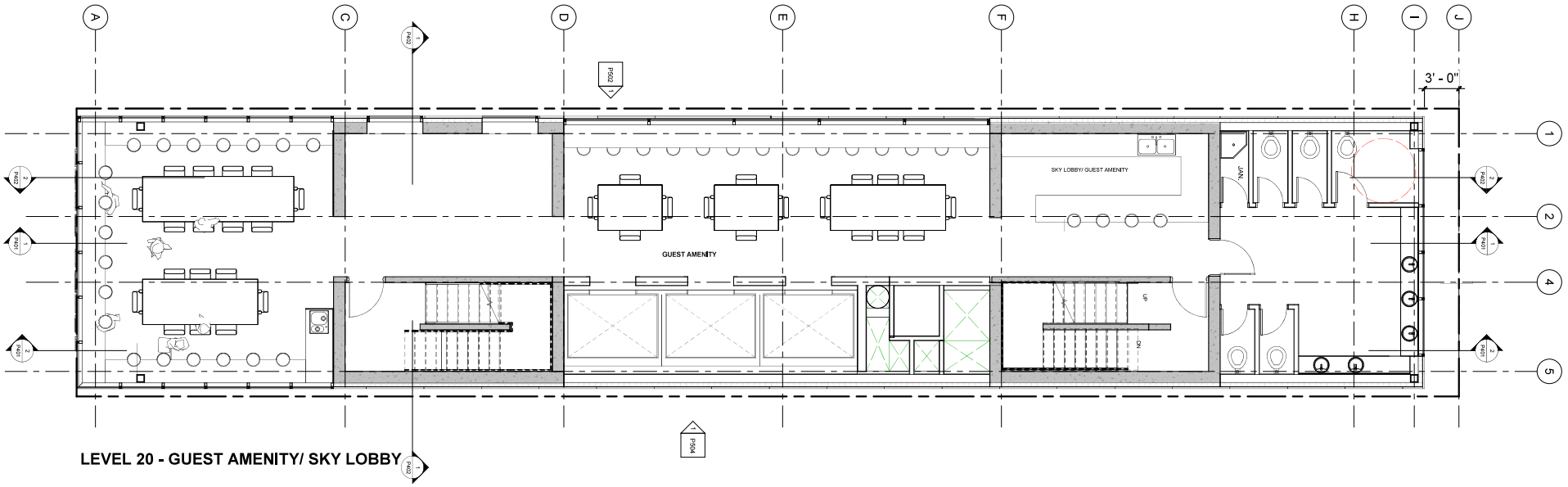
TYPICAL NANO POD SECTION

948 HOWE NANO HOTEL

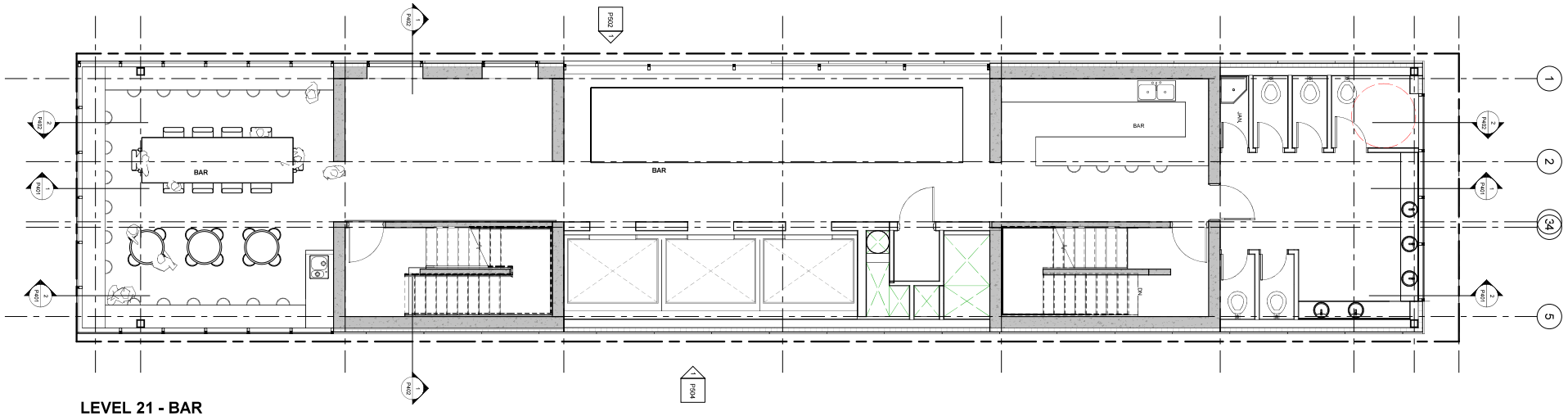
P204 FLOOR PLANS L3-L19

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January 26, 2026



LEVEL 20 - GUEST AMENITY/ SKY LOBBY



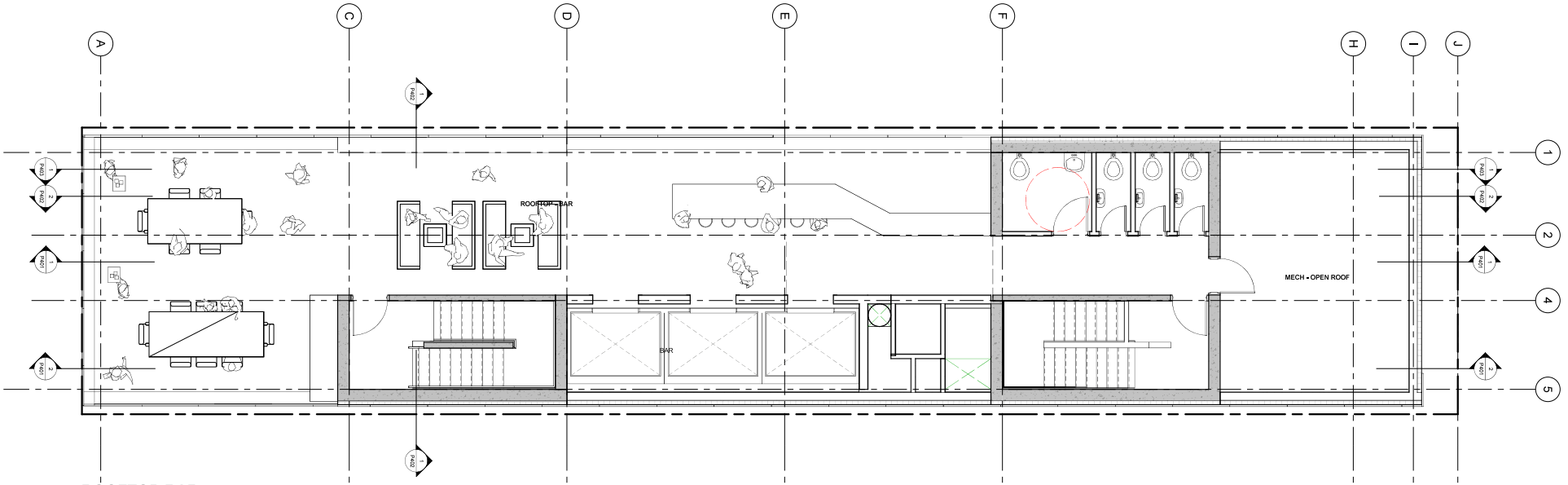
LEVEL 21 - BAR

948 HOWE NANO HOTEL

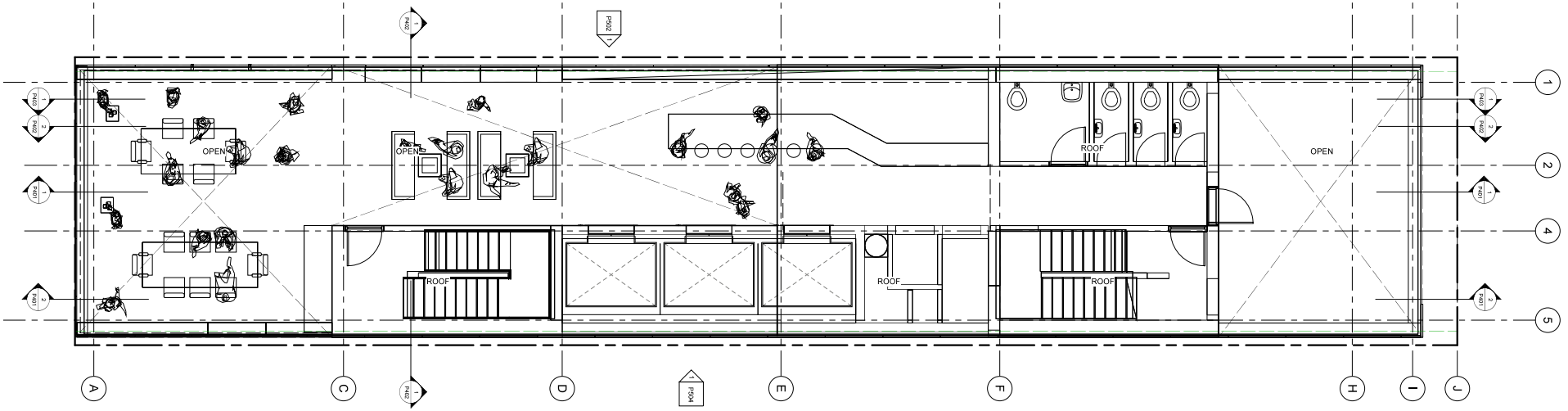
P205 FLOOR PLANS L20-L21

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January 26, 2026



ROOFTOP BAR



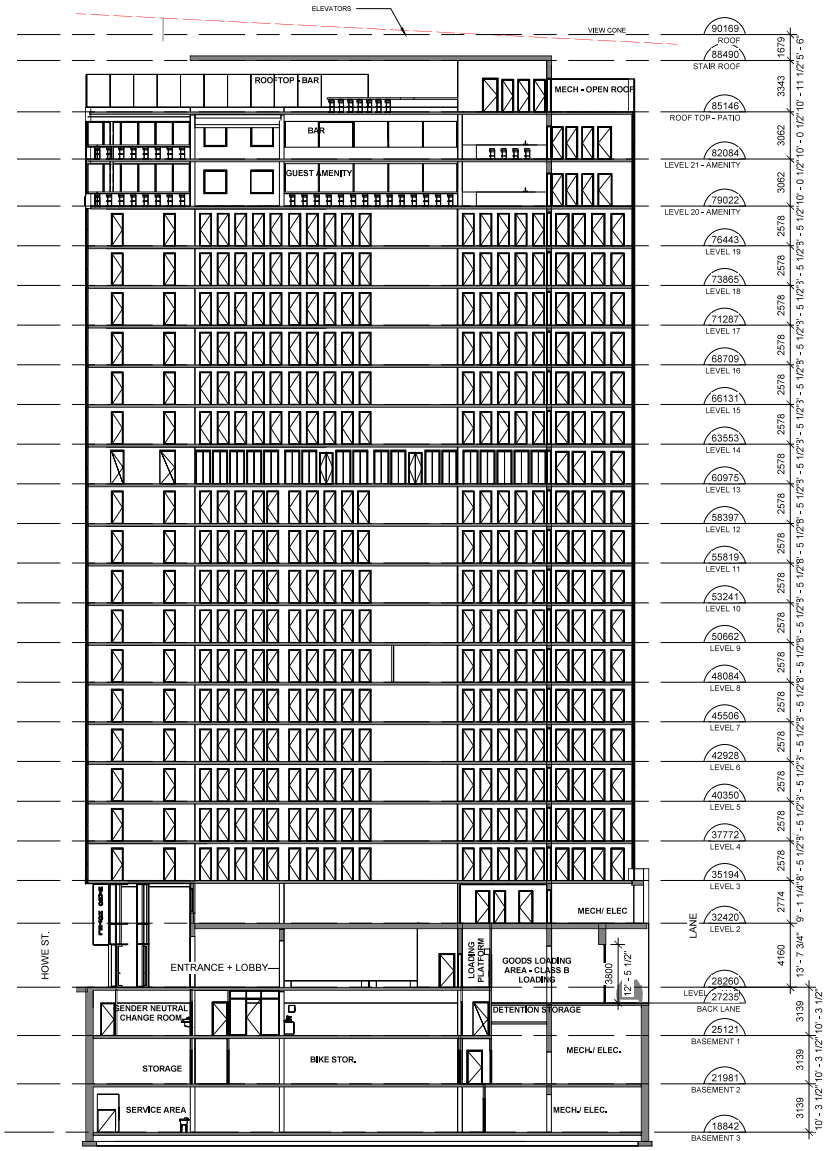
ROOF PLAN

948 HOWE NANO HOTEL

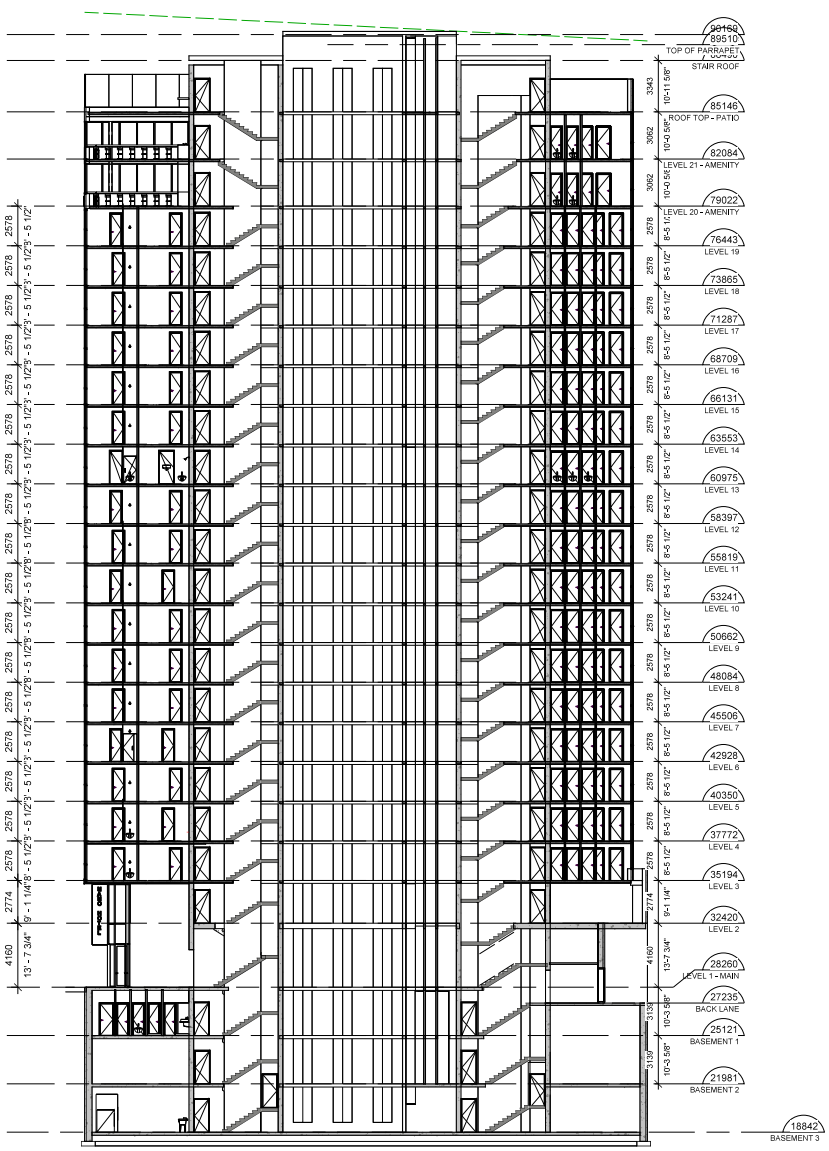
P206 FLOOR PLANS MECH + ROOF

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January 26, 2026



1 A301 CROSS SECTION A
1 : 150



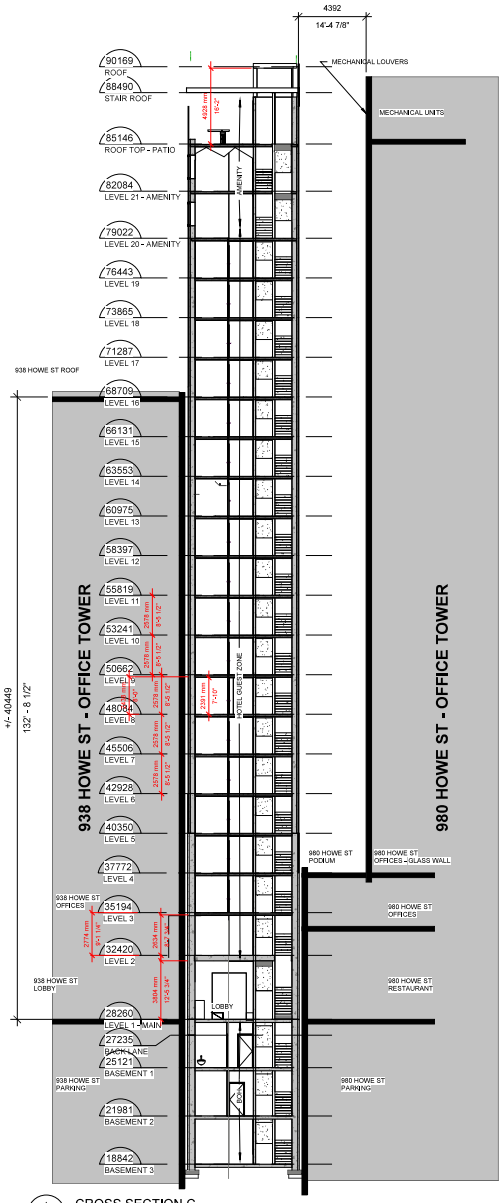
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1 : 150

948 HOWE NANO HOTEL

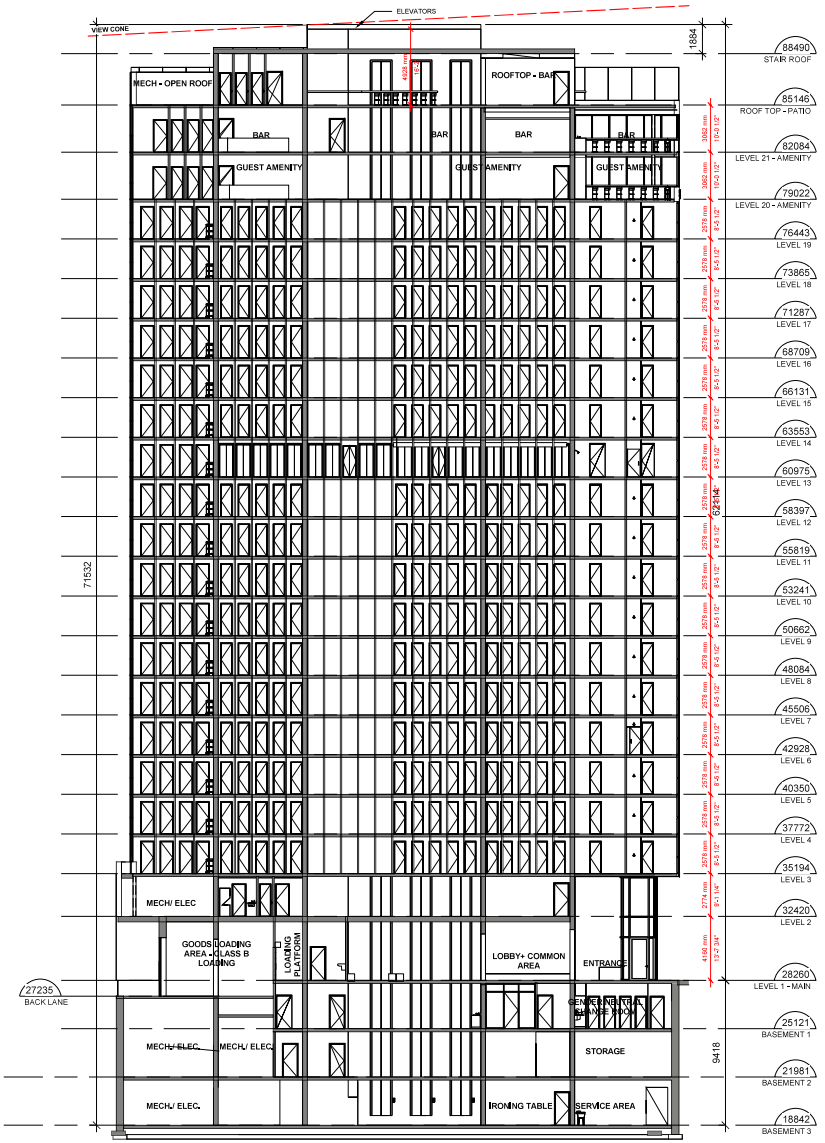
P401 SECTIONS

UNISON Architecture Ltd.

January 26, 2026



1 P402 CROSS SECTION C
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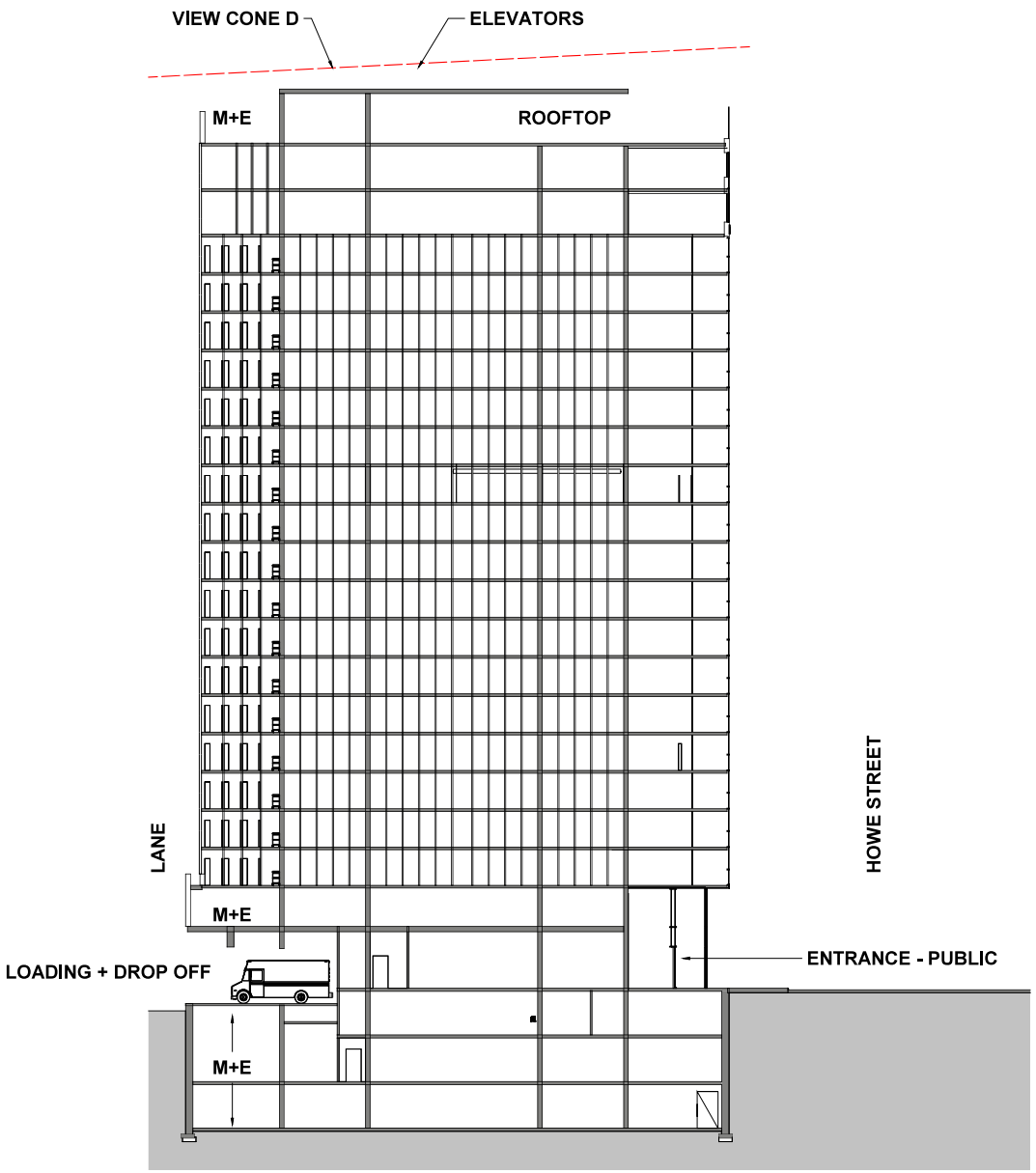
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1 : 150

948 HOWE NANO HOTEL

P402 SECTIONS

UNISON Architecture Ltd.

January 26, 2026



948 HOWE NANO HOTEL

P403 VIEW CONE SECTION

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January 26, 2026

Attachment 2

Meeting Minutes

Dilip Rathinakumar

From: Dilip Rathinakumar
Sent: April 16, 2025 3:44 PM
To: Lee, Tracy
Cc: Andrew Harmsworth; Farshid Rafiei; DianneDy@unisonarchitecture.ca; Lam, Matthew; Lau, Kevin (DBL)
Subject: RE: 948 Howe Street - Pod Hotel, Vancouver - Preliminary Meeting on Unique Building Code Items (GHL 9675.00)

Hi Tracy,

Thank you for making the time to meet with us on Monday; I am just emailing a summary of the unique Building Code items for this project per our meeting.
As discussed, this is an early meeting, and it is noted that significant development permit issues need resolution. That said we believe the project is feasible relative to the VBBL subject to certain alternative solutions / items noted below:

1. **Occupant Load Calculations for Sleeping Pods:**

   For the purpose of water closet calculations for residential occupancies, the individual sleeping pods are considered to have 1 occupant in lieu of the 2 occupants per sleeping room in a dwelling unit per Clause 3.1.17.1.(1)(c) as follows:

   - Pod hotel rooms are not “dwelling units”.
   - Clause 3.1.17.1.(C) permits lower occupant loads if it can be shown that the area will be occupied by fewer persons (e.g., operational procedures, signage, etc).
   - The pod hotel is a controlled building, with operational procedures in place to maintain 1 occupant per pod.

   It is noted that sufficient exit capacity will be provided regardless of the above assumption.

2. **Percentage of Accessible Sleeping Rooms prescribed by Sentence 3.8.2.12.(3), i.e., 1 in 20 per BCBC 2024 (or future VBBL):**

   This is intended to be provided.

3. **Spatial Separation due to Constrained Site:**

   Unprotected openings (i.e., glazing) will be protected with listed window sprinklers and back-up water tank alternative solution.

4. **Laundry Chute Intake:**

   Intake openings to linen chutes are prescribed to be in 45min rooms, with no dimension less than 750mm per Sentence 3.6.3.4.(5).
   This room is not proposed to be provided at the intake openings based on the closures for the intake openings:

   - Having a self-closing device.

- Being secured, and only opened/operated by staff. Staff need a key or card to open
- Being connected to alarm system to sound a trouble signal if the closure is not closed properly.

There is also additional history where this room requirement was introduced at a time when rated closures for chute intakes were not readily available (i.e., typically unrated steel doors). Currently, fire-rated doors are readily available for installation.

5. **Combination of Above-grade and Below-grade Portions of Exit Stairs (high building).**

   Both above-grade and below-grade portions of exit stairs proposed to be mechanically pressurized to omit the fire separation between the portions (which is prescribed by Subsection 3.2.6 for high building).

6. **Door Widths of Individual Pods (Single-Leaf and Double-Leaf).**

   Doors widths of individual pods will be less than 850mm clear width – however, this change in the BCBC 2024 was primarily for accessibility whereas the individual pods are inherently inaccessible spaces (as the bed takes up the majority of the pod).
   Accessible micro-suites will be provided on each floor, providing an accessible option.

7. **Potential Dead-end (approximately 7m vs the 6m permitted)**

   To be addressed by an alternative solution or architecturally.

8. **Corridor Widths and Door Obstructions**

Sentence 3.3.1.23 does not permit obstruction that would reduce the means of egress to less than 750mm unless an alternative means of egress is provided.

An occupant will generally be able to move in two directions within the corridor, as such, will have an alternative means of egress.

Further, to limit the probability of doors obstructing the corridor, it will be proposed to provide self-closing devices.

If you have any comments or questions on the above, feel free to respond to this email.

Note that I have not included items related to planning, but we understand there will be some items to resolve, relative to the definition of “Sleeping Unit” and daylight requirements.

Thanks,

Dilip Rathinakumar, M Eng, P Eng
Associate

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Attachment 3

Spatial Separation and Exposure Calculations

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Spatial Separation and Exposure Calculation

Project: Howe Street Pod Hotel
Address: 948 Howe Street, Vancouver, BC
GHL File: 9675.00

Date: January 30, 2026
Revised:
Code: VBBL 2025
Prepared By: DR
Reviewed By:

Building/Level Compartment	Face	Occu-pancy	Height (m)	Width (m)	LD (m)	Area (m^2)	Ratio (W/H)	Unprotected Openings (m^2)	Sprnk (Y/N)	Actual Openings	Openings Permitted	Cladding Req.	Const. Req.
Level 1													
North to CL of Howe Street	N	C	6.5	6.2	9.0	40.4	1.0	-	Y	-	100.0%	-	-
East to PL	E	C	3.7	36.4	0.0	134.5	9.8	-	Y	-	0.0%	NC	1 h - NC
Loading Bay to CL of Lane	S	F-2	4.6	6.2	3.2	28.8	1.3	23.7	Y	82.4%	27.8%	NC	1 h
West to PL	W	C	3.7	36.4	0.0	134.5	9.8	-	Y	-	0.0%	NC	1 h - NC
Level 2													
North to CL of Howe Street	N	C	2.4	6.2	9.0	14.9	2.6	-	Y	-	100.0%	-	-
East to PL	E	C	2.4	36.4	0.0	88.3	15.0	-	Y	-	0.0%	NC	1 h - NC
South to CL of Lane	S	F-3	2.4	6.9	3.2	16.7	2.8	11.4	Y	68.4%	74.5%	-	45min
West to PL	W	C	2.4	36.4	0.0	88.3	15.0	-	Y	-	0.0%	NC	1 h - NC
Levels 3 to 19 (Typical)													
North to CL of Howe Street	N	C	2.4	6.9	9.0	16.7	2.8	-	Y	-	100.0%	-	-
East to PL	E	C	2.4	36.4	0.0	88.3	15.0	-	Y	-	0.0%	NC	1 h - NC
South to CL of Lane	S	C	2.4	6.9	3.2	16.7	2.8	11.4	Y	68.4%	74.5%	-	45min
West to PL	W	C	2.4	36.4	0.0	88.3	15.0	-	Y	-	0.0%	NC	1 h - NC
Levels 20 and 21 (Typical)													
North to CL of Howe Street	N	C	2.4	6.9	9.0	16.7	2.8	-	Y	-	100.0%	-	-
East to PL	E	C	2.4	36.4	0.0	88.3	15.0	33.8	Y	38.3%	0.0%	NC	1 h - NC
South to CL of Lane	S	C	2.4	6.9	3.2	16.7	2.8	12.9	Y	77.4%	74.5%	-	45min
West to PL	W	C	2.4	36.4	0.0	88.3	15.0	30.0	Y	34.0%	0.0%	NC	1 h - NC

NC* - Noncombustible cladding required per applicable construction article in Subsection 3.2.2.

* - Noncombustible cladding not required per Sentence 3.2.3.7.(3).

** - Noncombustible cladding not required per Sentence 3.2.3.7.(4).

Notes:

1) Results represented in this spreadsheet are based on Building Code tables. Where the limiting distance or fire compartment values are in between those of Tables 3.2.3.1.B, 3.2.3.1.C, 3.2.3.1.D or 3.2.3.1.E, they have been calculated by linear interpolation.

2) The exposing building face is subdivided into fire compartments for exposure analysis purposes as permitted by Sentence 3.2.3.2.(1); only the most critical fire compartment is represented.

3) The fire-resistance rating, construction, and cladding requirement for the exposing building faces have been determined in conformance with Table 3.2.3.7.

4) All limiting distances are measured to property line (PL) or to the centre line (CL) of a street. For building-to-building exposure on the same property, the limiting distance is measured to an imaginary line (IL) between the exposing building faces, however, this imaginary line may not necessarily be midway between the two buildings.

Attachment 4

Occupant Load and Exit Capacity Calculations

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Occupant Load & Exit Capacity Calculations

Project: Howe Street Pod Hotel
Address: 948 Howe Street, Vancouver, BC
GHL File: 9675.00

Date: 2026-01-30
Revised:
Code: VBBL 2025
Prepared By: DR
Reviewed By:

Level / Compartment	Area	# of	OLF	Occupant Load		Door/Corridor		Stair		Exit
		Bed	per/bedroom	Calculated	Programed	Width	Factor	Width	Factor	Capacity
	m²	Rooms	m²/per	Persons	Persons	mm	mm/per	mm	mm/per	persons
Basement 3 and 2										
Back-of-House	102	-	46.00	3	-	-	-	-	-	-
Total		-	-	3	-	1760	6.1	2200	8.0	275
Basement 1 (Staff)										
Staff Room / Office	39	-	1.85	22	-	-	-	-	-	-
Total		-	-	22	-	1760	6.1	2200	8.0	275
Level 1										
Common Area	51	-	1.85	28	-	-	-	-	-	-
Total		-	-	28	-	1760	6.1	-	-	288
Level 2										
Amenity	66	-	1.85	36	-	-	-	-	-	-
Total		-	-	36	-	1760	6.1	2200	8.0	275
Levels 3 to 19 (Typical)										
Sleeping Pod (1 Person)	-	20	1.00	20	-	-	-	-	-	-
Sleeping Room (2 Persons)	-	4	2.00	8	-	-	-	-	-	-
Total		-	-	28	-	1760	6.1	2200	8.0	275
Level 20										
Amenity / Reception	107	-	1.85	58	-	-	-	-	-	-
Total		-	-	58	-	1760	6.1	2200	8.0	275
Level 21										
Bar	107	-	1.85	58	-	-	-	-	-	-
Total		-	-	58	-	1760	6.1	2200	8.0	275
Level 22										
Rooftop Bar	121	-	1.85	66	-	-	-	-	-	-
Total		-	-	66	-	1760	6.1	2200	8.0	275

Notes:

1) Occupant Load Factors are from Table 3.1.17.1 of the Code
2) Area of calculation excludes circulation areas (i.e.. stairs, ramps, elevators, lobbies, corridors, public washrooms, etc).
3) Exit capacity calculations and rates are per Article 3.4.3.2 of the Code.
4) All exit stairs are assumed to have 880mm door with stair width of 1100mm.

Attachment 5

Water Closet Calculations

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Water Closet Calculations

Project: Howe Street Pod Hotel
Address: 948 Howe Street, Vancouver, BC
GHL File: 9675.00

Date: 2026-01-30
Revised:
Code: VBBL 2025
Prepared By: DR
Reviewed By:

Storey / Occupancy	Occupant Load			W.C. Required		W.C. Provided			
	Total	Male	Female	Male	Female	Male	Female	Gender-Neutral	Universal
Staff Levels (Basement 1, 2, 3)									
Staff	25	13	13	1	1	-	-	1	1
Residential Levels									
Levels 3 to 19 (Typical)	20	10	10	1	1	-	-	3	-
Amenity Levels (Levels 2, 20, 21, 22 - Considered as a Whole)									
Amenity	218	109	109	-	-	-	-	12	4

Notes:
1) Water closet requirements per Article 3.7.2.2
2) Staff water closet requirements are based on business and personal services occupancy per Table 3.7.2.2.-B
3) Residential levels are based on Sentence 3.7.2.2.(8), i.e., 1 water closet for every 10 persons of each sex.
4) Occupants using the amenity levels have their own water closets within their sleeping room / pod levels; notiwithstanding that water closets are still provided.

Appendix B - Structural Engineer Report (Aspect Structural Engineers)

Appendix B - Structural Engineer Report (Aspect Structural Engineers)

948 Howe Nano Hotel

STRUCTURAL SYSTEM STUDY

2026-01-30

ASE# 10574

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948 Howe Nano Hotel

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Document Revison History

ASPECT Structural Engineers Job Number# ASE 10574

Revison	Date	Purpose	Prepared by	QC Checked	Authorized by
00	2025 06 17	Original Report.	Jackson Pelling	Mehrdad Jahangiri	Mehrdad Jahangiri
01	2025 07 18	Added EC Section.	Jackson Pelling	Mehrdad Jahangiri	Mehrdad Jahangiri
02	2026 01 29	Revised Shearwalls. Revised Floor Framing.	Jackson Pelling	Mehrdad Jahangiri	Mehrdad Jahangiri
03	2026 01 30	Updated drawing reference. Removed figure for core study.	Jackson Pelling	Mehrdad Jahangiri	Mehrdad Jahangiri

Authorized by	Engineer Seal (if applicable)
Mehrdad Jahangiri, P.Eng **Founding Principal** **Aspect Structural Engineers**	

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1.0 Introduction

1.1 Project Scope

Aspect Structural Engineers was engaged by 1517856 B.C. Ltd to provide initial structural engineering input for the lateral force resisting system of a contemplated pod hotel at 948 Howe Street in Vancouver BC.

Aspect's current scope of work includes:

- Exploring concrete wall layouts and thicknesses to achieve adequate lateral stiffness to meet a maximum drift of 8" using conventional coupled concrete shear walls, with the aim to maximize interior floor space in the building's narrow direction.
- Investigating the impact of discontinuous shear walls at L1 and outline future design and analysis requirements to address irregularities.
- Confirming adequate wall sizing to achieve strength requirements under wind and seismic loading.
- Propose a mass timber diaphragm system to minimize overall floor weight, seismic loads, and drift.
- Propose foundation systems to minimize additional drift due to overall building rotation.
- Investigate the use of added damping systems to reduce wall thicknesses and/or reduce the required offset from the property line. Viscoelastic coupling beams in place of cast-in-place concrete coupling beam over door openings will be explored as they will have minimal impact on usable floor space compared to tuned mass or liquid sloshing dampers.

1.2 Building Description

The proposed project consists of a new 21 storey nano hotel, with 3 storeys of below grade construction, located in downtown Vancouver. The proposed project is relatively narrow in width and offsets from the property line must be minimized to achieve usable floor space. Existing buildings to the North and South are also located very close to the property line. As such, lateral drifts under wind and seismic loading must be limited to a maximum of 8" to remain within the project site and avoid impact with neighbouring buildings.

Underground structures for the existing neighbouring buildings extend 4-5 storeys below grade and are founded deeper than the proposed building.

Aspect has reviewed architectural drawings prepared by Unison Architecture Ltd, dated January 26, 2026. Aspect has also reviewed existing geotechnical reports for the neighbouring sites as it relates to bearing capacities and site classification for seismic loading.

The lateral force resisting system proposed by Aspect consists of ductile reinforced concrete shear walls located around the stairs and elevators, in combination with concrete flat slab diaphragms up to L2 and cross-laminated timber diaphragms from L3 to the roof.

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Figure 1 – Rendering of proposed pod hotel prepared by Unison Architecture

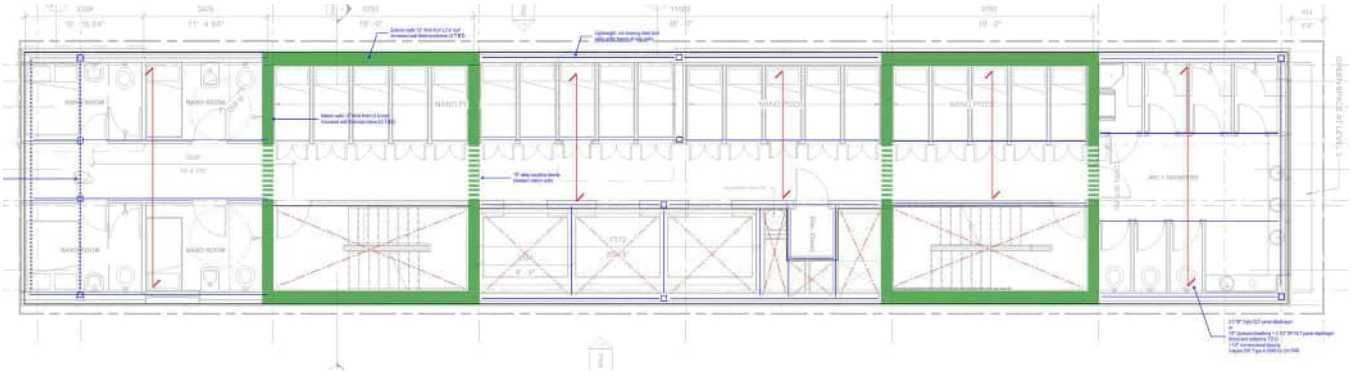


Figure 2 – Typical Floor Plan Showing Locations of Proposed Concrete Shear Walls

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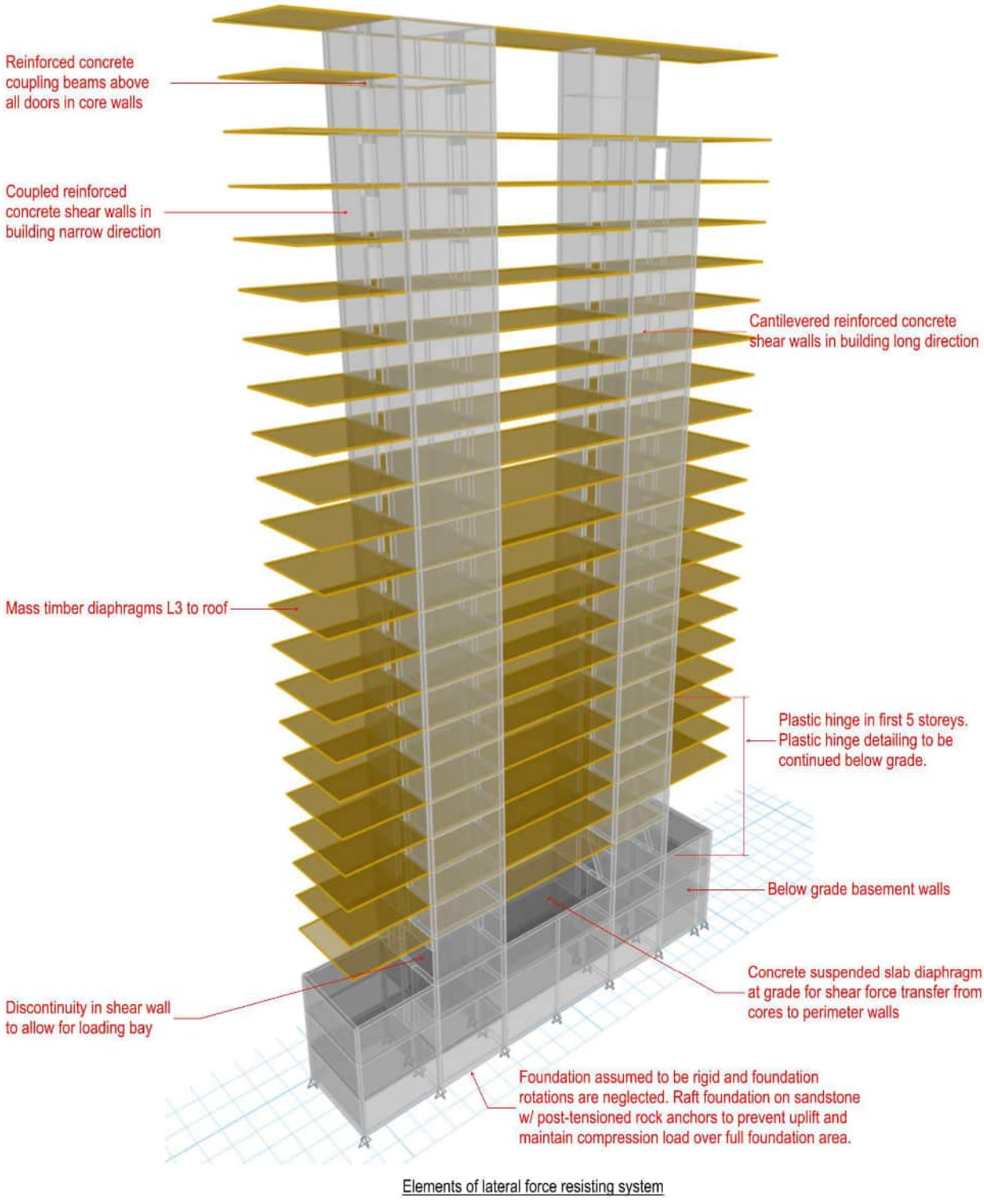


Figure 3 – Lateral Analysis Model Showing Elements of the Lateral Force Resisting System

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2.0 Lateral Load Analysis

2.1 Seismic Loading

While seismic loading will be governed by a future edition of the Vancouver Building By-law, seismic loads have calculated in accordance with the 2020 National Building Code of Canada seismic hazard tool. It is anticipated that the future edition of the VBBL will adopt the updated seismic hazard values. The seismic load parameters used in this study result in greater seismic load demands than the currently adopted 2019 VBBL.

Seismic load parameters used in this study are noted below:

Importance Category	Normal
SFRS in N-S	Reinforced concrete ductile coupled walls Rd=4.0, Ro=1.7 Ta=1.35s
SFRS in E-W	Reinforced concrete ductile shear walls Rd=3.5, Ro=1.6 Ta=0.97s
Site Class	B (based on geotechnical report for neighbouring site)
Spectral acceleration values	S(0.2, B) = 0.829 g S(0.5, B) = 0.505 g S(1.0, B) = 0.288 g S(2.0, B) = 0.181 g S(5.0, B) = 0.050 g S(10.0, B) = 0.024 g PGA(B) = 0.368 g

It may be possible to achieve reduced seismic demands if shear wave velocities, rather than site classification, are used to determine seismic hazard values. Shear wave velocity testing will require input from a geotechnical engineer. Currently, use of site classification to determine seismic demands is conservative.

Seismic analysis was completed using the linear response spectrum analysis method using shear wall stiffness values that account for the level of cracking anticipated for concrete shear walls with high ductility demands.

The current VBBL and CSA A23.3:19 – Design of Concrete Structures both require that ductile shear wall buildings located in high seismic zones have walls that are continuous from the top to foundations, without in-plane or out-of-plane offsets. Due to the location of the loading bay from the lane, one shear wall will be discontinuous at L1 leading to an out-of-plane offset irregularity. As such a performance-based design, utilizing non-linear time history analysis, will ultimately be required to confirm the final design.

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2.2 Wind Loading

Wind loads are based on the 2020 NBCC Dynamic procedure using a 1-in-50 year hourly wind pressure of 0.45kPa and a rough terrain classification. Due to the high height-to-width ratio in the building's narrow direction, a wind tunnel study will ultimately be required to determine wind loads on the building, in accordance with current (and expected future) VBBL requirements.

2.3 Governing Lateral Loads

Due the high ductility capacity provided by the chosen reinforced concrete shear wall system, wind loads govern the overturning design of the lateral force resisting system from a strength perspective, while limiting total drift under seismic loads governs the required stiffness. Seismic capacity design principals in accordance with CSA A23.3 govern the shear design of the concrete walls, as well as the forces imposed on the below grade structure.

3.0 Lateral Force Resisting Systems Studied

3.1 Reinforced Concrete Shear Walls

Ductile reinforced concrete shear walls in various configurations were studied to determine the most effective system to minimize drift in the North-South direction under governing seismic loads, while maximizing interior floor space.

Several concrete shear wall configurations were studied. All configurations utilize coupled walls systems to engage the full building width to resist overturning. For all wall configurations that were studied, various wall thicknesses and concrete strengths were explored to achieve the required drift limit. Ultimately a two-core option was chosen as it demonstrated acceptable drift performance, using 80MPa concrete and wall thicknesses that range from 12" to 16".

Acceptable drift performance is also contingent on minimizing the weight of other structural and non-structural components. To this end the study considers 87mm thick CLT floor or 89mm thick NLT diaphragms at L3 and above, which are approximately half the weight of typical cast-in-place flat slab concrete diaphragms. The exterior walls at lot lines and interior partitions are also assumed to be lightweight cold-formed steel stud walls.

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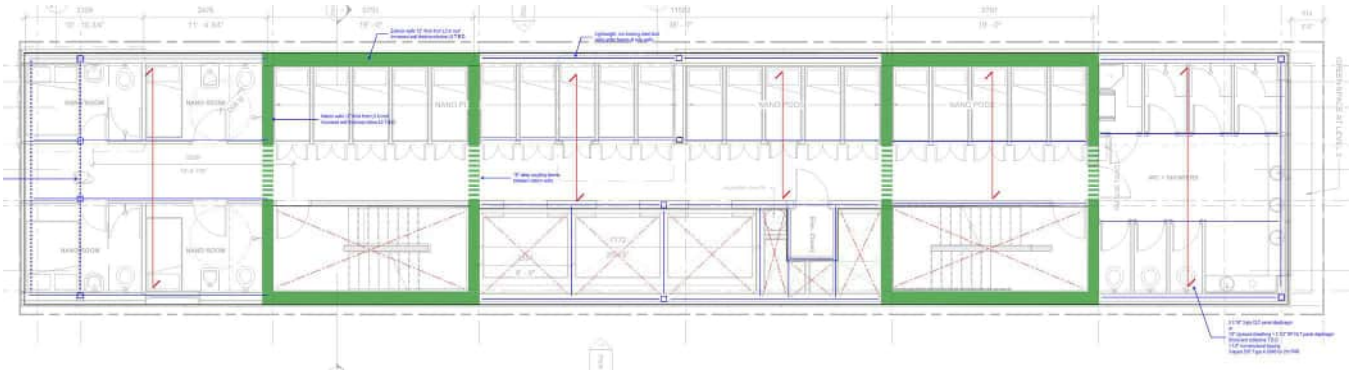


Figure 4 – Final Shear Wall Configuration

3.2 Supplemental Energy Dissipation or Damping

Supplemental damper devices were also considered to reduce both strength and drift demands under wind and seismic loads. One option to implement supplemental damping is by replacing the reinforced concrete coupling beams with viscoelastic coupling beams that can provide damping under a wide range of displacement demands. It was ultimately determined that the connection requirements for these devices would necessitate thickening interior shear walls beyond the undamped base case and this option was not pursued further.



Figure 5 – Viscoelastic Coupling Beam Device w/ Concrete Shear Walls

Other devices, such as yielding hold down devices or base isolators were deemed not suitable due to the displacement demands required for them to effectively dissipate energy.

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4.0 Foundation Considerations

Overall building rotation due foundation movements must be minimized to meet the required maximum drift limit of 8" at the roof level under seismic loads. Uplift of foundation elements under seismic loads is typically acceptable, however in this case, uplift must be prevented using post-tensioned rock anchors embedded in the underlying sandstone, or by similar means. Geotechnical input will be required regarding the magnitude of deformation expected in the underlying sandstone as roof displacements will be very sensitive to even small base rotations.

Based on the existing geotechnical reports, existing neighbouring buildings are founded below the current proposed foundation elevation. Input from a geotechnical engineer will be required to provide underpinning, as required, to prevent surcharge loading on neighbouring basement walls under both gravity and lateral loads.

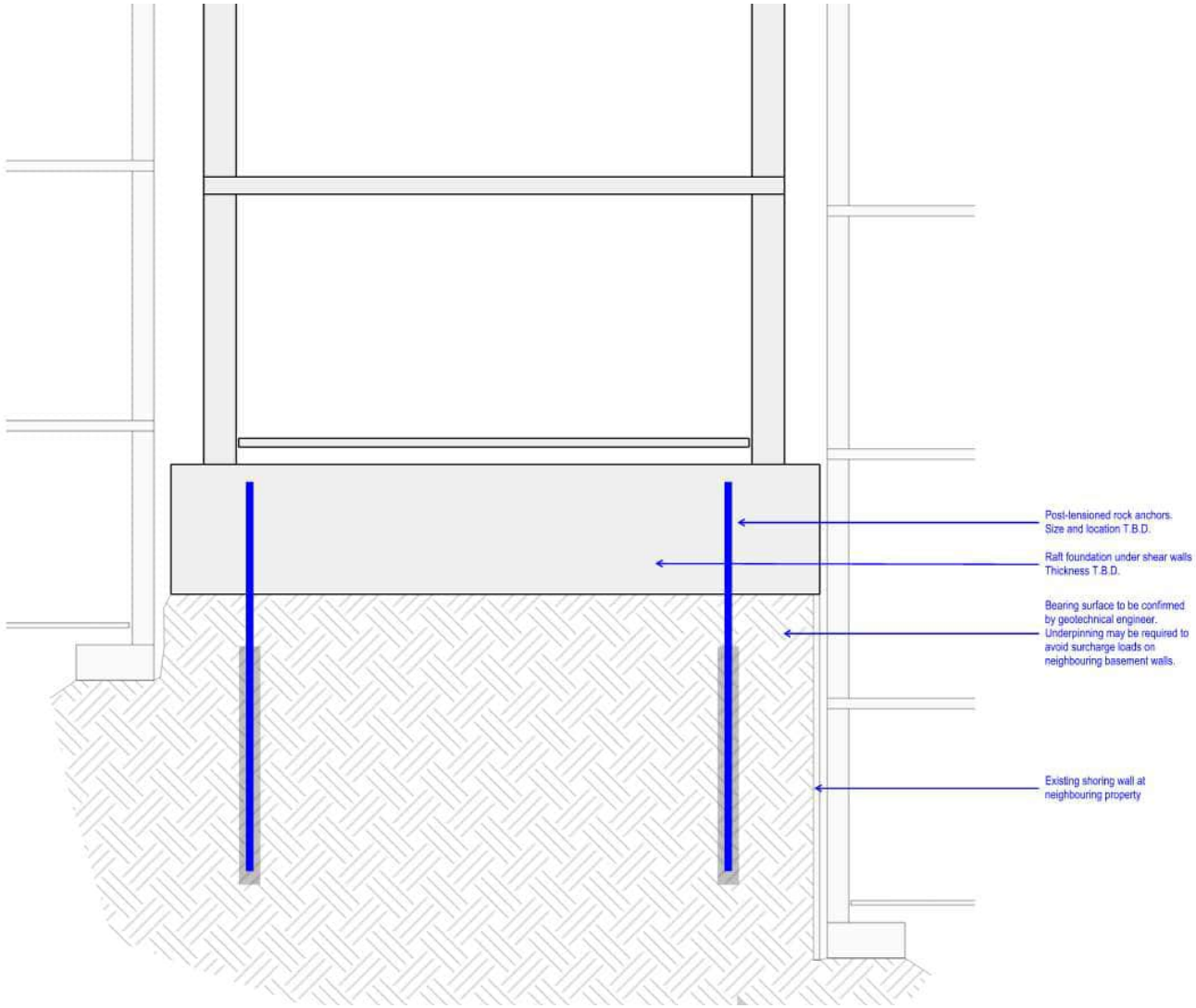


Figure 6 – Approximate Locations of Proposed and Existing Foundation Elements

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5.0 Building Code Considerations

As noted previously, the irregularities in the shear walls introduced by the loading bay at ground level are not permitted by the Vancouver Building By-law or the CSA standard for design of concrete structures when using typical code-based design procedures. As such, a performance-based design would be required to justify transferring shear walls. This will require completing a series of non-linear time history analyses using appropriately selected and scaled ground motion records. The analysis inputs, methods, and outputs would also need to be adequately peer reviewed by a group of experts in the fields of non-linear dynamic analysis, seismology, and material specific design considerations.

Though not typical for a building of this height, due to building's height-to-width ratio in the narrow direction a wind tunnel study is required to determine the design wind loads.

Use of the proposed mass timber floor structure in a building of this height is outside of the current VBBL and will require an alternative solution to be approved by the City of Vancouver. If mass timber floor structures are not accepted by the AHJ them an alternative lightweight floor system will need to be explored as it will not be feasible to meet the tight drift requirements with heavy flat plate concrete floors.

6.0 Embodied Carbon Calculation

Embodied carbon calculations were completed based on preliminary material volumes for the primary structural elements only, based on the current schematic structural drawings and preliminary member sizing. The total calculated embodied carbon for the primary structure is 1440000 kgCO2e, which is attributed primarily to the concrete lateral system, below grade structure, and foundations. The results are not exact but show the achievable range of carbon based on the assumed material specifications. Embodied carbon calculations will need to be updated once overall building design is further progressed and specific material supplier capabilities are better understood.

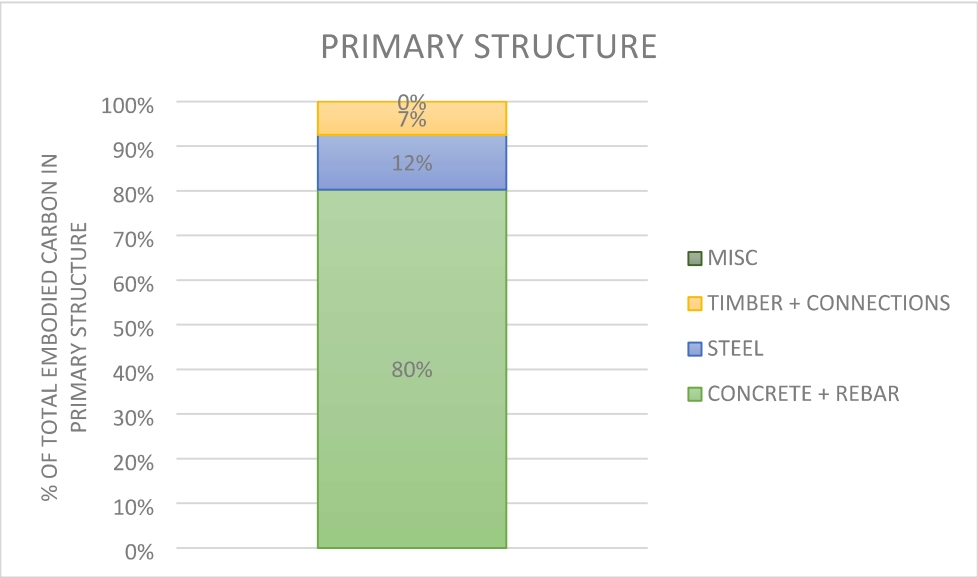


Figure 7 – Primary Structure EC Comparison By Material

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Global Warming Potential (GWP) rates used for concrete elements are 490 kgCO2e/m^3, 280 kgCO2e/m^3, and 240 kgCO2e/m^3, for shear walls, slabs, and foundations respectively. The high strength concrete required for the concrete shear walls results in a higher GWP rate than a conventional concrete mix. These GWP rates are based on Aspect's typical minimum concrete material requirements.

The GWP rate assumed for the mass timber floor panels is 124 kgCO2e/m^3 and the GWP rate assumed for structural steel is 1.2 kgCO2e/kg.

The EC calculations consider material production and transport to site (Modules A1-A4). It has been assumed that concrete will be produced locally (within 50km), timber will be produced within BC, and that structural steel will be sourced globally prior to local fabrication.

The calculated total EC rate for the primary structure is 265 kgCO2e/m^2. The sequestered carbon from the mass timber floor system is 179 kgCO2e/m^2.

As concrete is the primary contributing factor to the calculated embodied carbon, it would be prudent to explore possible concrete GWP rate reductions through strategic use of higher percentages of cement replacements for certain structural elements, as the reduction in EC attributed to the primary structure could be significant.

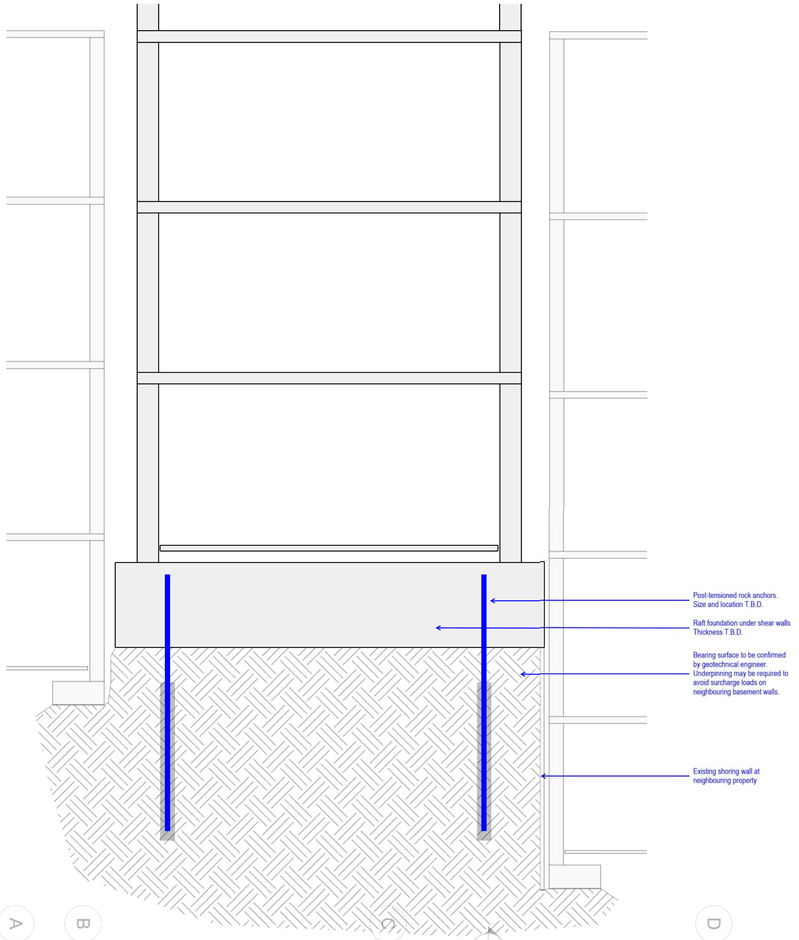
7.0 Conclusion

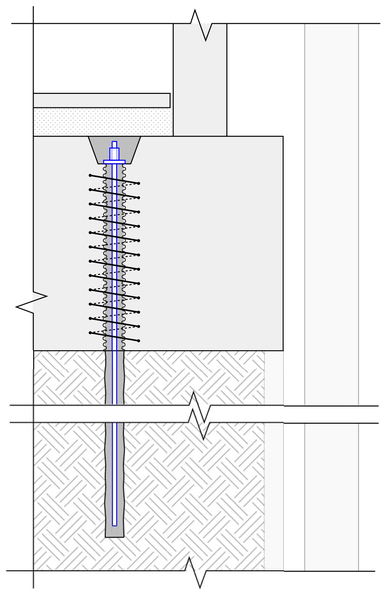
A study of potential lateral force resisting systems has been carried out for the proposed pod hotel at 948 Howe. The recommended system utilizes stiff, but ductile, reinforced concrete coupled walls to stay within the maximum permitted drift of 8" while maximizing usable interior space.

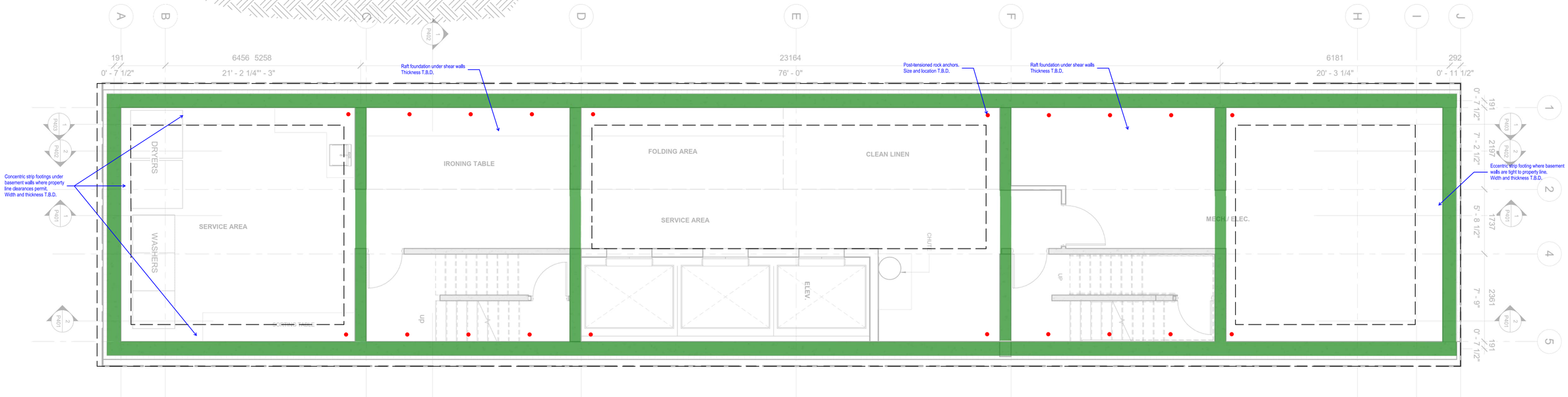
Lightweight structural and non-structural elements outside of the concrete cores are key to reducing seismic loads and achieving acceptable drifts. Supplemental damping and energy dissipation devices were considered but were deemed to not be feasible within the constraints of the project.

Due to the proposed building geometry and irregularities present both the wind loading and seismic analysis will require advanced analysis and design methods that are not typically employed for buildings of this height. The contemplated pre-fabricated mass timber floor system will also require an alternative solution for code approval.

END OF REPORT

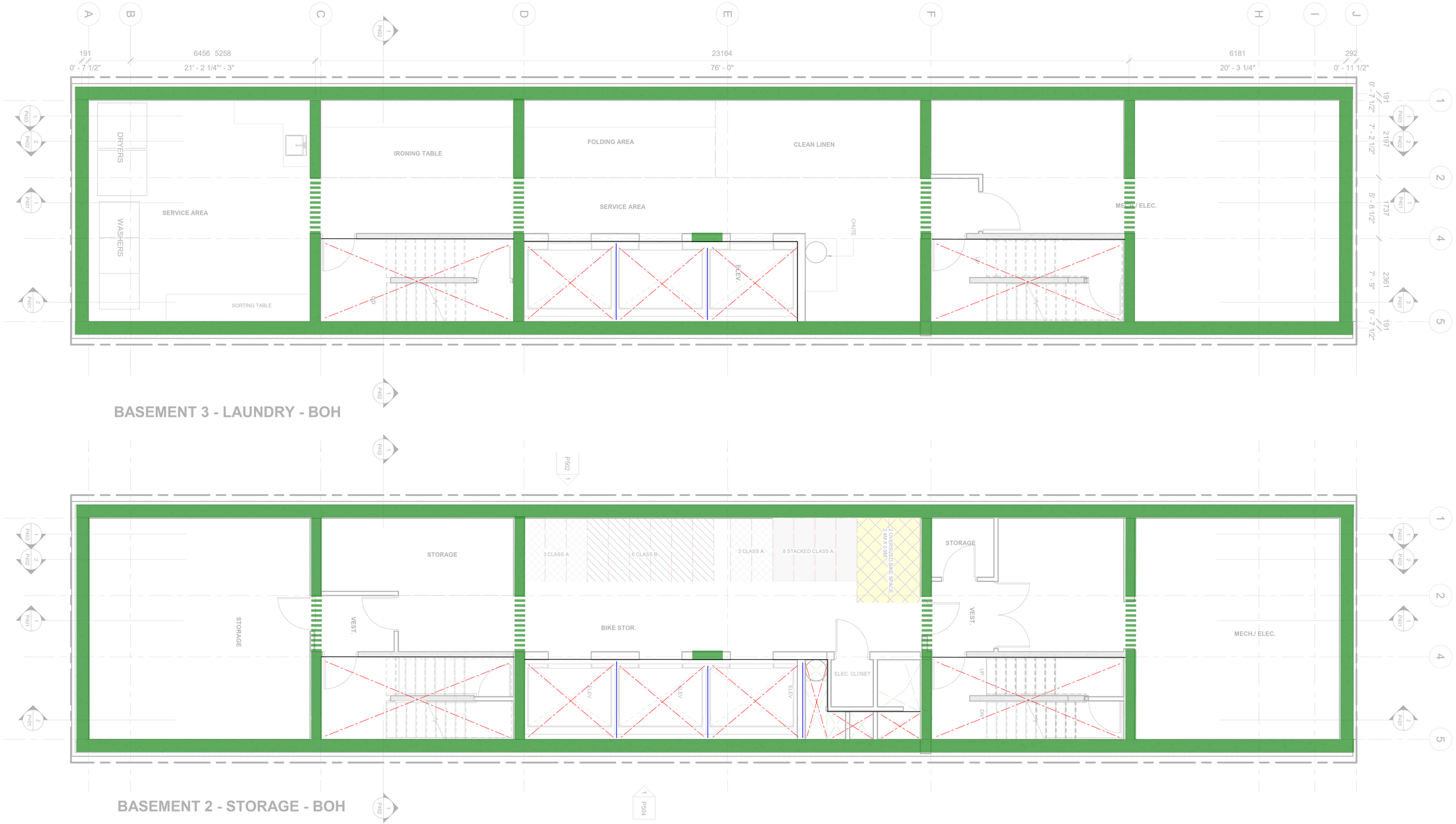






FOUNDATION PLAN

BASEMENT 3 - LAUNDRY - BOH



BASEMENT 3 - LAUNDRY - BOH

BASEMENT 2 - STORAGE - BOH

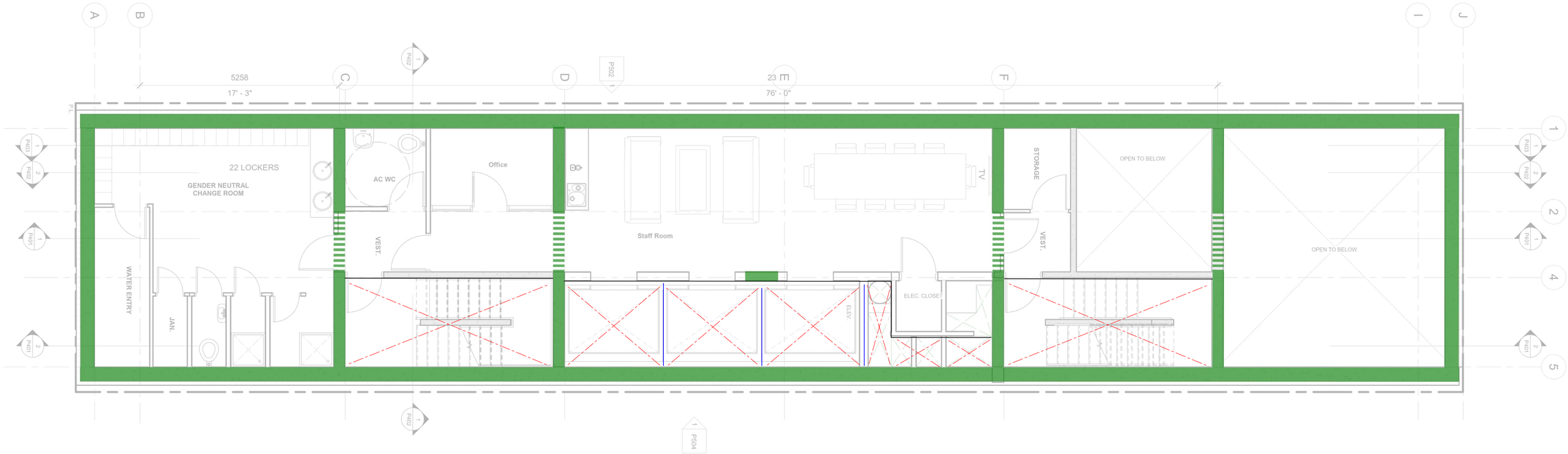
Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

948 HOWE NANO HOTEL

P201 BASEMENTS 3- 2

UNISON Architecture Ltd.

January 26, 2026



BASEMENT 1 - STAFF - BOH

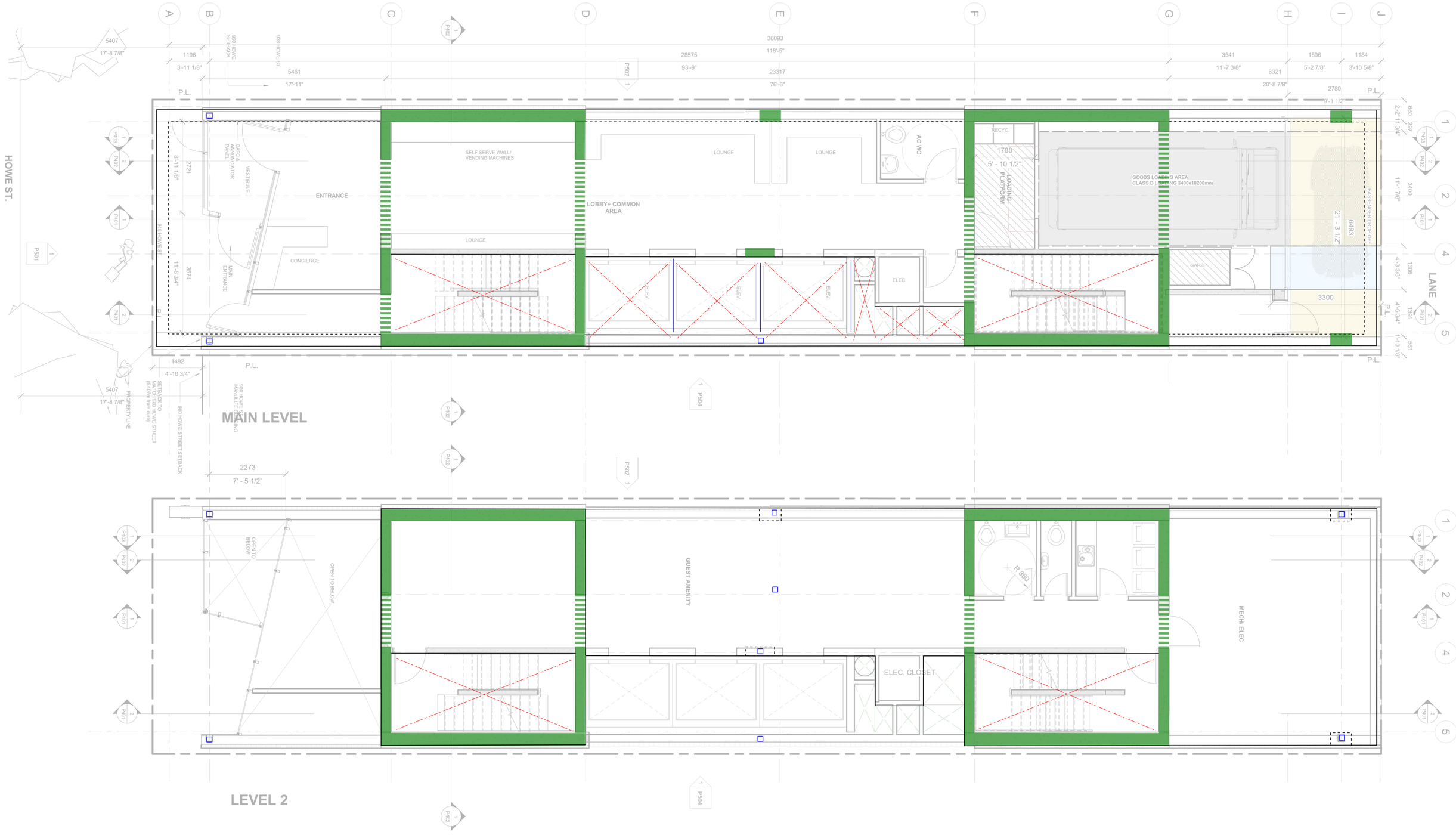
Schematic Structural Framing - 2026-01-30
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P202 BASEMENT 1

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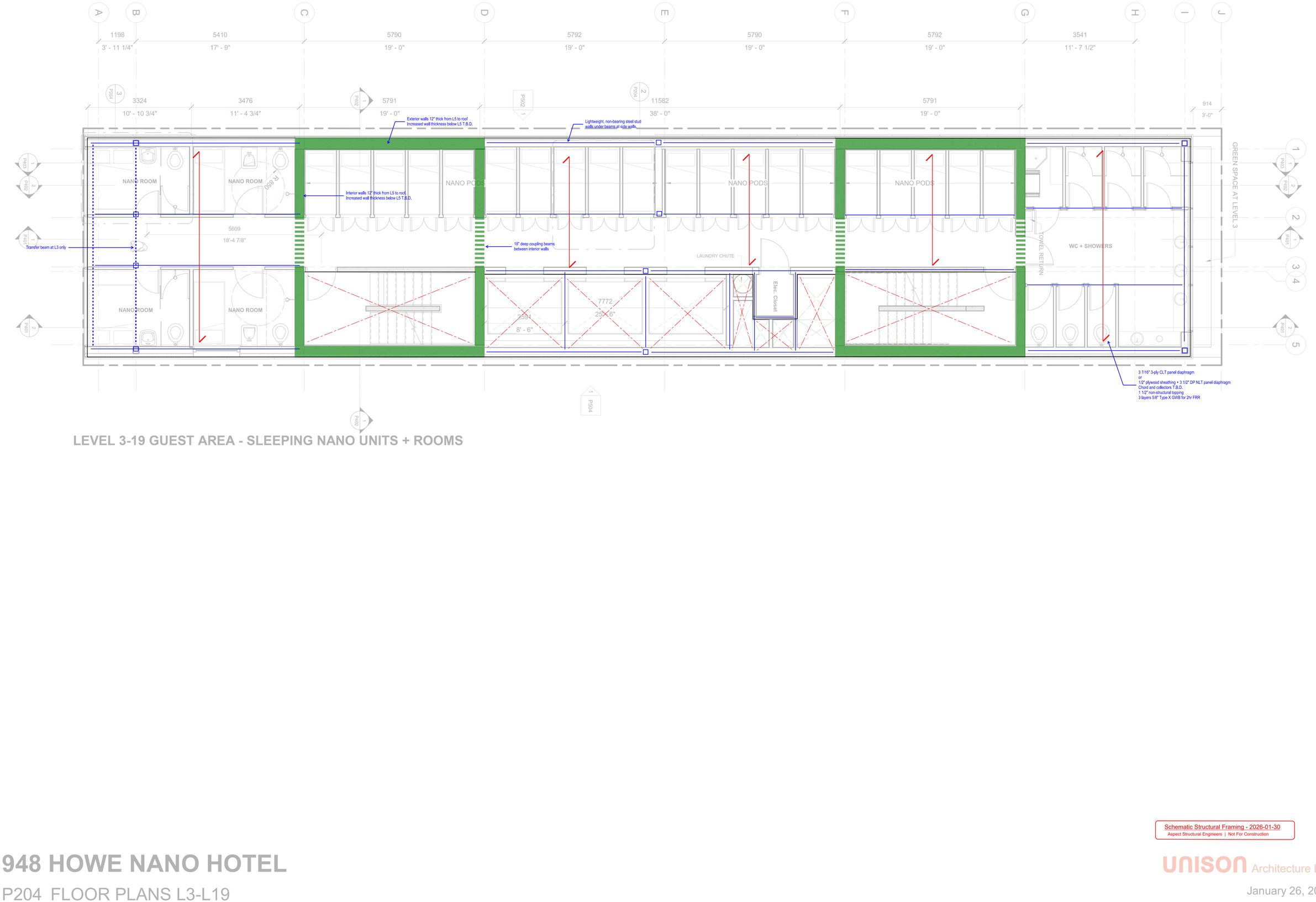
Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

948 HOWE NANO HOTEL

P203 FLOOR PLANS L1-L2

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LEVEL 3-19 GUEST AREA - SLEEPING NANO UNITS + ROOMS

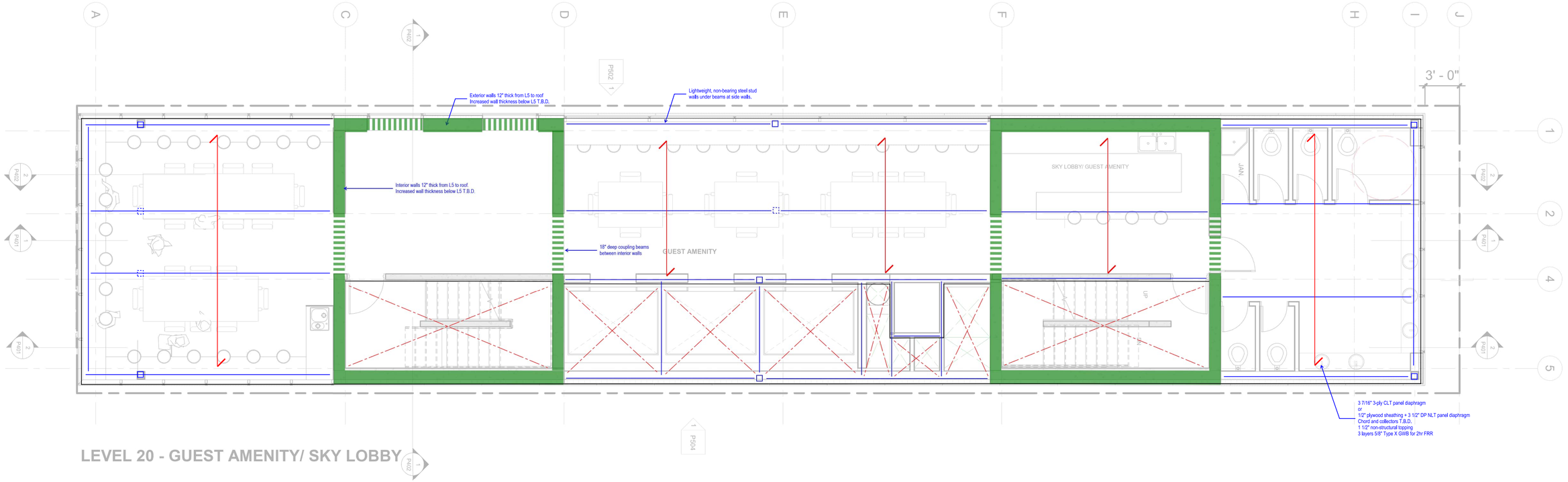
Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

948 HOWE NANO HOTEL

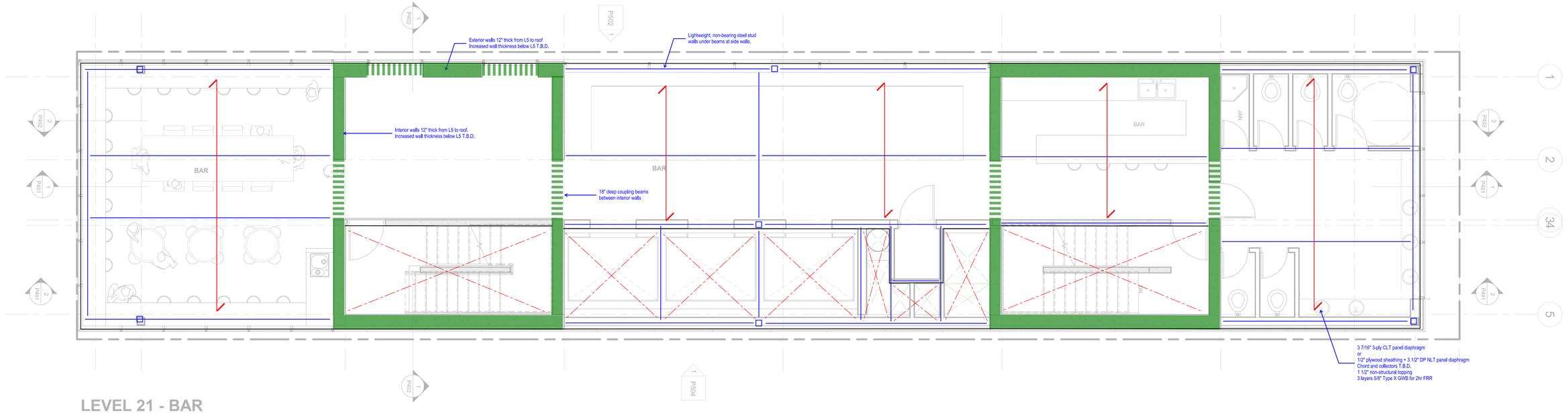
P204 FLOOR PLANS L3-L19

UNISON Architecture Ltd.

January 26, 2026



LEVEL 20 - GUEST AMENITY/ SKY LOBBY



LEVEL 21 - BAR

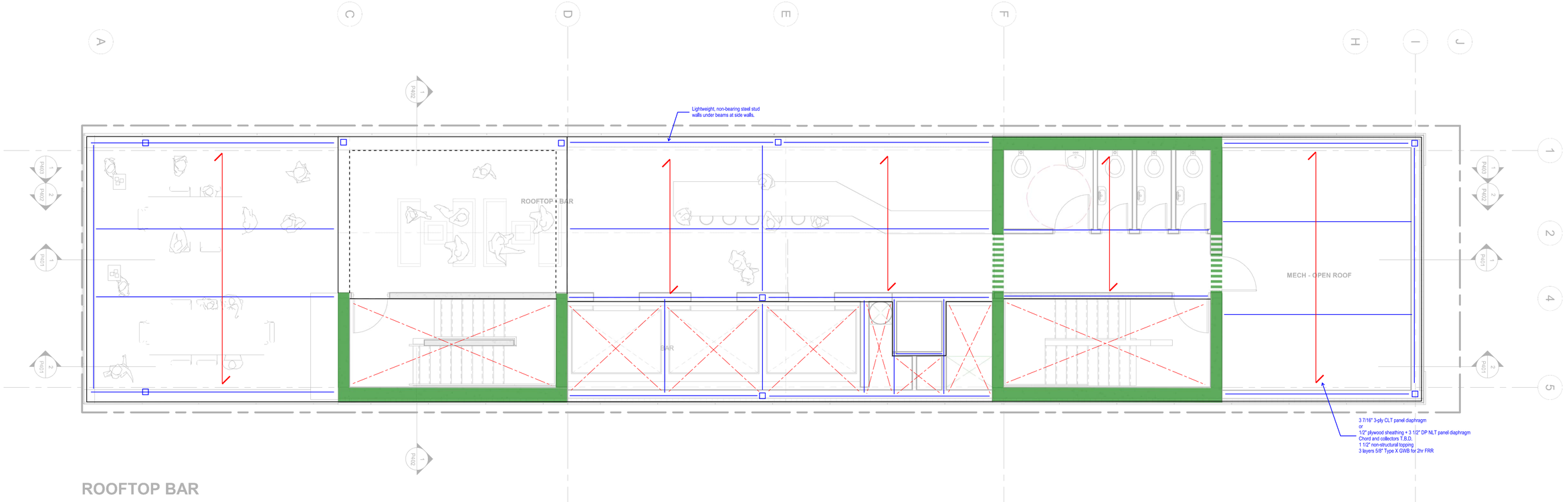
Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

948 HOWE NANO HOTEL

P205 FLOOR PLANS L20-L21

UNISON Architecture Ltd.

January 26, 2026



ROOFTOP BAR

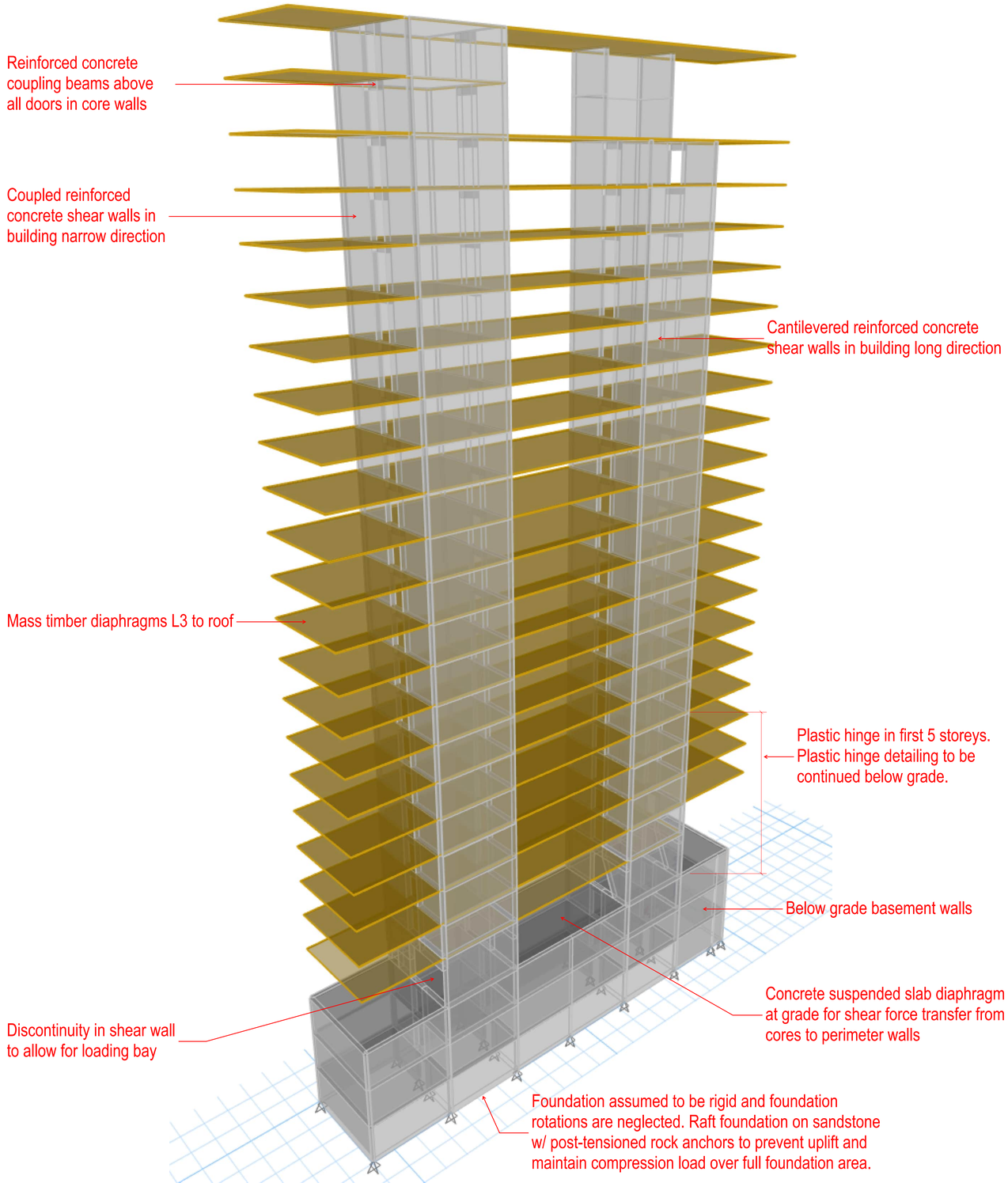
Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

948 HOWE NANO HOTEL

P206 FLOOR PLANS MECH + ROOF

UNISON Architecture Ltd.

January 26, 2026

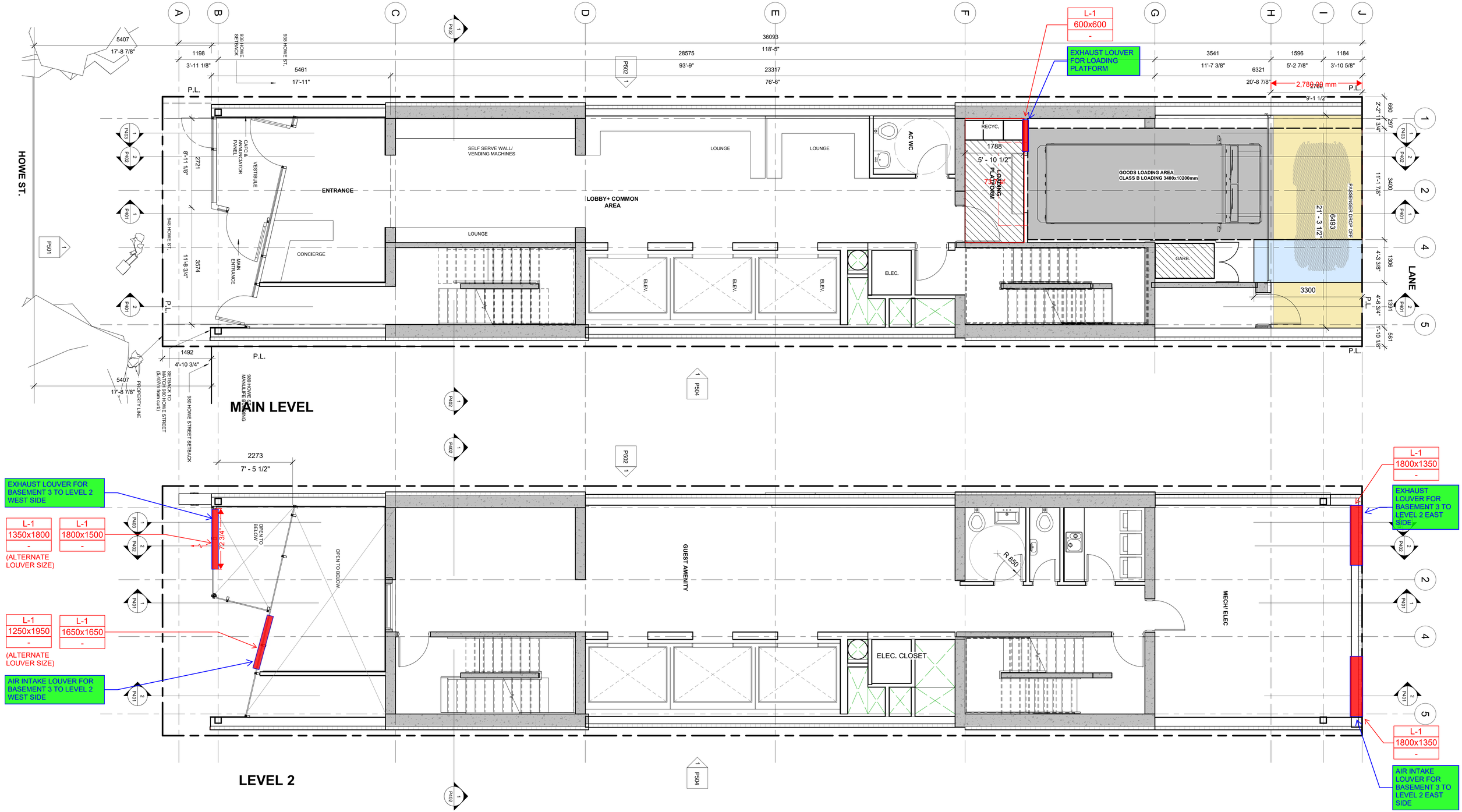


Schematic Structural Framing - 2026-01-30
Aspect Structural Engineers | Not For Construction

Elements of lateral force resisting system

Appendix C - Mechanical Concept (AME)

Appendix C - Mechanical Concept (AME)

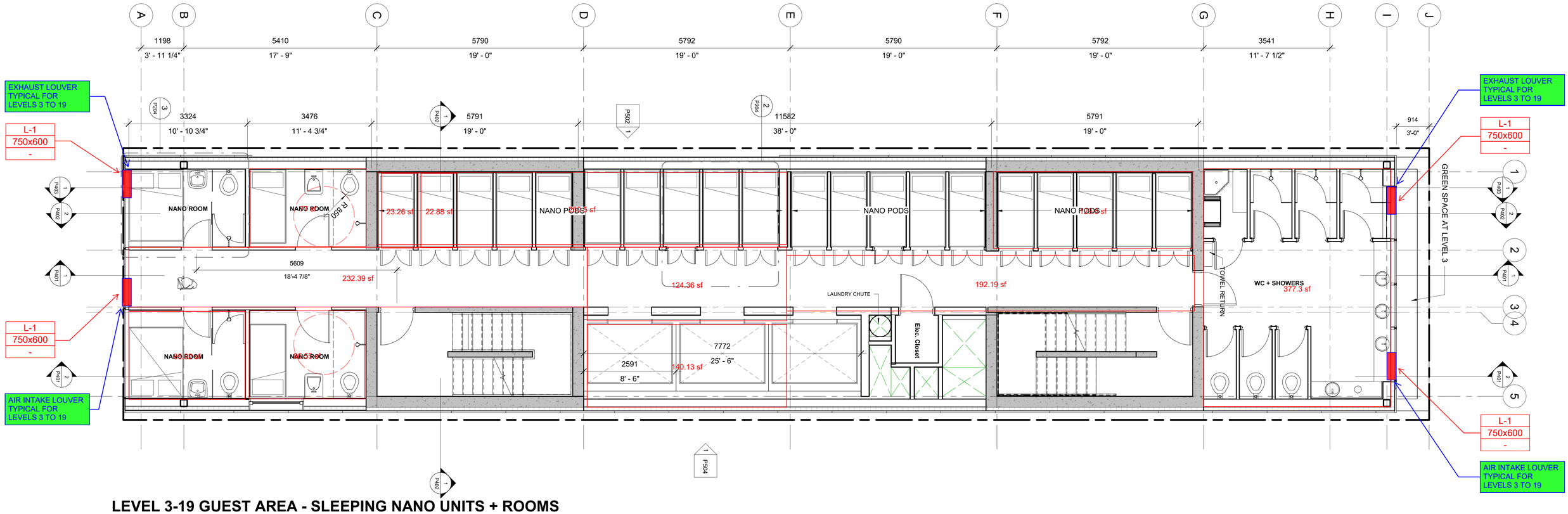


948 HOWE NANO HOTEL

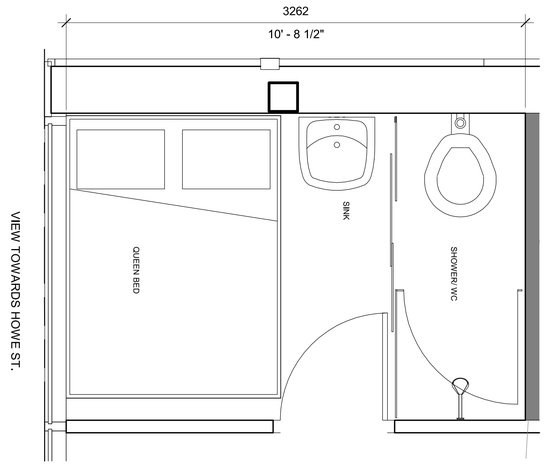
P203 FLOOR PLANS L1-L2

UNISON Architecture Ltd.

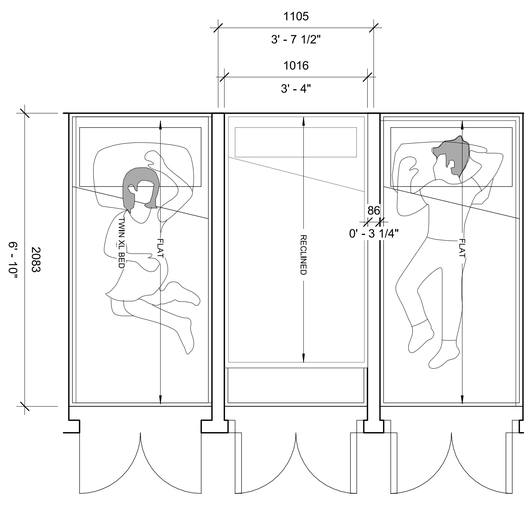
January 26, 2026



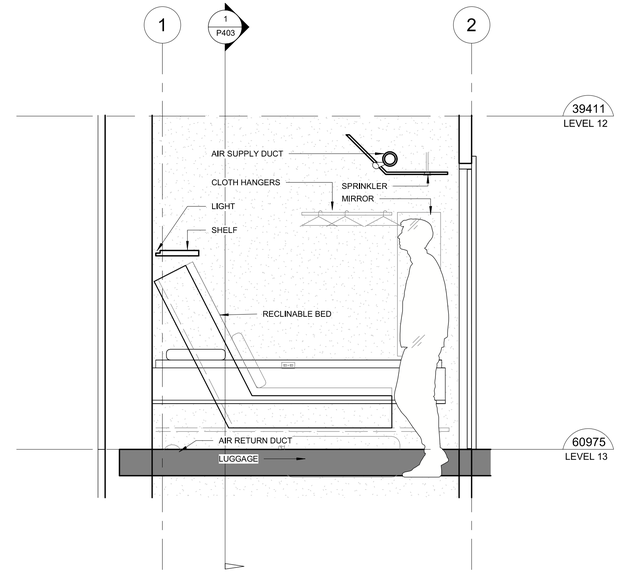
LEVEL 3-19 GUEST AREA - SLEEPING NANO UNITS + ROOMS



TYPICAL NANO ROOM PLAN



TYPICAL NANO POD PLAN



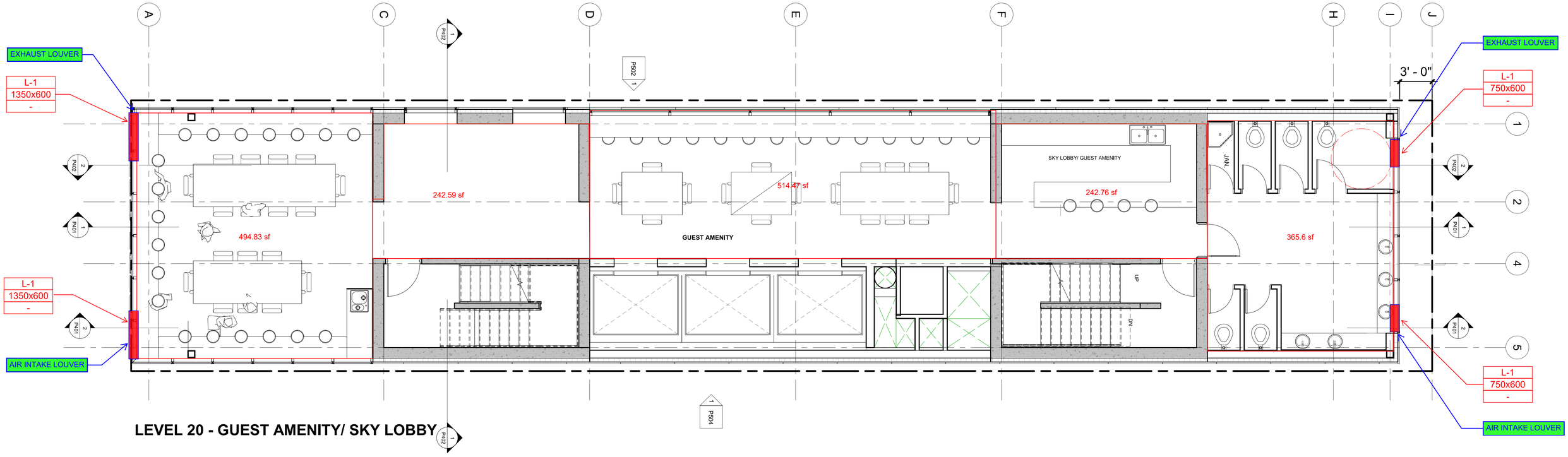
TYPICAL NANO POD SECTION

948 HOWE NANO HOTEL

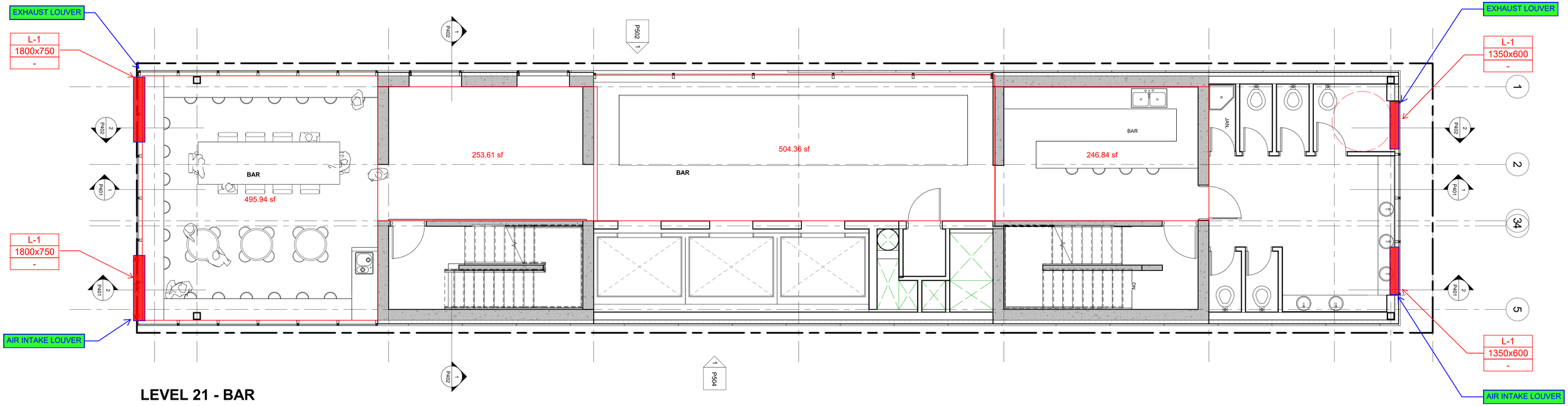
P204 FLOOR PLANS L3-L19

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January 26, 2026



LEVEL 20 - GUEST AMENITY/ SKY LOBBY



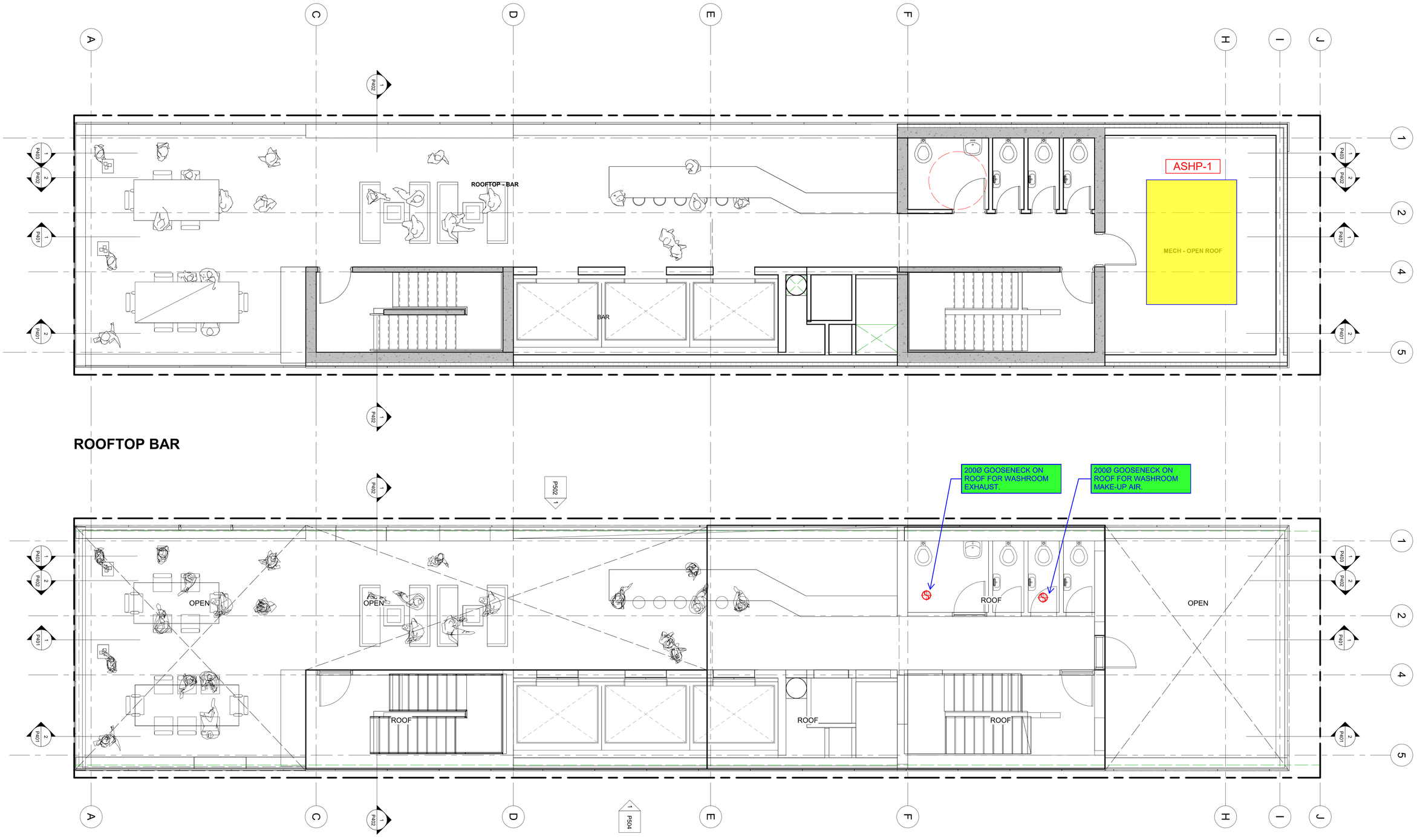
LEVEL 21 - BAR

948 HOWE NANO HOTEL

P205 FLOOR PLANS L20-L21

UNISON Architecture Ltd.

January 26, 2026



ROOF PLAN

948 HOWE NANO HOTEL

P206 FLOOR PLANS MECH + ROOF

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January 26, 2026

Unit Overview

Unit Model	A/C 4 Pipe HP&HR (MAS)
Nominal Capacity	30 Ton Modular Chiller
Operating Module Quantity	3 Modules
Incoming Line Voltage	575 V
Incoming Line Frequency	60 Hz
Refrigerant	R454B Refrigerant
Compressor Type	Vapor Injection Scroll
Fan Type	EC Axial Fan
Refrigerant Charge per Module	87.0 lb
Number of Refrigerant Circuits per Module	1 Refrig Circuits per Module
Number of Compressor per Module	2 Compressors per Module
Number of Fans per Module	2 Fans Per Module
Fan HP Nominal	4.400 hp
Net Weight per Module	3000.0 lb
TSA Version	2601



Source/Sink Coils

Coil Type	Standard Finned Condenser
Elevation	1000.00 ft
Elevation	0.00 ft

Cooling Performance

Cooling Capacity	88.54 tons
System Flow	Variable Flow System
Electronic Isolation Valve	With Electronic Isolation Valve
Fluid Type	Propylene Glycol
Fluid Concentration	25.00 %
Fouling Factor	0.000100 hr-sq ft-deg F/ Btu
Inlet Fluid Temperature	55.00 F
Outlet Fluid Temperature	45.00 F
Flow Rate	215.57 gpm
Evaporator Type	Brazed Plate
Pressure Drop	8.77 ft H2O
Cooling Air Flow per Module	31816 cfm

Heat Pump Ambient Temp - Cooling	95.00 F
Compressor Input Power (all modules)	93.57 kW
Fan Input Power (all modules)	12.39 kW
Total Input Power	105.96 kW
Efficiency - 100% Load	1.1967 kW/ton
EER	10.027 EER (Btu/W-h)
Minimum Unloading	14.76 tons

Heating Performance

Heating Capacity	781.20 MBh
System Flow	Variable Flow System
Electronic Isolation Valve	With Electronic Isolation Valve
Fluid Type	Propylene Glycol
Fouling Factor	0.000250 hr-sq ft-deg F/ Btu
Fluid Concentration	25.00 %
Inlet Temperature - Heating	100.00 F
Outlet Temperature - Heating	110.00 F
Flow Rate - Heating	158.28 gpm
Pressure Drop	6.24 ft H2O
Ambient Wet Bulb	14.50 F

Total Required Airflow	26872 cfm
Heat Pump Ambient Temp - Heating	15.00 F
Compressor Input Power (all modules)	80.79 kW
Fan Input Power (all modules)	10.38 kW
Total Input Power	91.17 kW
COP	2.51 COP (kW/kW)

Simultaneous Performance

Cooling Capacity	88.38 tons	**Cond Fluid Type**	Propylene Glycol
Heating Capacity	1315.40 MBh	**Compressor Input Power (all modules)**	88.02 kW
Evap Inlet Fluid Temperature	55.00 F	**Efficiency - 100% Load**	0.9960 kW/ton
Evap Outlet Fluid Temperature	45.00 F	**Combined COP**	7.91 COP (kW/kW)
Evap Flow Rate	215.18 gpm	**COP**	4.38 COP (kW/kW)
Evap Pressure Drop	11.06 ft H2O		
Evap Fluid Type	Propylene Glycol		
Cond Inlet Fluid Temperature	100.00 F		
Cond Outlet Fluid Temperature	110.00 F		
Cond Flow Rate	266.52 gpm		
Cond Pressure Drop	18.02 ft H2O		

Electrical

Power Distribution	Consolidated Power Connection(s)	**Short Circuit Current Rating**	Standard SCCR
Number of Points of Power	1 point of power		
Compressor Amps per Module	50.00 A		
Fan Amps per Module	9.00 A		
Full Load Amps Ckt 1	182.53 A		
Minimum Circuit Ampacity Ckt 1	189.00 A		
Maximum Over Current Protection Ckt 1	200.00 A		

Building Side Requirements (Transformer to be field-installed)

Transformer Size Ckt 1	250 kVA Transformer
Total FLA Ckt 1	251.03 A

Additional Options

Start Up	Start up allowance
BMS Interface	BACnet MS/TP

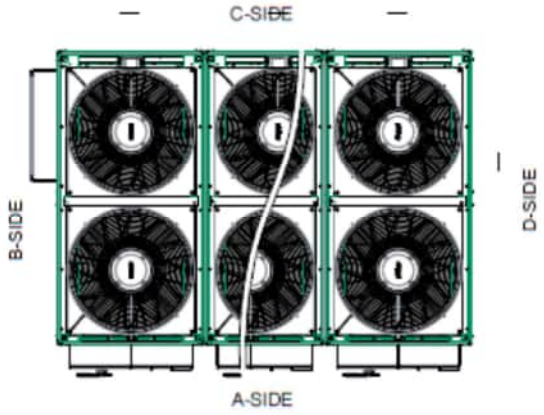
Warranty

Compressor Parts Warranty	5 Year Standard Compressor Parts
Refrigerant Warranty (Beyond 1st Year)	1st Year Standard Refrigerant Warranty
Parts less Compressor Warranty	1st year Standard Parts Less Compressor

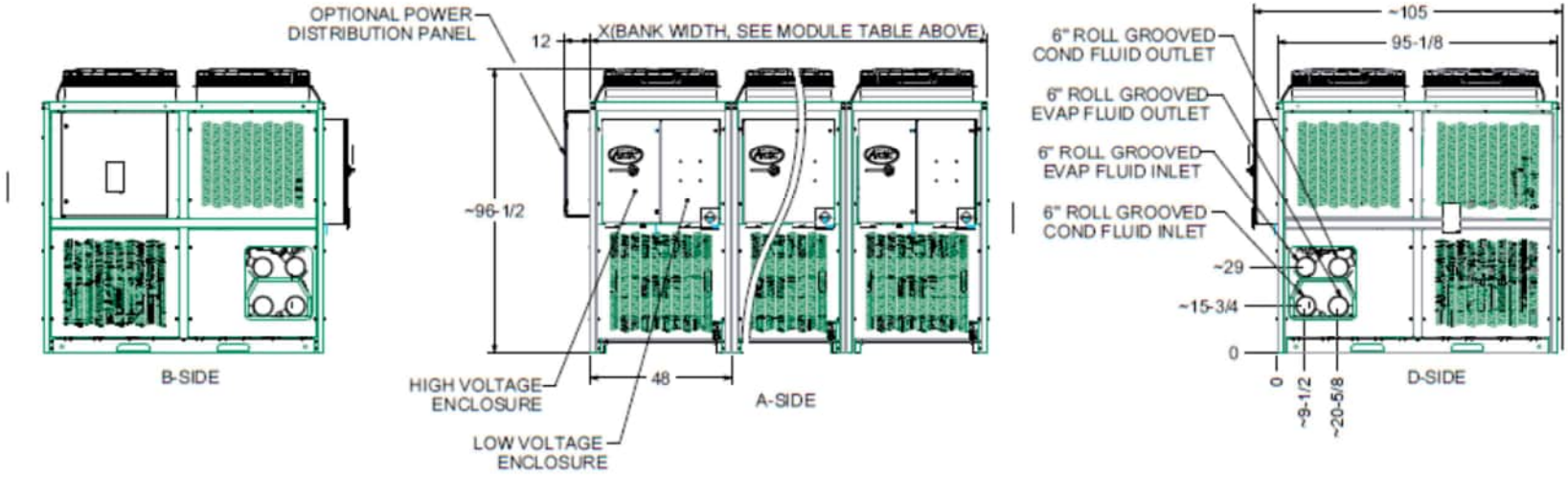
Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program or not optionally certified, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

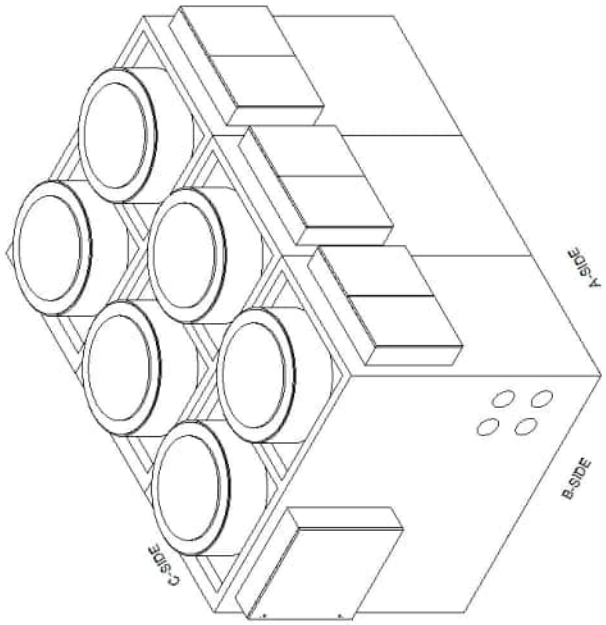
NOTES:

1. ALL DIMENSIONS ARE INCHES
2. CUSTOMER CONNECTIONS CAN BE MADE FROM EITHER B-SIDE OR D-SIDE OF BANK
3. CHILLER MODULES ARE TYPICALLY SHIPPED INDIVIDUALLY AND ASSEMBLED ON SITE
4. ALL PANELS WITHOUT ELECTRICAL ENCLOSURES ARE REMOVABLE FOR SERVICE
5. 36 INCHES CLEARANCE REQUIRED ON ALL SIDES FOR SERVICE ACCESS
6. DIMENSIONS ARE +/-1 INCH PER MODULE
7. POWER DISTRIBUTION PANEL ONLY APPLICABLE ON SINGLE OR DUAL POINT OPTIONS. DUAL POINT HAS PANEL ON BOTH SIDES OF BANK



# OF MODULES	X(INCH)	Y(INCH)
1	48	60
2	96	108
3	144	156
4	192	204
5	240	252
6	288	300
7	336	348
8	384	396
9	432	444
10	480	492




A-SIDE
B-SIDE
C-SIDE

Thermafit® Modular – All Products

Water Quality Guidelines

Water quality must be maintained periodically by a professional water treatment specialist to avoid scaling and corrosion inside the brazed plate heat exchangers. Please see guidelines below:

Element/Compound/Property	Value/Unit
pH	7.5 - 9.0
Conductivity	< 500 µS/cm
Total Hardness	4.5 - 8.5 dH°
Free Chlorine	< 1.0 ppm
Ammonia (NH_3)	< 0.5 ppm
Sulphate (SO_4^{2-})	< 100 ppm
Hydrogen Carbonate (HCO_{3-}	60 – 200 ppm
(HCO_{3-})/(SO_4^{2-})	> 1.5
(Ca + Mg)/(HCO_{3-})	> 0.5
Chloride (Cl-)	< 200 ppm

Initial Flushing Guidelines

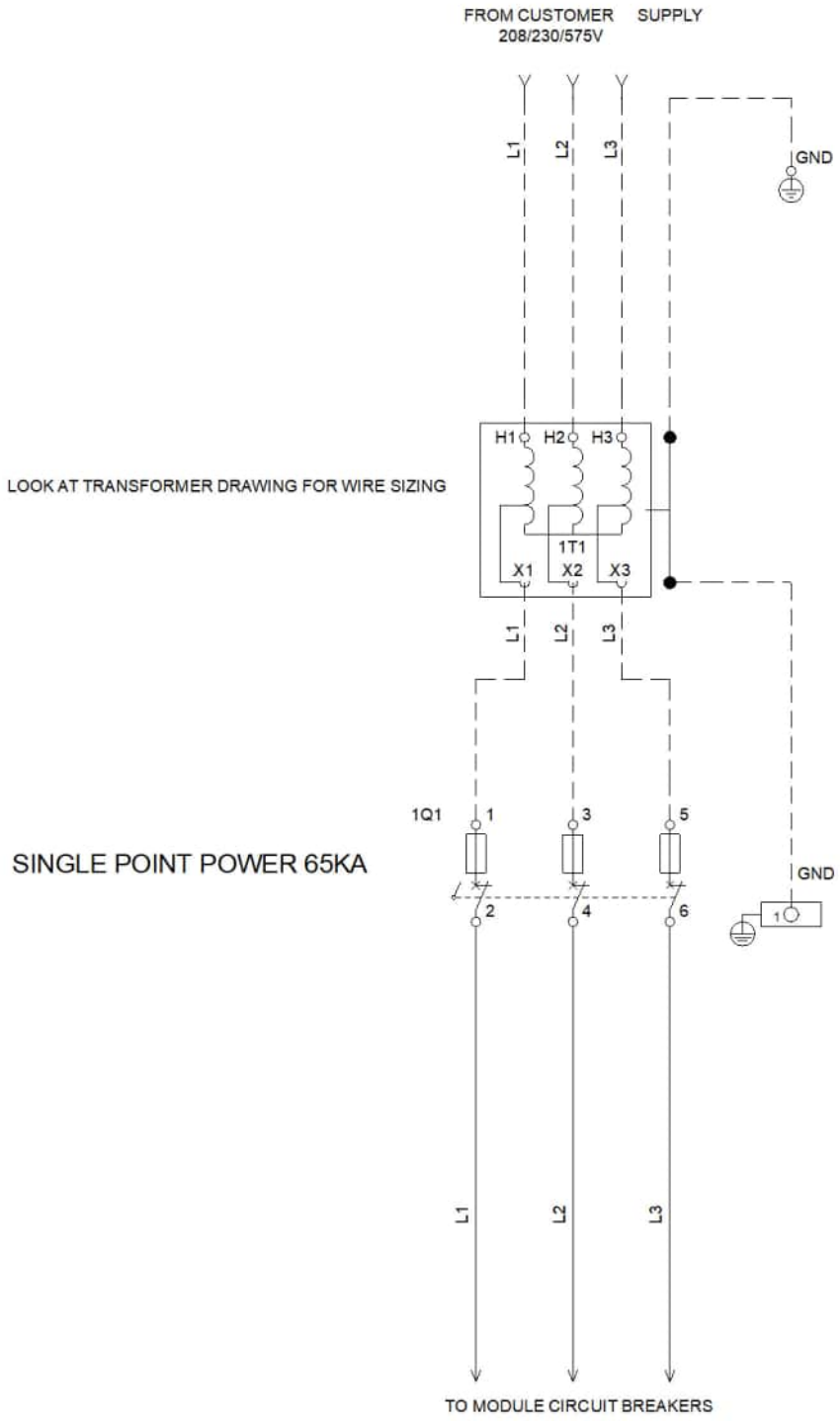
Please note after installation of system piping and before connection to the chiller/heat pump system, it is important to clean and remove debris, weld slag, and other contamination deposited during fabrication of the piping system.

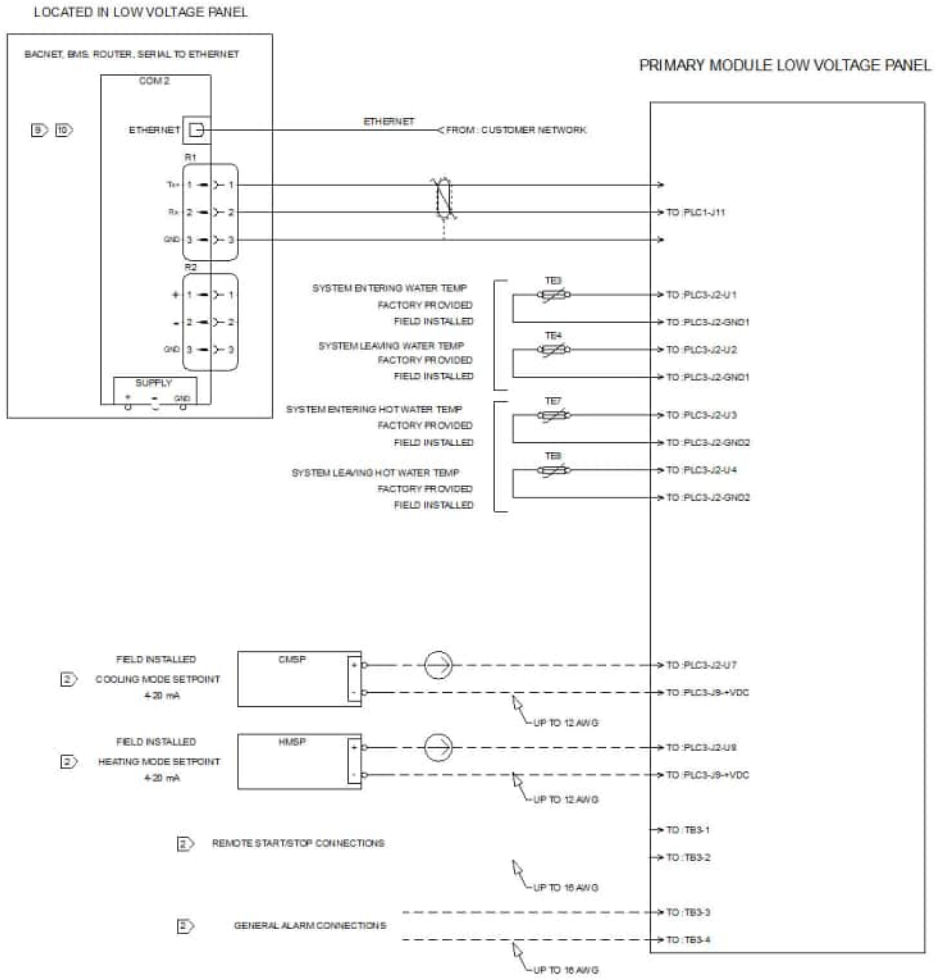
Typical flushing includes hot water with mild detergent followed by a dilute phosphoric acid solution until all visible residue is removed.

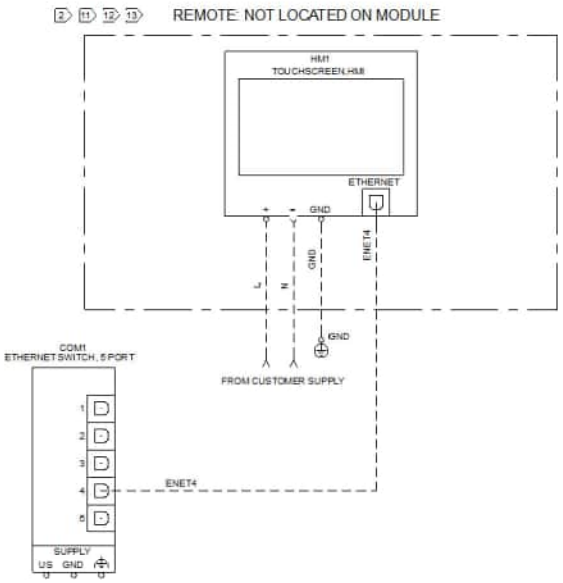
Only cleaning liquids, acids, and detergents compatible with SAE Grade 316 stainless steel, copper, and carbon steel should be used. Consult a professional water treatment specialist when in doubt.

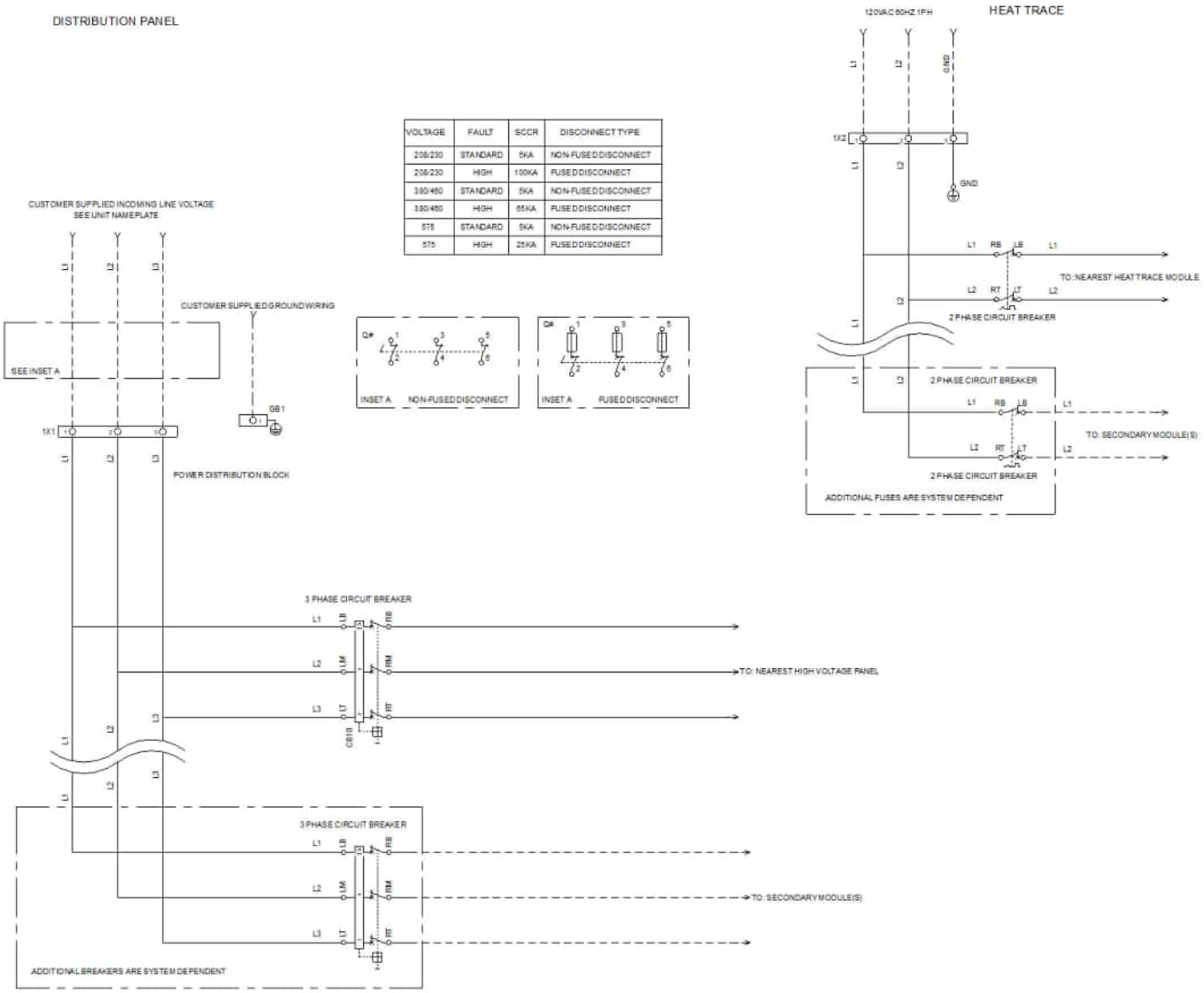
Flushing should take place across a filter/strainer with a maximum 40 mesh screen and continue for a minimum of six hours with frequent removal of the screen to capture residue or until the strainer is clean.

After detergent and chemical cleaning, flush the water piping with fresh water for one hour to remove any remaining cleaning compounds


FROM CUSTOMER SUPPLY
208/230/575V
L1
L2
L3
GND
H1
H2
H3
LOOK AT TRANSFORMER DRAWING FOR WIRE SIZING
1T1
X1
X2
X3
L1
L2
L3
1Q1
1
3
5
SINGLE POINT POWER 65KA
GND
2
4
6
L1
L2
L3
TO MODULE CIRCUIT BREAKERS


LOCATED IN LOW VOLTAGE PANEL
BACNET, BMS, ROUTER, SERIAL TO ETHERNET
COM 2
ETHERNET
R1
R2
SUPPLY
PRIMARY MODULE LOW VOLTAGE PANEL
FROM: CUSTOMER NETWORK
TO :PLC1-J11
SYSTEM ENTERING WATER TEMP
FACTORY PROVIDED
FIELD INSTALLED
SYSTEM LEAVING WATER TEMP
FACTORY PROVIDED
FIELD INSTALLED
SYSTEM ENTERING HOT WATER TEMP
FACTORY PROVIDED
FIELD INSTALLED
SYSTEM LEAVING HOT WATER TEMP
FACTORY PROVIDED
FIELD INSTALLED
TE3
TE4
TE7
TE8
TO :PLC3-J2-U1
TO :PLC3-J2-GND1
TO :PLC3-J2-U2
TO :PLC3-J2-GND1
TO :PLC3-J2-U3
TO :PLC3-J2-GND2
TO :PLC3-J2-U4
TO :PLC3-J2-GND2
FIELD INSTALLED
COOLING MODE SETPOINT
4-20 mA
CMSP
TO :PLC3-J2-U7
TO :PLC3-J9-+VDC
UP TO 12 AWG
FIELD INSTALLED
HEATING MODE SETPOINT
4-20 mA
HMSP
TO :PLC3-J2-U8
TO :PLC3-J9-+VDC
UP TO 12 AWG
REMOTE START/STOP CONNECTIONS
TO :TB3-1
TO :TB3-2
UP TO 16 AWG
GENERAL ALARM CONNECTIONS
TO :TB3-3
TO :TB3-4
UP TO 16 AWG


REMOTE: NOT LOCATED ON MODULE
HMI
TOUCHSCREEN, HMI
ETHERNET
GND
ENET4
L
N
GND
GND
FROM CUSTOMER SUPPLY
COM1
ETHERNET SWITCH, 5 PORT
ENET4
SUPPLY
VS GND



VOLTAGE	FAULT	SCCR	DISCONNECT TYPE
208/230	STANDARD	5KA	NON-FUSED DISCONNECT
208/230	HIGH	100KA	FUSED DISCONNECT
380/460	STANDARD	5KA	NON-FUSED DISCONNECT
380/460	HIGH	65KA	FUSED DISCONNECT
575	STANDARD	5KA	NON-FUSED DISCONNECT
575	HIGH	25KA	FUSED DISCONNECT

GENERAL NOTES:

1. WIRE REPRESENTED BY DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS
2. ALL STANDARD AND OPTIONAL COMPONENTS SHOWN
3. DIRECT POWER TO EACH MODULE IS STANDARD. CONSOLIDATED POWER OPTION INDICATES THE FEWEST NUMBER OF POWER TERMINATIONS POSSIBLE; TYPICALLY, THIS IS SINGLE POINT POWER HOWEVER WHEN MOP EXCEEDS 1,000 AMPS (OR 800 IF THERE IS AN OPTIONAL MAIN DISCONNECT) THEN MULTIPLE DISTRIBUTION PANELS WILL BE USED
4. POWER PHASE MONITOR IS STANDARD ON ALL THERMAFIT PRODUCTS AND IS FACTORY WIRED
5. FACTORY PROVIDED SYSTEM TEMP SENSORS ARE TO BE FIELD INSTALLED. PIPE SPOOLS WITH SENSOR WELLS WILL SHIP LOOSE WITH THE CHILLER FOR THIS PURPOSE
6. CAUTION - DO NOT ENERGIZE UNIT UNTIL CHECK OUT AND STARTUP PROCEDURES HAVE BEEN COMPLETED

WIRING REQUIREMENTS:

1. ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), STATE AND LOCAL CODES
2. DO NOT RUN LOW VOLTAGE CONTROL WIRING (30V OR LESS) IN CONDUIT WITH 110V OR HIGHER WIRING. DO NOT EXCEED THE FOLLOWING MAXIMUM RUN LENGTH FOR A GIVEN SIZE: 14 AWG OF 5,000 FT; 16 AWG OF 2,000 FT OR 18 AWG OF 1,000 FT
3. ALL UNIT POWER WIRING MUST BE 600V COPPER CONDUCTRORS ONLY AND HAVE A MINIMUM TEMPERATURE INSULATION RATING OF 90 °C. REFER TO UNIT NAMEPLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION DEVICE. PROVIDE EQUIPMENT GROUNDING IN ACCORDANCE WITH APPLICABLE ELECTRIC CODES. REFER TO WIRE RANGE TABLE FOR LUG SIZES.
4. SHIELDED, TWISTED PAIR LEADS ARE REQUIRED FOR CONNECTIONS TO THE COMMUNICATION INTERFACE MODULES. THE SHIELD SHOULD BE GROUNDED AT THE UNIT CONTROL PANEL END.
5. 22 AWG SHIELDED COMMUNICATION WIRE IS RECOMMENDED FOR WIRING BETWEEN THE PRIMARY CONTROLLER AND SECONDARY CONTROLLERS). THE SUM TOTAL OF ALL INTERCONNECTED CABLE SEGMENTS ARE NOT TO EXCEED 4,500 FT. CONNECTION TOPOLOGY SHOULD BE DAISY CHAIN.
6. ALL CUSTOMER SUPPLIED CONTACTS FOR ALL LOW VOLTAGE CONNECTIONS MUST BE COMPATABLE WITH DRY CIRCUIT 24VDC FOR A 12 Ma RESISTIVE LOAD. SILVER- OR GOLD-PLATED CONTACTS ARE RECOMMENDED.
7. OPTIONAL REMOTE HMI WILL BE CONNECTED VIA FIELD SUPPLIED ETHERNET CABLE WITH LENGTH NOT EXCEEDING 300'. FACTORY RECOMMENDED CONNECTION BE MADE TO ANY SECONDARY MODULE'S ETHERNET SWICH.

General
Trane Thermafit modular heat pump systems consist of individual modules that are assembled on site. Each module is completely factory wired and tested prior to shipment. Each module includes vapor injection compressors, brazed plate heat exchangers, refrigerant-to-air coil, and controls. The frames and panels are constructed of powder coated, formed galvanized sheet metal. The panels are easily removable for servicing via stainless steel fasteners and retaining clips.

Modes of Operation
Model MAS can operate in four modes: cooling mode, heating mode, heat recovery mode and defrost mode.

Heat recovery applications can control either a chilled fluid or hot fluid setpoint. When controlling a chilled water setpoint, the primary function of the unit is to provide cooling and condenser heat is a byproduct used to satisfy heating loads. When controlling a hot water setpoint, the unit sources energy from another loop and the primary function is heating.

The modular heat recovery chiller system is equipped with a brazed plate evaporator and a condenser in each module each with a thermal dispersion flow switch plus valves and controls for heat recovery operation. The recovered energy is delivered to the chilled or hot fluid loop by diverting the compressor refrigerant discharge into a water-cooled heat exchanger instead of into the air-cooled condenser.

Cooling Mode: the brazed plate evaporator is the energy source for the refrigeration circuit, absorbing heat from the chilled water. The refrigerant-to-air coil is the energy sink, rejecting heat to the ambient air. In this mode, the MAS has the same operation as an air-cooled chiller.

Heating Mode: the refrigerant-to-air coil is the energy source in the circuit, absorbing heat from the outdoor air. The brazed plate condenser is the energy sink in the circuit, rejecting heat to the hot water circuit.

Defrost Cycle: the refrigeration circuit operates in reverse, thereby using heat energy to melt ice that has built up on the outdoor air coil. The heat energy for defrost is extracted from the heating fluid loop. Modules will automatically enter defrost mode when ambient temperatures are below 47°F and there is frost accumulation on outdoor air coil. Trane?s intelligent control algorithm minimizes the quantity of modules allowed to defrost to reduce impact on heating performance.

Modules can operate independently in different modes to maintain system setpoints.

Factory Refrigerant Charge
Units will ship with a full operating charge of oil and R-454B refrigerant.

Refrigeration Circuits
Each chiller module has one independent refrigeration circuit with hermetically sealed scroll compressors manifolded in tandem. The refrigerant circuit includes Schrader service valves on suction, discharge, and liquid lines, liquid sight glass with moisture indicator and filter dryer. Refrigerant piping is insulated with ¾ inch closed cell insulation on the suction lines.

Evaporator
The Thermafit chillers use a single circuit, brazed plate evaporator on each module constructed of 316 stainless steel plates and copper brazing. The supply and return fluid piping connections to each evaporator include a manual isolation valve to allow servicing of each module individually while the remaining modules continue to operate. The fluid connections to each evaporator use roll grooved couplings for service convenience and ease of installation. Each evaporator is insulated with ¾ inch closed cell insulation. The maximum refrigerant working pressure is 650 psi. The maximum fluid side working pressure is 450 psi. Condenser piping fluid velocity cannot exceed 10 fps at any point in the system.

Condenser
The Thermafit chillers use a single circuit, brazed plate condenser on each module constructed of 316 stainless steel plates and copper brazing. The supply and return fluid piping connections to each condenser include a manual isolation valve to allow servicing of each module individually while the remaining modules continue to operate. The fluid connections to each condenser use roll grooved couplings for service convenience and ease of installation. Each condenser is insulated with ¾ inch closed cell insulation. The refrigerant maximum working pressure is 650 psi. The maximum fluid side working pressure is 450 psi. Condenser piping fluid velocity cannot exceed 10 fps at any point in the system.

Fluid-Strainers
A 40-mesh industrial grade filter strainer shall be factory installed between the header system and each brazed plate heat exchanger. The strainer shall be serviceable by isolation valves that permit each strainer to be removed and cleaned without shutting down fluid flow or power to the entire system and allowing the remaining modules to continue to operate.

Integral Hydronic Headers
The fluid piping shall be Schedule 10 steel with insulated, closed cell pipe insulation to prevent condensation. The chiller shall have service valves for the independent isolation of each module, without affecting the fluid flow to the remaining modules. Each chiller module shall connect to the adjacent module using Victaulic type roll grooved steel couplings and neoprene gaskets. This minimizes field piping, and since modules have equal pressure drops, flow rates self- balance without additional field intervention.

Electronic Isolation Valves
Each branch line includes a manual inlet and an electronic discharge butterfly valve that allows system flow to each active module to match the system's heating or cooling requirements. By isolating individual modules that are not operating, the hydronic system can have variable primary flow. The valves are the slow opening type to minimize the sudden change in flow to the previously active modules. The valves have a minimum opening cycle time of 35 seconds between the fully closed and open position and have roll grooved connections. The valves have a minimum close off pressure of not less than 75 psi and are rated for a maximum working pressure of 300 psi. The actuators are rated for 24 Vac.

Variable Flow
These modules are designed for variable flow operation. There are several system considerations that should be evaluated to ensure reliable operation. Please refer to Application Guide - Modular Chillers in Variable Primary Flow Chilled Water Systems (PKG-APG001C-EN) for additional information.

Air Coils and Fans
The air coils have aluminum fins mechanically bonded to copper tubes that function as an evaporator or condenser depending on the operational mode. The coils are factory tested to a minimum of 600 psig. The air coil fan motors are maintenance free, highly efficient Electronically Commutated Motors (ECM) with energy reduction capabilities of up to 35%. The fan motors vary speed to maintain the refrigeration head pressure in cooling mode.

Drain Pan
A sloped drain pan collects water from the refrigerant-to-air coil during defrost mode. There is one drain connection per module that should be field piped to a suitable drain to eliminate water and ice buildup near the unit. Field heat tracing may be required for drain pan and condensate lines in colder climates.

Compressor
The Thermafit MAS module uses two hermetically sealed, enhanced vapor injection scroll compressors on the refrigeration circuit for greater heating performance at low ambient conditions. This includes oil level sight glass, suction gas-cooled motor with solid-state sensors in the windings for thermal overload protection, and circuit breaker protection. There shall be two independent compressors manifolded together on a single refrigerant circuit per module. Compressors shall be mounted to the heavy gauge steel frame with rubber-in-shear vibration isolators.

Unit Controls
Each module includes a microprocessor controller, and the dedicated primary controller communicates with the secondary controllers in each module via a local network communications protocol.

The primary controller includes a phase monitor to protect against low voltage, phase unbalance, phase loss, and phase reversal conditions. The secondary controller monitors key performance parameters for its module and sends real-time information to the primary controller. The primary controller monitors the performance of the modular chiller system, activating and deactivating modules as needed to maintain the leaving fluid temperature for the chiller.

The distributed control system allows all secondary modules to operate in standalone mode if the system-controlled temperature sensor has failed or if the primary/secondary communication has been lost. When in stand-alone mode, each module runs independently, and controls temperature based on its local temperature sensors. Stand-alone is a fail-safe mode rather than an intended mode. Thus, modules will operate temporarily in this mode until normal primary/secondary operation is recovered. All safeties including refrigerant pressures and freeze protection are preserved.

The primary module includes a 7-inch touch screen interface panel with graphical display and allows for general operation, setpoint adjustments, and alarm monitoring of the following parameters:

*Adjustable fluid temperature setpoint
*Multiple stage compressor control, including compressor rotation to provide even compressor usage and wear
*High and low fluid temperature alarm setpoints
*Fluid inlet and outlet temperature
*Suction and discharge refrigeration pressure
*Compressor run status
*Current alarm status
*Alarm logging (Up to 2000 alarms with time and date of each occurence
*Demand load
*Compressor run hours
*Remote start stop input
*Dry contact for general alarm

Variable Flow
These units have been designed and/or selected for variable flow operation. There are several system considerations that should be evaluated to ensure reliable operation. Please refer to Application Guide - Modular Chillers in Variable Primary Flow Chilled Water Systems (PKG-APG001C-EN) for additional information.

ElectricalOptions

Consolidated Power Distribution
A single electrical power supply feeds a power distribution panel. Two power connections are required when MOP > 1000A. The panel is mounted on the primary module as standard (or lead-free cooling module or tank and pump module, if equipped) and contains a circuit breaker for each module for branch circuit overload protection for both high and standard fault systems. Terminal block is standard unless disconnect selected.

OtherOptions

Copper Finned Condenser Coil
For corrosive or harsh coastal environments, condenser coils can be offered with all copper fin construction instead of aluminum. Copper has better corrosion resistance than aluminum. The copper tubes are mechanically expanded into the fin collars providing a permanent metal-to-metal bond for efficient heat transfer.

ASME UM Stamp
ASME Boiler and Pressure Vessel Code is stamped on the heat exchanger(s)to certify that the equipment conforms to the rules governing the design, fabrication, assembly, and inspection of boiler and pressure vessel components during construction.

Factory-Supplied, Field-InstalledAccessories

Temperature Header Accessory
6 inch long, grooved pipe with temperature well. Pre-wired system temperature sensor on primary controller must be field installed in well.

Victaulic Couplings
Victaulic couplings are provided for module-to-module hydronic connections when multiple modules are selected.

L-1

ESD-635

Stationary Louver, Drainable Blade

Extruded Aluminum

Standard Construction

Frame	Heavy gauge extruded 6063-T5 aluminum, 6 in. (152 mm) x 0.081 in. (2 mm) nominal wall thickness
Blades	Drainable design, heavy gauge extruded 6063-T5 aluminum, 0.081 in. (2 mm) nominal wall thickness, positioned 37° on approximately 4 in. (102 mm) centers
Louver Depth	6 in. (152 mm)
Construction	Mechanically fastened
Finish	Mill
Minimum Size	12 in. W x 12 in. H (305 mm W x 305 mm H)
Maximum Single Section Size	120 in. W x 120 in. H (3048 mm W x 3048 mm H) Limited to 70 sq. ft. (6.5 sq. m)
Wind Load	25 PSF (1.2 kPa)





Performance Ratings

Greenheck Fan Corporation certifies that the ESD-635 louvers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Water Penetration and Air Performance ratings.

Louvers were tested in accordance with AMCA Standard 500-L.

Performance of 48 in. x 48 in. (1219 mm x 1219 mm) Louver

Free Area	
Area	9.41 sq. ft. (0.874 sq. m)
Percent	58.8%
Performance at Beginning Point of Water Penetration	
Free Area Velocity	Above 1250 fpm (6.350 m/s)
Max Intake Volume	11,763 cfm (5.551 m³/s)
Performance at 6,000 CFM (2.832 m³/s) Intake	
Pressure Drop	0.061 in. wg (0.015 kPa)

Options and Accessories

- Bird Screen
- Blank Off Panels
- Extended Sill
- Filter Rack/Filter
- Flange Frame
- Glazing Frame
- Hinged Frame
- Insect Screen
- Mounting Angles
- Security Bars
- Variety of Architectural Finishes
- Welded Construction
- 0.125 in. (3 mm) Nominal Frame and/or Blade Thickness

Document Links

- ESD-635 Specification
- ESD-635 Environmental Product Declaration
- Louver Finishes & Colors
- Louver Product Selection Guide
- Louver Products Catalog
- Louver Warranty Statement

Standard Details

ESD-635 Standard Details

Structural reinforcing members may be required to adequately support and install multiple louver sections within a large opening. Structural reinforcing members along with any associated installation hardware is not provided by Greenheck unless indicated otherwise by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blank off panels are not subject to structural analysis unless indicated otherwise by Greenheck.

ESD-635

Stationary Louver Drainable Blade
Extruded Aluminum

Free Area Chart

Free Area Chart shows free area in square feet and square meters.

Louver Height Inches (Meters)	Louver Width in Inches (Meters)																		
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	0.30	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83	1.98	2.13	2.29	2.44	2.59	2.74	2.90	3.05
12	**0.19**	**0.32**	**0.44**	**0.57**	**0.69**	**0.82**	**0.94**	**1.04**	**1.16**	**1.29**	**1.41**	**1.54**	**1.66**	**1.79**	**1.91**	**2.01**	**2.13**	**2.26**	**2.38**
0.30	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.22
18	**0.48**	**0.80**	**1.11**	**1.42**	**1.74**	**2.05**	**2.36**	**2.60**	**2.91**	**3.22**	**3.54**	**3.85**	**4.16**	**4.48**	**4.79**	**5.02**	**5.34**	**5.65**	**5.96**
0.46	0.04	0.07	0.10	0.13	0.16	0.19	0.22	0.24	0.27	0.30	0.33	0.36	0.39	0.42	0.45	0.47	0.50	0.52	0.55
24	**0.77**	**1.27**	**1.77**	**2.27**	**2.77**	**3.27**	**3.76**	**4.14**	**4.64**	**5.14**	**5.64**	**6.14**	**6.63**	**7.13**	**7.63**	**8.01**	**8.51**	**9.01**	**9.50**
0.61	0.07	0.12	0.16	0.21	0.26	0.30	0.35	0.38	0.43	0.48	0.52	0.57	0.62	0.66	0.71	0.74	0.79	0.84	0.88
30	**1.05**	**1.73**	**2.41**	**3.09**	**3.77**	**4.45**	**5.13**	**5.64**	**6.32**	**7.01**	**7.69**	**8.37**	**9.05**	**9.73**	**10.41**	**10.92**	**11.60**	**12.28**	**12.96**
0.76	0.10	0.16	0.22	0.29	0.35	0.41	0.48	0.52	0.59	0.65	0.71	0.78	0.84	0.90	0.97	1.01	1.08	1.14	1.20
36	**1.35**	**2.22**	**3.09**	**3.97**	**4.84**	**5.71**	**6.59**	**7.24**	**8.11**	**8.99**	**9.86**	**10.73**	**11.61**	**12.48**	**13.35**	**14.01**	**14.88**	**15.76**	**16.63**
0.91	0.13	0.21	0.29	0.37	0.45	0.53	0.61	0.67	0.75	0.84	0.92	1.00	1.08	1.16	1.24	1.30	1.38	1.46	1.54
42	**1.62**	**2.67**	**3.71**	**4.76**	**5.81**	**6.86**	**7.91**	**8.69**	**9.74**	**10.79**	**11.84**	**12.89**	**13.94**	**14.99**	**16.03**	**16.82**	**17.87**	**18.92**	**19.97**
1.07	0.15	0.25	0.34	0.44	0.54	0.64	0.73	0.81	0.90	1.00	1.10	1.20	1.30	1.39	1.49	1.56	1.66	1.76	1.86
48	**1.92**	**3.17**	**4.42**	**5.67**	**6.91**	**8.16**	**9.41**	**10.34**	**11.59**	**12.84**	**14.09**	**15.33**	**16.58**	**17.83**	**19.08**	**20.01**	**21.26**	**22.51**	**23.75**
1.22	0.18	0.29	0.41	0.53	0.64	0.76	0.87	0.96	1.08	1.19	1.31	1.42	1.54	1.66	1.77	1.86	1.98	2.09	2.21
54	**2.18**	**3.60**	**5.02**	**6.44**	**7.85**	**9.27**	**10.69**	**11.75**	**13.17**	**14.58**	**16.00**	**17.42**	**18.83**	**20.25**	**21.67**	**22.73**	**24.15**	**25.56**	**26.98**
1.37	0.20	0.33	0.47	0.60	0.73	0.86	0.99	1.09	1.22	1.35	1.49	1.62	1.75	1.88	2.01	2.11	2.24	2.37	2.51
60	**2.49**	**4.10**	**5.71**	**7.32**	**8.94**	**10.55**	**12.16**	**13.37**	**14.98**	**16.59**	**18.21**	**19.82**	**21.43**	**23.04**	**24.66**	**25.87**	**27.48**	**29.09**	**30.70**
1.52	0.23	0.38	0.53	0.68	0.83	0.98	1.13	1.24	1.39	1.54	1.69	1.84	1.99	2.14	2.29	2.40	2.55	2.70	2.85
66	**2.75**	**4.53**	**6.32**	**8.10**	**9.88**	**11.67**	**13.45**	**14.79**	**16.57**	**18.36**	**20.14**	**21.92**	**23.71**	**25.49**	**27.27**	**28.61**	**30.40**	**32.18**	**33.96**
1.68	0.26	0.42	0.59	0.75	0.92	1.08	1.25	1.37	1.54	1.71	1.87	2.04	2.20	2.37	2.53	2.66	2.82	2.99	3.15
72	**3.05**	**5.03**	**7.01**	**8.99**	**10.97**	**12.95**	**14.93**	**16.41**	**18.39**	**20.37**	**22.35**	**24.33**	**26.31**	**28.29**	**30.27**	**31.75**	**33.73**	**35.71**	**37.69**
1.83	0.28	0.47	0.65	0.84	1.02	1.20	1.39	1.52	1.71	1.89	2.08	2.26	2.44	2.63	2.81	2.95	3.13	3.32	3.50
78	**3.31**	**5.46**	**7.61**	**9.76**	**11.91**	**14.06**	**16.21**	**17.83**	**19.98**	**22.13**	**24.28**	**26.43**	**28.58**	**30.73**	**32.88**	**34.49**	**36.64**	**38.79**	**40.94**
1.98	0.31	0.51	0.71	0.91	1.11	1.31	1.51	1.66	1.86	2.06	2.26	2.46	2.66	2.85	3.05	3.20	3.40	3.60	3.80
84	**3.62**	**5.96**	**8.31**	**10.66**	**13.00**	**15.35**	**17.69**	**19.45**	**21.80**	**24.15**	**26.49**	**28.84**	**31.19**	**33.53**	**35.88**	**37.64**	**39.98**	**42.33**	**44.68**
2.13	0.34	0.55	0.77	0.99	1.21	1.43	1.64	1.81	2.03	2.24	2.46	2.68	2.90	3.12	3.33	3.50	3.71	3.93	4.15
90	**3.88**	**6.40**	**8.91**	**11.43**	**13.95**	**16.46**	**18.98**	**20.87**	**23.38**	**25.90**	**28.42**	**30.93**	**33.45**						
2.29	0.36	0.59	0.83	1.06	1.30	1.53	1.76	1.94	2.17	2.41	2.64	2.87	3.11						
96	**4.18**	**6.90**	**9.61**	**12.32**	**15.04**	**17.75**	**20.46**	**22.50**	**25.21**	**27.92**	**30.64**	**33.35**	**36.06**						
2.44	0.39	0.64	0.89	1.14	1.40	1.65	1.90	2.09	2.34	2.59	2.85	3.10	3.35						
102	**4.44**	**7.33**	**10.21**	**13.09**	**15.98**	**18.86**	**21.74**	**23.90**	**26.79**	**29.67**	**32.55**	**35.44**	**38.32**						
2.59	0.41	0.68	0.95	1.22	1.48	1.75	2.02	2.22	2.49	2.76	3.02	3.29	3.56						
108	**4.75**	**7.83**	**10.91**	**13.99**	**17.07**	**20.15**	**23.23**	**25.54**	**28.62**	**31.70**	**34.78**	**37.86**	**40.94**						
2.74	0.44	0.73	1.01	1.30	1.59	1.87	2.16	2.37	2.66	2.95	3.23	3.52	3.80						
114	**5.01**	**8.26**	**11.51**	**14.76**	**18.01**	**21.26**	**24.51**	**26.95**	**30.20**	**33.45**	**36.70**	**39.95**	**43.20**						
2.90	0.47	0.77	1.07	1.37	1.67	1.98	2.28	2.50	2.81	3.11	3.41	3.71	4.01						
120	**5.31**	**8.76**	**12.21**	**15.66**	**19.10**	**22.55**	**26.00**	**28.58**	**32.03**	**35.48**	**38.92**	**42.37**	**45.82**						
3.05	0.49	0.81	1.13	1.45	1.77	2.09	2.42	2.66	2.98	3.30	3.62	3.94	4.26						

ESD-635

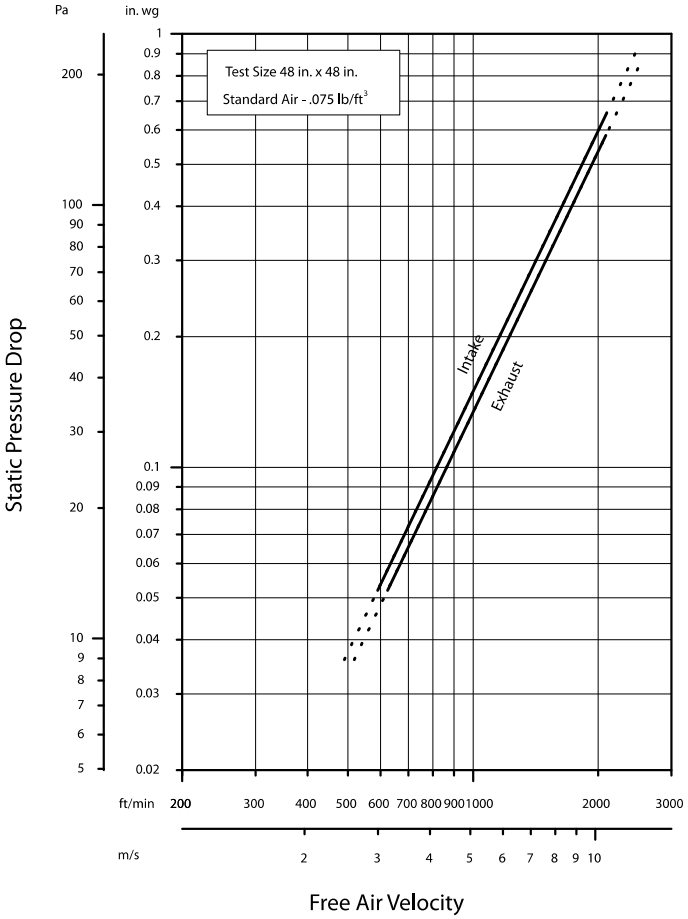
Stationary Louver Drainable Blade

Extruded Aluminum

Airflow Resistance

Standard Air - 0.075 lb/ft³ (1.2 kg/m³)

Test size 48 in. x 48 in. (1219 mm x 1219 mm)

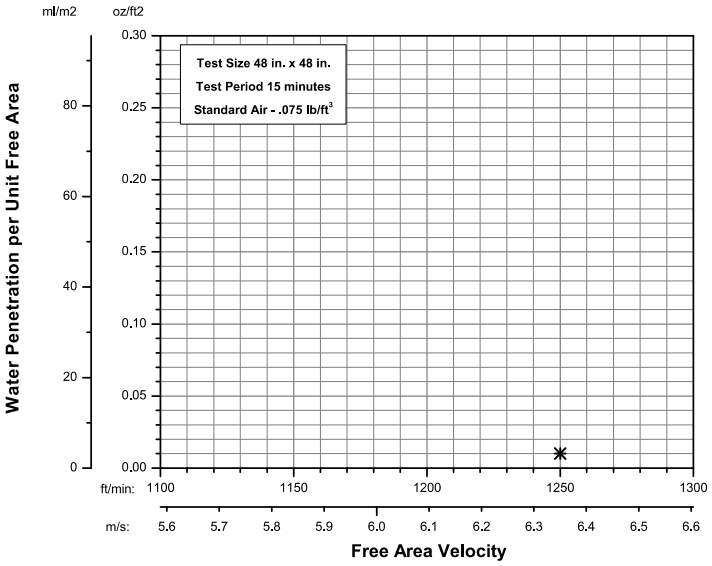


Model ESD-635 resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5-6.5)

Water Penetration

Standard Air - 0.075 lb/ft³ (1.2 kg/m³)

Test size 48 in. x 48 in. (1219 mm x 1219 mm) Test duration of 15 min.



The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. ⋆**The beginning point of water penetration for Model ESD-635 is 1250 fpm (6.350 m/s) free area velocity.** These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.

GREENHECK

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ESD-635, March 2025

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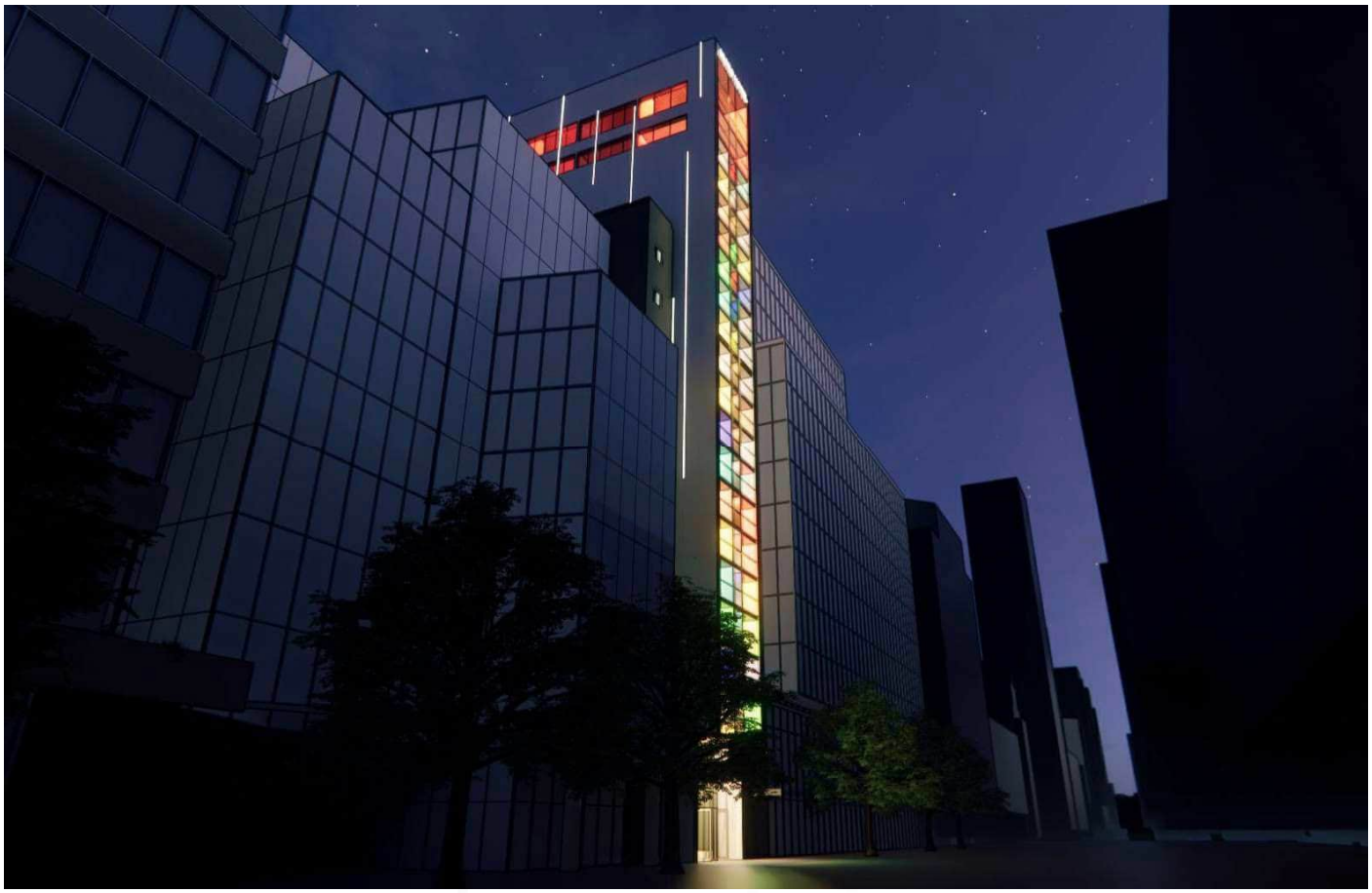
Appendix D - Electrical Engineer Report (O'M)

Appendix D - Electrical Engineer Report (O'M)

O'M Engineering
Electrical & Electronic
Consulting Engineers

THE NANO HOTEL ON HOWE STREET

ELECTRICAL SCHEMATIC DESIGN REPORT



PREPARED FOR:

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PROJECT NO.	DATE	AUTHORED BY	REVIEWED BY
25-283	January 30, 2026	Henry, Sr. Designer	Mo Khan, P.Eng

Permit to Practice No: 1001261

PROFESSIONAL ENGINEER
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48873

2026-01-30

PROFESSIONAL SEAL & SIGNATURE

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1.0 INTRODUCTION

This report is the schematic design summary of the electrical systems planned for the 948 Howe Nano Hotel in 948 Howe, Vancouver, BC.

The development consists of a 22-storey tower with three basement levels and comprises the following facilities:

- Basement Level 1 – Level 3 Staff areas, Offices, Bike storage, Mech + Elec room & Laundry area
- Main Level Lobby + common area, Lounge, Café & Goods Loading area
- Level 2 Guest Area – Sleeping Micro rooms, WC + Showers & Mech/Elec room
- Level 3 – Level 19 Guest Area – Sleeping Micro rooms, & WC + Showers
- Level 20 - Level 21 Public Bar, Kitchen Bar & Sky Reception, Mech/Elec room

There is a total of 355 POD units, 51 suites & one Office in the following mix:

- 1-bed suites 51
- POD units 355
- Office 1

The electrical work shall include, but not be limited to the following:

- Main incoming electrical service
- Complete building power distribution
- Main incoming telephone service
- Emergency Generator
- Complete power supply, starters, and disconnect switches for all mechanical equipment and equipment supplied by the owner
- Complete indoor lighting, including lighting control system
- Complete basement lighting, including lighting control system
- Complete life safety system (fire alarm, emergency lighting, and exit lighting)
- Complete communications system cabling
- Complete security systems, including Access Control and CCTV.
- Audio visual systems (power and conduits only)
- E-Comm System

This report is primarily intended to indicate the basis of electrical design. These documents are preliminary in nature and are only intended to be used as a guide to ensure a fully functional electrical installation is carried out. Documents and drawings of this report are diagrammatic and not to scale unless detailed otherwise. They establish scope, material, and installation quality and are not detailed installation instructions.

Scope Exclusions:

The following are excluded from the scope of work

- Audio visual systems
- Voice and Data Active Systems

- Hotel Management System and POS

2.0 CODES AND STANDARDS

The electrical system shall be designed in accordance with the intent of all applicable codes, ordinances, bylaws, standards, and regulations.

The following list of applicable codes and regulations applies to this design:

- VBBL 2019
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) 90.1.2016
- Illumination Engineering Society of North America (IESNA)
- Applicable NFPA Regulations
- 2024 Canadian Electrical Code (CEC)
- Underwriters' Laboratories of Canada
- ANSI / TIA / BICSI
- BC Hydro Design Guidelines

3.0 SUSTAINABLE CONSIDERATIONS

The design and operation of an energy-efficient facility is a key project objective. The project's environmental performance will be evaluated and benchmarked against applicable energy codes and standards.

Sustainable design will focus on, but not be limited to the following:

- Maximize the efficiency of interior and exterior lighting systems.
- Maximize the use of daylight.

Daylight harvesting will be implemented in regularly occupied spaces of the building. High-efficiency LED luminaires will be specified. The lighting system shall be automated using the following:

- Daylighting controls
- Vacancy and occupancy sensors

The project will aim to achieve 25% better energy than the NECB requirements.

This project will not receive a LEED certification.

4.0 STANDARD OF MATERIALS, EQUIPMENT AND INSTALLATION

Proposed acceptable manufacturers are as follows:

ITEM	ACCEPTABLE PRODUCTS/SUPPLIERS/MANUFACTURERS
Power Distribution System	Eaton, Schneider, Siemens, GE
Generator	Generac, Kohler, Blue Star or approved equal
Battery-operated emergency lighting	Ready-lite, Emergi-Lite or approved equal
Rack-Mounted UPS	Eaton, APC, Schneider
Luminaires	See Indicative Cutsheets in Appendix C, Subject to Detailed Design Coordination
Lighting Controls	Lutron, Creston, Leviton or approved equal
Fire Alarm System	Simplex, Mircom, Honeywell Notifier
Power Outlets	Bryant, Hubbell or approved equal
Unit Substation	Prime Engineering, ITI
Low Voltage Transformers	Delta, Hammond, Rex Power Magnetics
Electronic Metering	QMC, Carma, Schneider, Eaton or approved equal
Access Control	Lenel, Challager, or equal
CCTV	Avigilon, Hanwah
Communications Cabling and accessories	Panduit, Systimax or equal
Floor Standing IT Racks	Panduit R4PCN or APC

Table 4.1 Table of Pre-Approved Manufacturers

5.0 LOAD ESTIMATION

A detailed load estimate can be found in Appendix A

The initial estimate shows a building load requirement of approximately 833 kVA at a three-phase 120/208V. An electrical primary 12.5kV service will be required with one (1) indoor 1000kVA unit substation. All high-voltage equipment will be dual-rated for the future 25kV power upgrade.

POWER REQUIREMENT	ESTIMATED LOAD
The basic load of the building is calculated by multiplying the total building area	20W/Sqm
Special Lighting	8 kW
Space heating or cooling	70 W/Sqm
Domestic hot water	166 kW
Other Mechanicals & Fire pump	115 kW
Elevator	75HP each
Cord-connected load, including kitchen equipment	158 kW

Table 5.1 Table of Estimated Load

6.0 ELECTRICAL SERVICES

6.1. Power Service

The BC Hydro incoming room at the back of the building on grade level, and the main electrical service room will be located in the basement and will be accessed from within the building. A 1000kVA 12.5 (or 25kV) / 208V unit substation will be provided to transform the high voltage to 208Y/120V. This strategy is to be confirmed with BC Hydro.

The main incoming service will be fed underground from the street and enter the electrical room via a pull pit under the high-voltage section of the unit substation. The unit substation will be fitted with a 208Y/120V distribution section that will supply low voltage to an electrical closet on the selected floors of the building, as indicated on the detail.

The unit substation's main distribution centre includes the following components:

- A 3000Amp, 208Y/120Vac main distribution center located in the main electrical room.
- A 500Amp, 208Y/120Vac feeder for life safety emergency distribution center located on the roof.
- Several feeders to feed the electrical hot water system, electrical heating & cooling system.
- Several feeders to feed general panels on floors.
- A feeder to feed Bars on Level 20 & 21.
- A Feeder to feed non-life safety distribution on the roof.
- Feeders to feed other mechanical equipment.

The life safety distribution center will feed:

- Elevators.
- Emergency mechanical equipment including pressurised stairwell.
- Emergency panels for lighting & others.

See Appendix B for a preliminary single-line diagram and Appendix C for a typical electrical closet riser diagram.

6.1. Emergency Generator System

An emergency generator room will be located on Level 2, which will house a 300kW emergency generator, sized to provide backup power to the building. The generator room will also house a generator distribution board, which will feed the two automatic transfer switches for life-safety emergency loads and facility standby loads. The generator board will have a breaker installed for a fire pump. Electrical closets will be provided on selected floor levels to support emergency power distribution, as shown on the preliminary single-line diagram.

See Appendix B for a preliminary single-line diagram.

6.2. Telecommunication / Data Service

The communications network infrastructure systems in the building shall be designed to the latest ANSI/TIA and CAN/CSA Communications Standards and the latest issue of the BICSI TDM manual.

The point of service connection will be coordinated with Telus and Rogers. The main telephone demarcation point will be in the main telecom room on the basement level one. The main incoming communications links shall be of both copper & fibre-optic type. Coordination with the service provider will be required to establish these connections.

Wireways and conduits will be provided where required; however, the client will make necessary applications to a preferred supplier for the incoming lines and distribution. A minimum of four (4) 4" RPVC ducts with innerducts will run to the Main Telecom Room.

The Main Telecommunications Room will house telecom equipment, IT racks, and security panels. Secondary telecommunications closets will be provided on the floor levels B2, 1, 4, 7, 10, 13, 16 & 19 to support vertical riser distribution and service delivery to each suite, and Wi-Fi access points for the POD coverage. Data cabling will be routed to each suite.

6.3. Wireless System

WIFI – Infrastructure consisting of conduit and junction boxes will be provided throughout non-tenant spaces (only) for the installation of wireless access points (WAPs). Installation of WAPs by the owner. OM to provide WAP recommendations for base building standards.

6.4. Cable TV Services

The main Cable TV demarcation point will be in the main telecommunications room on the basement level. Wireways and conduits will be provided where required; however, the client will be responsible for making service applications to their preferred provider for incoming lines and distribution.

Secondary telecom walls will be provided within the electrical riser closets on each floor from Level 1 to Level 21 to support riser distribution to each suite and common amenity spaces. The CATV cabling will run directly to a wall outlet in each suite and POD for connection to the TV. Final service connection will be completed by the provider.

7.0 POWER DISTRIBUTION

The general power distribution configuration includes an incoming 12.5kV BC Hydro service to a 1000kVA unit substation, providing 208Y/120V to the building. The unit substation will be located in the main electrical room on Basement Level 1. The unit substation will supply hotel suites and POD units, the office, Bar and the building's house loads, the mechanical loads. These will supply panels for general use located in the electrical closets on levels 2, 6, 9,12, 15, 18 & 21. The office, laundry area, staff area, and Bar & Kitchen Bar areas have their house panel on the floor adjacent to the area space. Refer to the single-line diagram in Appendix B for further details of the proposed electrical system configuration. A minimum spare capacity of 20% is proposed for the electrical system, including all panels and associated feeders. The main distribution panel and other sub-distribution panels will be located in the electrical room.

All panel board breakers shall be bolt-on moulded case circuit breakers with thermal magnetic trip, with trip-free action and trip position separate from the “On” or “Off” position.

Power outlets will be strategically located for electrical equipment, special equipment, appliances, and maintenance services, and in accordance with code and user requirements. GFI outlets will be provided in all washrooms and similar places. The outlets shall be specification grade for all areas.

Power connections will be provided for mechanical systems equipment, including electric heating, fans, pumps, etc., as required to facilitate mechanical systems installation. Weatherproof receptacles shall be provided next to any rooftop mechanical equipment.

The main utility meter will be in the electrical room. A networked electronic metering system will be provided to achieve the following:

- Comply with ASHRAE M&V requirements
- Monitor the lighting, plug, mechanical and process loads per IPMVP (International Performance Measurement and Verification Protocol):

An electronic metering system will be provided complete with all necessary hardware and software to monitor house panel, life safety and suite/POD loads for building management purposes. The metering system will be a stand-alone system independent form the Building Management System.

8.0 GENERATOR BACKUP POWER SYSTEM

An emergency generator will be provided to accommodate the following Life Safety and Non-Life Safety Loads: The following loads:

8.1. Life Safety System

- Emergency lighting and exit signs
- Fire alarm system
- Fire pump
- Life safety mechanical equipment
- Firefighters' elevator(s)
- Other life safety loads
- High-rise mechanical loads such as smoke extract and staircase pressurization

8.2. Non-Life Safety System

- Access Control System
- CCTV System
- Non-life safety mechanical equipment (e.g., sump pumps)

The emergency generator will be a 208V diesel set, sized as indicated on the attached SLD (Appendix B). Automatic transfer switches, complete with single-sided bypasses will be provided to automatically transfer the loads to generator power should the utility power fail.

The building will have a generator distribution switchboard located in the Mech/Elec. Room on the building's Level 2 floor, which will feed three (3) distinct ATS systems: two (2) life-safety ATSs and one (1) non-life safety ATS system. One (1) life-safety ATS will be located in the Mech/Elec room on the Level 2 floor, and the other one (1) will be integrated into the fire pumps. The non-life safety ATS will be located in the main electrical room on the basement level 1.

All life safety power cables shall be 2-hour fire-rated or contained within the 2-hour fire-rated shaft.

9.0 GROUNDING AND BONDING

The water main and any metallic wastewater pipes shall be bonded electrically to the main grounding system. The grounding conductor shall be the same size as required by the local electrical inspection authority. A UFER ground system will be provided at the ground level of Basement 3 in addition to ground rods and connected to at least 3 columns at the perimeter of the building. They will be located at different sections of the building and connect via #3/0 AWG bare copper ground wire to the main electrical room equipotential grid and the building's main ground bus.

The ground bus in local electrical rooms will be identified as Sub-Master Ground Bus, and connected to the main ground bus, which will be identified as a Master Ground Bus, in the main electrical room for the corresponding building component via#3/0 AWG insulated copper wire. The ground busses in the main electrical room will be connected to the building ground via #3/0 AWG bare copper.

A gradient control mat, consisting of bare copper wires, will be provided in the slab near all high-voltage equipment for step and touch protection.

A separate bond wire shall be installed in each conduit for feeders. The bond wire will be sized based on the largest wires installed in the conduit. The conduit shall not be used as a bond conductor.

All grounding and bonding shall be in accordance with applicable rules of the Canadian Electrical Code.

10.0 WIRING STRATEGY

10.1. General

Wiring shall be in accordance with the Canadian Electrical Code and VBBL. The raceways for the project shall be as follows, unless required otherwise by authorities having jurisdiction:

- Rigid Steel Conduit: In all areas where the wiring can be subject to damage.
- Rigid PVC Conduit: in concrete or underground installation.
- EMT: Use for general use, where allowed, unless otherwise stated in these specifications or on the drawings.
- Flexible Liquid Tight Conduit: Provide a short length of liquid-tight flexible conduit prior to connection to each motor.
- ENT will not be allowed on the project.
- NMD-90 will be used for in-suite wiring.
- TECK90 cabling will be used for feeders to sub-panels.

Wiring will be copper and shall be minimum #12 AWG with 600V XLPE insulation, AC-90 or Teck 90.

Teck cable or armoured cable may be used for electrical feeders to distribution boards and panel boards. Armoured cable is allowed for final drops to luminaires, within partition walls, and connection to devices such as conduits and raceways shall be concealed except in services spaces, ceiling spaces, mechanical and electrical rooms. All conduit and cabling shall run parallel or perpendicular to building lines.

10.2. Mechanical Wiring

Electrical service shall be provided to all mechanical equipment, including but not limited to air handling units, pumps, fans, heat tracing, chillers, air conditioners, cooling towers, heaters, boilers and all associated equipment. This service will consist of the following:

- All protective devices for feeders/circuits feeding mechanical equipment,
- All conduit and wires,
- All starters, whether they are installed in MCC's or loose in their own enclosures.
- Where specified, controls equipment will be supplied and installed along with all necessary conduit and wiring.

All life safety power cables shall be 2-hour fire-rated or contained within the 2-hour fire-rated shaft.

10.3. Electrical Devices

The devices with specification grade shall be used in all areas. All devices shall match, including and not limited to receptacles and switches.

11.0 LIGHTING SYSTEM

11.1. General Lighting

All lighting will be LED-type luminaires. In general, the following light sources shall be utilized:

LOCATION	TYPE OF LUMINAIRES	AVERAGE LUX LEVEL	LIGHTING CONTROL
Suite	LED downlight luminaires and one bedside reading light with a wall switch. Card Key Switch for energy saving as necessary, required for activated by room entry to be installed to cut power to lighting and non-essential receptacles.	150 lux	Occupancy sensor and link to FOB security at the main entrance. Local manual on and auto off.
POD	LED downlight luminaires integrated into the POD ceiling, and one bedside reading light with wall switch. Card Key Switch for energy saving as necessary required for activated by room entry to be installed to cut power to lighting and non-essential receptacles.	150 lux	Occupancy sensor and link to FOB security at the main entrance. Local manual on and auto off.
Lobby, waiting area, corridors, Amenity room, laundry, storage and commons areas	Decorative LED circular pendants and downlight luminaires on occupancy sensors	200 lux	Occupancy sensor and link to FOB security at the main entrance
Elevator lobby	Decorative LED recessed linear luminaires on occupancy sensors	200 lux	Auto On, Auto off
Goods Loading Area	Surface-mounted wrap-type luminaires on local switches/occupancy sensors	200 lux average	Auto On, Auto off
Administration	2x4’ Lay in Troffer fixtures with vacancy sensor	300 lux	Local manual on and auto off. Daylight harvesting
Offices, Staff room	Surface-mounted wrap-type luminaires on occupancy sensors	250 lux average	Auto On, Auto off
Café area, and Public Bar	Decorative LED circular pendants and downlight luminaires on occupancy sensors	200 lux average	Occupancy sensor and link to FOB security at the main entrance
Kitchen	2x4’ Lay in Troffer fixtures with vacancy sensor	500 lux average	Local manual on, and auto off.
Charge rooms, Washrooms	Decorative LED recessed downlight and linear valence fixtures on occupancy sensors	200 lux average	Auto On, Auto off
Unfinished areas, electrical rooms, mechanical rooms and storage room	Surface-mounted wrap-type luminaires on local switches/occupancy sensors	200-250 lux average	Manual on, Auto off
External Lighting	Combination of wall LED bulkheads mounted to façade of building, shorter LED bollards for walkways on motion sensors/occupancy sensors and automatic dimming	1-5 lux average	Schedule with photocell

Table 11.1 Plan of General Lighting

Where T-bar or drywall or similar ceiling is provided, the luminaires shall be suitable for such ceilings. Where no ceiling is provided or where desired, suspended direct/indirect luminaires shall be installed. See Appendix D for typical cutsheets of proposed fixtures.

11.2. Lighting Controls

A complete lighting system to comply with the requirement of ASHRAE will be provided. All lighting shall be dimmable. The lighting control system will be independent of the DDC/BMS system.

- All common areas will be fitted with occupancy sensors (auto on, auto off and dimming) and scheduled controls.
- Daylighting controls will be provided in all side-lit and top-lit areas as described by ASHRAE.
- All exterior lighting will be controlled by photocell and time clock to operate only at dark times. Photocell will be located on the exterior of the building and the time clock and switching will be located in the Telecom Room. Automatic on with motion detection after dark. Dim down to 30% with no motion. Exterior walkways dim down to off after midnight around perimeter/landscape lighting.
- Staff, Laundry room and office will be fitted with occupancy sensors (auto ON, auto OFF).

11.3. Emergency Lightings System

A complete emergency lighting system will be provided to clearly indicate all egress routes from the building, in accordance with the requirements of the building code and Local Fire Marshall. The system will consist of dedicated luminaires connected to the emergency system distribution, to remain energized in the event of loss of normal power, and a battery pack in the generator room. Emergency battery packs will be located in the Generator Room, the Emergency Distribution Room, the Main Electrical Room and Mechanical Room.

11.4. Exit Signs

The exit signs will be LED type and comply with the requirements of ISO 3864-1 and ISO 7010 standards and shall be green pictogram (running green man). Where necessary, double sided exit signs will be installed. All exit lights will be fed from life safety panel.

12.0 FIRE ALARM SYSTEM

12.1. General Building

A new two-stage fire alarm system will be provided for the facility. Fire alarm system to be a multi-zone supervised, graphic annunciated “point addressable” system.

The main fire alarm panel shall be in the Emergency Distribution Room on the Mech room floor (Level 22). The fire alarm graphic and LCD annunciator shall be located at the main entrance (firefighter’s entrance) to the building. The main fire alarm panel covers the basement levels 1, 2 and 3. It also supplies Fire alarm transponders, which subsequently supply fire alarm devices on floors. The fire alarm transponder will be provided every six (6) floors starting from level 2 and will be located in a 2-hour fire-rated shaft or closet. Exact location to be coordinated with the architect and code consultant.

The system will be complete with manual pull stations, automatic smoke and heat detectors, sprinkler flow and tamper switches, and alarm notification, including visual and audible signal devices (speakers and strobes), as required.

Smoke detectors will be provided in all electrical rooms and communications rooms, elevator lobbies, top of elevator shafts and elevator machine rooms, exit stairwells and mechanical unit return air ducts. Heat detectors will be provided in mechanical rooms, and rough-in for heat detectors shall be provided on each floor.

Class A wiring shall be used for fire alarm speakers and transponders, while smoke detectors, tamper and flow switches, and fire telephone shall use wiring class B. All fire alarm wiring shall be run in metal conduit. The system shall be monitored by the base central monitoring agency as per CAN/ULC requirement or as per alternate solutions detailed according to the code consultant’s report.

Fire alarm connections for smoke/fire dampers have been accounted for, and more information regarding these systems will be provided once coordination with the mechanical consultant is completed.

The fire alarm zones will include the following:

- Each firm compartment is required to be separated by vertical or horizontal fire separations having a fire-resistance rating of at least 1 hour,
- Each smoke zone as designated by the Architect and Mechanical Consultant,
- Each shaft requiring detectors,
- Each air-handling system requiring smoke detectors,
- Special zones as designated according to the Code Consultant's report.

12.2. Suites and Sleeping Cells (Pods)

Each suite and sleeping Micro Room (Pod) shall be provided with a combination smoke alarm and carbon monoxide detector and will be generally located in each suite floor area, and each bedroom. The smoke alarm combination units shall be permanently connected to 120V from an adjacent lighting circuit and prior to any switching so that there is no disconnect switch between the overcurrent protection device and smoke alarms. The detectors shall come complete with battery backup and a minimum of 5 years' warranty.

Each suite & Pod will also have an audible and visual notifications appliance connected to the base buildings fire alarm system. Typical units will have fire alarm speakers. These devices will typically be in the bedrooms and bathrooms of each suite and Pod. This shall be confirmed by the Code Consultant

Wiring for in-suite audible and visual notification appliances shall be isolated such that a fault in one unit or POD does not compromise the others.

12.3. Offices

The office room will be provided with audible and visual notification appliances connected to the base building fire alarm system.

12.4. Laundry and Storage Area

The Laundry and Storage Area will be provided with audible and visual notification appliances connected to the base building fire alarm system.

12.5. The Lobby & Bars

The Bar & Lobby + Common Area will be provided with audible and visual notification appliances connected to the base building fire alarm system. In addition, a manual pull station will be provided at the exit door of each area.

13.0 SECURITY SYSTEM

13.1. CCTV System

A POE based CCTV camera system will be provided strategically for coverage of perimeter, basement level and entry/exit points. A total of 90 cameras will be required for this development. The internal cameral will be completed in mini dome enclosures and external cameras will be completed with weather rated enclosures. The main CCTV server will be located in the Base Building Telecom Room on the Basement Level 1 and shall have a minimum 30 days of recording equipment.

The CCTV equipment shall be connected to a 1kVA rack mounted UPS. The CCTV camera system will consist of the Avigilon H4 Mini Dome camera line for all indoor applications and the Avigilon H5M camera line for all outdoor applications.

The camera locations will include the following:

- Main Entrance
- Basement Entrance
- Office Lobby
- Storage Rooms
- Service Rooms
- Bike storage
- Laundry rooms
- Staff areas
- Elevator Lobby
- Lobby + Common area
- Café area
- Vending Machine area
- Goods Loading Area
- Guest Area
- Public Bar + Sky reception
- Staircase entrances/exits
- Perimeter of the building

13.2. Audio Visual

It is noted that the actual audio-visual equipment is excluded from this contract and will be provided by the client, and will include systems such as display screens, PA, and background music.

All conduit and power outlets required for these systems will be provided as per the designs provided by the client.

13.3. E-Comm System

An E-Comm system is required for this building. As per VBBL requirements for complete E-Comm throughout the building.

14.0 MISCELLANEOUS SYSTEMS

- Power to all owner-supplied equipment, including any automatic door openers with power requirements. The following doors are to be equipped with auto door openers: high traffic entrance doors, staff-controlled areas, Bar, Service Rooms, & Bike storage.
- Fire pump
- Signage
- Window washing equipment (if applicable)
- Elevators and elevator pits

Hotel Buildings Load Calculation

Per CEC 8-208

O'M Engineering Inc.

1 - NORMAL LOAD

1.1 - BASIC LOAD

	QTY	UNIT		
Basic Load (20W/SQM)	5,801	sqm	116,010	W

1.2 -SPECIAL LIGHTING LOAD

Total Lighting Load for Special Areas			8,080	W

1.3 -SPACE HEATING, AC, OTHER PERMAN. CONNECTED

	QTY	UNIT	LOAD	
Ele. Cooling load	70	W/sqm	406,035	W
Ele. Heating Only				
Duct Heaters, Thermal Storage, Ele. Furnaces			-	W
Other Heating Only	70	W/sqm	406,035	W
Total Heating Load			304,526	W
Hot Water Load	350	W/Person	165,900	W
Elevators Load				
Elevators Load	3	40HP Each	129,000	W
Demand Factor of Elevators			90	%
Total Elevators Load			116,100	W
Water Booster Pumps	1	10HP Each	11,000	W
Heat Traces	10	W/Ft	-	W
Sump Pumps	1	10HP Each	11,000	W
Fire Pumps Load	1	75HP Each	82,000	W
Mechanical (Smoke Control)	1	10HP Each	11,000	W

1.4 -ELECTRICAL VEHICLS

Total # of EV Stalls			0	QTY
LV2 Charger @208v 1ph 40A			6,656	W
Total EV Load			-	W
EV Management Ratio			4	to 1
Total EV Demanded Load			-	W

1.5 -CORD-CONNECTED EQUIP.

	QTY	UNIT	LOAD	
Receptacle Load: 100% of Connected Qquip.	100	W/sqm	38,800	W
Receptacle Load: 80% of Remaining	500	Recptacle	120,000	W
Total Cord-Connected Equip.			158,800	W

TOTAL NORMAL LOAD

Total Load Exlude Heating or Cooling Load			679,890	W
Cooling Only Load			406,035	W
Heating Only Load (when dominant)			-	W
Load of First 900 sqm or less (80% D.F.)			134,793	W
Load for >900 sqm Area (65% D.F.)			596,332	W
Total Normal Load			731,125	W

MIN. SERVICE SIZE AT (3PH & 80% DERATING):

Total Load @80% rating			913,906	kVA
Minimum Breaker Size 208V @80% rating			2,536,824	A

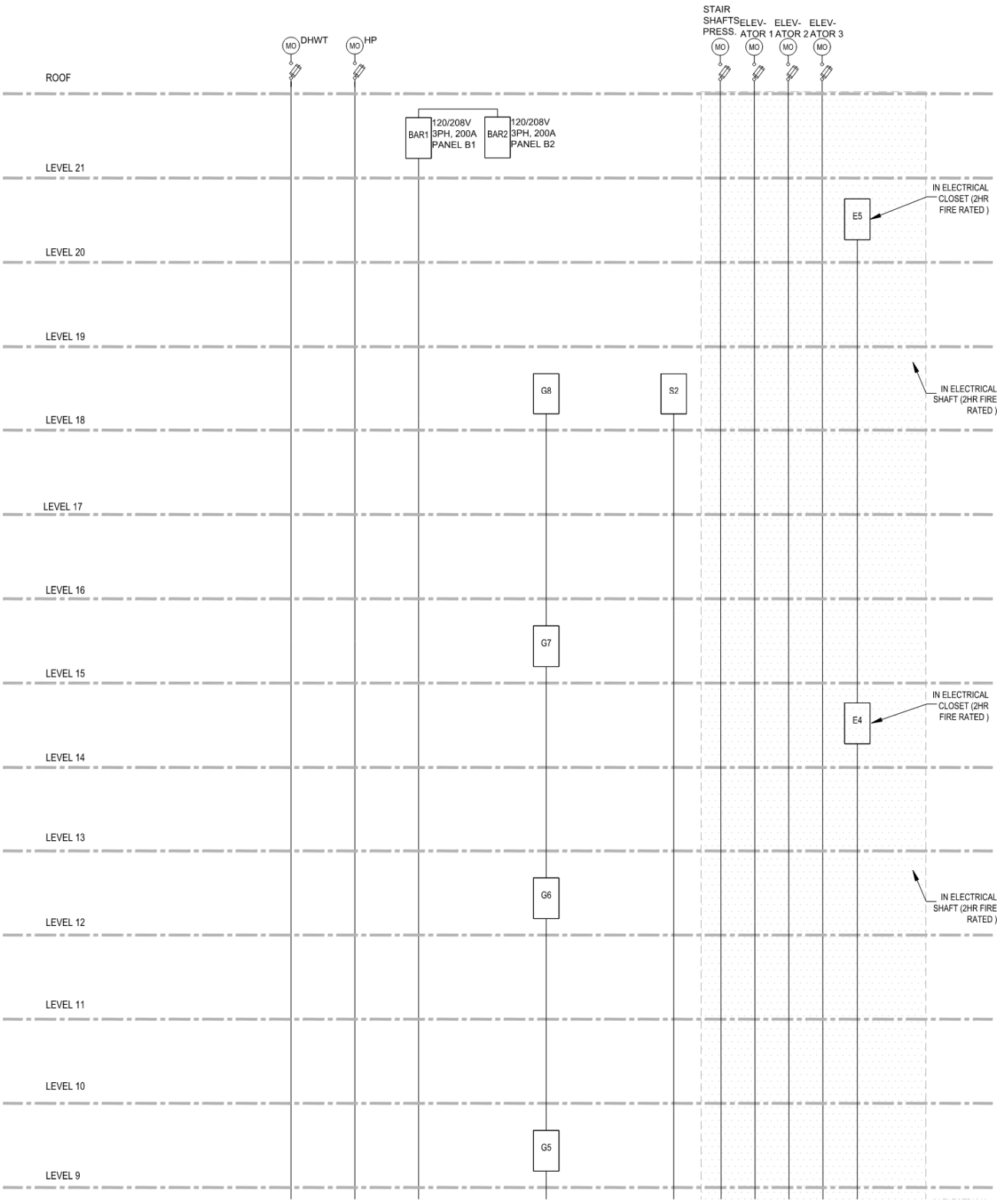
2 - EMERGENCY LOAD

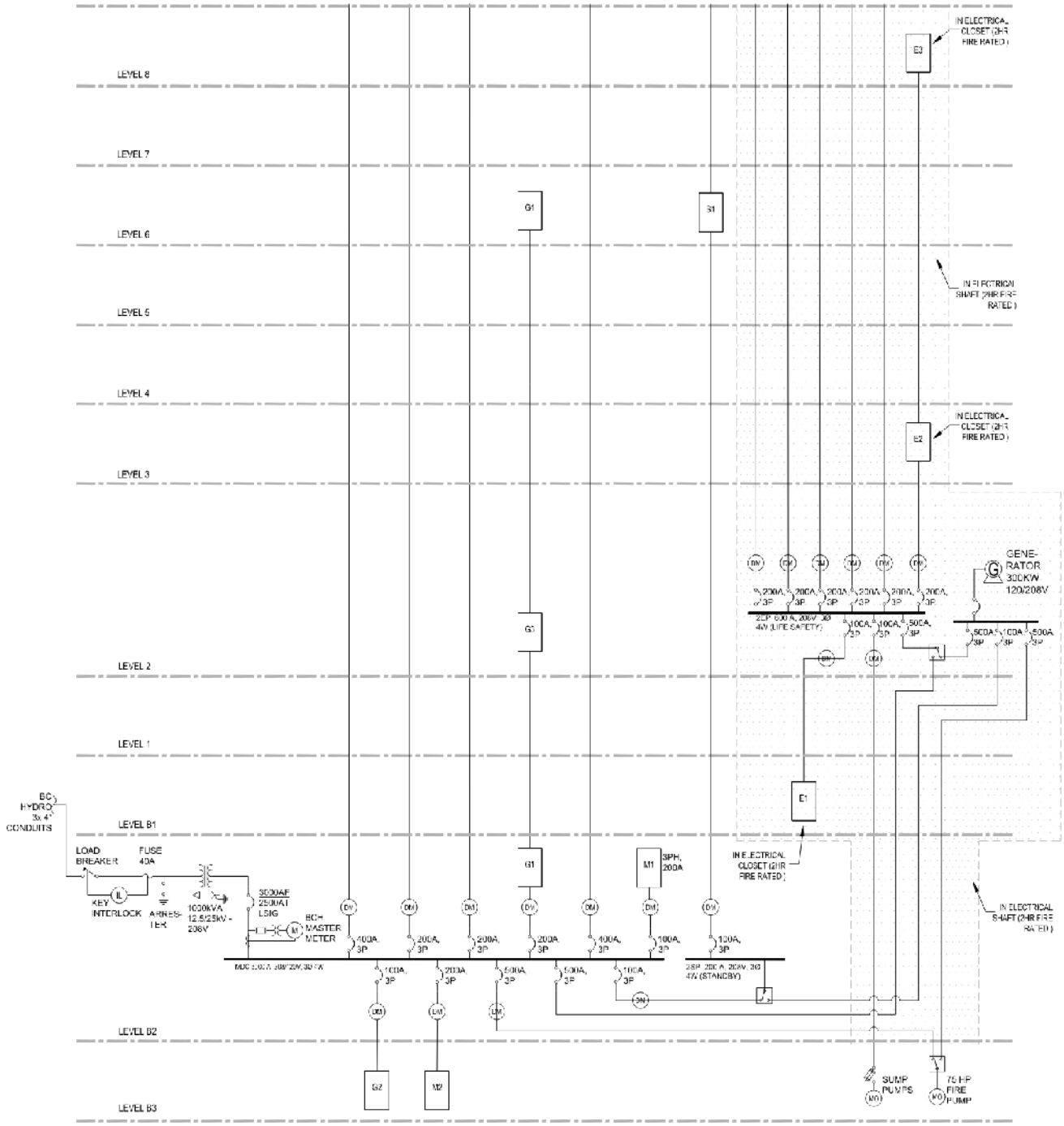
Elevators Load			116,100	W
Heat Trance			-	W
Sump Pumps			11,000	W
Fire Pumps Load			82,000	W
Mechanical (Smoke Control)			11,000	W

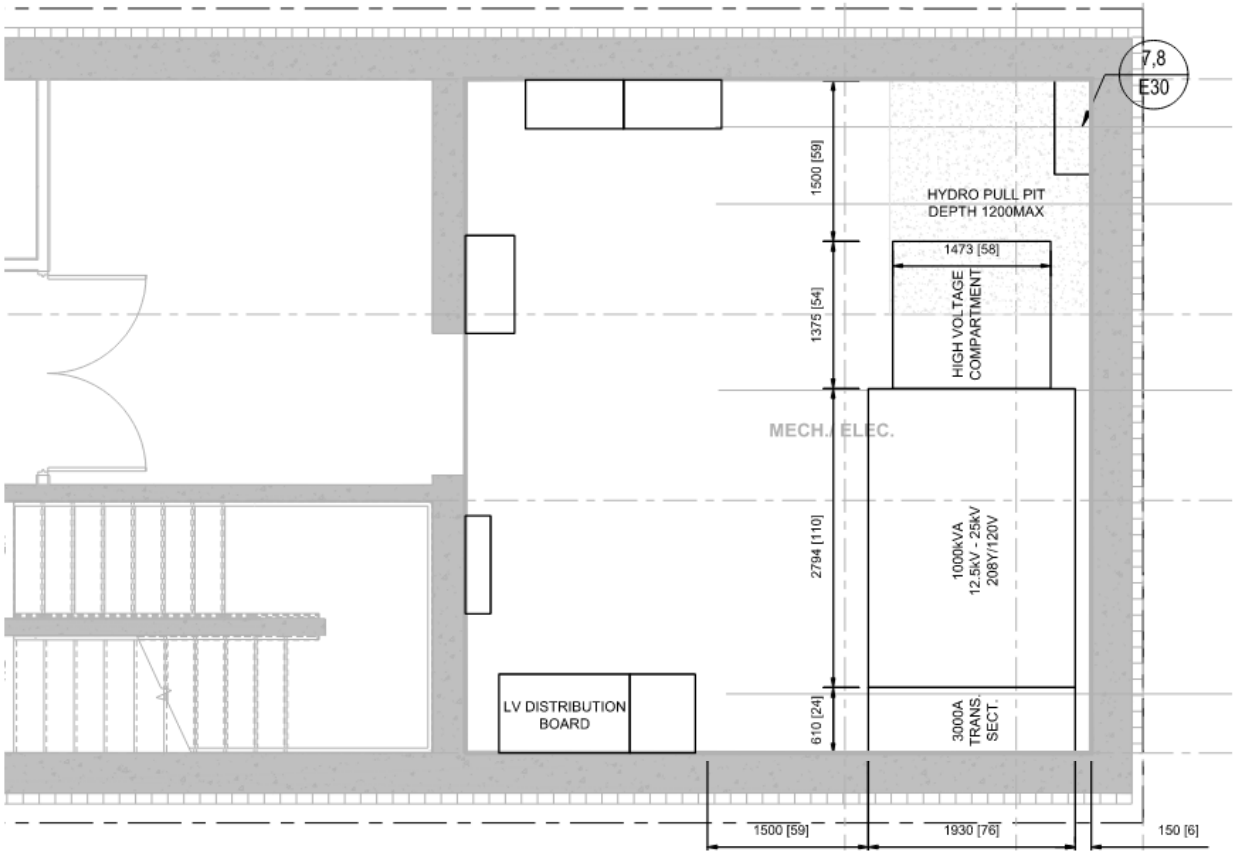
TOTAL EMERGENCY LOAD

Total Load Emergency Load			220,100	W

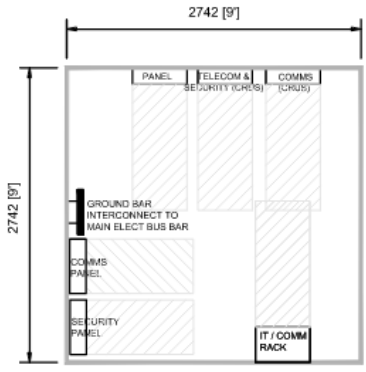
APPENDIX B - PRELIMINARY SINGLE LINE DIAGRAM



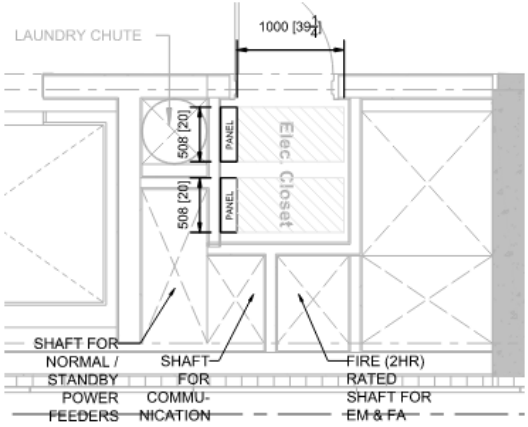

LEVEL 8
LEVEL 7
LEVEL 6
LEVEL 5
LEVEL 4
LEVEL 3
LEVEL 2
LEVEL 1
LEVEL B1
LEVEL B2
LEVEL B3
IN ELECTRICAL CLOSET (2HR FIRE RATED)
IN ELECTRICAL SHAFT (2HR FIRE RATED)
E3
E2
E1
G1
S1
G3
G2
M2
M1
BC HYDRO 3x 4" CONDUITS
LOAD BREAKER
FUSE 40A
KEY INTERLOCK
ARRESTER
1000kVA 12.5/25kV - 208V
3000AF 2500AT LSIG
BCH MASTER METER
GENERATOR 300KW 120/208V
3PH, 200A
SUMP PUMPS
75 HP FIRE PUMP



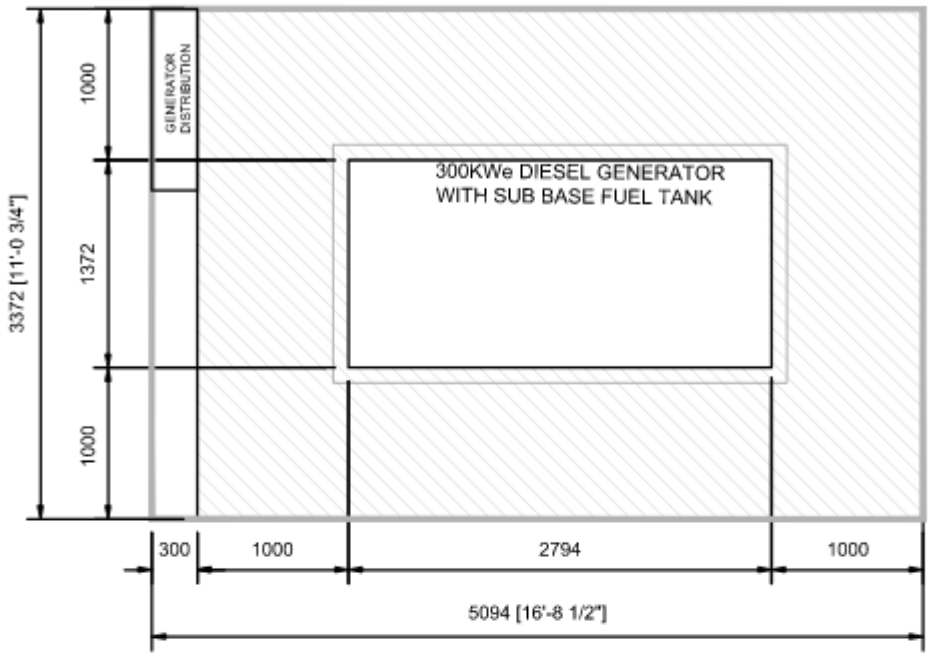
1 E030 MAIN ELECTRICAL ROOM LAYOUT
SCALE: 1:50



2 E030 TELE COMMUNICATION ROOM LAYOUT
SCALE: 1:50

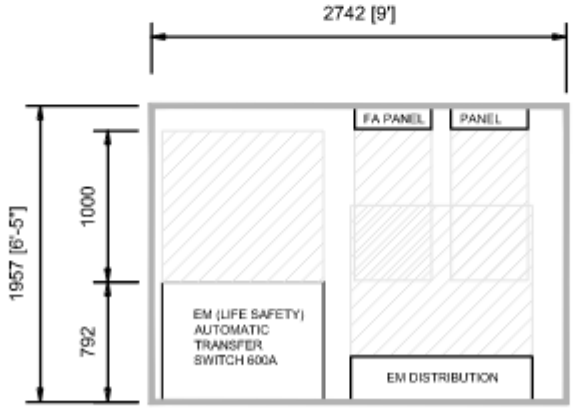


3 E030 ELEC. CLOSET ON LEVEL 2, 6, 9, 12, 15, 18, 21
SCALE: 1:50



6 E030 GENERATOR ROOM LAYOUT

SCALE: 1:50



7 E030 EMERGENCY ELECTRICAL ROOM LAYOUT

SCALE: 1:50

APPENDIX D – TYPICAL LIGHTING CUTSHEETS

END OF REPORT



IPE-LEDN Series

IP65 Linear LED Fixture

new product

Type: TYPE A

Project/Location:

Contractor:

Prepared By:

Date:

Model No.:

Surface LED wrap - parkade, electrical, mechanical, storage, bicycle lockers

FEATURES

- IP65 Rated
- Polycarbonate lens and thermoplastic enclosure, vandal resistant and UV stabilized
- Stainless steel hardware
- Ceiling, surface or pendant mounting
- Low profile, less than 4 inch deep
- 0-10V dimming standard on all models
- 120VAC to 277VAC universal, 347VAC optional
- Certified for wet and damp locations
- Expected life of 50 000 hours (L70)
- 5 year Limited Warranty
- Power factor > 0.90
- ROHS compliant
- Meets IEEE C.62.41-1991 input transient protection
- Available integral motion sensor
- Optional emergency driver

TYPICAL SPECIFICATIONS

Supply and install **Emergi-Lite® IPE-LEDN Series** linear LED fixtures as specified. The luminaire shall operate in 120-277VAC or 347VAC and use a high efficiency electronic driver. The lens shall be constructed of UV- stabilized industrial grade vandal-resistant polycarbonate and the enclosure of thermoplastic. A durable formed gasket shall be provided between the enclosure and the lens and shall be designed specifically for hostile environments. A metal plate used to retain the reflector also serves to dissipate heat, therefore lengthening driver life.

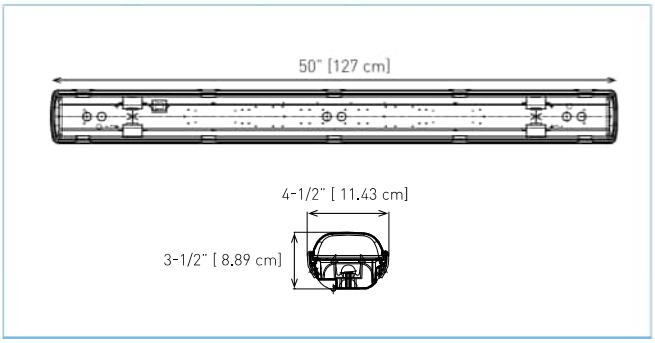
The fixture shall have five year warranty.

The fixture shall be **Emergi-Lite®** model: _____ .



DIMENSIONS

Dimensions are approximate and subject to change.





POWER CONSUMPTION

MODEL	COLOR TEMPERATURE	CRI	LUMENS	WATTS	AC SPECS	POWER FACTOR
IPE-LEDN35	3500K	80	4,244	35W	0.28/0.12A	PF > 0.9
IPE-LEDN35	4000K	80	4,550	35W	0.29/0.13A	PF > 0.9
IPE-LEDN35	5000K	80	4,585	35W	0.29/0.13A	PF > 0.9
IPE-LEDN52	3500K	80	6,469	52W	0.43/ 0.18A	PF > 0.9
IPE-LEDN52	4000K	80	6,760	52W	0.43/ 0.19A	PF > 0.9
IPE-LEDN52	5000K	80	6,812	52W	0.43/ 0.19A	PF > 0.9

ORDERING INFORMATION

MODEL	WATTAGE	COLOR TEMPERATURE	VOLTAGE	OPTIONS
IPE-LEDN	**35**= 35W **52**= 52W	**-35**= 3500K **-4**= 4000K **-5**= 5000K	**Blank**= AC only 120-277VAC **3**= 347VAC	**EM**= emergency LED driver **M**= motion sensor

EXAMPLE: IPE-LEDN35-4M

TYPE B

AURORA



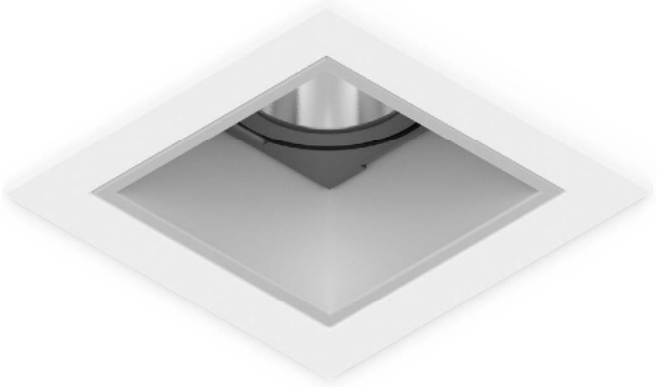


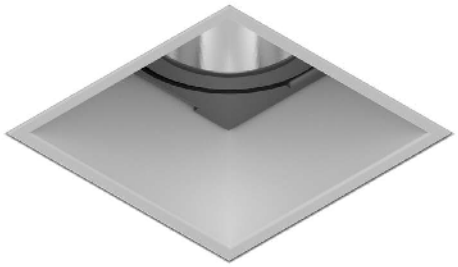
DEEP AURORA





MIRO





AURORA + MIRO™

Legacy Downlights | Standard LED

Our top-selling Aurora + Miro luminaires feature regressed LED modules and optics for glare-free downlighting.

LISTINGS

California Title 24 JA8

Warm Dimming

Damp Location

Product specifications and dimensions are subject to change without notice
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LIGHTHEADED™

AURORA + MIRO™

Legacy Downlights | Standard LED

TRIM FEATURES

- Ø 3 1/2" [89mm] Aurora & Deep Aurora Aperture
- 3 1/8" [79mm] Miro Aperture
- Deep Aurora lamp regression 2 1/4" above the ceiling plane for excellent glare control
- 20° vertical tilt with Aurora & Miro
- Clear media standard
- Diffusion media standard with warm dimming
- Accepts up to 2 media
- Die-cast aluminum fixture
- Powder coated and plated trim ring finishes
- Trim clips designed for 5/8" ceiling thickness

HOUSING FEATURES

- Non-Insulated and Chicago Plenum ceilings rated to a max ambient temperature of 45°C (113°F)
- Insulated and Emergency housings rated to a max ambient temperature of 40°C (104°F)
- Airtight in accordance with ASTM E283
- Bi-directional mounting
- 14"–25" adjustable hanger bars
- 18 Ga. galvanized steel junction box with multiple KO
- 20 Ga. black powder coated steel baseplate
- 0.5" [13mm] – 1.25" [32mm] trimless ceiling thickness. Consult factory for varying ceilings
- Chicago Plenum In accordance with CCEA (City of Chicago Environmental Air), Chicago electrical code section 18-27-300.22©
- **California Title 24 JA8**

EMERGENCY HOUSING FEATURES

- 6.4V DC LiFePO4 lithium iron phosphate backup battery
- 10W initial battery output while in emergency mode
- Up to 90 minutes of emergency power
- 12 hour battery recharge time
- 5 year battery life
- Integrated test button

FLANGE FINISHES

- **White**
- **Chrome Plated**
- **Black**
- **Matte Silver**
- **Bronze**
- **Gold Plated**
- **Matte Nickel**

REFLECTOR FINISHES

- Black Open
- Nickel Satin
- **Silver Satin**
- **White Open**

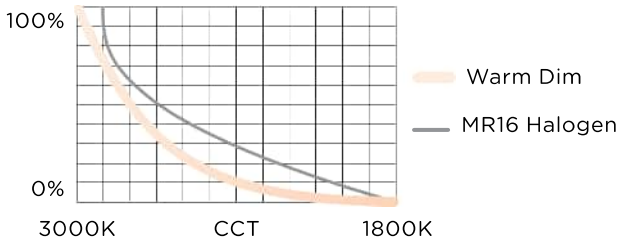
PERFORMANCE SUMMARY

Color Accuracy (SDCM)	<3	
L70 Estimate (h)	50,000	
Color Rendering (CRI)	80	90
Lumen Series	3	
Source Lumens	**1000**	800
LED Wattage	**9**	9
Lumen Series	5	
Source Lumens	1800	1400
LED Wattage	17	17
Lumen Series	7	
Source Lumens	2300	1800
LED Wattage	24	24
Lumen Series	9	
Source Lumens	3000	2300
LED Wattage	28	28

PERFORMANCE SUMMARY—WARM DIMMING

Color Rendering (CRI)	95
Lumen Series	3
Source Lumens	**1000**
LED Wattage	**12**

WARM DIMMING METRICS



BEAM SPREADS



COLOR TEMPERATURES

- 3000K–1800K (Warm Dimiming)
- **2700K**
- **3000K**
- 3500K
- 4000K

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LIGHTHEADED™

AURORA + MIRO™

Aurora + Deep Aurora | Standard LED | Order Form | Tag Type

PRODUCT NOTES:

1. 2-125 Deep Aurora is not compatible with D4B-F and D4B-FEM housings.
2. Trimless trims do not require a flange finish. Pinhole trims excluded.
3. CC custom color requires consultation with Lightheaded sales personnel.
4. TL, TLW & TLW-XX is not available in 5, 7, 9 series.
5. TLW-XX wood trimless flange type is matched to trim finish. XX refers to trim finish code and must be specified at time of housing order.
6. TLW-XX wood trimless ceiling thickness to be specified at time of housing order. Requires consultation with lightheaded sales personnel.
7. D4B-FS housing is only compatible with 2-120 Aurora in 3 series housing.
8. LE and S dimming is only available in 120V.
9. 347V dimming is only available in P dimming.
10. 347V is not available with D4B-FEM or D4B-FDFEM housings.
🟠 3000K–1800K Warm Dimming
🟢 California Title 24 JA8

SELECT A TRIM

[1] TRIM
- ☐ **2-120** Aurora
- ☐ **2-125** Deep Aurora [1]

[2] FLANGE TYPE
- ☐ **T** Trimmed
- ☐ **TL** Trimless [2, 4]
- ☐ **TLW** Wood Trimless [2, 4]

[3] FLANGE FINISH
- ☐ **[Blank]** Trimless/Wood Trimless [2]
- ☐ **01** White
- ☐ **02** Chrome Plated
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **09** Gold Plated
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [3]

[4] REFLECTOR FINISH
- ☐ **BLO** Black Open
- ☐ **NICS** Nickel Satin
- ☐ **SAS** Satin Silver 🟢
- ☐ **WHO** White Open 🟢
- ☐ **CC** Custom Color [3]

[5] MODULE & BEAM SPREAD
- ☐ **BRO20** 20° Beam
- ☐ **BRO28** 28° Beam
- ☐ **BRO40** 40° Beam

[6] COLOR TEMPERATURE
- ☐ **27** 2700K 🟢
- ☐ **30** 3000K 🟢
- ☐ **35** 3500K
- ☐ **40** 4000K
- ☐ **3018** 3000–1800K 🟠

[7] LUMENS SERIES
- ☐ **8010** 80 CRI, 1000lm, 3S 🟢
- ☐ **9008** 90 CRI, 800lm, 3S
- ☐ **8018** 80 CRI, 1800lm, 5S
- ☐ **9014** 90 CRI, 1400lm, 5S
- ☐ **8023** 80 CRI, 2300lm, 7S
- ☐ **9018** 90 CRI, 1800lm, 7S
- ☐ **8030** 80 CRI, 3000lm, 9S
- ☐ **9023** 90 CRI, 2300lm, 9S
- ☐ **9510** 95 CRI, 1000lm, 3S 🟠 🟢

[8] MEDIA (2 MAX.)
- ☐ **[Blank]** No Media
- ☐ **EL** Elongating
- ☐ **FRO** Frosted
- ☐ **HC** Honeycomb
- ☐ **PER** Perimeter Frosted
- ☐ **SL** Solite Softening
- ☐ **SPDL** Spread

[9] TRIM OPTIONS
- ☐ **[Blank]** No Options
- ☐ **EXT** Extension Clips (Max. 2")

SELECT A HOUSING/DRIVER

[10] HOUSING/DRIVER
- ☐ **D4B-F** Non I/C
- ☐ **D4B-FD** Deep Non-I/C
- ☐ **D4B-FS** Shallow Non-I/C [7]
- ☐ **D4B-FEM** Non-I/C Emergency
- ☐ **D4B-FDEM** Deep Emergency
- ☐ **R4P-F** New Construction Plate
- ☐ **D4B-IC1A** I/C Airtight #1
- ☐ **D4B-IC2A** I/C Airtight #2
- ☐ **D4B-CP** Chicago Plenum
- ☐ **DRB** Remodel Driver

[11] TRIM SHAPE
- ☐ **[Blank]** DRB Driver
- ☐ **R** Round

[12] FLANGE TYPE
- ☐ **[Blank]** DRB Driver
- ☐ **T** Trimmed
- ☐ **TL** Trimless [4]
- ☐ **TLW-XX** Wood Trimless [4, 5, 6]

[13] LUMENS SERIES
- ☐ **3** 1000 Lumens Max
- ☐ **5** 1800 Lumens Max
- ☐ **7** 2300 Lumens Max
- ☐ **9** 3000 Lumens Max

[14] DIMMING
- ☐ **P** 0–10V Dimming (1%)
- ☐ **S** Phase Dimming (5%) [8]
- ☐ **P1** eldoLED Dimming (1%)
- ☐ **D** Dali (1%)
- ☐ **LE** Lutron Hi-lume Forward Phase 2-wire Dimming (1%) [8]
- ☐ **LH** Lutron Hi-lume EcoSystem Soft-on Fade-to-Black (1%)

[15] VOLTAGE
- ☐ **120** 120V
- ☐ **277** 277V
- ☐ **347** 347V [9, 10]

[16] HOUSING OPTIONS
- ☐ **[Blank]** No options
- ☐ **RCF** Round Aperture Collar
- ☐ **BP** Black Painted Interior
- ☐ **WP** White Painted Interior

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LIGHTHEADED™

AURORA + MIRO™

Miro | Standard LED | Order Form | Tag Type

PRODUCT NOTES:

1. 2-520 Miro Reflector finish has lamp holder painted black.
2. 2-520 Miro WHO reflector finish has lamp holder painted white.
3. Trimless trims do not require a flange finish. Pinhole trims excluded.
4. CC custom color requires consultation with Lightheaded sales personnel.
5. TL, TLW & TLW-XX is not available in 5, 7, 9 series.
6. TLW-XX wood trimless flange type is matched to trim finish. XX refers to trim finish code and must be specified at time of housing order.
7. TLW-XX wood trimless ceiling thickness to be specified at time of housing order. Requires consultation with lightheaded sales personnel.
8. LE and S dimming is only available in 120V.
9. 347V dimming is only available in P dimming.
10. 347V is not available with D4B-FEM housing.
🟠 3000K–1800K Warm Dimming
🟢 California Title 24 JA8

SELECT A TRIM

[1] TRIM
- ☐ **2-520** Miro [1, 2]

[2] FLANGE TYPE
- ☐ **T** Trimmed
- ☐ **TL** Trimless [3, 5]
- ☐ **TLW** Wood Trimless [3, 5]

[3] FLANGE FINISH
- ☐ **[Blank]** Trimless/Wood Trimless [3]
- ☐ **01** White
- ☐ **02** Chrome Plated
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **09** Gold Plated
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [4]

[4] REFLECTOR FINISH
- ☐ **BLO** Black Open [1]
- ☐ **NICS** Nickel Satin [1]
- ☐ **SAS** Satin Silver 🟢 [1]
- ☐ **WHO** White Open 🟢 [2]
- ☐ **CC** Custom Color [4]

[5] MODULE & BEAM SPREAD
- ☐ **BRO20** 20° Beam
- ☐ **BRO28** 28° Beam
- ☐ **BRO40** 40° Beam

[6] COLOR TEMPERATURE
- ☐ **27** 2700K 🟢
- ☐ **30** 3000K 🟢
- ☐ **35** 3500K
- ☐ **40** 4000K
- ☐ **3018** 3000–1800K 🟠

[7] LUMENS SERIES
- ☐ **8010** 80 CRI, 1000lm, 3S 🟢
- ☐ **9008** 90 CRI, 800lm, 3S
- ☐ **8018** 80 CRI, 1800lm, 5S
- ☐ **9014** 90 CRI, 1400lm, 5S
- ☐ **8023** 80 CRI, 2300lm, 7S
- ☐ **9018** 90 CRI, 1800lm, 7S
- ☐ **8030** 80 CRI, 3000lm, 9S
- ☐ **9023** 90 CRI, 2300lm, 9S
- ☐ **9510** 95 CRI, 1000lm, 3S 🟠 🟢

[8] MEDIA (2 MAX.)
- ☐ **[Blank]** No Media
- ☐ **EL** Elongating
- ☐ **FRO** Frosted
- ☐ **HC** Honeycomb
- ☐ **PER** Perimeter Frosted
- ☐ **SL** Solite Softening
- ☐ **SPDL** Spread

[9] TRIM OPTIONS
- ☐ **[Blank]** No Options
- ☐ **EXT** Extension Clips (Max. 2")

SELECT A HOUSING/DRIVER

[10] HOUSING/DRIVER
- ☐ **D4B-F** Non I/C
- ☐ **D4B-FEM** Non-I/C Emergency
- ☐ **R4P-F** New Construction Plate
- ☐ **D4B-IC1A** I/C Airtight #1
- ☐ **D4B-IC2A** I/C Airtight #2
- ☐ **D4B-CP** Chicago Plenum
- ☐ **DRB** Remodel Driver

[11] TRIM SHAPE
- ☐ **[Blank]** DRB Driver
- ☐ **S** Square

[12] FLANGE TYPE
- ☐ **[Blank]** DRB Driver
- ☐ **T** Trimmed
- ☐ **TL** Trimless [5]
- ☐ **TLW-XX** Wood Trimless [5, 6, 7]

[13] LUMENS SERIES
- ☐ **3** 1000 Lumens Max
- ☐ **5** 1800 Lumens Max
- ☐ **7** 2300 Lumens Max
- ☐ **9** 3000 Lumens Max

[14] DIMMING
- ☐ **P** 0–10V Dimming (1%)
- ☐ **S** Phase Dimming (5%) [8]
- ☐ **P1** eldoLED Dimming (1%)
- ☐ **D** Dali (1%)
- ☐ **LE** Lutron Hi-lume Forward Phase 2-wire Dimming (1%) [8]
- ☐ **LH** Lutron Hi-lume EcoSystem Soft-on Fade-to-Black (1%)

[15] VOLTAGE
- ☐ **120** 120V
- ☐ **277** 277V
- ☐ **347** 347V [9, 10]

[16] HOUSING OPTIONS
- ☐ **[Blank]** No options
- ☐ **SCF** Square Aperture Collar
- ☐ **BP** Black Painted Interior
- ☐ **WP** White Painted Interior

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LIGHTHEADED™

CEILING CUTOUTS

AURORA & DEEP AURORA - TRIMMED & TRIMLESS

Ø 4.5" [115 mm]

AURORA & DEEP AURORA WOOD TRIMLESS

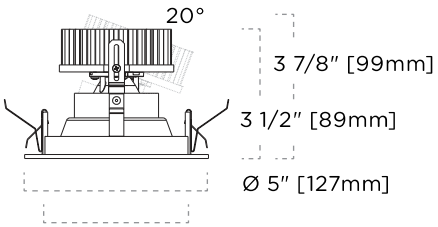
Ø 3.938" [100 mm]

MIRO TRIMMED, TRIMLESS & WOOD TRIMLESS

3.875" [99 mm]

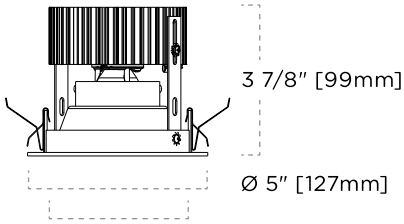
AURORA DIMENSIONS

TRIMMED (3 SERIES)



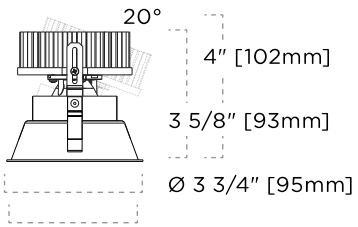
Ø 3 1/2" [89mm]

TRIMMED (5, 7, 9 SERIES)



Ø 3 1/2" [89mm]

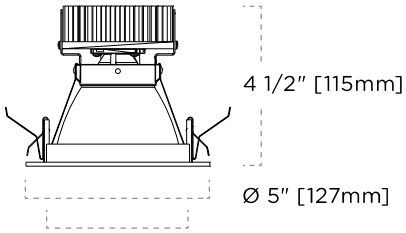
TRIMLESS (3 SERIES)



Ø 3 3/8" [86mm]

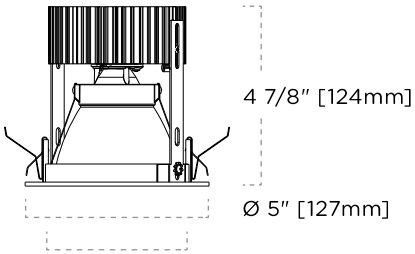
DEEP AURORA DIMENSIONS

TRIMMED (3 SERIES)



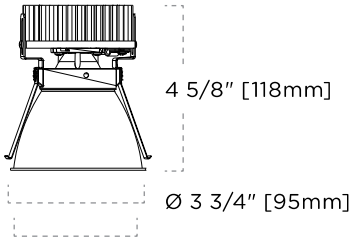
Ø 3 3/8" [86mm]

TRIMMED (5, 7, 9 SERIES)



Ø 3 3/8" [86mm]

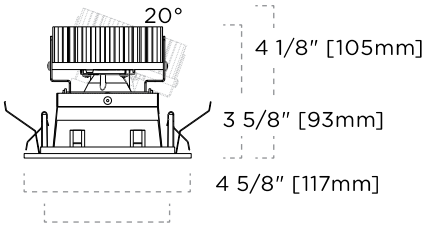
TRIMLESS (3 SERIES)



Ø 3 3/8" [86mm]

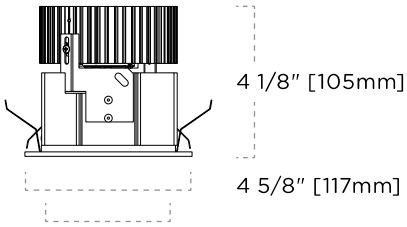
MIRO DIMENSIONS

TRIMMED (3 SERIES)



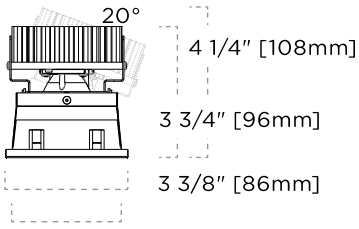
3 1/8" [79mm]

TRIMMED (5, 7, 9 SERIES)



3 1/8" [79mm]

TRIMLESS (3 SERIES)



3 1/8" [79mm]

HOUSING COLLAR DIMENSIONS

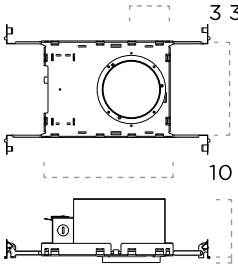
CEILING TYPE	COLLAR HEIGHT
Trimmed	—
Trimmed + Aperture Collar	9/16" [15mm]
Trimless Collar	5/8" [16mm]
Wood Trimless Collar	1/2" [13mm] - 1 1/4" [32mm]

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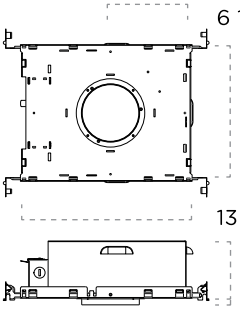
LIGHTHEADED™

NON-INSULATED TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

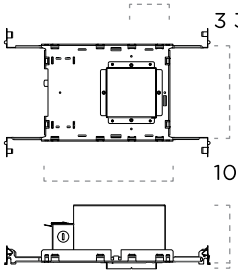
ROUND (3, 5 SERIES)



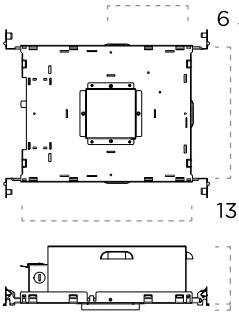
ROUND (7, 9 SERIES)



SQUARE (3, 5 SERIES)

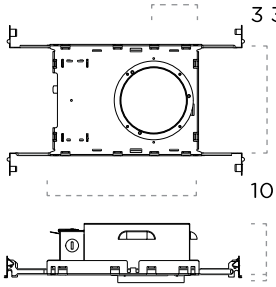


SQUARE (7, 9 SERIES)



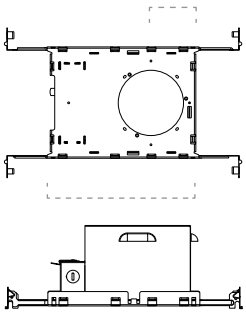
NON-INSULATED SHALLOW HOUSING DIMENSIONS

ROUND (3 SERIES)

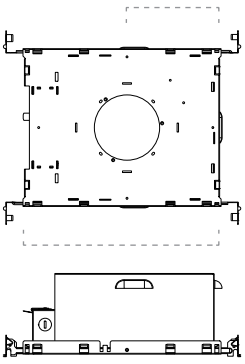


NON-INSULATED DEEP HOUSING DIMENSIONS

ROUND (3, 5 SERIES)



ROUND (7, 9 SERIES)

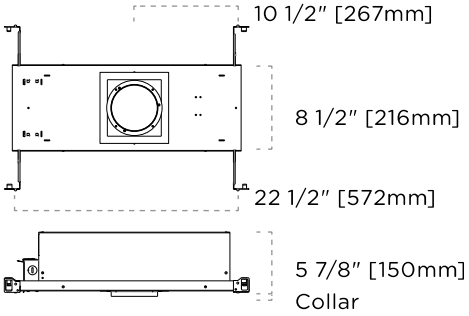


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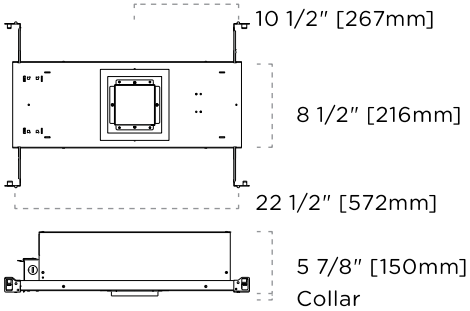
LIGHTHEADED™

INSULATED AIRTIGHT TYPE 1 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5 SERIES)

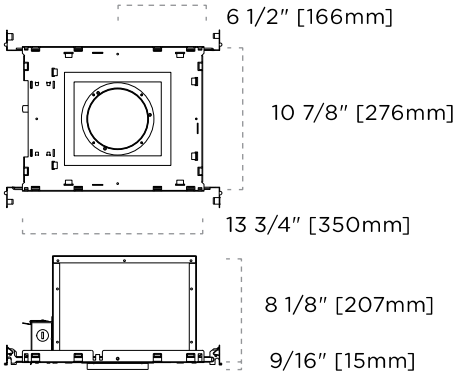


SQUARE (3, 5 SERIES)

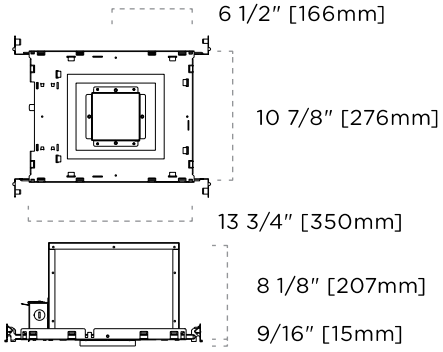


INSULATED AIRTIGHT TYPE 2 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5 SERIES)

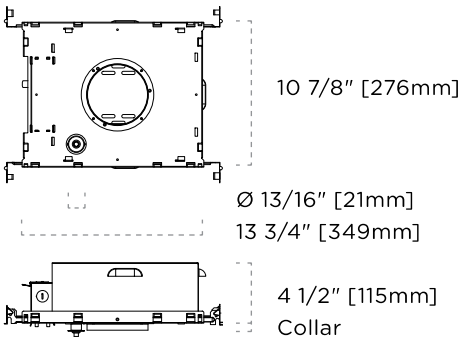


SQUARE (3, 5 SERIES)

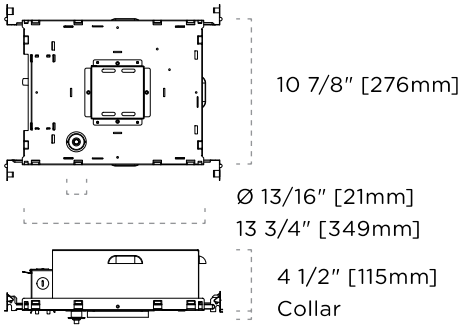


EMERGENCY TRIMMED & TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5, 7, 9 SERIES)



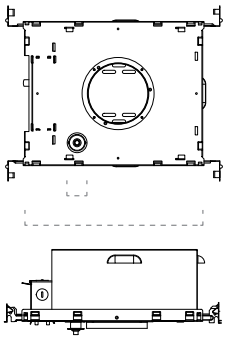
SQUARE (3, 5, 7, 9 SERIES)



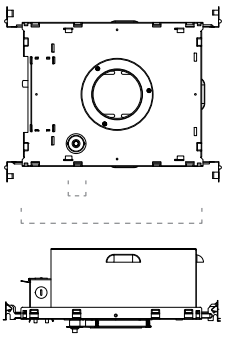
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DEEP EMERGENCY HOUSING DIMENSIONS

ROUND (3, 5, 7, 9 SERIES)

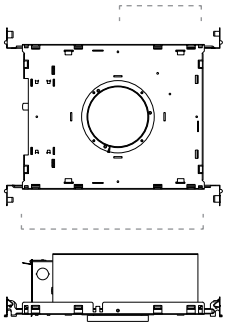


SQUARE (3, 5, 7, 9 SERIES)

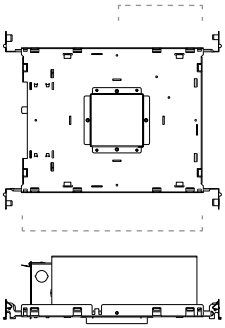


CHICAGO PLENUM HOUSING DIMENSIONS

ROUND (3 SERIES)



SQUARE (3 SERIES)



CERTIFICATIONS

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TAPER FIXED



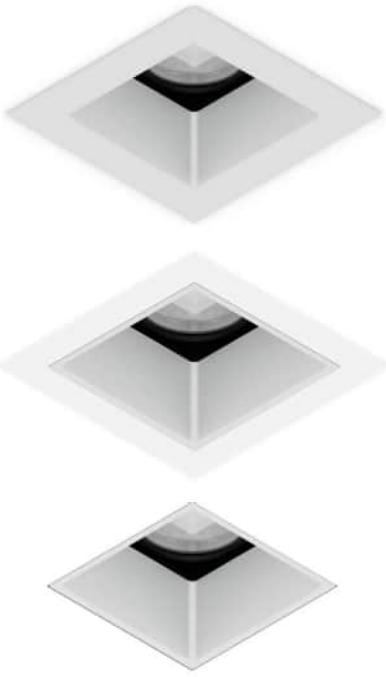
TAPER LENSED



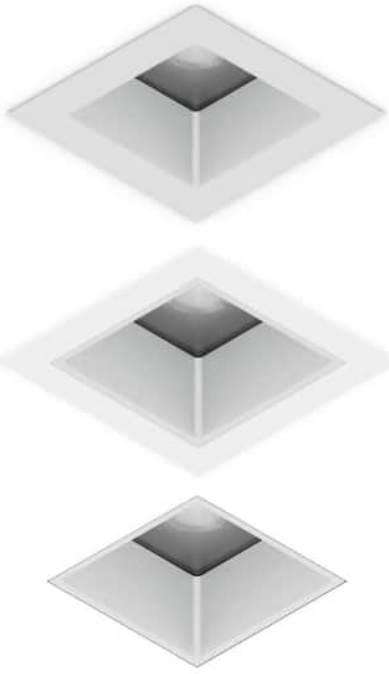
TAPER ADJUSTABLE



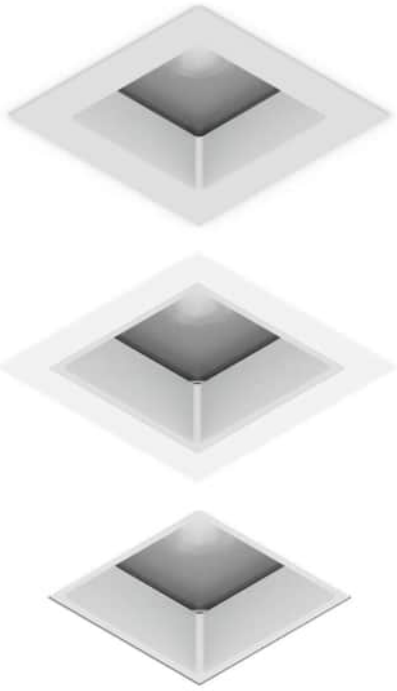
CAMBER FIXED



CAMBER LENSED



CAMBER ADJUSTABLE



CAMBER+TAPER™

Standard LED

Our Camber+Taper™ luminaires feature beveled die-cast trims and regressed glass lenses for a sleek, modern, low profile look. Available in a myriad of reflector, trim, lumen, and color temperature combinations, Camber and Taper are ideal for hospitality, retail, mixed-use residential and office towers.

LISTINGS

California Title 24 JA8

Warm Dimming

Damp Location

Wet Location

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LIGHTHEADED™

CAMBER+TAPER™

Standard LED

TRIM FEATURES

- Ø 3.375" [86mm] Round Trim Aperture
- 3.125" [79mm] Square Trim Aperture
- 20° Tilt with Adjustable Trim
- Die-cast aluminum trim
- Two piece and single piece trims are available
- Trim clips designed for 5/8" ceiling thickness
- Anodized black heat sink and media holder
- Media holder accepts up to 2 media
- Clear media standard
- Static CCT and warm dimming available
- Diffusion media standard with warm dimming

HOUSING FEATURES

- Non-Insulated and Chicago Plenum ceilings rated to a max ambient temperature of 45°C (113°F)
- Insulated and Emergency housings rated to a max ambient temperature of 40°C (104°F)
- Airtight in accordance with ASTM E283
- Bi-directional mounting
- 14"–25" adjustable hanger bars
- 18 Ga. galvanized steel junction box with multiple KO
- 20 Ga. black powder coated steel baseplate
- 0.5" [13mm] – 1.25" [32mm] trimless ceiling thickness. Consult factory for varying ceilings
- Chicago Plenum In accordance with CCEA (City of Chicago Environmental Air), Chicago electrical code section 18-27-300.22©
- **California Title 24 JA8**

EMERGENCY HOUSING FEATURES

- 6.4V DC LiFePO4 lithium iron phosphate backup battery
- 10W initial battery output while in emergency mode
- Up to 90 minutes of emergency power
- 12 hour battery recharge time
- 5 year battery life
- Integrated test button

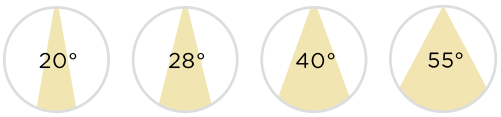
FLANGE & REFLECTOR FINISHES

- White
- Black
- Matte Silver
- Bronze
- Matte Nickel

COLOR TEMPERATURES

- 3000–1800K (Warm Dimming)
- **2700K**
- **3000K**
- 3500K
- 4000K

BEAM SPREADS



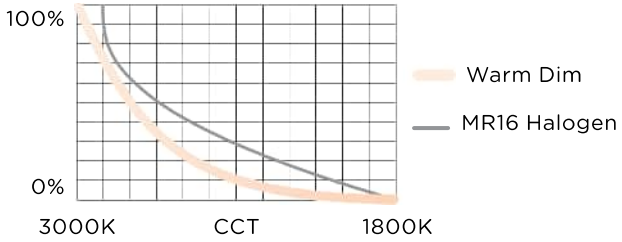
PERFORMANCE SUMMARY

Color Accuracy (SDCM)	<3	
L70 Estimate (h)	50,000	
Color Rendering (CRI)	80	90
Lumen Series	3	
Source Lumens	1000	**800**
LED Wattage	9	**9**
Lumen Series	5	
Source Lumens	1800	1400
LED Wattage	17	17
Lumen Series	7	
Source Lumens	2300	1800
LED Wattage	24	24

PERFORMANCE SUMMARY—WARM DIMMING

Color Rendering (CRI)	95
Lumen Series	3
Source Lumens	**1000**
LED Wattage	**12**

WARM DIMMING METRICS



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LIGHTHEADED™

CAMBER+TAPER™

Standard LED | Order Form | Tag Type

PRODUCT NOTES:

1. 7 Series trims are suitable for a maximum of 40°C ceiling plenums.
2. TLW-XX [wood trimless flange type is matched to trim finish. XX refers to trim finish code and must be specified at time of order.
3. TLW-XX wood trimless ceiling thickness to be specified at time of order. Requires consultation with lightheaded sales personnel.
4. CC custom color requires consultation with Lightheaded sales personnel.
5. Flange and reflector are a single piece and painted one color.
6. LE and S dimming is only available in 120V.
7. Optional media 2 max. only available in fixed taper & fixed camber.
8. 347V dimming is only available in P dimming.
9. Option is not compatible with TLW-XX wood trimless ceiling.
3000K–1800K Warm Dimming
California Title 24 JA8
Wet Location

SELECT A TRIM

[1] TRIM
- ☐ **2-124** Taper Fixed
- ☐ **2-154** Taper Lensed Fixed [1]
- ☐ **2-156** Taper Adjustable
- ☐ **2-524** Camber Fixed
- ☐ **2-554** Camber Lensed Fixed [1]
- ☐ **2-556** Camber Adjustable

[2] FLANGE TYPE
- ☐ **T** Trimmed
- ☐ **TL** Trimless
- ☐ **TLW-XX** Wood Trimless [2, 3]

[3] FLANGE FINISH [2]
- ☐ **[Blank]** Trimless Ceiling
- ☐ **01** White
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [4]

[4] REFLECTOR FINISH
- ☐ **00** Single piece flange & reflector [5]
- ☐ **01** White
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [4]

[5] GLASS
[↓] LENSED & ADJUSTABLE TRIMS
- ☐ **F** Frosted
- ☐ **SL** Solite Softening

[↓] FIXED & ADJUSTABLE TRIMS
- ☐ **[Blank]** No Lens [5]

[6] MODULE & BEAM SPREAD
- ☐ **BRO20** 20° Beam
- ☐ **BRO28** 28° Beam
- ☐ **BRO40** 40° Beam
- ☐ **BRO55** 55° Beam

[7] COLOR TEMPERATURE
- ☐ **27** 2700K
- ☐ **30** 3000K
- ☐ **35** 3500K
- ☐ **40** 4000K
- ☐ **3018** 3000–1800K [6]

[8] LUMENS SERIES
- ☐ **8010** 80 CRI, 1000lm, 3S
- ☐ **9008** 90 CRI, 800lm, 3S
- ☐ **9510** 95 CRI, 1000lm, 3S
- ☐ **8018** 80 CRI, 1800lm, 5S
- ☐ **9014** 90 CRI, 1400lm, 5S
- ☐ **8023** 80 CRI, 2300lm, 7S [1]
- ☐ **9018** 90 CRI, 1800lm, 7S [1]

[9] OPTIONAL MEDIA 2 MAX. [7]
- ☐ **[Blank]** No Media
- ☐ **EL** Elongating
- ☐ **FRO** Frosted
- ☐ **HC** Honeycomb
- ☐ **PER** Perimeter Frosted
- ☐ **SL** Softening
- ☐ **SPDL** Solite Softening

[10] TRIM OPTIONS
- ☐ **[Blank]** No Options
- ☐ **EXT** Extensions Clips Max. 2"

SELECT A HOUSING/DRIVER

[11] HOUSING/CEILING
- ☐ **D4B-F** Non-Insulated
- ☐ **D4B-FD** Deep Non-Insulated
- ☐ **D4B-FEM** Non-Insulated Emergency LED
- ☐ **D4B-FDEM** Deep Non-Insulated Emergency LED
- ☐ **R4P-F** 4" New Construction Plate
- ☐ **D4B-IC1A** Insulated Airtight #1
- ☐ **D4B-IC2A** Insulated Airtight #2
- ☐ **D4B-CP** Chicago Plenum
- ☐ **DRB** Remodel Driver

[12] TRIM SHAPE
- ☐ **[Blank]** Remodel Driver
- ☐ **R** Round
- ☐ **S** Square

[13] FLANGE TYPE
- ☐ **[Blank]** Remodel Driver
- ☐ **T** Trimmed
- ☐ **TL** Trimless
- ☐ **TLW-XX** Wood Trimless [2, 3]

[14] LUMENS SERIES
- ☐ **3** 1000lm Max.
- ☐ **5** 1800lm Max.
- ☐ **7** 2300lm Max. [1]

[15] DIMMING
- ☐ **D** DALI (1%)
- ☐ **LE** Lutron Hi-lume Forward Phase 2-wire Dimming (1%) [6]
- ☐ **LH** Lutron Hi-lume EcoSystem Soft-on Fade-to-Black (1%)
- ☐ **P** 0–10V Dimming (1%)
- ☐ **P1** eldoLED Dimming (1%)
- ☐ **S** Phase Dimming (5%) [6]

[16] VOLTAGE
- ☐ **120** 120V
- ☐ **277** 277V
- ☐ **347** 347V [8]

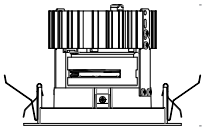
[17] HOUSING OPTIONS
- ☐ **[Blank]** No Options
- ☐ **RCF** Round Aperture Collar [9]
- ☐ **SCF** Square Aperture Collar [9]
- ☐ **BP** Black Painted Interior
- ☐ **WP** White Painted Interior

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TAPER DIMENSIONS

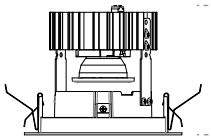
FIXED



3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 5″ [127mm]

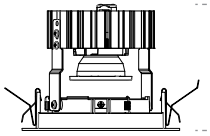
LENSED



3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 5″ [127mm]

ADJUSTABLE

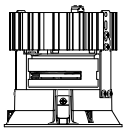


20° Aiming

3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 5″ [127mm]

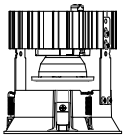
TRIMLESS FIXED



3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 3.72″ [95mm]

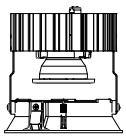
TRIMLESS LENSED



3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 3.72″ [95mm]

TRIMLESS ADJUSTABLE



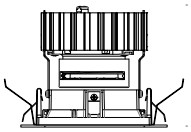
20° Aiming

3.87″ [98mm]

Ø 3.38″ [86mm]
Ø 3.72″ [95mm]

CAMBER DIMENSIONS

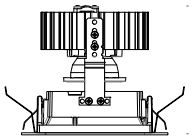
FIXED



3.87″ [98mm]

3.13″ [79mm]
4.63″ [117mm]

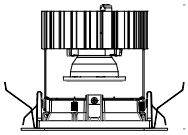
LENSED



3.87″ [98mm]

3.13″ [79mm]
4.63″ [117mm]

ADJUSTABLE

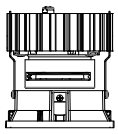


20° Aiming

3.87″ [98mm]

3.13″ [79mm]
4.63″ [117mm]

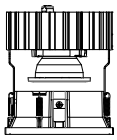
TRIMLESS FIXED



3.87″ [98mm]

3.13″ [79mm]
3.43″ [87mm]

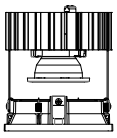
TRIMLESS LENSED



3.87″ [98mm]

3.13″ [79mm]
3.43″ [87mm]

TRIMLESS ADJUSTABLE



20° Aiming

3.87″ [98mm]

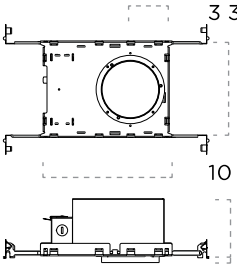
3.13″ [79mm]
3.43″ [87mm]

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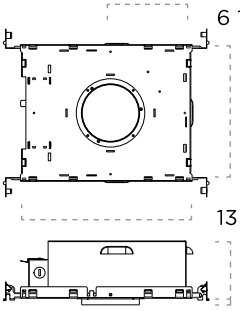
LIGHTHEADED™

NON-INSULATED TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

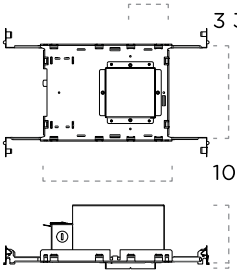
ROUND (3, 5 SERIES)



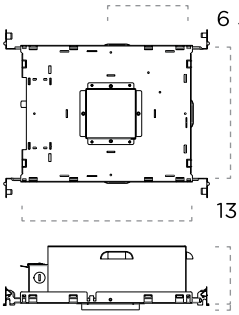
ROUND (7 SERIES)



SQUARE (3, 5 SERIES)

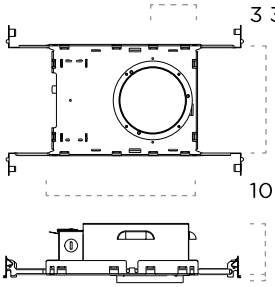


SQUARE (7 SERIES)



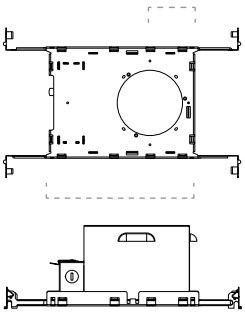
NON-INSULATED ADJUSTABLE HOUSING DIMENSIONS

ROUND (3 SERIES)

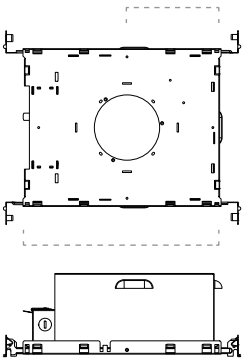


NON-INSULATED TALL HOUSING DIMENSIONS

ROUND (3, 5 SERIES)



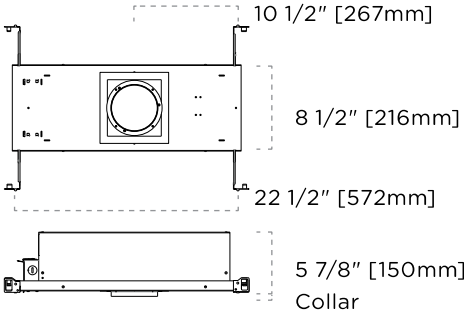
ROUND (7 SERIES)



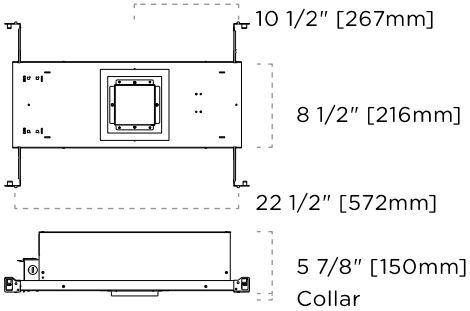
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INSULATED TYPE 1 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5 SERIES)

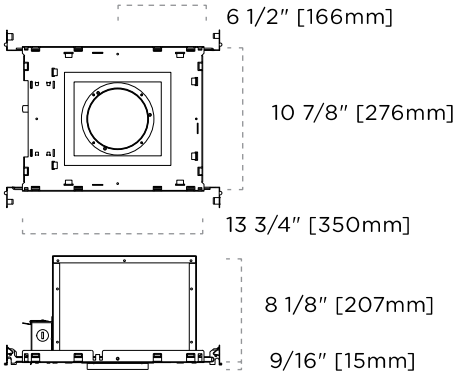


SQUARE (3, 5 SERIES)

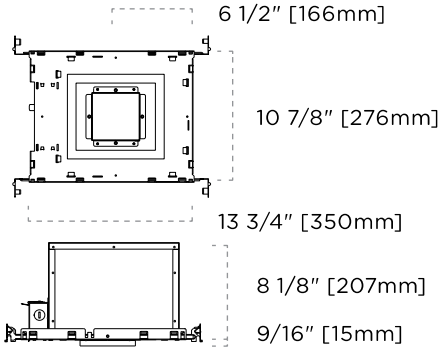


INSULATED TYPE 2 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5 SERIES)

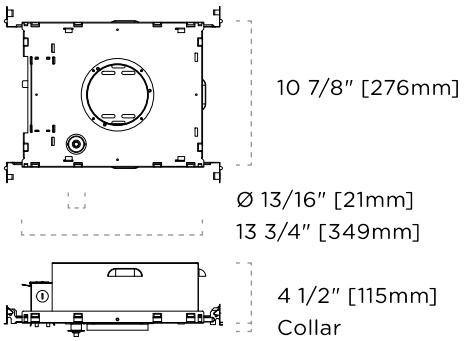


SQUARE (3, 5 SERIES)

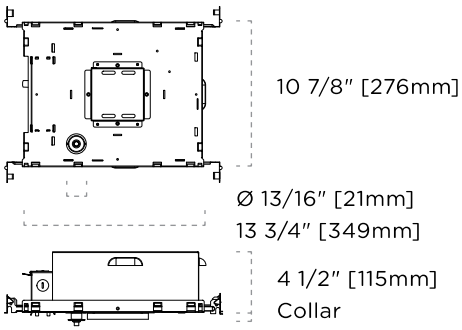


EMERGENCY TRIMMED & TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5, 7 SERIES)



SQUARE (3, 5, 7 SERIES)

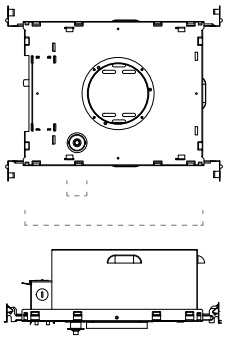


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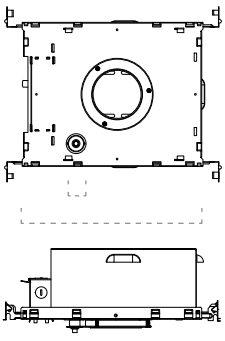
LIGHTHEADED™

DEEP EMERGENCY HOUSING DIMENSIONS

ROUND (3, 5, 7 SERIES)

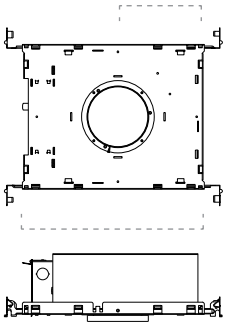


SQUARE (3, 5, 7 SERIES)

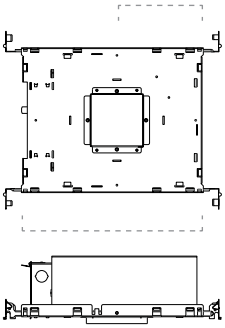


CHICAGO PLENUM HOUSING DIMENSIONS

ROUND (3 SERIES)



SQUARE (3 SERIES)



CERTIFICATIONS

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TRIMMED

AQUA



CORONA



ROUND WALL WASH



NEMO



QUADRA



QUADRA WALL WASH



NEMO GLOW



TRIMMED & TRIMLESS

STARLITE



PINHOLE





Legacy Downlights

Standard LED

Our legacy downlights have shined through the years, enduring a multitude of environments and applications. They have evolved along side with lighting advancements, and rest assured knowing our legacy downlights stand the test of time.

LISTINGS

- California Title 24 JA8
- Warm Dimming
- Damp Location
- Wet Location

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Legacy Downlights

Standard LED

TRIM FEATURES

- Static CCT and warm dimming available
- Clear media standard, optional available
- Diffusion media standard with warm dimming
- Up to 2 media available with select trims
- Silicone sealed glass lens with wet location trims
- Wall wash trim ideal spacing 30″ on center and 24″ away
- Powder coated and plated trim ring finishes
- Trim clips designed for 5/8″ ceiling thickness

TRIM SPECIFIC FEATURES

- Tilt and rotation on select trims. See trim page for details
- Pinhole, have black aperture for excellent glare control
- Corona frosted acrylic cylinder for lighting accentuation

HOUSING FEATURES

- Non-Insulated and Chicago Plenum ceilings rated to a max ambient temperature of 45°C (113°F)
- Insulated airtight and Emergency housings rated to a max ambient temperature of 40°C (104°F)
- Airtight housings in accordance with ASTM E283
- Bi-directional mounting
- 14″–25″ adjustable hanger bars
- 18 Ga. galvanized steel junction box with multiple KO
- 20 Ga. steel baseplate
- 0.5″ [13mm]–1.25″ [32mm] trimless ceiling thickness. Consult factory for varying ceilings
- Chicago Plenum In accordance with CCEA (City of Chicago Environmental Air), Chicago electrical code section 18-27-300.22©
- **California Title 24 JA8**

EMERGENCY HOUSING FEATURES

- 6.4V DC LiFePO4 lithium iron phosphate backup battery
- 10W initial battery output while in emergency mode
- Up to 90 minutes of emergency power
- 12 hour battery recharge time
- 5 year battery life
- Integrated test button

BEAM SPREADS



LENS

Frosted Clear

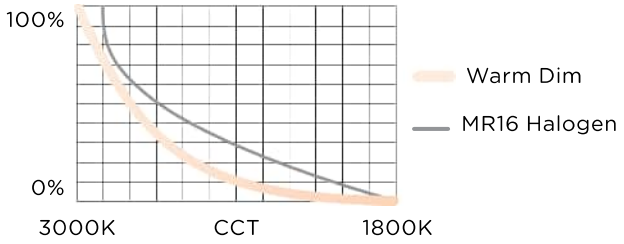
PERFORMANCE SUMMARY

Color Accuracy (SDCM)	<3	
L70 Estimate (h)	50,000	
Color Rendering (CRI)	80	90
Lumen Series	3	
Source Lumens	**1000**	800
LED Wattage	**9**	9
EM Initial Lumen Multiplier	1.0	
Lumen Series	5	
Source Lumens	1800	1400
LED Wattage	17	17
EM Initial Lumen Multiplier	0.65	
Lumen Series	7	
Source Lumens	2300	1800
LED Wattage	24	24
EM Initial Lumen Multiplier	0.48	
Lumen Series	9	
Source Lumens	3000	2300
LED Wattage	28	28
EM Initial Lumen Multiplier	0.45	

PERFORMANCE SUMMARY—WARM DIMMING (PER LAMP)

Color Rendering (CRI)	95
Lumen Series	3
Source Lumens	**1000**
LED Wattage	**12**

WARM DIMMING METRICS



COLOR TEMPERATURES

3000–1800K (Warm Dimming)
2700K
3000K
3500K
4000K

FLANGE FINISHES

White
Chrome Plated
Black
Matte Silver
Bronze
Matte Nickel

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LIGHTHEADED™

Legacy Downlights

Standard LED | Round | Order Form | Tag Type

ORDER CODE FORMAT: [1]-[2]-[3]-[4]-[5]-[6]-[7]-[8]-[9]-[10]-[11]-[12]-[13]-[14]-[15]-[16]
ORDER CODE EXAMPLE: 2-112-T-01-BRO40-27-8010-D4B-F-R-T-3-LE-120
PRODUCT NOTES:

1. 2-112 is only available with 40° beam spread.
2. TL & TLW-XX is only available in 3 series housings.
3. CC custom color requires factory consultation.
4. Aqua C clear glass reflector color is painted to match trim finish.
5. Aqua F frosted glass requires all reflectors painted white.
6. Corona FDTXX custom length frosted acrylic cone requires consultation with Lightheaded sales personnel.
7. Optional media not available on Round Wall Wash.
8. WB White Baffle is painted black standard.
9. D4B-FEM is not available in TLW-XX.
10. R4P-F can only be used with DRB and is ordered separately.
11. IC1A and CP are only available in 3 and 5 series.
12. IC2A is only available in 3 series.
13. CP is only available in trimmed.
14. TLW-XX wood trimless flange type is matched to trim finish. XX refers to trim finish code and must be specified at time of order.
15. LE and S dimming is only available in 120V.
16. 347V dimming is only available in P dimming.
17. 347V is not available with D4B-FEM housing.
● California Title 24 JA8.
● 3000K–1800K Warm Dimming.
● Wet Location.

SELECT A TRIM

[1] TRIM
- ☐ **2-112** Round Wall Wash [1] ●
- ☐ **2-115** Aqua ● ●
- ☐ **2-167** Starlite ● ●
- ☐ **2-175** Corona
- ☐ **2-180** Pinhole

[2] FLANGE TYPE
- ☐ **T** Trimmed

[↓] EXCLUDES 2-112, 2-115, 2-175 TRIMS
- ☐ **TL** Trimless [2]
- ☐ **TLW-XX** Wood Trimless [2]

[3] FLANGE FINISH
- ☐ **01** White
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [3]

[↓] 2-112, 2-115, 2-175 TRIMS ONLY
- ☐ **02** Chrome Plated

[4] GLASS
- ☐ **[Blank]** No Lens

[↓] 2-115 TRIM ONLY
- ☐ **C** Clear Glass ● [4]
- ☐ **F** Frosted Glass [5]

[↓] 2-175 TRIM ONLY
- ☐ **FDT** 2″ Frosted Acrylic Cone ●
- ☐ **FDTXX** Custom Length Frosted Acrylic Cone [6]

[5] MODULE & BEAM SPREAD
- ☐ **BRO20** 20° Beam
- ☐ **BRO28** 28° Beam
- ☐ **BRO40** 40° Beam

[6] COLOR TEMPERATURE
- ☐ **27** 2700K ●
- ☐ **30** 3000K ●
- ☐ **35** 3500K
- ☐ **40** 4000K
- ☐ **3018** 3000–1800K ●

[7] LUMENS SERIES
- ☐ **8010** 80 CRI, 1000lm, 3
- ☐ **9008** 90 CRI, 800lm, 3 ●
- ☐ **8018** 80 CRI, 1800lm, 5
- ☐ **9014** 90 CRI, 1400lm, 5
- ☐ **8023** 80 CRI, 2300lm, 7
- ☐ **9018** 90 CRI, 1800lm, 7
- ☐ **8030** 80 CRI, 3000lm, 9
- ☐ **9023** 90 CRI, 2300lm, 9
- ☐ **9510** 95 CRI, 1000lm, 3 ● ●

[8] OPTIONAL MEDIA (2 MAX.) [7]
- ☐ **[Blank]** No Media
- ☐ **EL** Elongating
- ☐ **FRO** Frosted
- ☐ **HC** Honeycomb
- ☐ **PER** Perimeter Frosted
- ☐ **SL** Softening
- ☐ **SPDL** Solite Softening

[9] TRIM OPTIONS
- ☐ **[Blank]** No Options
- ☐ **EXT** Extensions Clips (Max. 2″)

[↓] 2-180 TRIM ONLY
- ☐ **WB** White Baffle [8]

SELECT A HOUSING/DRIVER

[10] HOUSING/DRIVER
- ☐ **D4B-F** Non I/C
- ☐ **D4B-FEM** Non-I/C Emergency [9]
- ☐ **R4P-F** 4″ New Construction Plate [10]
- ☐ **D4B-IC1A** I/C Airtight #1 ● [11]
- ☐ **D4B-IC2A** I/C Airtight #2 ● [12]
- ☐ **D4B-CP** Chicago Plenum [11, 13]
- ☐ **DRB** Remodel Driver

[11] TRIM SHAPE
- ☐ **R** Round

[↓] DRB ONLY
- ☐ **[Blank]**

[12] FLANGE TYPE
- ☐ **T** Trimmed
- ☐ **TL** Trimless [2]
- ☐ **TLW-XX** Wood Trimless [2, 14]

[↓] DRB ONLY
- ☐ **[Blank]**

[13] LUMENS SERIES
- ☐ **3** 1000lm Max.
- ☐ **5** 1800lm Max.
- ☐ **7** 2300lm Max.
- ☐ **9** 3000lm Max.

[↓] R4P-F ONLY
- ☐ **[Blank]**

[14] DIMMING
- ☐ **D** DALI (1%)
- ☐ **LE** Lutron Hi-lume Forward Phase 2-wire Dimming (1%) [15]
- ☐ **LH** Lutron Hi-lume EcoSystem Soft-on Fade-to-Black (1%)
- ☐ **P** 0–10V Dimming (1%)
- ☐ **P1** eldoLED 0-10V Dimming (1%)
- ☐ **S** Phase Dimming (5%) [15]

[↓] R4P-F ONLY
- ☐ **[Blank]**

[15] VOLTAGE
- ☐ **120** 120V
- ☐ **277** 277V
- ☐ **347** 347V [16, 17]

[16] HOUSING OPTIONS
- ☐ **[Blank]** No Options
- ☐ **RCF** Round Aperture Collar
- ☐ **BP** Black Painted Interior
- ☐ **WP** White Painted Interior

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LIGHTHEADED™

Legacy Downlights

Standard LED | Square | Order Form | Tag Type

ORDER CODE FORMAT: [1]-[2]-[3]-[4]-[5]-[6]-[7]-[8]-[9]-[10]-[11]-[12]-[13]-[14]-[15]-[16]
ORDER CODE EXAMPLE: 2-550-T-01-DF-BRO28-30-8010-SL-D4B-F-S-T-3-P-120
PRODUCT NOTES:

1. 2-582 is only available with 40° beam spread.
2. CC custom color requires factory consultation.
3. Optional media not available on Quadra Wall Wash.
4. R4P-F can only be used with DRB and is ordered separately.
5. 5. IC1A and CP are only available in 3 & 5 series.
6. 6. IC2A is only available in 3 series.
7. 7. CP is only available in trimmed.
8. 8. LE and S dimming is only available in 120V.
9. 9. 347V dimming is only available in P dimming.
10. 10. 347V is not available with D4B-FEM housing.
California Title 24 JA8.
3000K–1800K Warm Dimming.
Wet Location.

SELECT A TRIM

[1] TRIM
- ☐ **2-500** Quadra
- ☐ **2-550** Nemo
- ☐ **2-582** Quadra Wall Wash [1]

[2] FLANGE TYPE
- ☐ **T** Trimmed

[3] FLANGE FINISH
- ☐ **01** White
- ☐ **04** Black
- ☐ **05** Matte Silver
- ☐ **06** Bronze
- ☐ **11** Matte Nickel
- ☐ **CC** Custom Color [2]

[↓] 2-550 TRIMS ONLY
- ☐ **02** Chrome Plated

[4] LENS
- ☐ **[Blank]** No Lens

[↓] 2-550 TRIM ONLY
- ☐ **C** Clear Glass
- ☐ **F** Frosted Glass
- ☐ **NG** Frosted Acrylic Lens (Nemo Glow)

[5] MODULE & BEAM SPREAD
- ☐ **BRO20** 20° Beam
- ☐ **BRO28** 28° Beam
- ☐ **BRO40** 40° Beam

[6] COLOR TEMPERATURE
- ☐ **27** 2700K
- ☐ **30** 3000K
- ☐ **35** 3500K
- ☐ **40** 4000K
- ☐ **3018** 3000–1800K

[7] LUMENS SERIES
- ☐ **8010** 80 CRI, 1000lm, 3
- ☐ **9008** 90 CRI, 800lm, 3
- ☐ **8018** 80 CRI, 1800lm, 5
- ☐ **9014** 90 CRI, 1400lm, 5
- ☐ **8023** 80 CRI, 2300lm, 7
- ☐ **9018** 90 CRI, 1800lm, 7
- ☐ **8030** 80 CRI, 3000lm, 9
- ☐ **9023** 90 CRI, 2300lm, 9
- ☐ **9510** 95 CRI, 1000lm, 3

[8] OPTIONAL MEDIA (2 MAX.) [3]
- ☐ **[Blank]** No Media
- ☐ **EL** Elongating
- ☐ **FRO** Frosted
- ☐ **HC** Honeycomb
- ☐ **PER** Perimeter Frosted
- ☐ **SL** Softening
- ☐ **SPDL** Solite Softening

[9] TRIM OPTIONS
- ☐ **[Blank]** No Options
- ☐ **EXT** Extensions Clips (Max. 2")

[↓] 2-550 TRIMS ONLY
- ☐ **WP** White Painted Interior

SELECT A HOUSING/DRIVER

[10] HOUSING/DRIVER
- ☐ **D4B-F** Non I/C
- ☐ **D4B-FEM** Non-I/C Emergency
- ☐ **R4P-F** 4" New Construction Plate [4]
- ☐ **D4B-IC1A** I/C Airtight #1 [5]
- ☐ **D4B-IC2A** I/C Airtight #2 [6]
- ☐ **D4B-CP** Chicago Plenum [5, 7]
- ☐ **DRB** Remodel Driver

[11] TRIM SHAPE
- ☐ **S** Square

[↓] DRB ONLY
- ☐ **[Blank]**

[12] FLANGE TYPE
- ☐ **T** Trimmed

[↓] DRB ONLY
- ☐ **[Blank]**

[13] LUMENS SERIES
- ☐ **3** 1000lm Max.
- ☐ **5** 1800lm Max.
- ☐ **7** 2300lm Max.
- ☐ **9** 3000lm Max.

[↓] R4P-F ONLY
- ☐ **[Blank]**

[14] DIMMING
- ☐ **D** DALI (1%)
- ☐ **LE** Lutron Hi-lume Forward Phase 2-wire Dimming (1%) [8]
- ☐ **LH** Lutron Hi-lume EcoSystem Soft-on Fade-to-Black (1%)
- ☐ **P** 0–10V Dimming (1%)
- ☐ **P1** eldoLED Dimming (1%)
- ☐ **S** Phase Dimming (5%) [8]

[↓] R4P-F ONLY
- ☐ **[Blank]**

[15] VOLTAGE
- ☐ **120** 120V
- ☐ **277** 277V
- ☐ **347** 347V [9, 10]

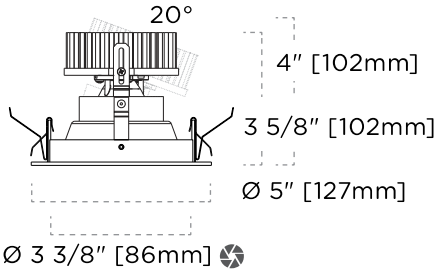
[16] HOUSING OPTIONS
- ☐ **[Blank]** No Options
- ☐ **SCF** Square Aperture Collar
- ☐ **BP** Black Painted Interior
- ☐ **WP** White Painted Interior

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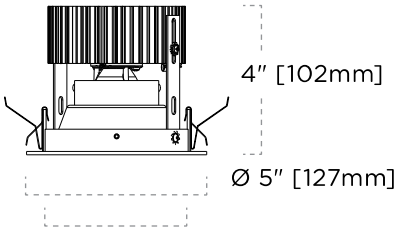
LIGHTHEADED™

AQUA DIMENSIONS

TRIMMED (3 SERIES)

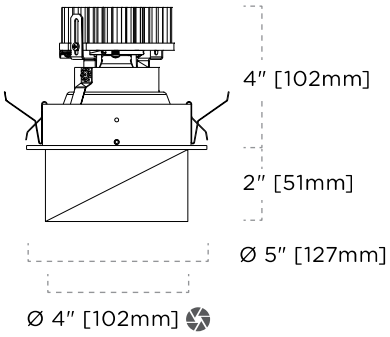


TRIMMED (5, 7, 9 SERIES)

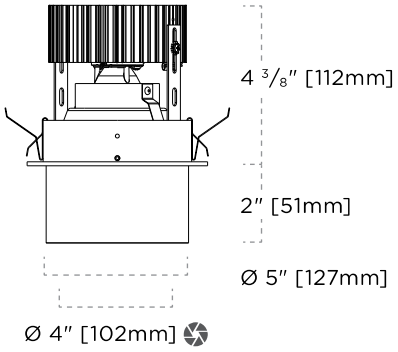


CORONA DIMENSIONS

TRIMMED (3 SERIES)

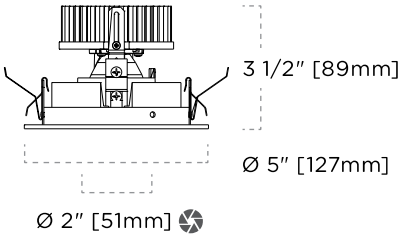


TRIMMED (5, 7, 9 SERIES)

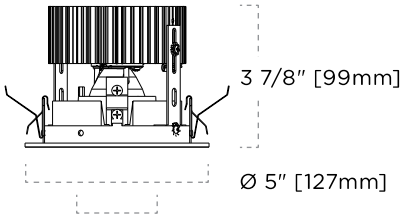


PINHOLE DIMENSIONS

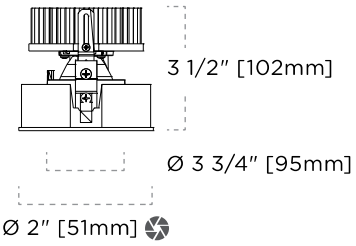
TRIMMED (3 SERIES)



TRIMMED (5, 7, 9 SERIES)

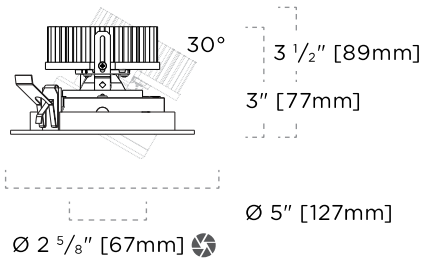


TRIMLESS (3 SERIES)

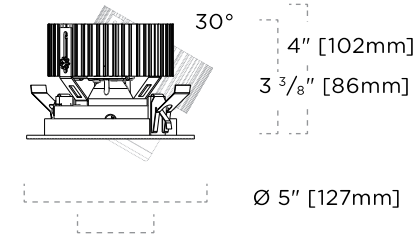


STARLITE DIMENSIONS

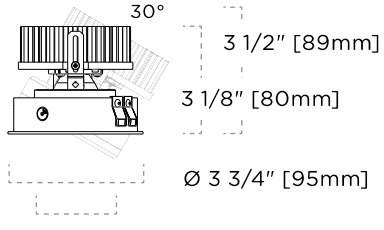
TRIMMED (3 SERIES)



TRIMMED (5, 7, 9 SERIES)



TRIMLESS (3 SERIES)

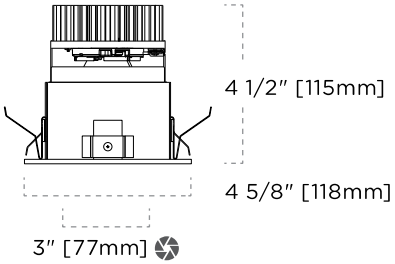


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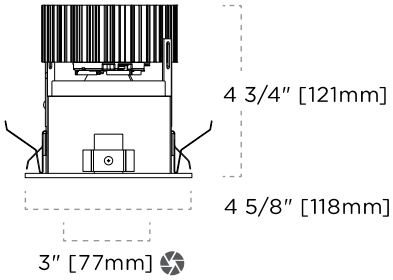
LIGHTHEADED™

NEMO DIMENSIONS

TRIMMED (3 SERIES)

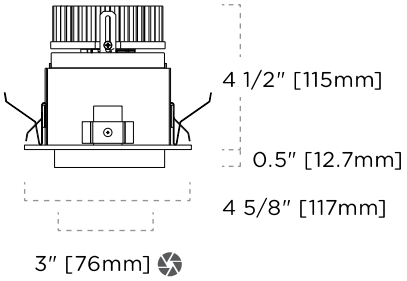


TRIMMED (5, 7, 9 SERIES)

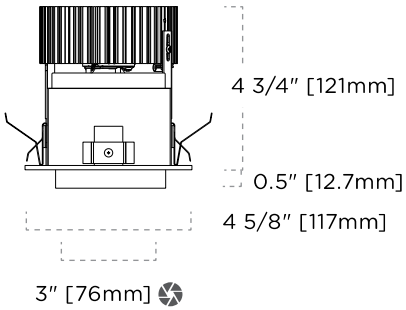


NEMO GLOW DIMENSIONS

TRIMMED (3 SERIES)

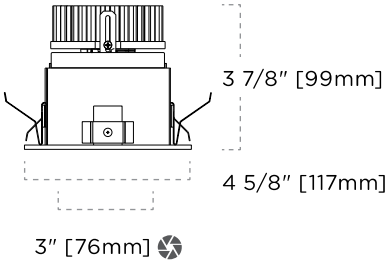


TRIMMED (5, 7, 9 SERIES)

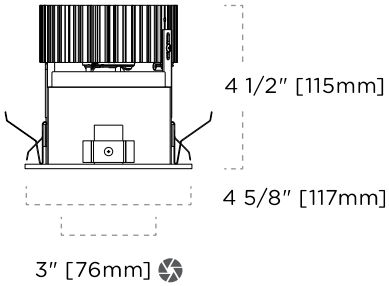


QUADRA DIMENSIONS

TRIMMED (3 SERIES)

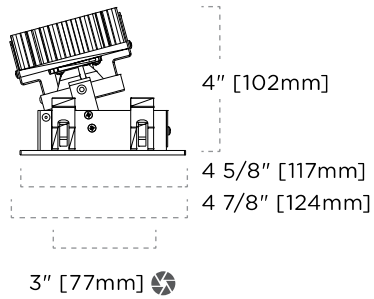


TRIMMED (5, 7, 9 SERIES)

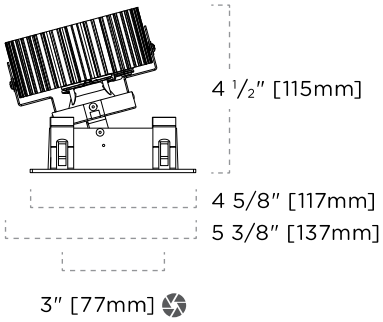


QUADRA WALL WASH DIMENSIONS

TRIMMED (3 SERIES)



TRIMMED (5, 7, 9 SERIES)

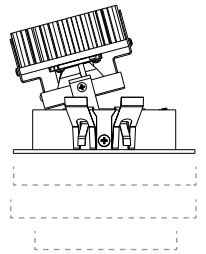


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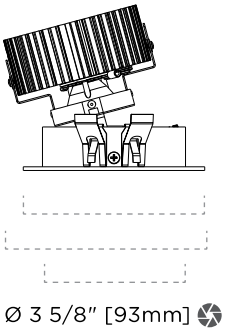
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ROUND WALL WASH DIMENSIONS

TRIMMED (3 SERIES)

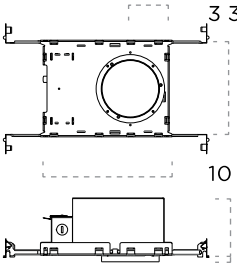


TRIMMED (5, 7, 9 SERIES)

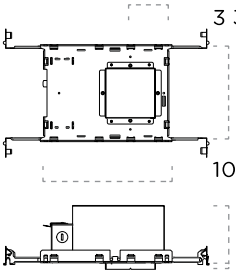


NON-INSULATED TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

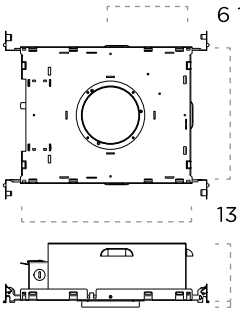
ROUND (3, 5 SERIES)



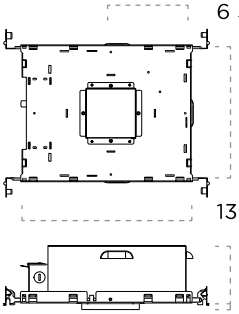
SQUARE (3, 5 SERIES)



ROUND (7, 9 SERIES)

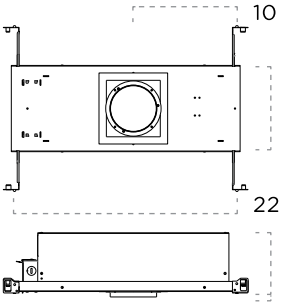


SQUARE (7, 9 SERIES)

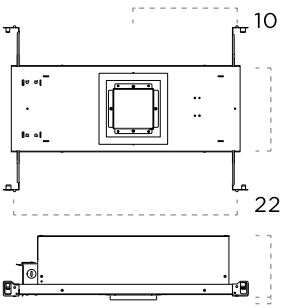


INSULATED TYPE 1 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5 SERIES)



SQUARE (3, 5 SERIES)

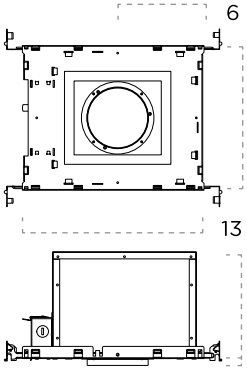


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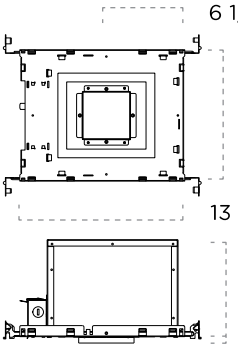
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INSULATED TYPE 2 TRIMMED, TRIMLESS & WOOD TRIMLESS HOUSING DIMENSIONS

ROUND (3 SERIES)

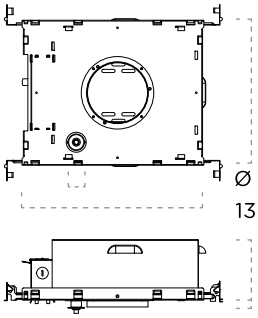


SQUARE (3 SERIES)

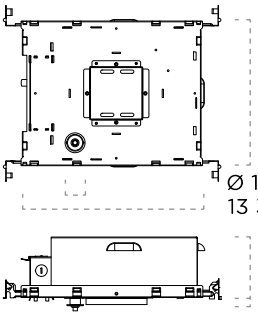


EMERGENCY TRIMMED & TRIMLESS HOUSING DIMENSIONS

ROUND (3, 5, 7, 9 SERIES)

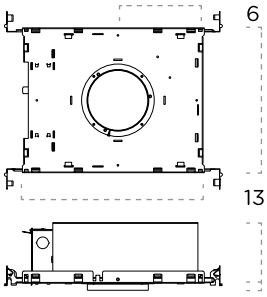


SQUARE (3, 5, 7, 9 SERIES)

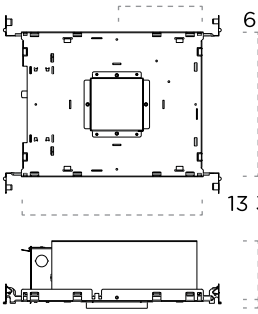


CHICAGO PLENUM TRIMMED HOUSING DIMENSIONS

ROUND (3 SERIES)



SQUARE (3 SERIES)

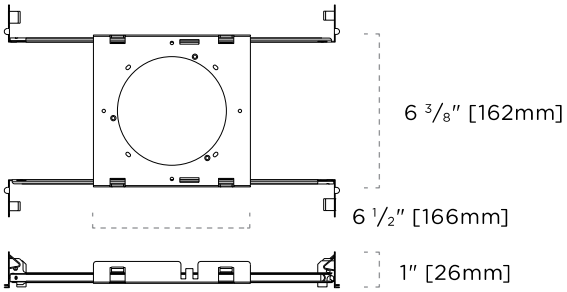


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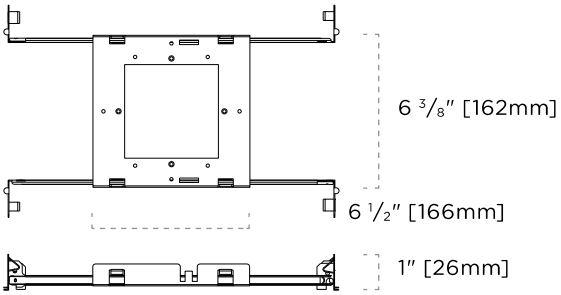
LIGHTHEADED™

TRIMMED, TRIMLESS & WOOD TRIMLESS NEW CONSTRUCTION PLATE DIMENSIONS

ROUND



SQUARE



CERTIFICATIONS

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	TYPE C TYPE A

LDN6



6" Open and WallWash LED
Non-IC
New Construction Downlight

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.
Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.
Two combination ½"-3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.
Accommodates 12"-24" joist spacing.
Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.
Max ceiling thickness 1-1/2".

OPTICS — LEDs are binned to a 3-step SDCM; 80 CRI minimum. 90 CRI optional.
LED light source concealed with diffusing optical lens.
General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.
Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.

ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.
0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.
70% lumen maintenance at 60,000 hours.

LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product.

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

A+ Capable options indicated by this color background.

battery pack

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN6 35/15 LO6AR LSS MVOLT EZ10

LDN6													
Series		**Color temperature**		**Lumens**[1]				**Aperture/Trim Color**				**Finish**		**Voltage**	
LDN6	6" round	27/	2700K	05	500 lumens	25	2500 lumens	LO6	Downlight	AR	Clear	LSS	Semi-specular	MVOLT	Multi-volt
		30/	3000K	07	750 lumens	30	3000 lumens	LW6	Wallwash	WR[2]	White	LD	Matte diffuse	120	120V
		35/	3500K	10	1000 lumens	40	4000 lumens			BR[2]	Black	LS	Specular	277	277V
		40/	4000K	15	1500 lumens	50	5000 lumens							347[3]	347V
		50/	5000K	20	2000 lumens										

Driver		Options			
GZ10	0-10V driver dims to 10%	SF[4]	Single fuse	N80[8]	nLight™ Lumen Compensation
GZ1	0-10V driver dims to 1%	TRW[5]	White painted flange	JOT[13]	Wireless room control with "Just One Touch" pairing
D10	Minimum dimming 10% driver for use with JOT	TRBL[5]	Black painted flange	NPS80EZ[7]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1).
D1	Minimum dimming 1% driver for use with JOT	EL[6]	Emergency battery pack with integral test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	NPS80EZER[7]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1). ER controls fixtures on emergency circuit.
EZ1	0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 1%	ELR[6]	Emergency battery pack with remote test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	HAO[11]	High ambient option
EDAB	eldoLED DALI SOLDRIVE dim to dark	ELSD[6]	Emergency battery pack with self-diagnostics, integral test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	CP[12]	Chicago Plenum
		ELRSD[6]	Emergency battery pack with self-diagnostics, remote test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	RRL__	RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only in RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for the RELOC product specifications.
		E10WCP[6]	Emergency battery pack, 10W Constant Power with integral test switch. Certified in CA Title 20 MAEDB	NLTAIR2[9, 10, 14]	nLight® Air enabled
		E10WCPR[6]	Emergency battery pack, 10W Constant Power with remote test switch. Certified in CA Title 20 MAEDB	NLTAIRER2[9, 10]	nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit, not available with battery pack options
		NPP16D[7]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1).	NLTAIREM2[9, 10]	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. Available with battery pack options.
		NPP16DER[7]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). ER controls fixtures on emergency circuit.	BAA	Buy America(n) Act Compliant
				90CRI	High CRI (90+)

Accessories: *Order as separate catalog number.*

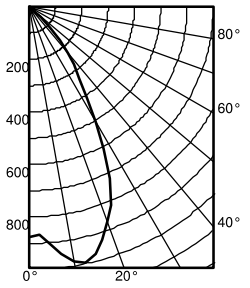
PS1055CP	FMC Power Sentry batterypack, T20 compliant, field installable, 10w constant power
EAC ISSM 375	Compact interruptible emergency AC power system
EAC ISSM 125	Compact interruptible emergency AC power system
GRA68 JZ	Oversized trim ring with 8" outside diameter
SCA6	Sloped Ceiling Adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D

Notes
1 Overall height varies based on lumen package; refer to dimensional chart on page 3.
2 Not available with finishes.
3 Not available with emergency options.
4 Must specify voltage 120V or 277V.
5 Available with clear (AR) reflector only.
6 12.5" of plenum depth or top access required for battery pack maintenance.
7 Specify voltage. ER for use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
8 Fixture begins at 80% light level. Must be specified with NPS80EZ or NPS80EZ ER. Only available with EZ10 and EZ1 drivers.
9 Not available with CP, NPS80EZ, NPS80EZER, NPP16D, NPP16DER or N80 options.
10 NLTAIR2, NLTAIRER2 and NLTAIREM2 not recommended for metal ceiling installations.
11 Fixture height is 6.5" for all lumen packages with HAO.
12 Must specify voltage for 3000lm and above. 5000lm with marked spacing 24 L x 24 W x 14 H. Not available with emergency battery pack option.
13 Must specify D10 or D1 driver. Not available with nLight options. Not available with CP. Not recommended for metal ceiling installation. Not for use with emergency backup power systems other than battery packs.
14 When combined with EZ1 or EZ10 drivers, can be used as a normal power sensing device for nLight AIR devices and lumiaires with EM options.

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Coefficient of Utilization** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LDN6 35/10 LO6AR, input watts: 10.44, delivered lumens: 987.10, LM/W = 94.54, spacing criterion at 0= 1.02, test no. ISF 30716P262.



	Ave	Lumens
0	876	
5	905	89
15	971	269
25	720	322
35	330	214
45	110	87
55	1	4
65	1	1
75	0	0
85	0	0
90	0	

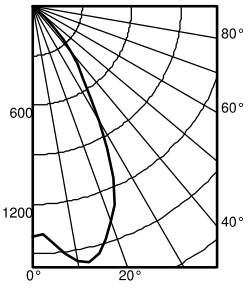
Zone	Lumens	% Lamp
0° - 30°	680.7	69.0
0° - 40°	895.0	90.7
0° - 60°	986.0	99.9
0° - 90°	987.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	987.0	*100.0

*Efficiency

pf / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	111	108	106	109	106	104	104	103	101
2	103	99	95	101	97	94	98	95	92
3	96	91	87	94	90	86	92	88	85
4	89	84	79	88	83	79	86	81	78
5	83	77	73	82	77	73	81	76	72
6	78	72	68	77	72	67	76	71	67
7	73	67	63	73	67	63	71	66	62
8	69	63	59	68	62	58	67	62	58
9	65	59	55	64	59	55	63	58	54
10	61	55	51	61	55	51	60	55	51

Mounting Height	Inital FC Center Beam	50% beam - 54.5° Diameter	50% beam - 54.5° FC	10% beam - 82.2° Diameter	10% beam - 82.2° FC
8.0	29.0	5.7	14.5	9.6	2.9
10.0	15.6	7.7	7.8	13.1	1.6
12.0	9.7	9.8	4.9	16.6	1.0
14.0	6.6	11.8	3.3	20.1	0.7
16.0	4.8	13.9	2.4	23.6	0.5

LDN6 35/15 LO6AR, input watts: 17.52, delivered lumens: 1572.9, LM/W = 89.77, spacing criterion at 0= 1.02, test no. ISF 30716P265.



	Ave	Lumens
0	1396	
5	1442	142
15	1547	429
25	1147	514
35	526	342
45	176	139
55	2	6
65	1	1
75	1	1
85	0	0
90	0	

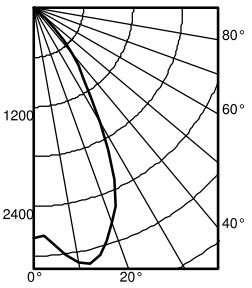
Zone	Lumens	% Lamp
0° - 30°	1084.6	69.0
0° - 40°	1426.2	90.7
0° - 60°	1571.3	99.9
0° - 90°	1572.9	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	1572.9	*100.0

*Efficiency

pf / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	111	108	106	109	106	104	104	103	101
2	103	99	95	101	97	94	98	95	92
3	96	91	87	94	90	86	92	88	85
4	89	84	79	88	83	79	86	81	78
5	83	77	73	82	77	73	81	76	72
6	78	72	68	77	72	67	76	71	67
7	73	67	63	73	67	63	71	66	62
8	69	63	59	68	62	58	67	62	58
9	65	59	55	64	59	55	63	58	54
10	61	55	51	61	55	51	60	55	51

Mounting Height	Inital FC Center Beam	50% beam - 54.5° Diameter	50% beam - 54.5° FC	10% beam - 82.2° Diameter	10% beam - 82.2° FC
8.0	46.2	5.7	23.1	9.6	4.6
10.0	24.8	7.7	12.4	13.1	2.5
12.0	15.5	9.8	7.7	16.6	1.5
14.0	10.6	11.8	5.3	20.1	1.1
16.0	7.7	13.9	3.8	23.6	0.8

LDN6 35/30 LO6AR, input watts: 34.75, delivered lumens: 3138.5, LM/W = 90.31, spacing criterion at 0= 1.02, test no. ISF 30716P274.



	Ave	Lumens
0	2786	
5	2877	284
15	3087	855
25	2289	1025
35	1049	682
45	350	277
55	5	12
65	2	2
75	1	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	2164.3	69.0
0° - 40°	2845.9	90.7
0° - 60°	3135.3	99.9
0° - 90°	3138.5	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	3138.5	*100.0

*Efficiency

pf / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	111	108	106	109	106	104	104	103	101
2	103	99	95	101	97	94	98	95	92
3	96	91	87	94	90	86	92	88	85
4	89	84	79	88	83	79	86	81	78
5	83	77	73	82	77	73	81	76	72
6	78	72	68	77	72	67	76	71	67
7	73	67	63	73	67	63	71	66	62
8	69	63	59	68	62	58	67	62	58
9	65	59	55	64	59	55	63	58	54
10	61	55	51	61	55	51	60	55	51

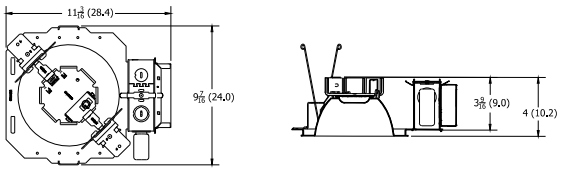
Mounting Height	Inital FC Center Beam	50% beam - 54.5° Diameter	50% beam - 54.5° FC	10% beam - 82.2° Diameter	10% beam - 82.2° FC
8.0	92.1	5.7	46.1	9.6	9.2
10.0	49.5	7.7	24.8	13.1	5.0
12.0	30.9	9.8	15.4	16.6	3.1
14.0	21.1	11.8	10.5	20.1	2.1
16.0	15.3	13.9	7.6	23.6	1.5

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LDN6

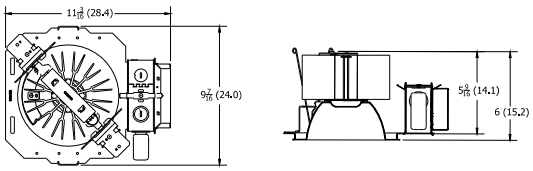
* All dimensions are inches (centimeters) unless otherwise noted.

LDN6 500 - 1500 LUMENS



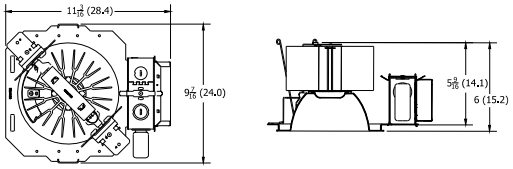
Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

LDN6 2000 - 3000 LUMENS



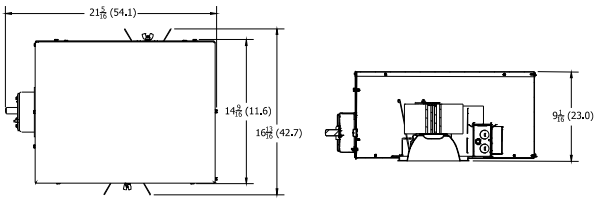
Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

LDN6 4000 - 5000 LUMENS



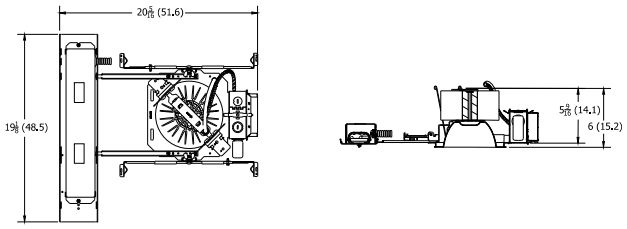
Marked Spacing: 24 x 24 x 10
Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

LDN6 CP



Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

LDN6 EL



Marked Spacing above 3000 Lumens: 24 x 24 x 10
Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

LDN6			
Nominal Lumens	**Lumens**	**Wattage**	**Lm/W**
500	527.9	5.8	90.5
750	758.1	8.9	85.1
1000	950.1	10.4	91.0
1500	1514	17.5	86.4
2000	2006	22.5	89.1
2500	2504	28.3	88.6
3000	3021	34.8	86.9
4000	4008	44.3	90.6
5000	4975	57.7	86.3

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.
The LPW rating is also available at Designlight Consortium.

LUMEN OUTPUT MULTIPLIERS - FINISH			
	Clear (AR)	**White (WR)**	**Black (BR)**
Specular (LS)	1.0	N/A	N/A
Semi-specular (LSS)	0.950	N/A	N/A
Matte diffuse (LD)	0.85	N/A	N/A
Painted	N/A	0.87	0.73

LUMEN OUTPUT MULTIPLIERS - CCT					
	2700K	**3000K**	**3500K**	**4000K**	**5000K**
80CRI	0.950	0.966	1.000	1.025	1.101

Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com

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ADDITIONAL DATA

JOT
JUST ONE TOUCH

The Sensor Switch JOT enabled solution offers a wireless, app-free approach to single room lighting control. JOT enabled products use Bluetooth® Low Energy (BLE) technology to enable wireless dimming and switching.

Diagram



LDN6 Series



Sensor Switch
WSXA JOT

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

COMPATIBLE 0-10V WALL-MOUNT DIMMERS		
MANUFACTURER	PART NO.	POWER BOOSTER AVAILABLE
Lutron®	Diva® DVTV	
	Diva® DVSCTV	
	Nova T® NTFTV	
	Nova® NFTV	
Leviton®	AWSMT-7DW	CN100
	AWSMG-7DW	PE300
	AMRMG-7DW	
	Leviton Centura Fluorescent Control System	
	IllumaTech® IP7 Series	
Synergy®	ISD BC	RDMFC
	SLD LPCS	
	Digital Equinox (DEQ BC)	
Douglas Lighting Controls	WPC-5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V)	
	Tap Glide Heatsink TGH1500FAM120 (120V)	
	Oasis OA2000FAMU	
Honeywell	EL7315A1019	EL7305A1010 (optional)
	EL7315A1009	
HUNT Dimming	Preset slide: PS-010-IV and PS-010-WH	
	Preset slide: PS-010-3W-IV and PS-010-3W-WH	
	Preset slide, controls FD-010: PS-IFC-010-IV and PS-IFC-010-WH-120/277V	
	Preset slide, controls FD-010: PS-IFC-010-3W-IV and PS-IFC-010-3W-WH-120/277V	
	Remote mounted unit: FD-010	
Lehigh Electronic Products	Solitaire	PBX
PDM Electrical Products	WPC-5721	
Starfield Controls	TR61 with DALI interface port	RT03 DALInet Router
WattStopper®	LS-4 used with LCD-101 and LCD-103	

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

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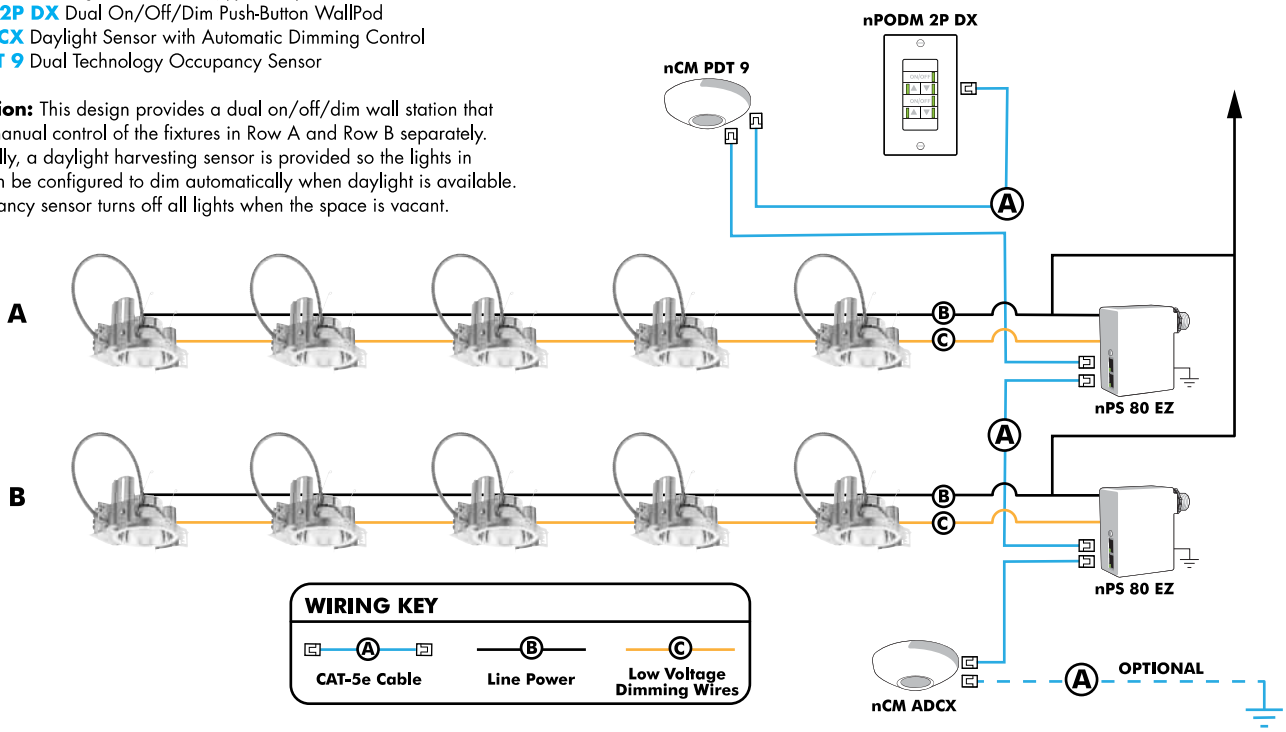
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LDN6

EXAMPLE
Group Fixture Control*
*Appiication diagram applies for fixtures with eldoLED drivers only.

nPS 80 EZ Dimming/Control Pack (qty: 2 required)
nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
nCM ADCX Daylight Sensor with Automatic Dimming Control
nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in Row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.



Choose Wall Controls

nLight offers multiple styles of wall controls - each with varying features and user experience.



Push-Button Wallpod
Traditional tactile buttons and LED user feedback



Graphic Wallpod
Full color touch screen provides a sophisticated look and feel

nLight® Wired Controls Accessories:			
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight for complete listing of nLight controls.			
WallPod Stations	**Model number**	**Occupancy sensors**	**Model Number**
On/Off	nPODM (Color)	Small motion 360°, ceiling (PIR/dual Tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPOD DX (Color)	Large motion 360°, ceiling (PIR/dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX (Color)	Wide View (PIR/dual tech)	nWV 16 / nWV PDT 16
Photocell controls	**Model Number**	Wall Switch w/ Raise/Lower (PIR/dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	**Cat-5 cables (plenum rated)**	**Model Number**
		10', CAT5 10FT	CAT5 10FT J1
		15, CAT5 15FT	CAT5 15FT J1

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nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color]
On/Off two pole	rPODB 2P [color]
On/Off & raise/lower single pole	rPODB DX [color]
On/Off & raise/lower two pole	rPODB 2P DX [color]
On/Off & raise/lower single pole	rPODBZ DX WH[1]

Notes

1 Can only be ordered with the RES7Z zone control sensor version.

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

nLight AIR

nLight AIR is the ideal solution for retrofit or new construction spaces where adding communication is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each Lithonia LDN Luminaire. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome



nLight AIR rPODB 2P DX

Mobile Device

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Liteline

LED-STR-12

Single Color Indoor LED Strip Light, 24V

Cove, Under Cabinet & Millwork

Job Information		
Project Name		Type
Location		TYPE D
Quantity		Date
Contact/Phone		
Notes		

Features

Operation Performance
Energy efficient, at 4W per strip, provides expandability up to 16 sections with a 24V driver or hardwire box (sold separately). These LED strips are designed for indoor use only (dry location), and are operated at an ambient operating temperature between -20°C and +50°C.

Lighting Performance
Thermally efficient for illuminating sensitive perishables and UV sensitive apparel, artwork and collectibles; these LEDs are cool to the touch and provides 120° linear beam spread.

Color Temperature
Available in three color temperatures:
- Warm White (3000K ±200K)
- Neutral White (4100K ±200K)
- Cool White (6500K ±500K)

Lumen Maintenance
The LEDs reduces ongoing maintenance with an 25,000 hours rated LED life, at 70% average lumens.

- Warm White – 250 lumens per foot.
- Neutral White – 270 lumens per foot.
- Cool White – 280 lumens per foot.

Linkable
A built-in joiner for continuous uninterrupted lighting offers a no-shadow linking capability up to 16 strips. LED strips may be connected further apart using flexible 6" (LED-STR-6-BC – sold separately) or 12" (LED-STR-12-BC – sold separately) linking cable. A power feed (LED-STR-PF – sold separately) is required to connect to plug-in driver or hardwire box.

Dimmable
These LED strips offer dimmable functionality when used with a dimming driver (sold separately).

Mounting
Available with both 0° and 35° mounting clips with screws provided for surface mounting applications.

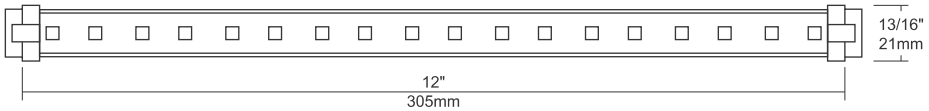
Certification
- cULus listed.

SPECIFICATION	
Approved Location	Dry
Beam Angle	120°
CCT	3000 K / 4100 K / 6500 K
Certification	cULus
CRI	80+
Dimming	Yes
Dimming Technology	Dimming Driver
Lumens	Up to 280
Lumens per Watt	Up to 72.9
Max. Operating Temp.	45°C (113°F)
Min. Start Temp.	-20°C (-4°F)
Lumen Maintenance	70% @ 50,000 hrs
Rated Life	25,000 hrs
Voltage	24V DC
Warranty	3 Years
Wattage	3.84W

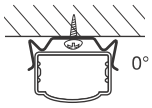


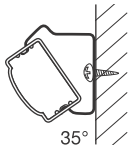
Description

LED-STR-12 is a single 12" (305mm) undercabinet LED strip light. It provides ample illumination for effective residential, retail and light commercial displays. The LED-STR-12 is ideal for kitchen counters, curious and cabinets. It can be expanded for continuous uninterrupted lighting.









c UL us LISTED

Notes: Accessories should be ordered separately. For additional options please consult your Liteline representative.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Ordering Guide



LED-STR-12WW
12" (305mm) LED strip light, warm white.



LED-STR-12NW
12" (305mm) LED strip light, neutral white.



LED-STR-12CW
12" (305mm) LED strip light, cool white.

Accessories



LED-STR-6-BC
6" Single color flexible connector for LED strip light.



LED-STR-12-BC
12" Single color flexible connector for LED strip light.



LED-STR-BC-EL
Wire splice extension kit, 24V.

Liteline Corporation
Telephone 416.996.1856 1.866.730.7704
Fax 905.709.5255 1.888.738.9736
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LITELINE.COM

Compatible Drivers

Non Dimming Class II

Plug-In Drivers



LED-DVR-24V-24W
LED 24V, 24W Plug-in Driver with DC 2.1 jack. Maximum 14' run.

LED-DVR-24V-36W
LED 24V, 36W Plug-in Driver with DC 2.1 jack. Maximum 22' run.

LED-DVR-24V-60W
LED 24V, 60W Plug-in Driver with DC 2.1 jack. Maximum 2 runs, 19' per run.

Power feed required

LED-STR-PF
12" Single color power feed for LED strip light.
* Power feed required for all drivers with DC 2.1 jack.

Hardwire Drivers



LED-HWB-24V-24W
LED 24V, 24W Hardwire Box LED Driver with DC 2.1 jack. Maximum 14' run.

LED-HWB-24V-36W
LED 24V, 36W Hardwire Box LED Driver with DC 2.1 jack. Maximum 22' run.

LED-HWB-24V-60W
LED 24V, 60W Hardwire Box LED Driver with DC 2.1 jack. Maximum 2 runs, 19' per run.

Power feed required

LED-STR-PF
12" Single color power feed for LED strip light.
* Power feed required for all drivers with DC 2.1 jack.

Accessories



LED-DIM 24V
LED touch dimmer, 24V, for use with non-dimming drivers.



LED-SP-4
Optional harness for up to 4 runs, 24V.

Dimming Class II

Electronic Hardwire Drivers – Powered by Lutron®



LED-HWBDIM2-24-40
40W LED dimmable hardwire driver with DC 2.1 jack. 2-wire, 24V, powered by Lutron® Hi-lume® 1% 2-wire 120V LED driver. Maximum 14' run.



HWB-DIM-EDC-24V-25W
25W dimmable electronic hardwire driver, 24V.



HWB-DIM-EDC-24V-50W
50W dimmable electronic hardwire driver, 24V.



HWB-DIM-EDC-24V-96W
96W dimmable electronic hardwire driver, 24V.

Power feed required

LED-STR-PF
12" Single color power feed for LED strip light.
* Power feed required for all drivers with DC 2.1 jack.

Accessories



LED-SP-4
Optional harness for up to 4 runs, 24V.

CHUTE
LP14947

PENDANTS

PROJECT

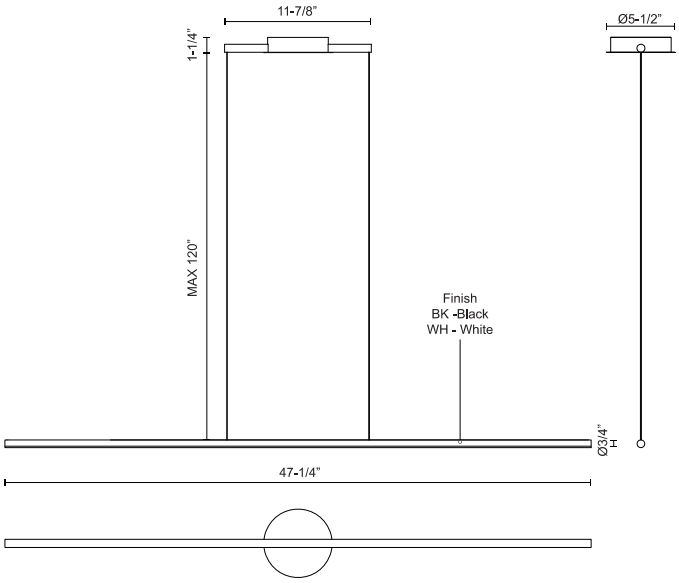
TYPE D1

DESCRIPTION

Extruded aluminum cylinder with welded capped ends. Finely textured powder-coat finish. Rounded opal silicon diffuser. Down light. Custom options available.

LP14947-WH
White

LP14947-BK
Black



SPECIFICATION DETAILS

* For custom options, consult factory for details.

Fixture Dimensions	L47-1/4" x W3/4" x H3/4"
Light Source	LED with DC Driver
Wattage	23W
Total Lumens	1700lm
Delivered Lumens	BK-1070lm; WH-1308lm;
Voltage	120V
Color Temperature	3000K
CRI (Ra)	90CRI
Optional Color Temps	2700K - 5000K Available, Minimum Order Quantities Apply
LED Rated Life	50,000 hours
Dimming	100% - 10%, TRIAC or ELV Dimmer (Not Included)
Diffuser Details	White Acrylic Diffuser
Adjustable	Yes
Wire Length	120" Max
Wire Type	BK - Black Wire; WH - Clear Wire;
Location	Dry
Warranty	5 Years
CEC Title 24 JA8	Yes, JA8-19
Energy Star Certified	Energy Star Compliant
Canopy Dimensions	L11-7/8" x W5-1/2" x H1-1/4"

KUZCO

19054 28TH AVENUE
SURREY - BC V3Z 6M3
CANADA

WWW.KUZCOLIGHTING.COM

COMMENT

Intertek

DALS LIGHTING

Canada
80, de la Seigneurie blvd., E.
Blainville, Quebec J7C 4N1

U.S.A.
4383, NW 124th Ave.,
Coral Springs, Florida 33065

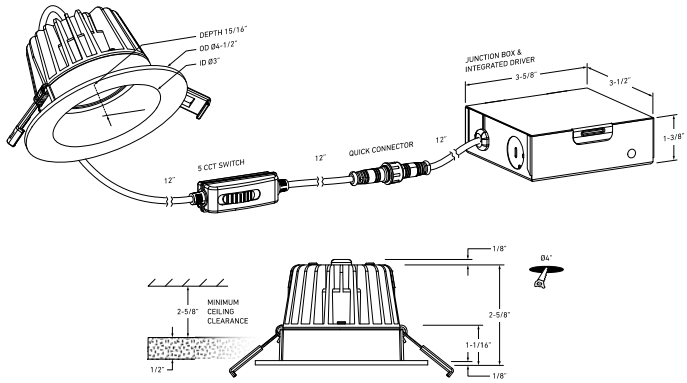
877.430.1818
info@dals.com
dals.com

MODEL **RGR4-CC**
NAME **ELEMENT**
4-Inch Regressed Downlight

When choosing a recessed fixture, eliminating glare is a priority. The unique positioning of the LED module in this series of downlights will meet that important need.

PROJECT:
TYPE: TYPE E
DATE:
QTY:
NOTES:



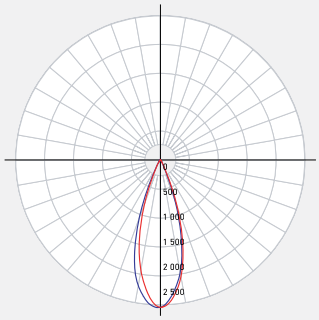


QUICK SPECS

SIZE	WATTS	DELIVERED LUMENS*	COLOR °T 5CCT	CRI	VOLTAGE	BEAM ANGLE	FINISH
4"	15W	1100lm	2700K 3000K 3500K 4000K 5000K	90	120V	40°	○ White ☐ ● Satin Nickel ☐ ● Black ☐

*Lumen output measured at 3000K

LIGHT DISTRIBUTION



CONSTRUCTION

Lens
Clear

Type of optics
Optical lens

Type of LED
COB

Lens material
Acrylic

Housing material
Cast aluminum

Cut hole size
4"

RATINGS

Placement
Indoor/Outdoor

Lifespan
50,000 hrs.

FT rating
FT6

Location
Wet

Certifications
ETL, FCC, ICES, ES IC, ASTM E283-04, T24

Operating temperature
-20° to 40° C

WHAT'S IN THE BOX

LED recessed fixture
Junction box
Push-in wire connectors
Mounting hardware
Instruction sheet

ACCESSORIES

RFP-UNI
Universal Drilling Plate

RFP-46
Drilling Plate

ADAPTERS

REC-EXT108
108" extension cord for recessed fixtures

REC-EXT230
230" extension cord for recessed fixtures

Canada
80, de la Seigneurie blvd., E.
Blainville, Quebec J7C 4N1

U.S.A.
4383, NW 124th Ave.,
Coral Springs, Florida 33065

877.430.1818
info@dals.com
dals.com

ELECTRICAL DETAILS

Input voltage
108-135V

Output current
330mA

Power factor
99%

Driver type
Constant current

Output voltage
35V

LED model #
COB

THD harmonic distortion
<30%

Binning type
3 SDCM

FEATURES

- Every fixture includes a junction box with an integrated driver
- Can be daisy chained
- Superior LED performance and lifespan
- Smooth 360° wide spread
- Switch-selectable CCT: 2700K/ 3000 K/ 3500 K/ 4000 K/ 5000 K

WARRANTY

DALS offers a 5-year warranty from the date of purchase which covers repairs or replacement of defective parts of the housing, optics, and electronics. To contact DALS customer service call 1-877-430-1818 or send an e-mail to info@dals.com.

RECOMMENDED DIMMER LIST*

BRAND	MODEL #	DIMMER SPECS	GRADE	DIMMING RANGE (%)	MAX LOAD
Dals	SM-DIMSW Smart Dimmer	Triac, 250W LED/CFL	Compatible	Min: 8 / Max: 99	17
Lutron	DVCL-153PR-WH-C	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 10 / Max: 100	10
Lutron	CTCL-153PDH-WH-C	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 9 / Max: 100	10
Lutron	STCL-153PH-WH-C	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 3 / Max: 100	10
Lutron	DVWCL-153PH-WHC	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 10 / Max: 100	10
Lutron	MACL-153MRHW-WHC	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 2 / Max: 100	10
Lutron	DVELV-300P-WH	300W electronic low voltage dimmer	Compatible	Min: 10 / Max: 100	21
Lutron	MA-PRO-WH	ELV, 250W LED/CFL	Compatible	Min: 3 / Max: 100	17
Lutron	Caseta PD-6WCL-WH-R-C	Triac, 300W Dimmable CFL/LED	Compatible	Min: 1 / Max: 100	17
Lutron	Caseta PD-5NE-WH-C	ELV, LED—up to 250 W	Compatible	Min: 5 / Max: 100	17
Lutron	Caseta PD-10NXD-WH	Triac, LED—up to 250 W	Compatible	Min: 2 / Max: 100	10
Leviton	6672-1LW	Triac, 150W Dimmable CFL/LED	Compatible	Min: 25 / Max: 99	10
Leviton	DSM10	Triac, 450W Dimmable CFL/LED	Compatible	Min: 21 / Max: 100	32
Leviton	6674	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 12 / Max: 99	10
Leviton	IPL06-10Z	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 19 / Max: 99	10
Leviton	DSL06-752	Triac, 150 W Dimmable CFL/LED	Compatible	Min: 19 / Max: 99	10
Leviton	D26HD-742-1RW	Triac, 300W LED/CFL	Compatible	Min: 12 / Max: 99	21
Legrand	RHCL453PNICCV4	Triac, 450W Dimmable CFL/LED	Compatible	Min: 13 / Max: 100	21
Legrand	ADTP703TUM4	Triac,450W Dimmable CFL/LED	Compatible	Min: 13 / Max: 100	21
Legrand	ADPD453LM2	Triac,450W Dimmable CFL/LED	Compatible	Min: 12 / Max: 99	21
Legrand	RHL373PW	Triac, 250W LED	Compatible	Min: 9 / Max: 98	17
Control 4	C4-APD120-WH	ELV, 120W LED	Compatible	Min: 1 / Max: 99	8
Control 4	C4-FPD120-WH	Triac, 200W LED	Compatible	Min: 1 / Max: 98	14

* Minimal buzzing noise may occur with some dimmers

Project:

Location:

Fixture Type: TYPE E1

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47919

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47919

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47919 19"	3000K	AL Brushed Aluminum	16.8W	1268	975
	3000K	WT White	16.8W	1268	975

Example: **WS-47919-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47925

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47925

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47925 25"	3000K	AL Brushed Aluminum	22.4W	1708	1375
	3000K	WT White	22.4W	1708	1375

Example: **WS-47925-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

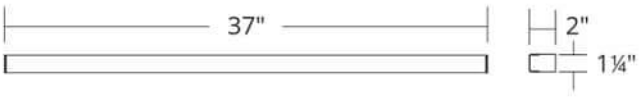
WS-47937

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47937

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47937 37"	3000K	AL Brushed Aluminum	33.2W	2450	1949
	3000K	WT White	33.2W	2450	1949

Example: **WS-47937-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47949

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4” junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47949

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47949 49"	3000K	AL Brushed Aluminum	44W	3171	2479
	3000K	WT White	44W	3171	2479

Example: **WS-47949-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47961

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47961

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47961 61"	3000K	AL Brushed Aluminum	45.9W	3651	2826
	3000K	WT White	45.9W	3651	2826

Example: **WS-47961-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47973

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47973

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47973 73"	3000K	AL Brushed Aluminum	66W	4900	3782
	3000K	WT White	66W	4900	3782

Example: **WS-47973-WT**

For custom requests please contact customs@modernforms.com

Project:

Location:

Fixture Type:

Catalog Number:

AVAILABLE FINISHES:



Lightstick

WS-47997

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)



WS-47997

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47997 97"	3000K	AL Brushed Aluminum	88W	6342	4874
	3000K	WT White	88W	6342	4874

Example: **WS-47997-WT**

For custom requests please contact customs@modernforms.com

JUNO

JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION

5", 7", 11", 13" ROUND

JSF SERIES

Project:

Fixture Type: TYPE F1

Location:

Contact/Phone:

PRODUCT DESCRIPTION

Sleek, ultra-low profile energy efficient LED surface mount downlights in multiple sizes from 5" to 13" • Provides economical installation by mounting directly over standard and fire-rated junction boxes • Optional finish trims available for custom, designer look similar to standard recessed downlights • Provides general illumination in residential and commercial applications including multi-family and hospitality • Ideal for use in corridors, living spaces, closets, hallways, pantries, stairways, outdoor covered areas with Emergency Option and much more.



PRODUCT SPECIFICATIONS

Construction Shallow, less than 1", solid ring with white finish • Non conductive fixture for shower light applications • Optional, field installable finish trims available for 5" and 7" versions to change the exterior finish of fixture

Optics Light quide technology combined with diffusing lens conceals the LEDs from direct view and provides uniform lens luminance.

LED Light Engine LEDs mounted directly to heatsink designed to provide superior thermal management and ensure long life • 2700K, 3000K, 3500K or 4000K LED color temperature • LEDs binned for 4-step MacAdam ellipse color consistency • 90 CRI minimum.

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 at 120V input • 120 volt driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers • External driver is only available on 5" and 7" models • For a list of compatible dimmers, see JUNOSLIMFORM-DIM.

Emergency Battery Option Available on fixture sizes 11" and larger • Battery factory assembled to fixture with integral test switch • Drives LEDs for 90 minutes to meet Life Safety Code (NFPA-LSC), National Electrical Code (NEC), and UL requirements • Title 20 certified battery pack available when ordering E10WLCP option • EBX option provides back box without battery for consistent look when used in same space as fixtures with EL emergency option • Damp location only with emergency option.

Life Rated for 50,000 hours at >70% lumen maintenance.

Labels ENERGY STAR® certified • Certified to the high efficacy requirements of California T24 JA8-2016 • CSA listed for US and Canada • Suitable for wet locations (covered ceilings) • Damp location only with emergency option.

Testing All reports are based on published industry procedures; actual performance may differ as a result of the end-user environment and applications. All values are design or typical values, measured under laboratory conditions at 25 °C.

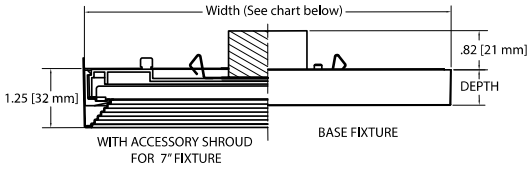
Warranty 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

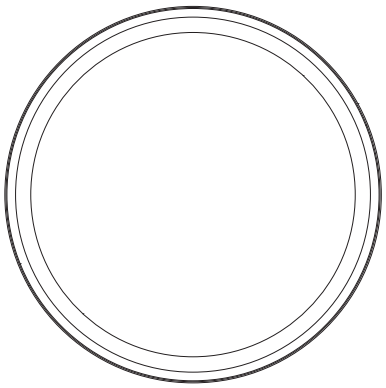
INSTALLATION

Junction Box Mounting Fixture provided with leads for direct wire connection in j-box • Installs directly to industry standard junction boxes • Compatible boxes include 4" metal or plastic octagonal standard and fire-rated junction boxes (3 1/2" junction box screw-hole spacing required for installation) • Minimum 2 1/8" deep junction box required for 5" and 7" fixtures (no depth requirement for 11" and larger fixtures) • Quick mount bracket provides fast installation of fully assembled fixture to junction box • Suitable for ceiling mount • Suitable for use within closet storage spaces when installed per NEC requirements. ***Junction box sizes vary - Verify compatibility with fixture prior to installation***

DIMENSIONS



External driver available on 5" and 7" models only.



ROUND SPECIFICATIONS

	Width	Depth
JSF 5IN	5.25 (13.34)	0.75 (1.91)
JSF 7IN	7.77 (19.74)	0.75 (1.91)
JSF 11IN	11.08 (28.14)	0.9 (2.29)
JSF 13IN	13.05 (33.15)	0.9 (2.29)

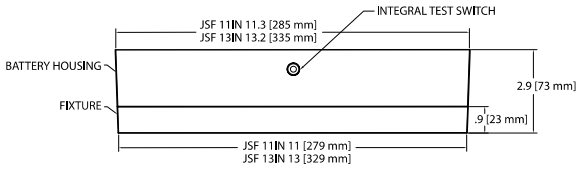
All dimensions are in inches (centimeters) unless otherwise indicated.

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND
JSF SERIES

EMERGENCY BATTERY FOR 11" AND 13"



PERFORMANCE DATA

	JSF 5IN		JSF 7IN		JSF 11IN		JSF 13IN	
	120V	**MVOLT**	**120V**	**MVOLT**	**120V**	**MVOLT**	**120V**	**MVOLT**
Lumens	700	700	1000	1000	1300	1300	1800	1800
CRI	90CRI		90CRI		90CRI		90CRI	
CCT	27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K	
Voltage	120V	120V-277V	120V	120V-277V	120V	120V-277V	120V	120V-277V
Input Power	10W	10W	13W	13W	15W	15W	20W	20W
Input Current	110MA	50MA	150MA	60MA	180MA	80MA	240MA	110MA
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Power Factor	>0.9		>0.9		>0.9		>0.9	

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND

JSF SERIES

ORDERING INFORMATION

Example: JSF 5IN 07LM 27K 90CRI 120 FRPC WH

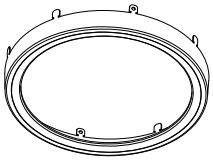
Series	Size/Lumens	Color Temperature	CRI	Voltage/Driver	Finish	Emergency Battery[1,2]
JSF SlimForm Surface Mount Downlight - Round	5IN 07LM 5", 700 Lumens 7IN 10LM 7", 1000 Lumens 11IN 13LM 11", 1300 Lumens 13IN 18LM 13", 1800 Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K	90CRI 90+ CRI	120 FRPC** Dedicated 120V, Forward Reverse Phase Dimmnig MVOLT ZT** Universal Voltage 120V-277V, 0-10V Dimming	WH White	EL[3†] Battery Back-up Option EBX Empty Back Box for Aesthetics E10WLCP[4†] EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS.

†: EL Battery Back-up option is not Energy Star certified
**: See Option Value Ordering Restrictions

ACCESSORIES

TRIM – Optional, field installable finish trim rings available to change the exterior finish of fixture.
Example: JSFTRIM 5IN BZ

Series	Size	Finish
JSFTRIM SlimForm Accessory- Trim	5IN 5 inches 7IN 7 inches	BL Black BZ Bronze SN[5] Satin Nickel



TRIM

Notes:
1 Emergency battery available with 11IN and 13IN only.
2 Emergency battery is only available with MVOLT ZT.
3 EL battery option not available in California due to Title 20 restrictions.
4 E10WLCP ordering option is Title 20 certified for shipments to California.
5 SN not available in 5IN.

**Option Value Ordering Restrictions	
JSF 120V Fixtures	
Option Value	**Restriction**
5IN	Not available in 35K and 40K CCT
13IN	Not available in 35K and 40K CCT
JSF MVOLT Fixtures	
11IN	Not available in 27K CCT
13IN	Not available in 27K CCT

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

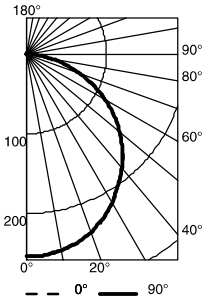
FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND

JSF SERIES

PHOTOMETRICS

Distribution Curve **Distribution Data** **Coefficient of Utilization** **Illuminance Data at 30" Above Floor for a Single Luminaire**

JSF 5IN 27K, 2700K LEDs, input watts: 9.72, delivered lumens: 727, LM/W = 74.8, test no. ISF 33599, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	253	253
5°	253	253
15°	245	245
25°	228	227
35°	201	200
45°	171	170
55°	134	134
65°	93	92
75°	51	51
85°	14	14
90	1	1

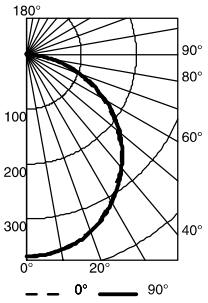
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	98	94	97	94	91
2	99	90	83	88	82	77	85	79	75
3	90	79	71	78	70	64	75	68	63
4	82	70	61	69	60	54	66	59	53
5	76	63	53	61	53	47	59	52	46
6	70	56	47	55	47	41	54	46	40
7	65	51	42	50	42	36	49	41	36
8	60	47	38	46	38	32	45	37	32
9	56	43	34	42	34	29	41	34	29
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	197	27.1	27.1
0° - 40°	322	44.3	44.3
0° - 60°	570	78.5	78.5
0° - 90°	727	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	727	100.0	100.0

JSF 7IN 27K, 2700K LEDs, input watts: 12.8, delivered lumens: 1060, LM/W = 82.8, test no. ISF 33600, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	368	368
5°	366	367
15°	353	355
25°	326	329
35°	286	291
45°	243	247
55°	189	194
65°	128	134
75°	68	74
85°	16	21
90	0	1

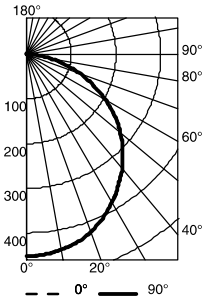
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	76	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	41	53	46	40
7	65	51	42	50	42	36	49	41	35
8	60	46	38	46	38	32	44	37	32
9	56	43	34	42	34	29	41	34	29
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	286	27.0	27.0
0° - 40°	468	44.1	44.1
0° - 60°	830	78.3	78.3
0° - 90°	1060	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	1060	100.0	100.0

JSF 11IN 27K, 2700K LEDs, input watts: 15.2, delivered lumens: 1305, LM/W = 85.9, test no. ISF 33661, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	451	451
5°	450	450
15°	435	436
25°	404	405
35°	357	358
45°	305	304
55°	239	241
65°	164	165
75°	90	89
85°	25	25
90	1	1

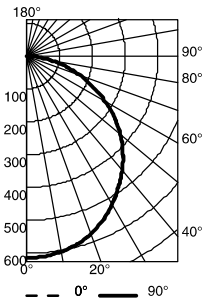
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	77	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	40	53	46	40
7	65	51	42	50	42	36	49	41	35
8	60	46	38	46	38	32	44	37	32
9	56	43	34	42	34	29	41	34	28
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	352	26.9	26.9
0° - 40°	575	44.1	44.1
0° - 60°	1021	78.3	78.3
0° - 90°	1305	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	1305	100.0	100.0

JSF 13IN 27K, 2700K LEDs, input watts: 20.2, delivered lumens: 1779, LM/W = 88, test no. ISF 33663, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	613	613
5°	611	612
15°	592	593
25°	550	550
35°	486	486
45°	413	414
55°	327	327
65°	225	225
75°	122	122
85°	34	34
90	1	1

Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	76	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	40	53	46	40
7	65	51	42	50	42	36	48	41	35
8	60	46	38	46	37	32	44	37	32
9	56	43	34	42	34	29	41	34	28
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	478	26.9	26.9
0° - 40°	782	44.0	44.0
0° - 60°	1390	78.2	78.2
0° - 90°	1778	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	1	0.0	0.0
0° - 180°	1779	100.0	100.0

For 30K fixtures, use 1.02 multiplier; For 35K fixtures, use 1.03 multiplier, For 40K fixtures, use 1.07 multiplier.

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JUNO

JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION

5", 7", 11", 13" ROUND

AIR-LOC ENERGY STAR† TITLE 24 PART 6 Wet Location

JSF SERIES

Project:

Fixture Type: TYPE F2

Location:

Contact/Phone:

PRODUCT DESCRIPTION

Sleek, ultra-low profile energy efficient LED surface mount downlights in multiple sizes from 5" to 13" • Provides economical installation by mounting directly over standard and fire-rated junction boxes • Optional finish trims available for custom, designer look similar to standard recessed downlights • Provides general illumination in residential and commercial applications including multi-family and hospitality • Ideal for use in corridors, living spaces, closets, hallways, pantries, stairways, outdoor covered areas with Emergency Option and much more.



PRODUCT SPECIFICATIONS

Construction Shallow, less than 1", solid ring with white finish • Non conductive fixture for shower light applications • Optional, field installable finish trims available for 5" and 7" versions to change the exterior finish of fixture

Optics Light quide technology combined with diffusing lens conceals the LEDs from direct view and provides uniform lens luminance.

LED Light Engine LEDs mounted directly to heatsink designed to provide superior thermal management and ensure long life • 2700K, 3000K, 3500K or 4000K LED color temperature • LEDs binned for 4-step MacAdam ellipse color consistency • 90 CRI minimum.

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 at 120V input • 120 volt driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers • External driver is only available on 5" and 7" models • For a list of compatible dimmers, see JUNOSLIMFORM-DIM.

Emergency Battery Option Available on fixture sizes 11" and larger • Battery factory assembled to fixture with integral test switch • Drives LEDs for 90 minutes to meet Life Safety Code (NFPA-LSC), National Electrical Code (NEC), and UL requirements • Title 20 certified battery pack available when ordering E10WLCP option • EBX option provides back box without battery for consistent look when used in same space as fixtures with EL emergency option • Damp location only with emergency option.

Life Rated for 50,000 hours at >70% lumen maintenance.

Labels ENERGY STAR® certified • Certified to the high efficacy requirements of California T24 JA8-2016 • CSA listed for US and Canada • Suitable for wet locations (covered ceilings) • Damp location only with emergency option.

Testing All reports are based on published industry procedures; actual performance may differ as a result of the end-user environment and applications. All values are design or typical values, measured under laboratory conditions at 25 °C.

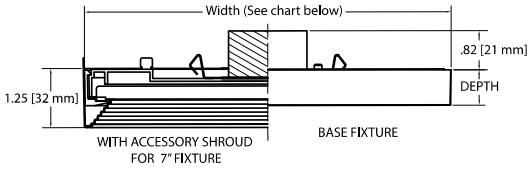
Warranty 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

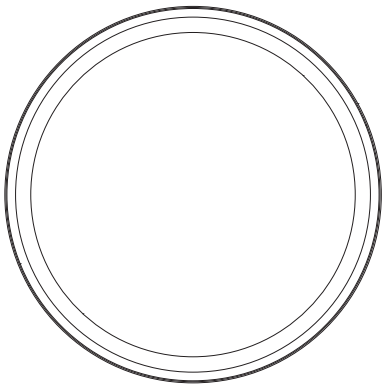
INSTALLATION

Junction Box Mounting Fixture provided with leads for direct wire connection in j-box • Installs directly to industry standard junction boxes • Compatible boxes include 4" metal or plastic octagonal standard and fire-rated junction boxes (3 1/2" junction box screw-hole spacing required for installation) • Minimum 2 1/8" deep junction box required for 5" and 7" fixtures (no depth requirement for 11" and larger fixtures) • Quick mount bracket provides fast installation of fully assembled fixture to junction box • Suitable for ceiling mount • Suitable for use within closet storage spaces when installed per NEC requirements. ***Junction box sizes vary - Verify compatibility with fixture prior to installation***

DIMENSIONS



External driver available on 5" and 7" models only.



ROUND SPECIFICATIONS

	Width	Depth
JSF 5IN	5.25 (13.34)	0.75 (1.91)
JSF 7IN	7.77 (19.74)	0.75 (1.91)
JSF 11IN	11.08 (28.14)	0.9 (2.29)
JSF 13IN	13.05 (33.15)	0.9 (2.29)

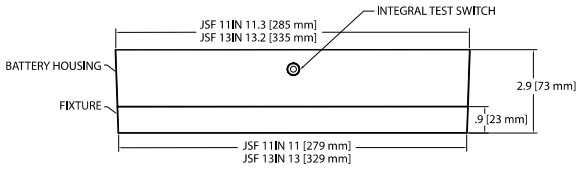
All dimensions are in inches (centimeters) unless otherwise indicated.

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND
JSF SERIES

EMERGENCY BATTERY FOR 11" AND 13"



PERFORMANCE DATA

	JSF 5IN		JSF 7IN		JSF 11IN		JSF 13IN	
	120V	**MVOLT**	**120V**	**MVOLT**	**120V**	**MVOLT**	**120V**	**MVOLT**
Lumens	700	700	1000	1000	1300	1300	1800	1800
CRI	90CRI		90CRI		90CRI		90CRI	
CCT	27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K	
Voltage	120V	120V-277V	120V	120V-277V	120V	120V-277V	120V	120V-277V
Input Power	10W	10W	13W	13W	15W	15W	20W	20W
Input Current	110MA	50MA	150MA	60MA	180MA	80MA	240MA	110MA
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Power Factor	>0.9		>0.9		>0.9		>0.9	

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND

JSF SERIES

ORDERING INFORMATION

Example: JSF 5IN 07LM 27K 90CRI 120 FRPC WH

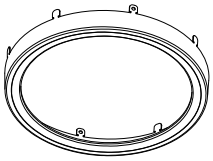
Series	Size/Lumens	Color Temperature	CRI	Voltage/Driver	Finish	Emergency Battery[1,2]
JSF SlimForm Surface Mount Downlight - Round	5IN 07LM 5", 700 Lumens 7IN 10LM 7", 1000 Lumens 11IN 13LM 11", 1300 Lumens 13IN 18LM 13", 1800 Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K	90CRI 90+ CRI	120 FRPC** Dedicated 120V, Forward Reverse Phase Dimmnig MVOLT ZT** Universal Voltage 120V-277V, 0-10V Dimming	WH White	EL[3†] Battery Back-up Option EBX Empty Back Box for Aesthetics E10WLCP[4†] EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS.

†: EL Battery Back-up option is not Energy Star certified
**: See Option Value Ordering Restrictions

ACCESSORIES

TRIM – Optional, field installable finish trim rings available to change the exterior finish of fixture.
Example: JSFTRIM 5IN BZ

Series	Size	Finish
JSFTRIM SlimForm Accessory- Trim	5IN 5 inches 7IN 7 inches	BL Black BZ Bronze SN[5] Satin Nickel



TRIM

Notes:
1 Emergency battery available with 11IN and 13IN only.
2 Emergency battery is only available with MVOLT ZT.
3 EL battery option not available in California due to Title 20 restrictions.
4 E10WLCP ordering option is Title 20 certified for shipments to California.
5 SN not available in 5IN.

**Option Value Ordering Restrictions	
JSF 120V Fixtures	
Option Value	**Restriction**
5IN	Not available in 35K and 40K CCT
13IN	Not available in 35K and 40K CCT
JSF MVOLT Fixtures	
11IN	Not available in 27K CCT
13IN	Not available in 27K CCT

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JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

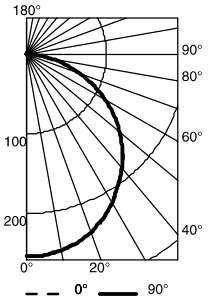
FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND

JSF SERIES

PHOTOMETRICS

Distribution Curve **Distribution Data** **Coefficient of Utilization** **Illuminance Data at 30" Above Floor for a Single Luminaire**

JSF 5IN 27K, 2700K LEDs, input watts: 9.72, delivered lumens: 727, LM/W = 74.8, test no. ISF 33599, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	253	253
5°	253	253
15°	245	245
25°	228	227
35°	201	200
45°	171	170
55°	134	134
65°	93	92
75°	51	51
85°	14	14
90	1	1

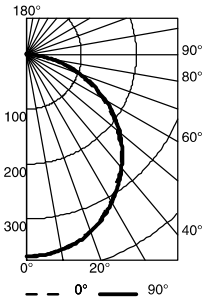
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	98	94	97	94	91
2	99	90	83	88	82	77	85	79	75
3	90	79	71	78	70	64	75	68	63
4	82	70	61	69	60	54	66	59	53
5	76	63	53	61	53	47	59	52	46
6	70	56	47	55	47	41	54	46	40
7	65	51	42	50	42	36	49	41	36
8	60	47	38	46	38	32	45	37	32
9	56	43	34	42	34	29	41	34	29
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	197	27.1	27.1
0° - 40°	322	44.3	44.3
0° - 60°	570	78.5	78.5
0° - 90°	727	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	727	100.0	100.0

JSF 7IN 27K, 2700K LEDs, input watts: 12.8, delivered lumens: 1060, LM/W = 82.8, test no. ISF 33600, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	368	368
5°	366	367
15°	353	355
25°	326	329
35°	286	291
45°	243	247
55°	189	194
65°	128	134
75°	68	74
85°	16	21
90	0	1

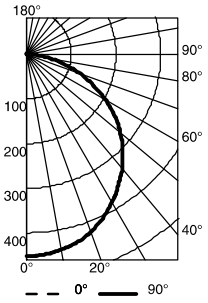
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	76	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	41	53	46	40
7	65	51	42	50	42	36	49	41	35
8	60	46	38	46	38	32	44	37	32
9	56	43	34	42	34	29	41	34	29
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	286	27.0	27.0
0° - 40°	468	44.1	44.1
0° - 60°	830	78.3	78.3
0° - 90°	1060	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	1060	100.0	100.0

JSF 11IN 27K, 2700K LEDs, input watts: 15.2, delivered lumens: 1305, LM/W = 85.9, test no. ISF 33661, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	451	451
5°	450	450
15°	435	436
25°	404	405
35°	357	358
45°	305	304
55°	239	241
65°	164	165
75°	90	89
85°	25	25
90	1	1

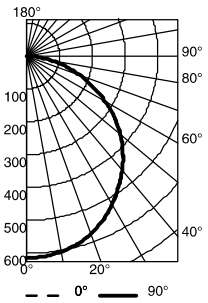
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	77	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	40	53	46	40
7	65	51	42	50	42	36	49	41	35
8	60	46	38	46	38	32	44	37	32
9	56	43	34	42	34	29	41	34	28
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	352	26.9	26.9
0° - 40°	575	44.1	44.1
0° - 60°	1021	78.3	78.3
0° - 90°	1305	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	1305	100.0	100.0

JSF 13IN 27K, 2700K LEDs, input watts: 20.2, delivered lumens: 1779, LM/W = 88, test no. ISF 33663, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	613	613
5°	611	612
15°	592	593
25°	550	550
35°	486	486
45°	413	414
55°	327	327
65°	225	225
75°	122	122
85°	34	34
90	1	1

Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	80% 50%	80% 30%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	99	90	83	88	82	76	85	79	75
3	90	79	71	77	70	64	74	68	62
4	82	70	61	69	60	54	66	59	53
5	75	62	53	61	53	46	59	52	46
6	70	56	47	55	47	40	53	46	40
7	65	51	42	50	42	36	48	41	35
8	60	46	38	46	37	32	44	37	32
9	56	43	34	42	34	29	41	34	28
10	53	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	478	26.9	26.9
0° - 40°	782	44.0	44.0
0° - 60°	1390	78.2	78.2
0° - 90°	1778	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	1	0.0	0.0
0° - 180°	1779	100.0	100.0

For 30K fixtures, use 1.02 multiplier; For 35K fixtures, use 1.03 multiplier, For 40K fixtures, use 1.07 multiplier.

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TYPE G - LOBBY LIGHTING

WAC LIGHTING

Fixture Type:

Catalog Number:

Project:

Location:

Tic Toc

Pendant 3000K

Model & Size	*Color Temp & CRI*	*Watt*	*LED Lumens*	*Delivered Lumens*	*Finish*
❍ PD-37806 6"	3000K 80	15W	1198	684	❍ AL Brushed Aluminum

Example: **PD-37806-AL**

DESCRIPTION

An elegant design with rounded diffusers features up and down illumination for ambient and task lighting, while a beautifully finished metal shade along with an ultra-thin power wire create the sleekest profile possible.

FEATURES

- Can be mounted on a sloped ceiling
- Thin powered aircraft cable provides an ultra-clean look
- Up and down illumination
- Driver concealed within the canopy
- 5 year warranty

SPECIFICATIONS

Color Temp:	3000K
Input:	120 VAC, 50/60Hz
CRI:	80
Dimming:	ELV: 100-10%
Rated Life:	54000 Hours
Standards:	ETL, cETL
	Damp Location Listed
Construction:	Aluminum body with PC diffuser

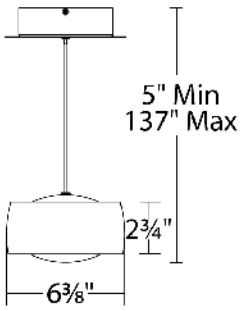


FINISHES



Brushed Aluminum

LINE DRAWING



PD-37806

WAC Lighting retains the right to modify the design of our products at any time as part of the company's continuous improvement program. October 2020

WAC LIGHTING

Fixture Type:

Catalog Number:

Project:

Location:

Tic Toc

Pendant 3000K

Model & Size	*Color Temp & CRI*	*Watt*	*LED Lumens*	*Delivered Lumens*	*Finish*
❍ PD-37814 14"	3000K 80	28W	3150	1800	❍ AL Brushed Aluminum

Example: **PD-37814-AL**



DESCRIPTION

An elegant design with rounded diffusers features up and down illumination for ambient and task lighting, while a beautifully finished metal shade along with an ultra-thin power wire create the sleekest profile possible.

FEATURES

- Can be mounted on a sloped ceiling
- Thin powered aircraft cable provides an ultra-clean look
- Up and down illumination
- Driver concealed within the canopy
- 5 year warranty

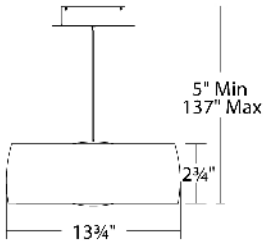
SPECIFICATIONS

Color Temp:	3000K
Input:	120 VAC, 50/60Hz
CRI:	80
Dimming:	ELV: 100-10%
Rated Life:	54000 Hours
Standards:	ETL, cETL
	Damp Location Listed
Construction:	Aluminum body with PC diffuser

FINISHES

Brushed Aluminum

LINE DRAWING



PD-37814

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TYPE H - KITCHEN

Project Name

Location | Prepared By



NUVO 62-1052

22W/LED/1X2/FLUSH/3K/WH

Notes

[www] 09-14-2020 01:39:47

General

Status	Active
Fixture Type	BLINK Plus
Finish	White
Wattage	22
Lumen Output	1650
CCT (Kelvin)	3000

Specifications

Technology	LED
Color Temperature	Warm White
CRI	90+
Voltage	120V/277V
Rated Hours	50000
Operating Temperature	-17C (+1.4F) to a maximum of +45C (+113F)
Dimmable	Yes - Dimmable - 120V only

Dimensions

Height (in.)	0.75
Width (in.)	12.00
Length (in.)	24.00

Compliance

Safety Listing	cETLus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2291238
CEC Status	California T24 Compliant
CA Prop 65	Lead
RoHS Compliant	Yes

Additional Information

Warranty	5 Year Limited - Fixtures

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For More Information Visit:
https://www.satco.com/

Type:
BEGA Product:
Project:
Modified:

Application
LED recessed wall luminaire with unshielded light and louvers for use as location luminaires for means of way finding.

Materials
Luminaire housing constructed of die-cast aluminum marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
White safety glass
Silicone applied robotically to plasma treated casting for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners
Stainless steel screw clamps
Composite installation housing

NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 6.0 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	7.9 W
System wattage	10.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 90
Luminaire lumens	93 lumens (3000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**
☐ 2700K - Product number + **K27**
☐ Amber - Product number + **AMB**

Wildlife friendly amber LED - Optional
Luminaire is optionally available with a narrow bandwidth, amber LED source (585-600nm) approved by the FWC. This light output is suggested for use within close proximity to sea turtle nesting and hatching habitats. Electrical and control information may vary from standard luminaire.

LED module wattage	17.4 W (Amber)
System wattage	20.0 W (Amber)
Luminaire lumens	33 lumens (Amber)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

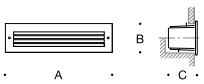


Fully enclosed luminaire with installation housing ensures seamless integration and weathertight operation.

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:



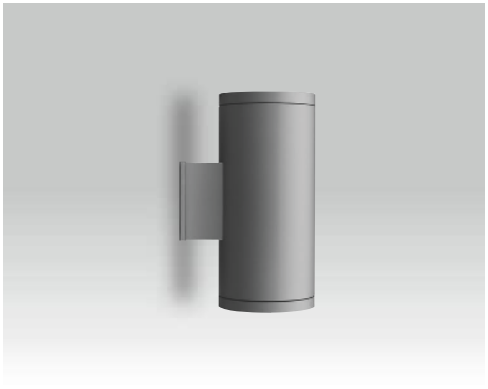


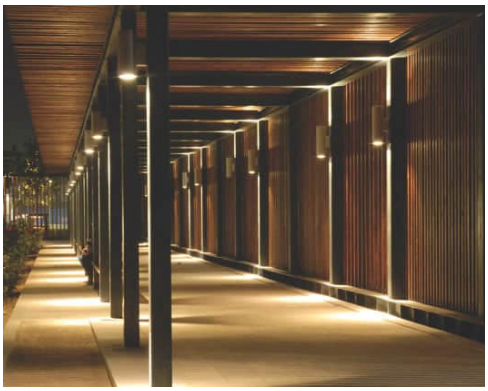
LED recessed wall luminaires · unshielded location luminaires

	LED	A	B	C
33051	7.9 W	16½	5	5½

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
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Collection of wall mounted luminaires for exterior applications. Exceptional European build quality with high corrosion resistant finish. Robust marine grade die-cast aluminum construction with stainless steel fasteners and factory and glass diffuser.

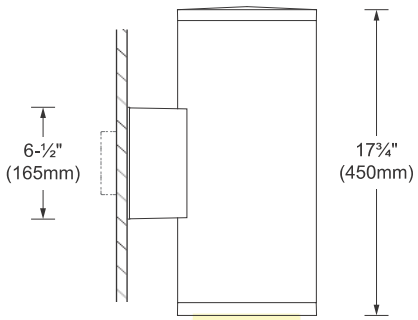
Luminaire characteristics:	**Power input:** 34.5W (per lamp) **Lumens:** 2 530lm (per lamp for 3000K, 90CRI) **Luminaire efficacy:** 73lm/W
Source:	White LED module (LM-80) 2700K : 90CRI 3000K : 90CRI 4000K : 90CRI
Lumen maintenance:	70% of initial lumens at 50 000 hours (L70)(LM-79).
Optics:	Narrow Flood, adjustable ±15°, up and/or down.
Material:	Body: Die-cast aluminum Reflector: 99.98% pure anodized aluminum Diffuser: Clear tempered glass Mounting plate: Machined aluminum Hardware: Stainless steel screws
Mounting:	Luminaire can be installed as up and/or downlight. Installs on a standard 4" octagonal junction box. The center of junction box is located 1-3/8” higher t han the center of the luminaire.
Electrical:	Integral high effeciency electronic driver, rated at 50 000 hours, 120-277V.
Dimming:	Down to 15%, 0-10V (120-277V).
Finish:	Aluminum painted finish, following a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bonderite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.
Weight:	15.2 / 19lbs (6.8 / 8.6kg)
Warranty:	5 year limited warranty.
Ratings:	IP65, IK08
Certification:	cULus listed for wet location.

SISTEMALUX

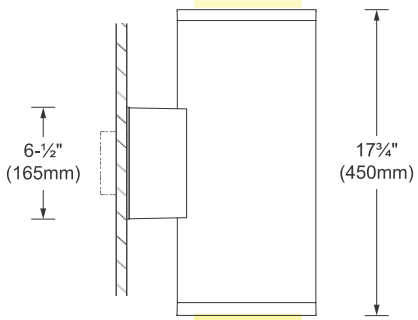
9320 Boul. St-Laurent, suite 100, Montréal (Québec) Canada H2N 1N7, P.: 514.523.1339 F.: 514.525.6107 www.sistemalux.com

DIMENSIONS

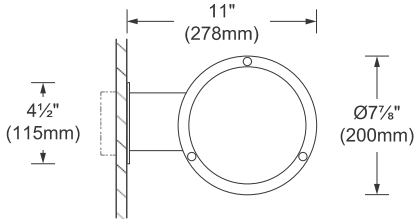
S3834

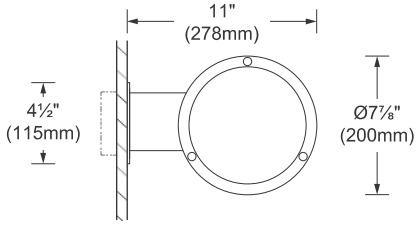


S3835



SIDE VIEW





BOTTOM VIEW

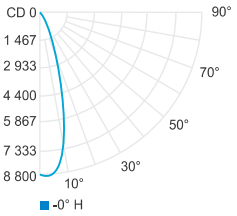
SISTEMALUX
9320 Boul. St-Laurent, suite 100, Montréal (Québec) Canada H2N 1N7, P.: 514.523.1339 F.: 514.525.6107 www.sistemalux.com

PHOTOMETRIC DATA

Visit sistemalux.com for complete photometric data.

CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm/w)	MAX CANDELA (cd)	MODELS
3000K	90	34.5W	Flood 30°	2 530	73	8 770	S3834W

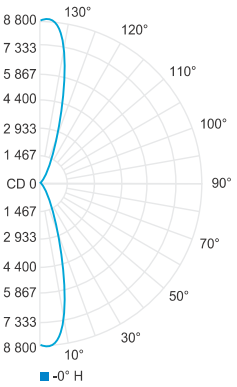
Flood 30° (3000K, 90CRI)



	Center beam fc	Beam width ft
2ft	2 185	1.1
4ft	546	2.1
6ft	243	3.2
8ft	137	4.3
10ft	87.4	5.3
12ft	60.7	6.4

CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm/w)	MAX CANDELA (cd)	MODELS
3000K	90	34.5W	Flood 30°	2 530	73	8 770	S3835W

Flood 30° (3000K, 90CRI)



	Center beam fc	Beam width ft
2ft	2 185	1.1
4ft	546	2.1
6ft	243	3.2
8ft	137	4.3
10ft	87.4	5.3
12ft	60.7	6.4

CCT options	2700K	3000K	4000K
CRI options	90CRI	90CRI	90CRI
Multiplier	**0.94**	**1**	**1.03**

ORDERING INFO

S3834 N - UNV - 14 - D10
FIXTURE

RESET

MODEL

- [x] **S3834 -** Down
- [ ] **S3835 -** Up/Down

LED

- [ ] **H -** 2700K, 90CRI
- [ ] **W -** 3000K, 90CRI
- [x] **N -** 4000K, 90CRI

VOLTAGE

- [x] **UNV -** 120-277V

FINISH

- [x] **14 -** Aluminum gray

DIMMING

- [x] **D10 -** 0-10V (down to 15%)

SISTEMALUX
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new product



CM-SS Series

Steel pictogram sign

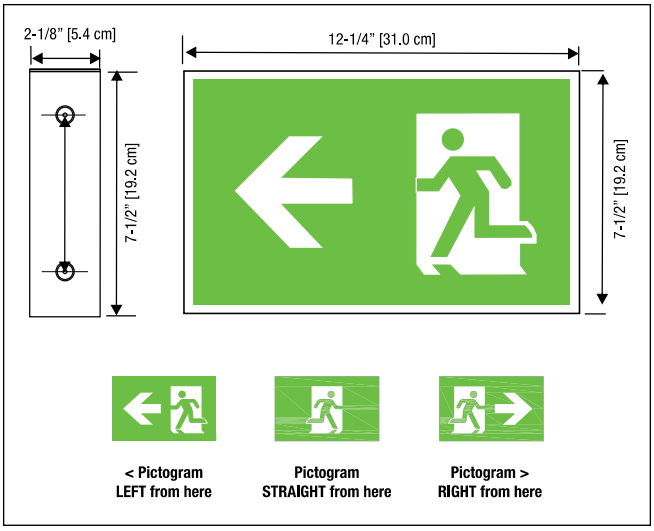
FEATURES

- Steel housing and polycarbonate panel illuminated by high efficiency LEDs
- Universal side, wall and ceiling mount
- Universal single and double face
- 3 pictogram panels included: 1 with no arrow and 2 with arrows
- 120-347VAC 50/60Hz input
- Nickel-cadmiun battery offering 120 minutes of emergency lighting
- Red LED charger monitor and momentary test switch (self-powered model)
- CSA C22.2 No.141-15 certified

See warranty details at: www.tnb.ca/en/brands/lumacell

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION AND UNIT RATING

MODEL	AC SPECS			
		WATTAGE	CURRENT	EFFICIENCY
CM-SS-L	120V, 50/60Hz	2W/3W	0.01A/0.02A	0.96P/0.98PF
	277V, 50/60Hz	2.1W/3.2W	0.009A/0.013A	0.88PF/0.9PF
	347V, 50/60Hz	3W/4W	0.01A/0.017A	0.91P/0.92PF

ORDERING INFORMATION

SERIES	VOLTAGE	BRAND
CM-SS	**-AC**= 120VAC-347VAC **-SP**= 120VAC-347VAC, self-powered (120 minutes)	**-L**= Lumacell®

EXAMPLE: CM-SS-AC-L



new product

CM-SC series

Steel pictogram combination unit

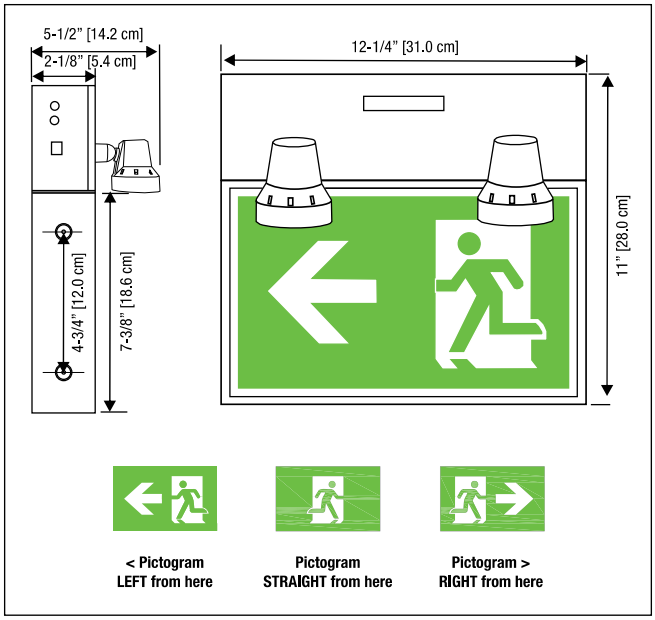
FEATURES

- Steel housing with thermoplastic fully adjustable 2W LED heads
- Universal ceiling, side or wall mount
- Universal single and double face
- 3 pictogram panels included: 1 with no arrow and 2 with arrows
- Can power CM-R1 and CM-R2 remote fixtures only
- 120VAC-347VAC, 50/60Hz input
- Lead-acid battery provides minimum 120 minutes of emergency lighting
- Red LED charger monitor
- CSA C22.2 No.141-10 listed

See warranty details at: www.tnb.ca/en/brands/lumacell

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION AND UNIT RATING

MODEL	AC SPECS			
		WATTAGE	CURRENT	EFFICIENCY
CM-SC-L	120V, 50/60Hz	3.2W	0.03A	0.97P
	277V, 50/60Hz	6.5W	0.025A	0.92PF
	347V, 50/60Hz	3.6W	0.01A	0.92P

ORDERING INFORMATION

SERIES	VOLTAGE
CM-SC-L	**Blank**= 120VAC-347VAC

EXAMPLE: CM-SC-L

new product



CM-SB Series

Steel battery unit

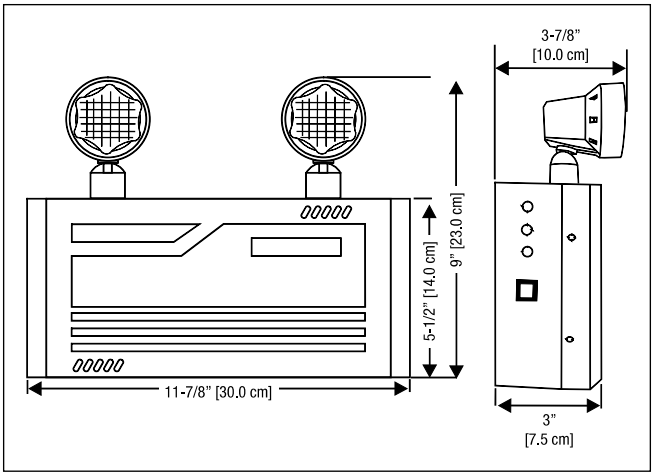
FEATURES

- Steel housing with lightweight thermoplastic fully adjustable 2W, long life LED heads
- Suitable for wall mount application
- Fully adjustable LED glare-free lens
- Can power CM-R1 and CM-R2 remote fixtures only
- 120-347VAC Input
- Lead-acid battery
- Up to 120 minutes of emergency lighting
- Red LED charger monitor
- Momentary test switch allows for quick operational check
- CSA C22.2 No.141-15 certified

See warranty details at: www.tnb.ca/en/brands/lumacell

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION AND UNIT RATING

MODEL	AC SPECS			
		WATTAGE	CURRENT	EFFICIENCY
CM-SB-L	120V, 50/60Hz	3.2W	0.03A	0.97PF
	277V, 50/60Hz	3.4W	0.014A	0.92FP
	347V, 50/60Hz	3.6W	0.01A	0.92PF

ORDERING INFORMATION

SERIES	VOLTAGE
CM-SB-L= 27W	**Blank**= 120VAC-347VAC

EXAMPLE: CM-SB-L



new product

CM-R Series

Dedicated indoor LED remote

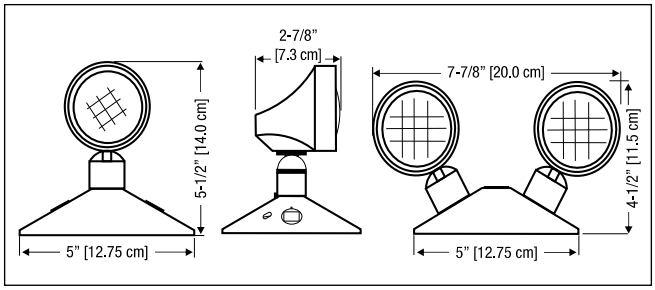
FEATURES

- **Compatible only with CM-SB steel battery and CM-SC steel combo series**
- Thermoplastic housing
- 2W LED head
- Single or double configurations
- Ceiling or wall mount installation
- Adjustable swivel locks the head in position
- CSA C22.2 No.141-15 certified

See warranty details at: www.tnb.ca/en/brands/lumacell

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING INFORMATION

SERIES	NUMBER OF HEADS	LAMP TYPE/WATTAGE	BRAND
CM-R	**1**= Single **2**= Double	**Blank**= 2W LED	**-L**= Lumacell®

EXAMPLE: CM-R1-L

ESL Series

6, 12 and 24V



Features

10-year life expectancy, maintenance-free emergency lighting units.

The **ESL Series** battery units combine long life expectancy, high-performance design and a reasonable initial cost outlay.

Ideally suited for a range of commercial applications, the long-life lead acid battery is specifically recommended for environments where the unit will be exposed to large variances in ambient temperature.

- Rugged steel cabinet with corrosion-resistant undercoating
- Removable front panel on cabinet provides easy access and allows the unit to be mounted at ceiling height
- Solid-state pulse-type charger – current-limited, temperature- compensated, short-circuit proof and reverse-polarity protected.
- Unit comes standard with electronic lockout and brownout circuits
- Sealed dust-proof transfer relay, test switch and LED indicator lights
- Long-life, maintenance-free lead acid battery
- NEXUS® compatible (for more information on NEXUS®, please consult your sales representative)
- CSA C22.2 No. 141 certified
- Standard 120/347 VAC input with line cord kit
- Advanced diagnostics capabilities (specific load requirements)
- **Warranty details at: www.emergi-lite.ca**

Nexus®Pro nexus® Made in Canada

Housing colour

Black

Factory white

Typical specifications

Supply and install a complete emergency lighting system as described herein and shown on the drawings.

The **Emergi-Lite® Smart Diagnostic** micro-controller board shall supply the rated load for a minimum of a 1/2 hour to 87.5% of the rated battery voltage. The unit shall be rated 120V or 347V, 60 Hz and be CSA listed. The unit shall have an output of: _____ V and _____ W.

The charger shall be fully computer tested and its charge voltage factory set to ± 1% tolerance. Chargers with field-adjusted potentiometers are not acceptable. A pulse-type charger shall be employed to promote long battery life and reduce the potential for grid corrosion. The charger shall provide a continuous high charge to recharge the battery, and when the battery is at full capacity, the charger will shut off. Periodically the charger shall provide a pulse of energy to keep the battery topped off. The pulse charger shall be precisely regulated and shall charge the battery in relation to its temperature, state or charge and input voltage fluctuations. The charger shall be current limited, temperature compensated, short-circuit proof and reverse polarity protected.

The unit shall be furnished with an electronic lockout circuit, which will connect the battery when the AC circuit is activated, and an electronic brownout circuit, which will activate the emergency lights when utility power dips below 75% of nominal voltage. A low voltage battery protection circuit shall be provided and will disconnect the load when the battery reaches the end of discharge. The unit shall self- test for 1 minute every 30 days, 10 minutes every 6 months and 30 minutes every 12 months. The unit shall be capable of full recharge in compliance with CSA specifications. The unit shall be furnished with a sealed dust tight relay, a test switch and diagnostic LED indicator lights to continuously monitor the status of the unit: Battery Failure, Battery Disconnected, Charger Failure, Lamp Failure, Service Alarm, AC "ON", Charger High Rate. The emergency lighting heads shall require no tools for orientation.

The unit shall be **Emergi-Lite®** model: _____.

Wire guards

Ordering code	Mounting	Cabinet
460.0078-E	Wall mount	"A" cabinet
460.0081-E	Wall mount	"B" cabinet
460.0034-E	Wall mount	"C" cabinet

Replacement lamps

Ordering code	Lamp type	Voltage/wattage
580.0097-E	MR16 LED	6V-4W
580.0122-E	MR16 LED	6V-5W
580.0093-E	MR16 LED	12V-4W
580.0098-E	MR16 LED	24V-4W
580.0100-E	MR16 LED	24V-6W
580.0104-E	MR16 LED	12V-5W
580.0106-E	MR16 LED	12V-6W

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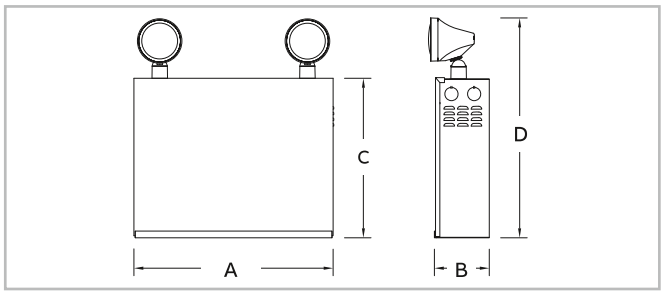
(N) = New options

ESL Series

6, 12 and 24V

Dimensions

Dimensions are approximate and subject to change.



Cabinet	Dimensions			
	A	B	C	D
A	13 1/4" (33.7 cm)	3 5/8" (9.2 cm)	10 1/2" (26.7 cm)	14 1/4" (36.2 cm)
B	16 1/8" (40.9 cm)	5 1/2" (13.9 cm)	10 1/4" (26.0 cm)	13 7/8" (35.2 cm)
C	23 1/8" (58.7 cm)	5 1/2" (13.9 cm)	10 1/4" (26.0 cm)	13 7/8" (35.2 cm)

Power consumption and unit rating

Model		AC specs	Wattage capacity				
			30 min	1H00	1H30	2H00	4H00
06ESL36	120/347VAC	0.10/0.04 A	36	21	15	12	6
06ESL72		0.22/0.08 A	72	42	30	24	12
06ESL108		0.22/0.08 A	108	63	45	36	18
06ESL180		0.22/0.08 A	180	105	75	60	30
12ESL36		0.09/0.03 A	36	21	15	12	6
12ESL72		0.15/0.06 A	72	42	30	24	12
12ESL100		0.34/0.12 A	100	58	42	33	17
12ESL144		0.40/0.14 A	144	84	60	48	24
12ESL216		0.41/0.14 A	216	117	83	67	33
12ESL250		0.41/0.14 A	250	144	100	83	42
12ESL360		0.41/0.14 A	360	200	144	108	60
24ESL144		0.43/0.15 A	144	84	60	48	24
24ESL200		0.55/0.20 A	200	117	83	67	33
24ESL288		0.67/0.23 A	288	168	120	96	48
24ESL350		0.67/0.23 A	350	200	144	120	60
24ESL432		0.67/0.23 A	432	250	180	144	72
24ESL550		0.88/0.33 A	550	320	230	180	90
24ESL720		0.88/0.33 A	720	420	300	240	120

Note: Low wattage LED lamps provide extended time of emergency lighting without additional power.

Ordering information

Series	Capacity/cabinet[1]	Colour	Voltage	Options	# of heads	Head/wattage
06ESL= 6V	**36**= 36W (A) **72**= 72W (A) **108**= 108W (A) **180**= 180W (B)	**BK**= black **Blank**= factory white	**-2**= 277VAC input **Blank**= 120/347 VAC input	**A**= ammeter **CPS3**= constant power supply 3 Amps, 24V only[1] (N) **CT**= cab-tire **D**= time delay **LW**= twist-lock plug (120V)[2] **NEXP**= NEXUS®Pro IoT[3] **NEXRF**= wireless NEXUS® system interface[3] **P**= light activated test switch **RF3**= radio frequency interference filter, 347VAC (N) **RFI**= radio frequency interference filter, 120VAC (N) **T**= lamp disconnect **TB**= DC terminal block **TBAC**= AC terminal block **TBACDC**= AC/DC terminal block **U**= auto-diagnostics[3] **UN**= auto-diagnostics non-audible[3] **V**= voltmeter **ZCB**= zone control panel[4] (N)	**/0**= no heads **/1**= one head **/2**= two heads **/3**= three heads	**LA**= MR16 LED, 6V-4W **LB**= MR16 LED, 6V-5W **LG**= MR16 LED, 12V-4W **LI**= MR16 LED, 12V-5W **LJ**= MR16 LED, 12V-6W **LL**= MR16 LED, 24V-4W **LM**= MR16 LED, 24V-6W
12ESL= 12V	**36**= 36W (A) **72**= 72W (A) **100**= 100W (A) **144**= 144W (A) **216**= 216W (B) **250**= 250W (B) **360**= 360W (B)					
24ESL= 24V	**144**= 144W (A) **200**= 200W (B) **288**= 288W (B) **350**= 350W (C) **432**= 432W (C) **550**= 550W (C) **720**= 720W (C)					

[1]Cabinet size is not part of nomenclature

Example: 06ESL72U/2LA

[1]"C" Cabinet only. 24V, 144W-720W. / [2]120V is standard
[3]Not available with 6V-108W. Minimum lamp load required: 20% of unit capacity.
Not all options available with the NEXUS® system. Please consult your sales representative.
[4]See zone control box in options section. B & C cabinet only.

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Appendix E - 900 West Block Granville Street Urban Study

Appendix E - 900 West Block Granville Street Urban Study

900 West Block Granville Street Urban Study

PURPOSE

1) Development potential of adjacent properties on 900 West Block Granville Street.

2) Viability of existing adjacent buildings.



OVERVIEW

The Proposed Nano Hotel at 948 Howe Street located at mid-block of 900 block Howe Street, shares the same 20 foot wide back lane with 900 West Block Granville Street. It is directly opposite to 939 Granville Street with current heritage recognitation: Heritage Register under Vancouver Heritage Register (VHR).

Existing 900 Block Howe Street
The existing development of 900 Block Howe Street are all commercial use. There is no existing residential use in this block.

Existing 900 West Block Granville Street
The existing development of 900 West Block Granville Street are all commercial use except 716 Smithe Street. Residential use is not allowed in the Granville Entertainment District (Policy: Graville Street Plan July 9, 2025).

List of Existing Buildings
967 Granville St - Commercial Building
963 Granville St - Dominion Theatre
957 Granville St - Commercial Building
939 Granville St - Tom Lee Buiding (VHR)
927 Granville St - Vermilyea Block (VHR)
919 Granville St - Studio Theatre
911 Granville St - Commercial Building
716 Smithe St - The Gresham (City-owned SRO)



Alley entry from Nelson Street



Streetscape - 900 West Block Granville Street



Alley entry from Smithe Street

900 West Block Granville Street Urban Study

Design and Development Guidelines

Applicable to

Granville Street Plan and

Rupert and Renfrew Station Area Plan

Approved by Council June 4, 2025

Last amended July 8, 2025

CITY OF VANCOUVER

CITY GUIDELINES

Design and Development Guidelines (DDG)
Applicable to Granville Street Plan and Rupert and Renfrew Station Area Plan
Last amended July 9, 2025

INTENT: Design Flexibility and Transparency

KEY GOAL: allowing a more **permissive** building envelope, **enabling creative, site-specific designs that respond to unique site conditions.**

DDG 5.8 Heritage Tower

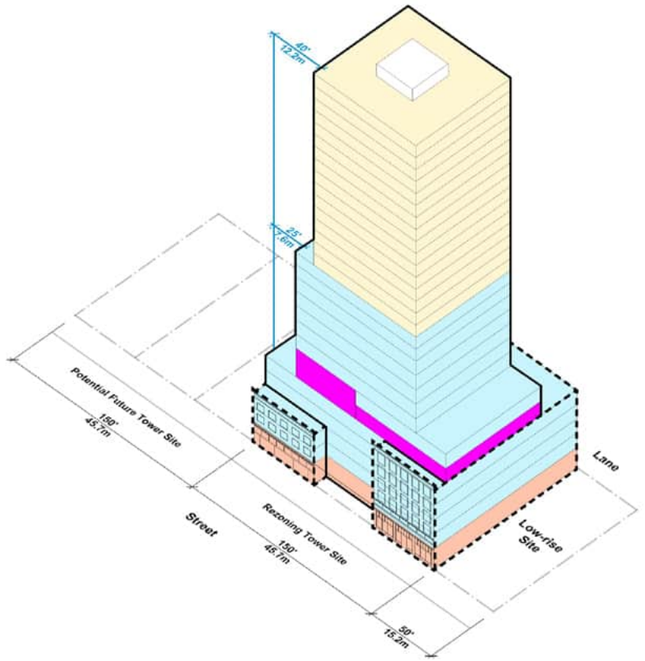
Site Frontage (See Fig 1)
Corner: 38.1 m (125 ft.)
Mid-block: 45.7 m (150 ft.)

Tower Separation (minimum): (See Fig 2)
Commercial to Commercial: 15.2 m (50 ft.)

Maximum Tower Floorplate Area:
1,390 m² (15,000 sq. ft.)
(DDG 5.5 Mixed Employment / Industrial)

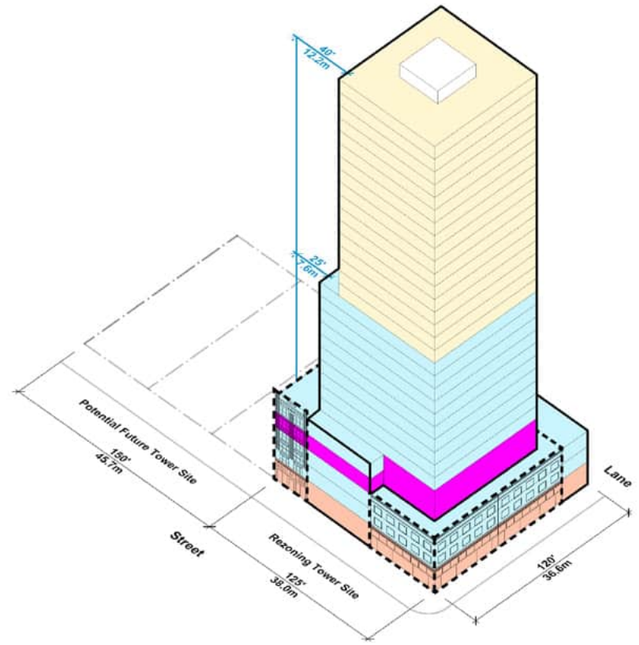
Mid-Block Development

Mid-block sites maintain tower separation and accommodate sensitive transitions to adjacent properties.



Corner Development

Corner sites present a unique opportunity for activiating both the fronting and flanking streets, enchancing the public realm and creating a more pedestrian-friendly environment.



Standards			Reference
Site (minimum)	Site Frontage	Corner: 38.1 m (125 ft.) Mid-block: 45.7 m (150 ft.)	Downtown Rezoning Policy
Building Height (maximum)	Overall	Varies	Downtown Rezoning Policy
	Podium	21.3 m (70 ft.)	
Upper Level Setbacks (minimum)	Front Property Line	3.0 m (10 ft.)	
Tower Separation (minimum)		Minimum tower separation: • Commercial to Commercial (including hotel): 15.2 m (50 ft.) • Residential to Commercial (including hotel): 18.3 m (60 ft.) • Residential to Residential: 24.4 m (80 ft.)	DDG 5.2.3 Tower Setbacks and Separation

Table 1: Summary of Built Heritage High Rise Tower Standards (DDG 5.6)

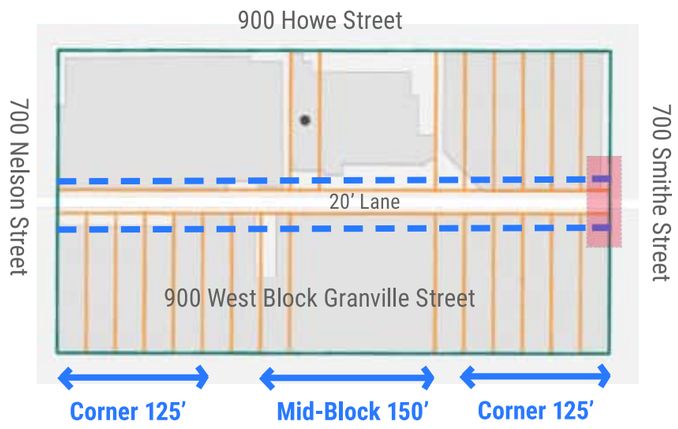


Fig 1. Diagram illustrate Minimum Site Frontage for Rezoning Tower Site: Corner: 125' ; Mid-block: 150'

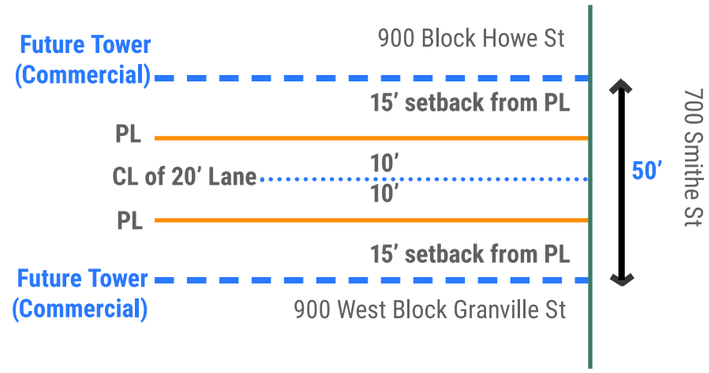


Fig 2. Diagram illustrate Ideal Scenario Minimum Tower Separation for Future Towers: Commercial to Commercial 50' in the City Block

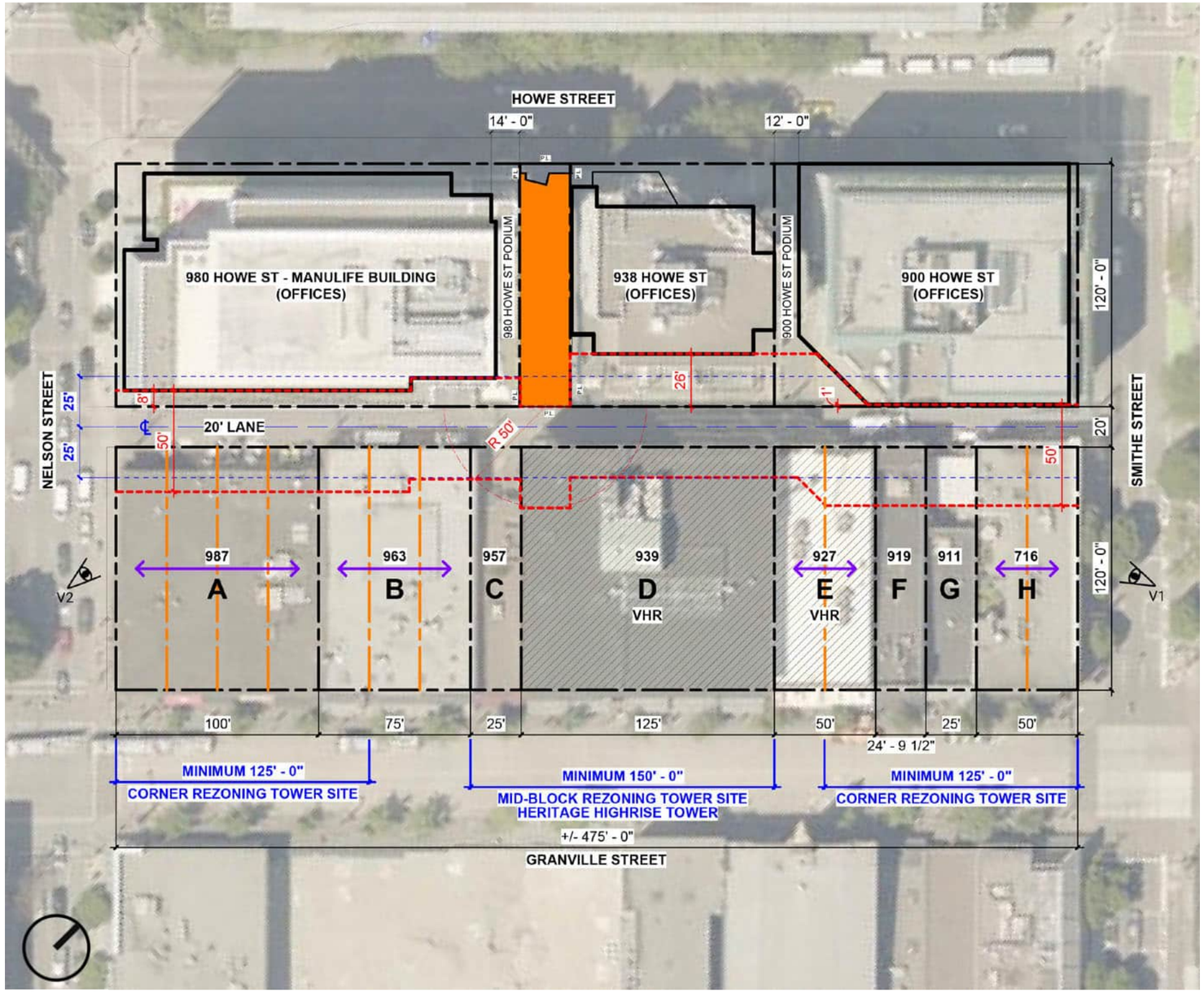
900 West Block Granville Street Urban Study





LEGEND

- PROPOSED NANO HOTEL
- IDEAL SCENARIO: 50' TOWER SEPARATION (See Fig 2)
- 50' TOWER SEPERATION BETWEEN CURRENT 900 BLOCK HOWE ST REAR SETBACK (See Table 2) & GRANVILLE ST FUTURE REZONING TOWER SITES
- VIEW CONES OF PICTURE
- PROPERTY LINES
- TIE LINES



900 BLOCK HOWE STREET

Civic Address	Tower setback from rear property line (feet)
900 Howe St	**(Existing) ± 1'**
938 Howe St	(Existing) ± 26'
948 Howe St Proposed Nano Hotel	0'
980 Howe Street	**(Existing) ± 8'**

NOTE: The existing rear setbacks of the two largest existing office towers (900 and 980 Howe St) are ± 1' and ± 8' from the property line respectively. Although the Proposed Nano Hotel sits at a 0' rear setback, there is clear precedent on 900 Howe St, where the tower is set back only ± 1' from the property line.

Table 2: 900 Howe Street -Tower Rear Setback

900 WEST BLOCK GRANVILLE STREET

Lot	Civic Address	Existing Property Frontage
A	987 Granville St	100'
B	963 Granville St	75'
C	957 Granville St	25'
D	939 Granville St	125'
E	927 Granville	50'
F	919 Granville	24' - 9 1/2"
G	911 Granville	25'

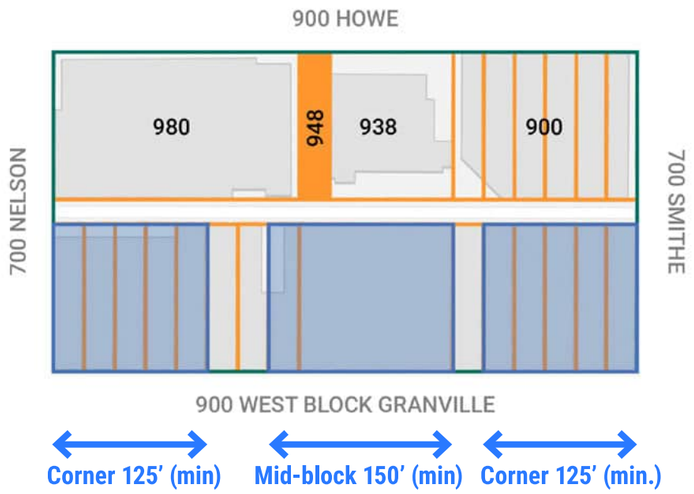
Table 3: 900 West Block Granville Street - Property Ownership and Frontage

900 West Block Granville Street Urban Study

IDEAL SCENARIO

Rezoning Tower Sites meet DDG requirements:
a. Minimum Site Frontage for Rezoning Tower Sites
b. Minimum Tower Separation 50’ (Commercial to Commercial) in the City Block (Fig 2)

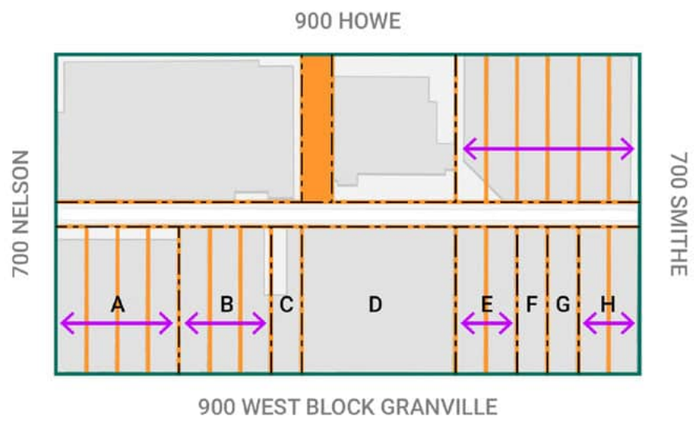
CITY BLOCK = 900 HOWE + 900 WEST BLOCK GRANVILLE



EXISTING CONDITIONS IN THE CITY BLOCK

900 West Block Granville - Property Ownership & Frontage (See Table 3)
The former Tom Lee building, 939 Granville St (Lot D) has recently undergone major upgrades and renovations, making its redevelopment into a tower site less likely than the other sites on the block in near future.

900 Howe - Tower Rear Setback (See Table 2)
The existing rear setback of 900 & 980 Howe St are ± 1’ and ± 8’ from property line, far from the ideal scenario 15’ rear setback (Fig 2).



ANALYSIS: PLAUSIBLE REZONING TOWER OPTIONS

Based on current ownership along the 900 West Block of Granville Street, plausible rezoning tower sites and tower options are limited by the DDG minimum 125’ corner frontage requirement.

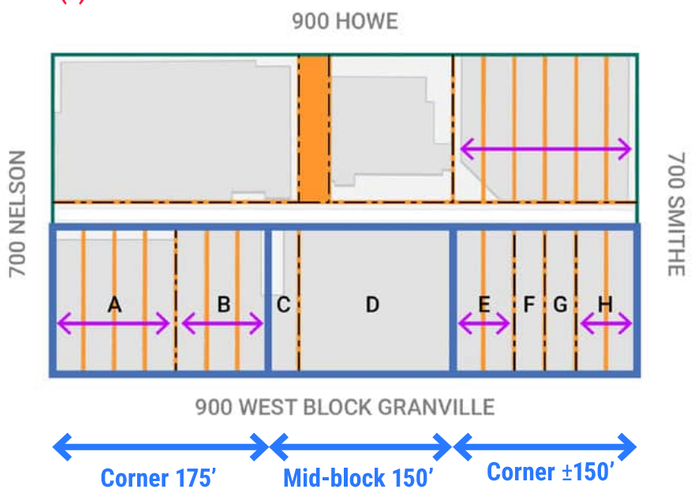
Three (3) Towers (Scenario #1)
There is only one ideal configuration under which the 900 West block Granville Street could be developed with three towers:

Rezoning Tower	Rezoning Sites	New Lot Frontage
Corner Tower (Nelson)	Lots A + B	175’
Mid Block Tower	Lots C + D	150’
Corner Tower (Smithe)	Lots E + F + G + H	± 150’

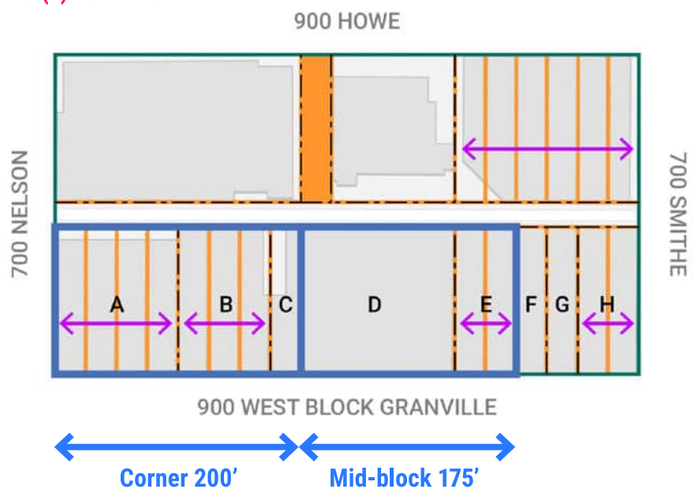
Two (2) Towers (Scenarios #2A and #2B)
In all other configurations, the block yields two towers because either a corner site or the mid-block site cannot meet the DDG minimum lot frontage requirement for rezoning tower sites due to ownership situations.

The Proposed Nano Hotel at 948 Howe St may affect the rezoning tower design only in Scenarios #1 and #2A; Scenario #2B is unaffected.

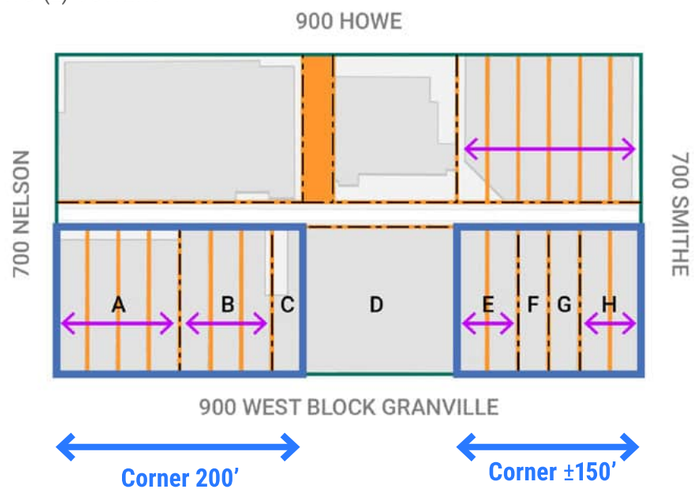
SCENARIO # 1
THREE (3) TOWERS



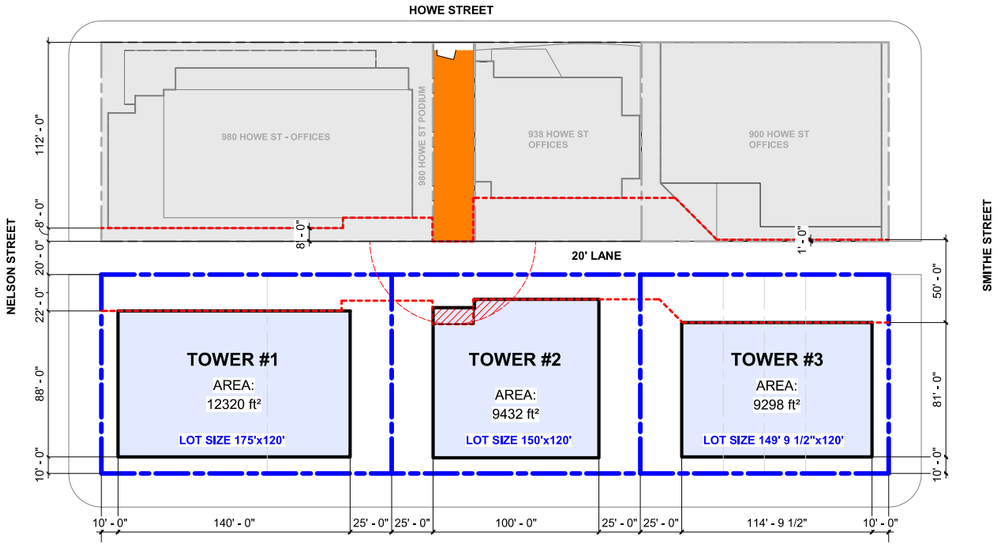
SCENARIO # 2A
TWO (2) TOWERS



SCENARIO # 2B
TWO (2) TOWERS



900 West Block Granville Street Urban Study



SCENARIO # 1
THREE (3) TOWERS

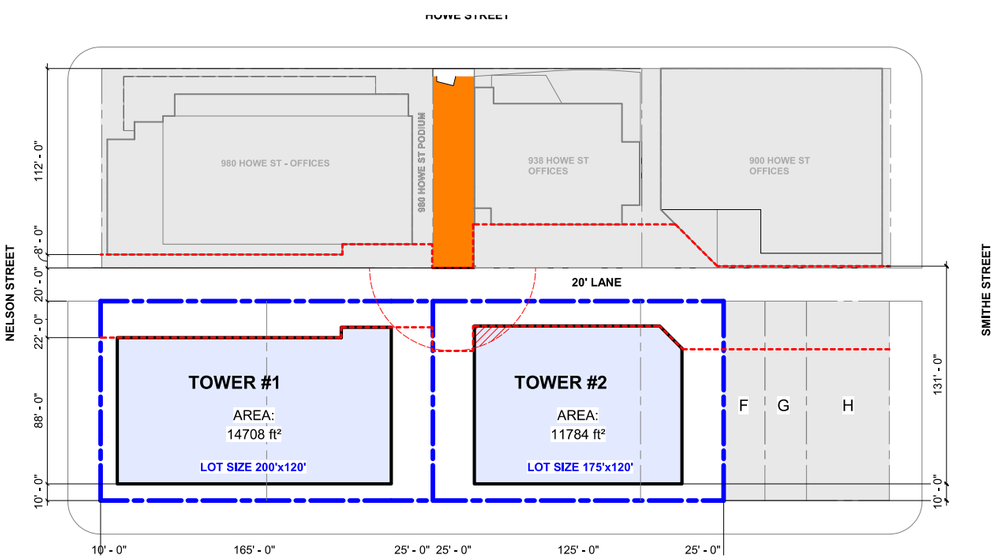
Rezoning Tower	Rezoning Sites	Tower Floorplate Approx. Area (sq ft)
Tower #1 (Nelson Corner)	Lots A + B	± 12,320
Tower #2 (Mid Block)	Lots C + D	± 9,432
Tower #3 (Smithe Corner)	Lots E + F + G + H	± 9,298

Proposed Nano Hotel 0' rear setback	Required by DDG	Tower #2 Impacted Area (ft²)	Effect on Tower #2 Floorplate area (%)
50' Tower Separation	Yes	± 250	2.6%
50' diameter from rear Property Line	No	± 180	1.9%

Under the DDG 50' tower separation requirement, impacts from the proposed Nano Hotel are limited to Tower #2.

For Tower #2 (mid-block), with a floorplate of ±9,432 ft², the impacted area is approximately ±250 ft², which is 2.6%.

If the 50' separation is applied as a 50' diameter measured from the rear property line of 948 Howe Street, an additional impact of about 1.9% (±180 ft²) would result.



SCENARIO # 2A
TWO (2) TOWERS

Rezoning Tower	Rezoning Sites	Tower Floorplate Approx. Area (sq ft)
Tower #1 (Nelson Corner)	Lots A + B + C	± 14,708
Tower #2 (Mid Block)	Lots D + E	± 11,784

Proposed Nano Hotel 0' rear setback	Required by DDG	Tower #2 Impacted Area (ft²)	Effect on Tower #2 Floorplate area (%)
50' Tower Separation	Yes	± 0	0%
50' diameter from rear Property Line	No	± 180	1.5%

Under the DDG 50' tower separation requirement, the Proposed Nano Hotel will have no impact on the designs of both Tower # 1 & 2.

If the 50' separation is applied as a 50' diameter measured from the rear property line of 948 Howe Street, an additional impact of about 1.5% (±180 ft²) would result.

Both Scnario #1 & 2A involves rezoning of mid block **Lot D, the former Tom Lee building**, 939 Granville Street. Given its **recent major upgrades and renovations,** this property is less likely to undergo rezoning and redevelopment than others on the block.

LEGEND

- EXISTING
- PROPOSED NANO HOTEL (948 HOWE ST)
- 50' TOWER SEPERATION BETWEEN 900 BLOCK HOWE & GRANVILLE ST
- NEW PROPERTY LINE (REZONING)
- NEW TOWER (REZONING)
- IMPACTED AREA (BY PROPOSED NANO HOTEL)

Tower setback from rear property line (feet)	0’
Proposed Nano Hotel	# of rooms
Nano Rooms	68
Nano Pods	**355**
TOTAL	**423**

Tower setback from rear property line (feet)	10’
Proposed Nano Hotel	# of rooms
Nano Rooms	68
Nano Pods	**247**
TOTAL	**315**

TOTAL LOSS OF NANO PODS
6 x 18 levels **= 108**
= 30%

Tower setback from rear property line (feet)	**Ideal Scenario (DDG) 15’**
Proposed Nano Hotel	# of rooms
Nano Rooms	68
Nano Pods	**175**
TOTAL	**243**

TOTAL LOSS OF NANO PODS
10 x 18 levels **= 180**
= 51%

IMPACT OF REAR SETBACK ON THE PROPOSED NANO HOTEL

While the net effect of a 0’ rear setback at the Proposed Nano Hotel is less than 3% for a new mid block tower on Granville Street, it has a significant impact on the viability of the Proposed Nano Hotel itself, given the site’s narrow 25’ frontage at 948 Howe Street with no opportunity for land assembly.

10’ REAR SETBACK

Reduce the original 2,845 ft² hotel floorplate by approximately ±250 ft² (9%). This equates to a **loss of 6 Nano Pods per floor**, for a total **reduction of 6 x 18 = 108** Nano Pods **(30%).**

15’ REAR SETBACK - IDEAL SCENARIO (DDG)

Reduce the original 2,845 ft² hotel floorplate by approximately ±375 ft² (13%). This results in a **loss of 10 Nano Pods per floor**, for a total **reduction of 10 x 18 = 180** Nano Pods **(51%).**

SUMMARY

As an orphaned site with a 25’ frontage, even **modest rear setbacks materially diminish** the project’s key deliverable, **affordable Nano Pod capacity,** undermining its financial and operational viability. It will put hardship on development of any project on this orphaned site.

900 West Block Granville Street Urban Study

900 HOWE STREET TYPICAL FLOOR PLANS

900 Howe Street (Offices)
938 Howe Street (Strata Offices)
948 Howe Street (Proposed Nano Hotel)
980 Howe Street (Offices)

V6



V5



LEGEND

- EXTERIOR WINDOW/CURTAIN WALL
- EXTERIOR WALL (NO WINDOW)
- INTERIOR WALL
- PROPERTY LINE
- VIEW CONE OF PICTURE



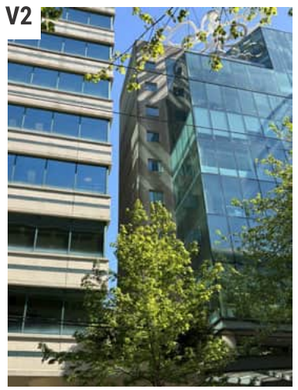
V4



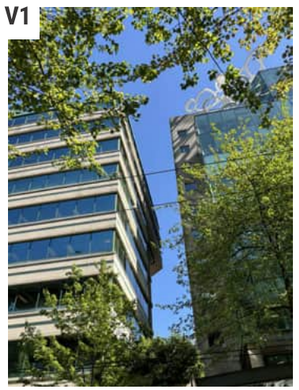
V3



V2



V1



Towers	Tower Separation (feet)
900 & 938 Howe	(Existing) ±12’-0”
938 & 980 Howe	(Existing) ±38’-2”

Towers	Tower Separation (feet)
900 & 938 Howe	(Existing) ±12’-0”
938 & 948 Howe	(New) 0’
948 & 980 Howe	**(New) ±13’-9”**

900 BLOCK HOWE STREET - EXISTING CONDITIONS

900 & 938 Howe Street Towers
The current tower separation between 900 and 938 Howe is ±12’-0” with office windows/glazing at 900 Howe facing the office building at 938 Howe.

938 & 980 Howe Street Towers
The current tower separation between 938 and 980 Howe is ± 38’-2” with office windows/glazing at 980 Howe facing the office building at 938 Howe.

These commercial office towers operate from 8am - 5pm during weekdays and they are empty at evenings and weekends.

PROPOSED NANO HOTEL (948 HOWE ST)

The new tower separation between the Proposed Nano Hotel at 948 Howe and existing 980 Howe will be ±13’-9” with office windows/glazing at 980 Howe facing the facade of the Proposed Nano Hotel.

SUMMARY

While the proposed Nano Hotel will bring its façade closer to 980 Howe Street than the existing blank wall at 938 Howe, the new façade will be articulated to deliver a substantially improved visual outcome. A comparable condition already exists on the 900 Howe block between 900 and 938 Howe Street, where office windows at 900 Howe face a blank wall at 938 Howe across approximately 12’-0”. The new tower separation between 948 and 980 Howe Street will be about 13’-9”, which is wider than the existing 12’-0” tower separation between 900 and 938 Howe Street.