



IBI GROUP
700–1285 West Pender Street
Vancouver BC V6E 4B1 Canada
tel 604 683 8797
ibigroup.com

April 13, 2022

Lisa Berg
Senior Community Planner
District of West Vancouver

750 17th Street
West Vancouver, BC
V7V 3T3

Dear Ms. Berg:

2452-2490 MARINE DRIVE DESIGN REVIEW COMMITTEE RESUBMISSION

A Development Permit application for a proposed building at 2452-2490 Marine Drive was submitted in September 2021 and was presented to the District of West Vancouver Design Review Committee (the “Committee”) on September 21, 2021. The Committee recommended that this application be resubmitted to address concerns regarding building massing and scale, public realm treatment, building materiality and the gateway feature at 25th Street and Marine Drive. The attached resubmission package presents a revised building design in response to these concerns.

The design team has undertaken a complete redesign of the building to address the Committee’s comments that were succinctly captured by one committee member who noted that the project “needs big moves to resolve”. To resolve concerns with the building mass and scale, the redesign seeks to provide a human-scaled development that fits seamlessly into the Dundarave Village context. The building mass has been broken up to give the impression of multiple, smaller buildings and the top floor has been sufficiently set back.

The Committee’s four specific areas of concern highlighted in the September 21, 2021 meeting have been addressed as follows:

Building Massing and Scale

The revised building design addresses the Committee’s concerns on building massing and scale. Fundamental to the building’s redesign was a desire to reflect the character of Dundarave Village, both in terms of building form and materiality.

The Dundarave Village is characterized by a collection of buildings with variations in form, architectural style, overall length of frontage and massing. This varied streetscape is comprised of both small buildings on single lots, as well as larger-scaled buildings,

Lisa Berg – April 13, 2022

some of which have been broken up to give the impression of multiple building frontages. To reflect this existing character, the revised building has been separated into four distinct masses. In the mid-block, two larger sections of the building have been separated from one another through the introduction of deep entrance alcoves and variations in architectural elements, roofline and materials. The east section of the building is characterized by a smaller building mass and has been setback further from the street, giving the impression of a separate shophouse. A change in materiality at the western section of the building and having it turn the corner to face the public plaza at 25th Street and Marine Drive, gives the impression of a fourth building element.

In addition to variations in building form, the Dundarave Village is also characterized by an eclectic mix of building styles. Instead of a cohesive aesthetic, it is this multiplicity of styles that comprises the character of the village. Reference to this stylistic mix informed the selection of materials for the redesigned project. The revised design has drawn and expanded upon two iconic Dundarave buildings to create a varied material palette. The Beach House, located at 150 25th Street, is the inspiration for the eastern and westernmost sections of the building façade employing a “Seaside Village” look. Between these sections, inspiration is taken from the Russel Hollingsworth building at 2412 to 2424 Marine Drive which epitomizes a contemporary “West Coast Village” aesthetic. While this mix of building styles and materials reflects the spirit of the Dundarave Village, it also helps further break up the building frontages to provide a finer grained building expression.

Public Realm

The public realm has been improved in the revised design and incorporates four core components.

The primary component of the public realm is the creation of a significant plaza at the corner of 25th Street and Marine Drive that extends south along 25th Street to Dundarave Lane. This plaza is defined by both its active and passive design elements. Along Marine Drive, the plaza is activated with seating and will interact positively with the retail space proposed at the west corner of the building. The open space slopes down 25th Street toward Dundarave Lane, taking on more passive, park-like elements with a planted West Coast softscape. A meandering pedestrian path with handrail reduces the grade of the 25th Street slope from between 9% and 12% to between 6% and 7%, providing increased accessibility between Marine Drive and Dundarave Lane. This park incorporates multiple small seating areas that terrace down the hill, providing views to the ocean.

In addition to the signature public plaza, three additional public realm elements have been incorporated into the project design. First, the treatment of Dundarave Lane has been thoughtfully considered to provide a pedestrian-oriented streetscape, taking reference from the pedestrian-priority “woonerf” concept of living lanes. Second, the alcoves that have been incorporated mid-block to break up the building mass on both Marine Drive and Dundarave Lane will provide attractive, landscaped courtyards with seating areas providing quiet respite from the bustle of the sidewalk. Third, the existing mid-block pedestrian connection at the eastern end of the building will be expanded and

Lisa Berg – April 13, 2022

improved, providing a comfortable public connection between Marine Drive and Dundarave Lane, and continuing the network of pathways that lead from Irwin Park Elementary School to Dundarave Beach. This mid-block connection will be animated by the Marine Drive storefronts turning the corner, a wall mural that compliments the mural at 25th Street and Marine Drive, and a residential entry 'porch' to the end unit.

To ensure a high-quality landscape treatment throughout these four public realm features, the underground parking structure has been pulled back and located directly under the building footprint and setback from Dundarave Lane and the proposed public plaza. Avoiding having the parkade directly under the lane and plaza allows for unrestrained landscaping opportunities, including the planting of large and medium-sized trees.

Materials

The revised material palette intends to provide natural warmth to the proposed building, while also accentuating the eclectic and varied character of the Dundarave Village. Building materials have been selected to carefully balance elements of continuity and cohesiveness with visual diversity.

The materials palette consists primarily of stone, fiber cement siding, and horizontal wood panels in white, grey and wood tones. As referenced above, to break up the building mass these materials will vary in tones along the building's façades, reflecting both a "West Coast Village" and "Seaside Village" look to give the impression of multiple buildings. A continuous canopy will provide weather protection along the entire Marine Drive frontage but will be varied with alternating fabric and glass awnings, enhancing visual interest along the streetscape. Variation in storefront design, shop entrances and glazing patterns provide further variety consistent with the small-scale retail character of the village.

Gateway

Special consideration has been given to the treatment of the building at 25th Street and Marine Drive to ensure that it acts as the gateway to Dundarave Village.

Gateways are two-sided in nature. The redesign of the building acknowledges its role as one half of the Dundarave Village gateway by referencing elements of the building across the street at 2491 Marine Drive. In particular, the revised design has incorporated a tower element near the corner of 25th Street and Marine Drive, acting as a counterpart to the clocktower located on the building across the street. Drawing inspiration from the Guinigi Tower in Lucca, Italy, a tree has been proposed for the top of this tower feature, giving a nod to the lush landscape of West Vancouver while adding an additional, distinct vertical element to this gateway feature.

The public plaza at 25th Street and Marine Drive will act as a second gateway feature, defined by its landscaping and public art. The existing mural located on this corner has, for the past 36 years, acted as a colourful landmark signifying entrance into Dundarave Village. Through discussions with the public at engagement events held April 5th and

Lisa Berg – April 13, 2022

6th, 2022 and a workshop with the West Vancouver Public Art Advisory Committee held April 12th, 2022, there was support for recreating this existing mural and incorporating it, in some manner, into the redesigned project in a location similar to the existing mural. We are therefore committed to providing public art in the form of a mural at this location, cognizant that the desire to recreate the mural is subject to a consultation process that engages with, listens to and respects the voices of the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and Səlílwətał (Tsleil-Waututh) Nations on whose traditional and unceded territories this project is proposed. As a result, a public art consultant will be hired and a process of meaningful engagement with local First Nations will be undertaken to ensure that the public art contribution works toward the goals of reconciliation.

The public plaza will also act as a gateway to draw people to Dundarave Village from the south. By extending the plaza along the building's entire 25th Street frontage and incorporating a green wall on the south façade of the building, the landscaped nature of this public realm feature will provide a welcoming approach to the neighbourhood for visitors coming up 25th Street from the beach.

We have undertaken this extensive redesign of this project to address the Committee's concerns and have been assisted by the invaluable input heard from the Committee during the March 2022 DRC workshop, as well as from the public at our two engagement events. We believe that through this collaborative process we have prepared a design that reflects the aspirations of the Committee and the community; and reflects and enhances the cherished character of the Dundarave Village.

Thank you,
IBI Group Architects (Canada) Inc.

David Thom
President

DUNDRAVE
BEACHSIDE LIMITED
PARTNERSHIP.



2452-2490 MARINE DRIVE, WEST VANCOUVER, BC

Development Permit Application

April 12, 2022



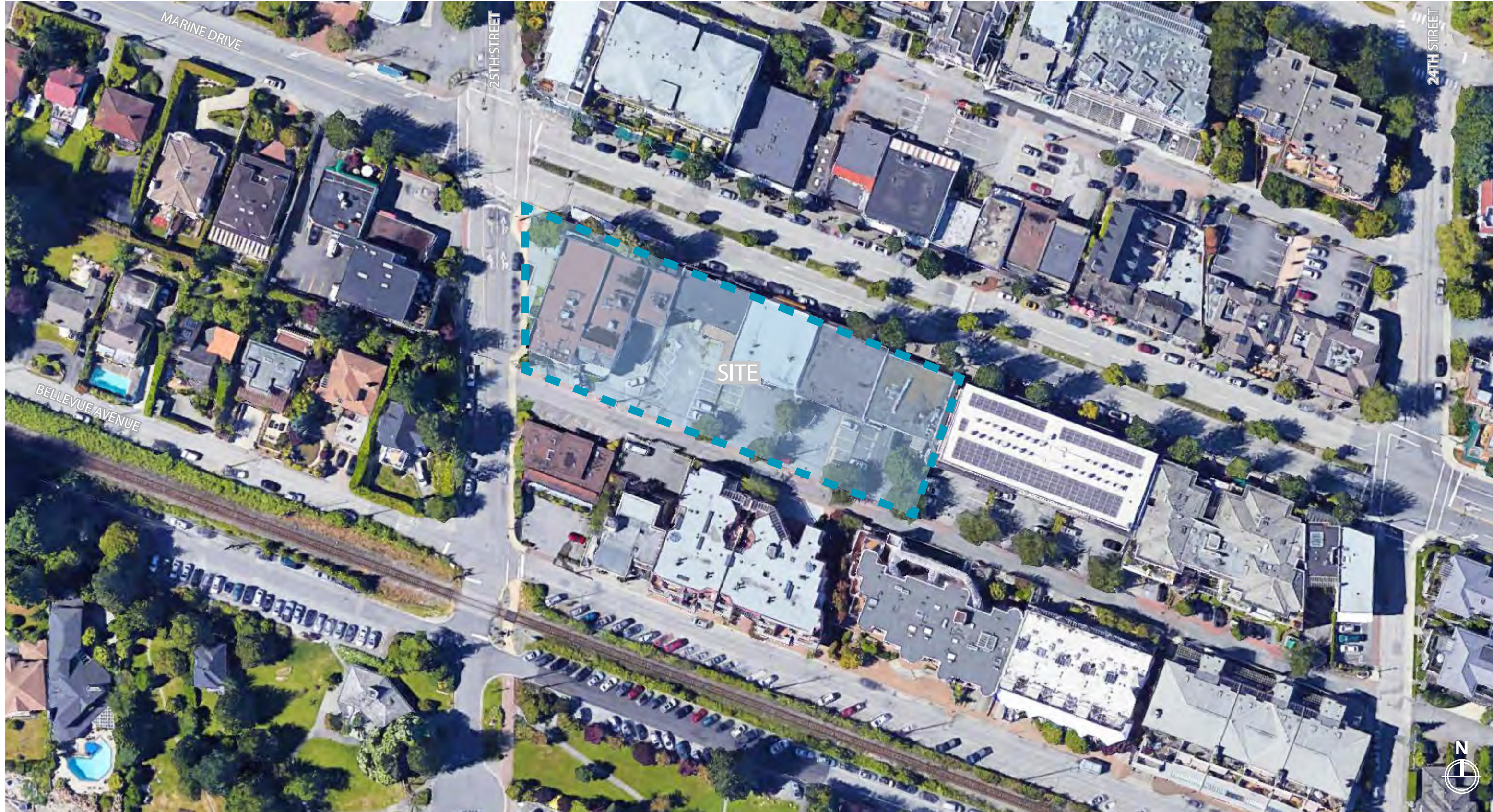
Table of Contents

SECTION A - Site Context	3
Aerial Context Plan	3
Aerial Site Plan	4
Zoning Map	5
Street View	6
Streetscapes	7
Site Relationship Diagram	9
SECTION B - Policy Context	10
SECTION C - Public Engagement Design Response	13
SECTION D - Sustainability	14
SECTION E - Architectural Drawings	15
SECTION F - Landscape Drawings	51

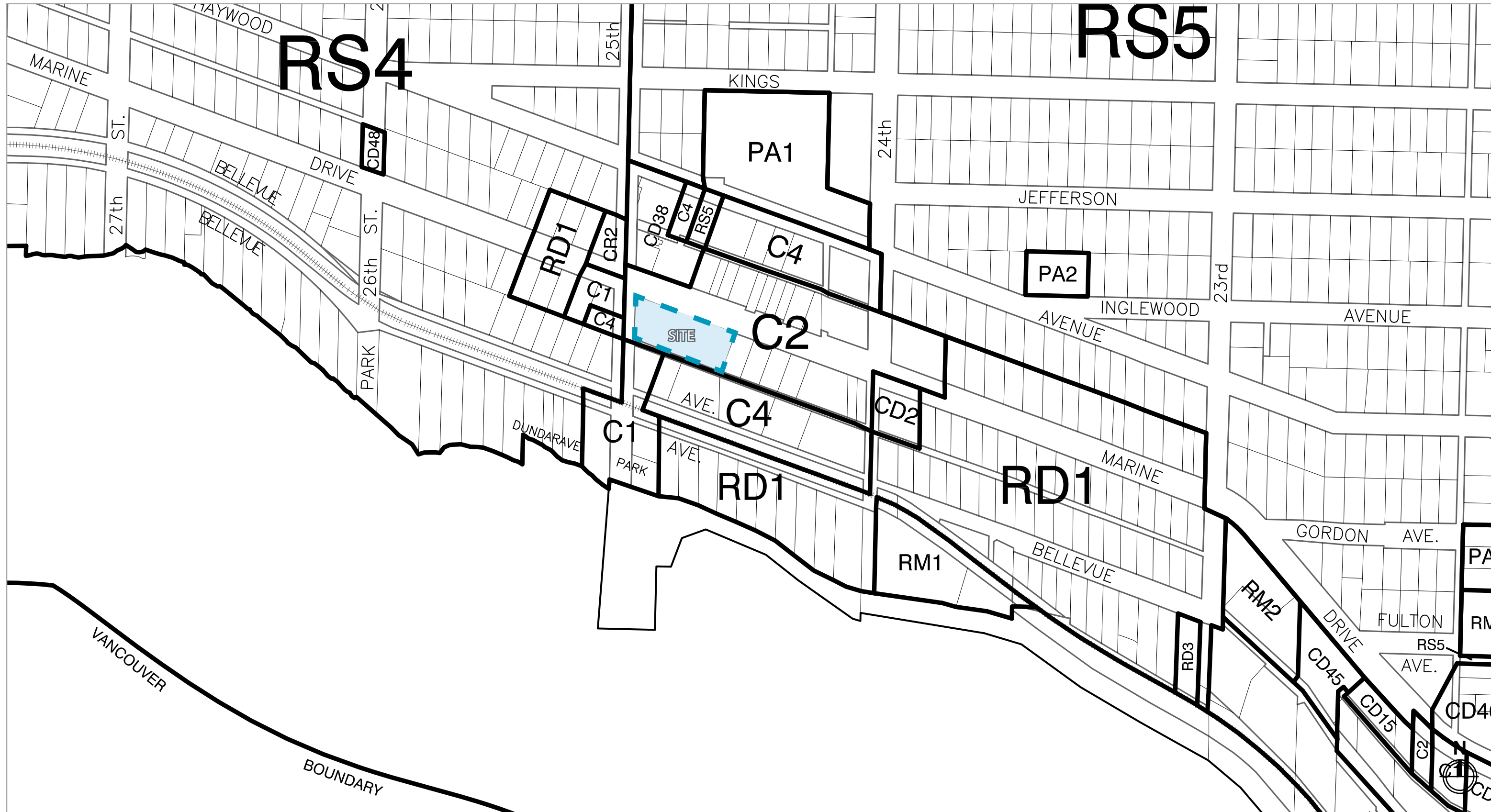
A. SITE CONTEXT - AERIAL CONTEXT PLAN



A. SITE CONTEXT - AERIAL SITE PLAN



A. SITE CONTEXT - ZONING MAP



A. SITE CONTEXT - STREET VIEW

1. FACING SOUTHEAST AT MARINE DRIVE AND 25TH STREET



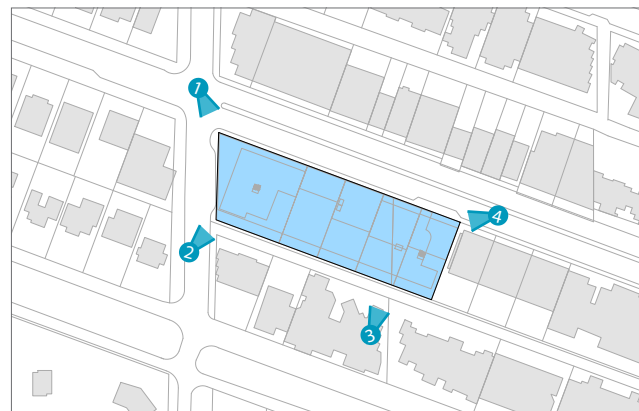
2. FACING NORTHEAST FROM 25TH STREET AT DUNDRAVE LANE



3. FACING NORTH AT DUNDRAVE LANE

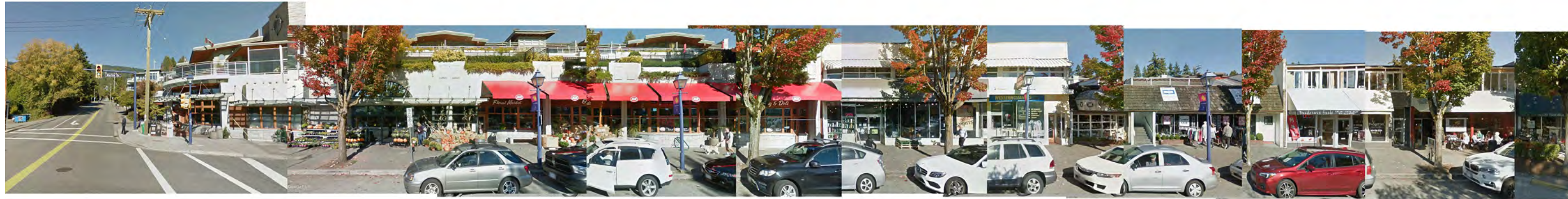


4. FACING SOUTHWEST AT MARINE DRIVE

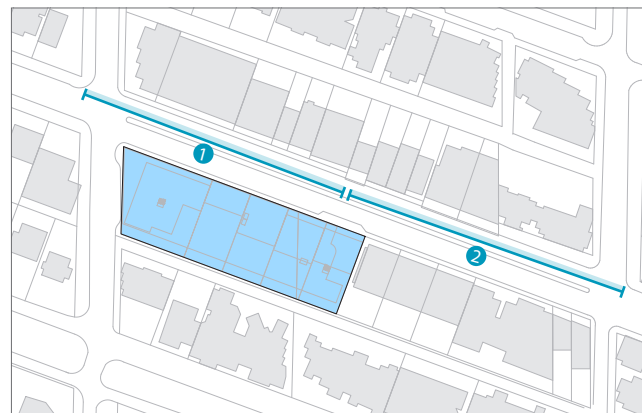


A. SITE CONTEXT - MARINE DRIVE STREETScape (NORTH)

1. MARINE DRIVE (NORTH) - FACING AWAY FROM SITE



2. MARINE DRIVE (NORTH) - FACING AWAY FROM SITE

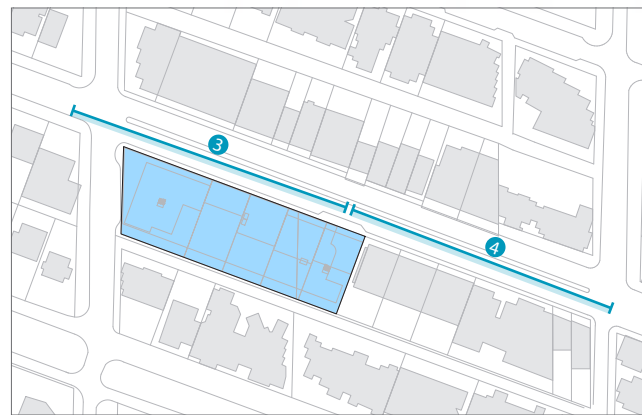


A. SITE CONTEXT - MARINE DRIVE STREETScape (SOUTH)

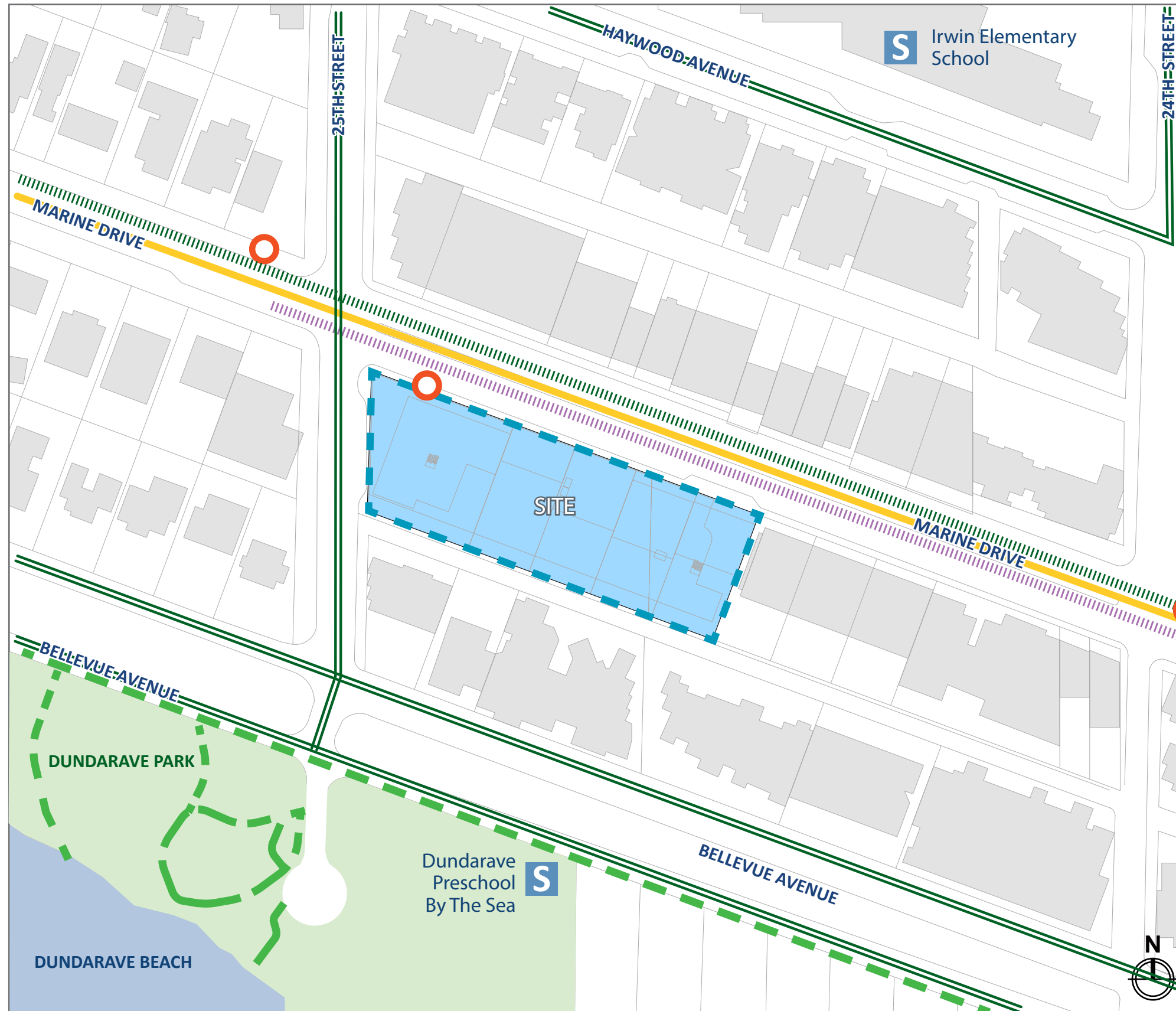
3. MARINE DRIVE (SOUTH) - FACING SITE



4. MARINE DRIVE (SOUTH) - FACING SITE



A. SITE CONTEXT - SITE RELATIONSHIP DIAGRAM



EXISTING CONTEXT

Located in the heart of the Dundarave Village, 2452-2490 Marine Drive sits at the corner of Marine Drive and 25th Street. The site is comprised of an assembly of six parcels totalling just over an acre.

The site is currently occupied by a series of mixed use buildings with retail shops at grade and residential above. The lands surrounding the subject site along Marine Drive are primarily mixed-use, while the greater area is predominantly made up of established single-family residential dwellings.

COMMUNITY AMENITIES






The site is within walking distance of some of the District's best parks, recreational facilities, schools, shops and restaurants including Dundarave Beach, the seawall, pier, Irwin Elementary School, and the curated shops and lively restaurants along Marine Drive.

MOBILITY AND ACCESS

The site has excellent access by way of bike routes; with a designated bike route along the site's northern edge on Marine Drive as well as along the site's western edge on 25th Street, both of which connect to the City's greater cycling network.

The site is also easily accessible by transit with frequent buses running East-West along Marine Drive, and a bus stop directly in front of the site.

LEGEND

-  Public Trail
-  Shared Bike Lane on Major Street
-  Local Street Bike Route
-  Bus Route
-  Bus Stop
-  School/Educational Institution
-  Dundarave Village (Commercial Street)

B. POLICY CONTEXT

C2 - COMMERCIAL ZONE 2

The subject site is zoned C2, a commercial zone where residential uses are permitted over commercial premises.

Site Area

The C2 zone requires sites to be a minimum of 464.5 sqm (5,000 sq ft), the proposed site area is greater than 464.5 sqm.

Site Width and Frontage

The C2 zone requires a minimum frontage of 18.2 m (59.71 ft). The provided building width is greater than 18.2 m.

Front Yard

While the C2 zone does not require a front yard setback, in preliminary discussions with District Staff, the District indicated a desire to see a 2 m front yard setback. A 2 m front yard setback has been provided as requested.

Rear Yard

The C2 zone requires a 4.3 metres minimum setback on a corner site.

Side Yard

The C2 zone does not require a side yard, but if one is provided, the C2 zone required a minimum of 1.52 m be provided. The provided side yard is greater than 1.52 m.

Building Height

The C2 zone permits a maximum height of 10.7 m (35.10 ft) from average grade. To accommodate the height contemplated by the District of West Vancouver's OCP, at 12.20 m (40.1 ft) the proposed building height is slightly higher than what is permitted outright in the C2 zone.

Number of Storeys

The C2 zone permits heights of 2 storeys, with a third storey permitted within the overall height limit, provided the ceiling of the lowest storey is not more than 0.3 m above the frontage curb. The proposed development is seeking a variance to permit 3 storeys along Marine Drive, as is contemplated by the District of West Vancouver's Official Community Plan for development's in the Dundarave Village Neighbourhood Centre Commercial Area.

Off-Street Parking

Off-Street Parking provided exceeds C2 Zoning Requirements.

DISTRICT OF WEST VANCOUVER OCP (2018)

The District of West Vancouver's Official Community Plan (OCP), which was adopted by Council in June 2018, provides a framework for guiding planning and development in the District.

The OCP divides the district in to three over-arching sub-areas; Multiple Family Areas, Commercial Areas and New Neighbourhood Areas. The OCP designates the subject site as within the Dundarave Village Neighbourhood Centre Commercial Area.

The OCP sets out the following objectives for developments within the Dundarave Village Neighbourhood Centre:

- preserve the “village commercial” character of Dundarave,
- encourage upgrading of building facades to enhance the village theme,
- promote and enhance the pedestrian scale of development,
- promote a high quality of building design and landscaping, and
- facilitate pedestrian access along the street, through blocks, from parking to shops and down to the waterfront.

CONTEXT AND SITE DESIGN

As the Dundarave Village Neighbourhood Centre is developed over time, the OCP seeks to guide growth in a way that is well-integrated into the existing “village” community.

The OCP envisions boutique-style retail at the street level and commercial or residential uses above, streetscape features including distinctive awnings, enhanced landscaping, and clearly defined public, semi-public, and private areas.

The proposed development has sought to cultivate a village-feel, while offering a high quality public realm and access to nature.

B. POLICY CONTEXT

BUILDING DESIGN

The urban design and built form of the proposed development aligns with the objectives set out in the OCP. At 3 storeys, the height of the proposed development integrates well into the existing neighbourhood.

The OCP directs the building length to be broken up along Marine Drive. This is achieved using a push-pull strategy, stepping the volumes forward and backward to create visual rhythm and interest. Furthermore, the massing of the building is cleverly broken down through the strategic placement of the residential lobby. The residential lobby is centrally located along the site's frontage, and distinguishes itself from the retail volumes by stepping backwards providing a courtyard as a place for respite and relief

A combination of awnings, canopies, wall-mounted signage, and wood details are used to foster the village character of building.

The commercial/retail units have been designed to accommodate a range of unit sizes to support the economic viability of the units.

The corner plaza at 25th and Marine Drive has been articulated and scaled to support the pedestrian level. The corner has been further opened up with views to the ocean and ample room for seating and landscaping. This plaza celebrates the west entrance to Dundarave Village creating an active urban place with cafe/restaurant uses and a passive "West Coast feel" park, both with views to the ocean.

At the northeast corner of the site seating and commercial retail opens up to Marine Drive and to the east north-south pedestrian lane.

Along Marine Drive the building has created additional opportunities for seating as part of the retailing experience.

The rear access provides a physical and visual connection north-south to read as one continuous space.

Careful selection of a variety of materials, colours and textures has been provided to create interest and variation along the street front.

Storefront scale and parapet heights vary to enhance and support the pedestrian scale.

LANDSCAPE DESIGN

The landscape design complements the design of the building and existing character of the street. Where possible, existing street trees will be protected and retained.

As is envisioned in the OCP, seating areas and feature planters are used adjacent to the sidewalk and at store entries to encourage visitors to spend time enjoying the village. The landscape and building design work together to provide universal, barrier-free access. The sidewalks are intentionally unobstructed to allow all visitors to move easily through the space.

Private outdoor space is provided to each residential unit by way of a balcony and/or private rooftop garden.

Exterior lighting design and siting have been carefully considered to minimize glare and light spill to surrounding properties, and subdue signage illumination.

CIRCULATION AND PARKING

Pedestrian circulation along Marine Drive and Dundarave Lane have been designed to be accessible to persons with disabilities. Unobstructed sidewalks facilitate comfortable movement through the space. Inclusion of pathway in public plaza along 25th Street reduces street grade from 9%-12% to 6%-7%. The pathway includes handrail for increased accessibility.

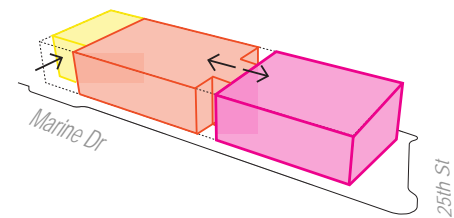
The existing north-south mid-block connection running along the site's eastern edge has been retained. Both the lane and Marine Drive have been treated as a part of the circulation pattern, through the use of building entries, signage, lighting, and landscaping.

Short term bicycle storage has been provided along both Marine Drive as well as Dundarave Lane. Long term bicycle storage has also been provided for both residents and commercial users, in conformance with the District's requirements.

Both commercial and residential parking will be provided below grade, accessible from lane (at the southeastern edge of the site). The residential parking area will be secured and separate from the unsecured commercial parking area. The commercial parking area has been designed to be readily accessible and easily used by customers.

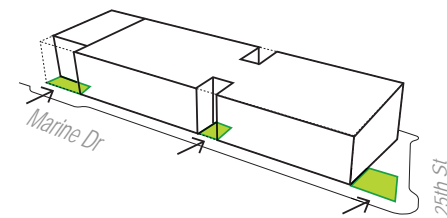
B. DESIGN PRINCIPLES

01 3 BUILDINGS



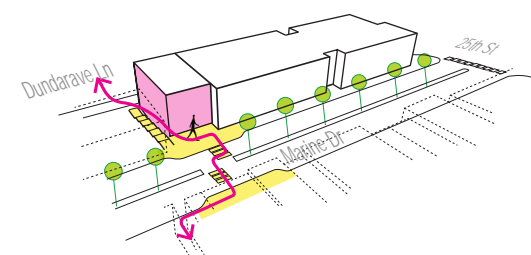
Break the design into 3 separate and distinct pieces, each designed according to its function and mirroring the immediate context: IGA, shopfronts, mid-block crossing.

02 MINI-PLAZAS



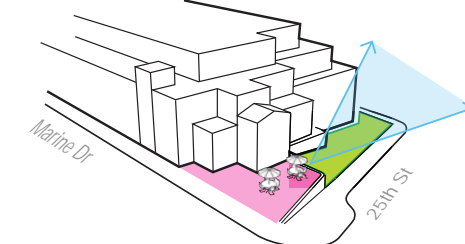
Add public realm expansions at key locations along Marine Drive to provide places of respite, entrance courtyards, and shops to spill out on the street.

03 MID-BLOCK CONNECTION



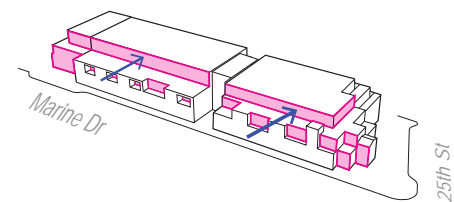
Exploit the potential of the only mid-block crossing in the village by creating a welcome courtyard and an active connection from Marine Drive to Dundarave Lane.

04 CORNER PLAZA



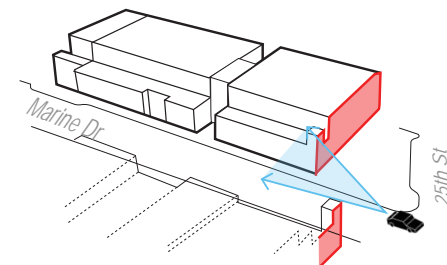
Celebrate the west entrance to Dundarave Village creating an active plaza with café/restaurant uses and a passive "West Coast feel" park, both with views to the water.

05 STRATEGIC SETBACKS



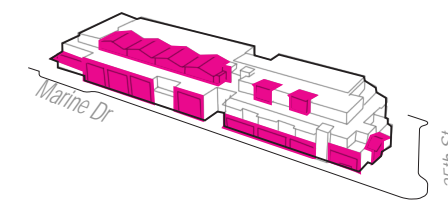
Create a significant setback at the 3rd floor on Marine Drive, so it isn't perceived from the street, and play with the 2nd floor setback to ensure variety along the street wall.

06 ENTRANCE MARKER



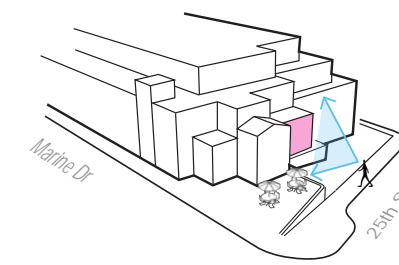
Mimic the stone tower on the IGA building by a similar scaled vertical element of civic function to announce the entrance to Dundarave Village from the west.

07 VILLAGE BUILDING CHARACTER



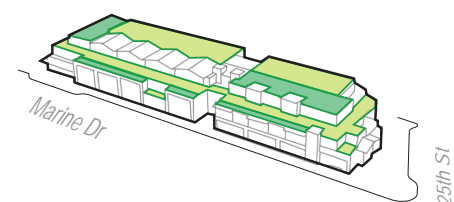
Break down scale to achieve a "village look & feel" by using a variety in architectural elements, materials, street fronts, canopies and signage.

08 PUBLIC ART MURAL



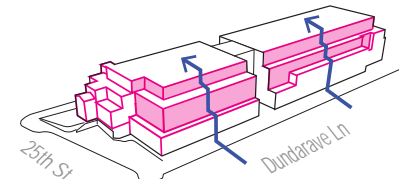
Recreate the 1986 mural created by the same or other prominent West Coast local artist to create something as or more impactful, providing its own identity to the corner park.

09 GREEN & ACTIVE ROOFS



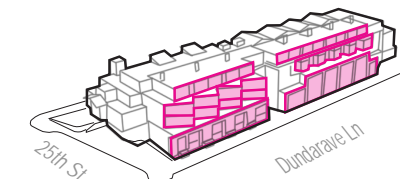
Provide a combination of green roofs and useable roof terraces to ensure a nice view aesthetic and provide gardening opportunities for the target demographic.

10 LANE-SIDE SETBACKS



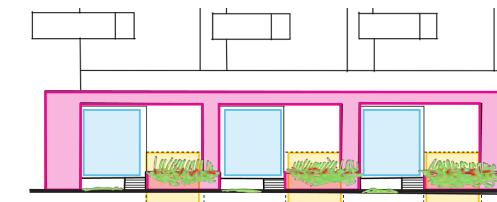
Push the upper floor on the lane setback to reduce the perceived height from the street level and provide useable terraces with water views to the south.

11 LANE-SIDE HEIGHT



Articulate the massing of the lane side of the building vertically and horizontally so it breaks up the mass and effectively reads as a 4-storey building.

12 LANE STREET-LEVEL ACCESS



Make the 1.5-storey ground floor read as one floor by providing direct access to residential units and daylighting commercial space through window wells.

C. PUBLIC ENGAGEMENT DESIGN RESPONSE

Following two public engagement events held April 5th (Virtual) and April 6th (In-Person), efforts have been made to update the building design to reflect the aspirations heard from the community. Following this engagement process, five design changes have been incorporated into this Development Permit package:

1. Reinforcing the “Village” Character: Neighbourhood residents and members of the public spoke of their desire to maintain a ‘village’ character for Dundarave, comprised of varied buildings of different architectural styles. In response, a blend of two architectural styles has been incorporated into the building design: a “Seaside Village” and “West Coast Village” look. Both building styles were presented to the community, and the community’s preference was relatively evenly split between the two aesthetics. While the ‘broken-up’ building form gives the impression of three separate buildings, the addition of the “Seaside Village” look to the west portion of the building, along with the “West Coast Village” look of the remainder of the building, provides further differentiation, and provides a fourth distinct building section.

2. Maintaining Varied Retail Storefronts: The retail spaces on Marine Drive have been revised to ensure variation in retail storefronts. This has been achieved by incorporating the natural wood materiality of the “West Coast” building elements, while in other cases picking up the white paneling and details of the “Seaside Village” look. The location and type of entry doors as well as the mullion details for each bay have also been modified to incorporate better variation. Updates to the retail canopies favour more fabric awnings with limited glass canopies, while still maintaining continuous weather protection.

3. Size of Retail Tenants: The community gave an overwhelming preference for small, local-oriented retailers and restaurants. However, there were also many who wanted to maintain the convenience of having a drug store or pharmacy in the neighbourhood. We have adjusted the layouts of the retail spaces to accommodate a pharmacy or drug store, while ensuring that the remainder of the retail spaces are small enough to be attractive to local businesses. The above-mentioned change in canopy materials will add a human-scaled element to mitigate the impression of the larger commercial unit from the street.

4. Paying Homage to the Existing Public Art: The community voiced overwhelming support for having the existing mural at 25th Street and Marine Drive retained or replicated and incorporated into the building design. This mural is a cherished piece of public art that defines the western entry to the village, while also reflecting the history of Dundarave. While discussions with the Public Art Advisory Committee are ongoing, our current submission reflects the public sentiment by showing a recreated version of the mural near its original location. We are also proposing locations for public art elsewhere on the site, the details of which will be discussed with the PAAC.

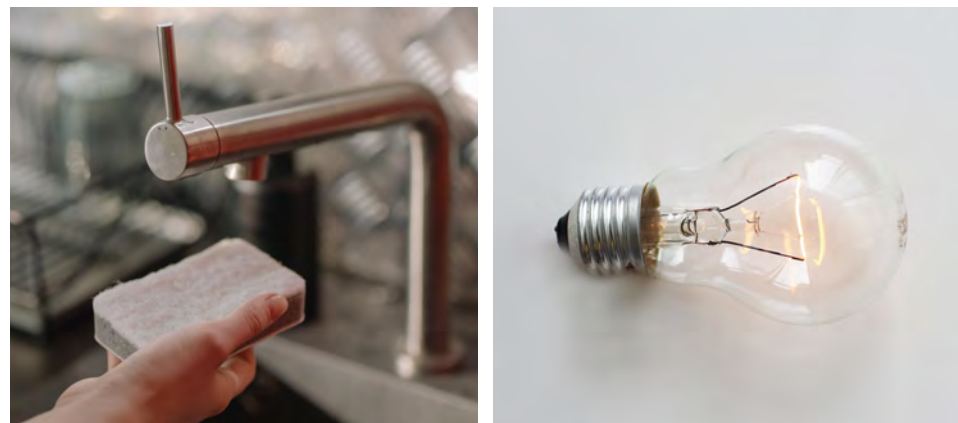
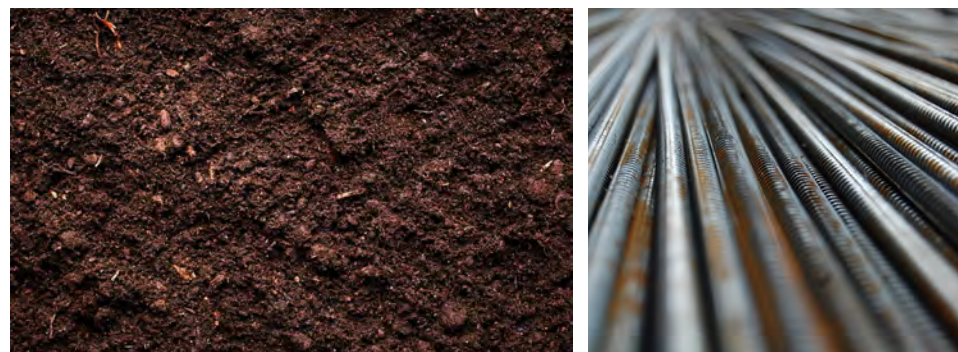
5. Ensuring a Green Public Realm: While the active plaza at the corner of 25th Street and Marine Drive was viewed positively by the community, there was also a desire to ensure that hardscapes were minimized, and the tree canopy maximized. The plaza design has been modified to incorporate two large trees to provide additional greenery and shade.

The overall building design has also been informed by the extensive and thoughtful input received from the community at Open House #1 held in October, 2019, the DRC Meeting in September, 2021 and the DRC Workshop held March 9, 2022.

Refer to Appendix E for the Public Engagement Summary.



D. SUSTAINABILITY



SITE

The proposed development's infill densification is inherently sustainable by promoting development in an existing urban area and diverting development pressures from greenfield sites or environmentally sensitive areas.

The mixed use density of the existing neighbourhood has supported a very active pedestrian and bike oriented community, which this development will further support through the provision of bicycle storage infrastructure as well as additional housing in close proximity to bus routes and activities of daily living. The site is within walking distance to work opportunities, grocery stores, restaurants, a community centre, parks and walking trails.

The design will be targeting a LEED Gold equivalent approach.

SOIL AND GROUNDWATER

Environmental work completed during development will improve the overall quality of soil and groundwater on the property. Environmental services will be engaged throughout all stages of the project from planning to decommissioning to provide input on how to efficiently and cost effectively reduce impacts.

PASSIVE DESIGN STRATEGIES

The design for the proposed building uses passive sustainable strategies to not only inform but also to enhance the architecture. The building design strategically incorporates balconies, outward projected mullions, and high performance glazing to improve building performance.

Each unit will have access to a balcony and interior shading devices, which will provide passive natural ventilation and support passive solar control.

The glazing and window-to-wall ratio for the building is designed to minimize glazing heat transfer and energy loss. A structural thermal break at exterior balconies will also be used to allow for a continuous insulated building envelope.

MATERIAL CONSIDERATIONS

Where feasible, the design will incorporate:

- The use of sustainable concrete material such as with the use of supplementary cementitious material or through a carbon dioxide mineralization process.
- Use of recycled steel.
- Carefully selected exterior components and assemblies will be incorporated with the focus of delivering a high-performing, long lasting exterior that will endure maintenance. Interior finishes will be carefully selected to be long lasting to minimize future replacement and maintenance.

ENERGY

The building will be heated and air conditioned by a Variable Refrigerant Flow system. The proposed system does not rely on gas fired boilers, reducing green house gas emissions.

Central corridor ventilation will provide 80% of the energy requirements from a variable refrigerant heat pump systems which also reduces green house gas emissions.

All suites in the building will be provided with a 75% efficient energy recovery ventilator. All motors over 1hp will be extra high efficiency.

All transformers will meet or exceed the minimum 98% performance efficiency per CSA C802.2-18. Compliance will ensure the minimum cooling load that the mechanical system will need to address, thus minimizing energy use.

Metering for measuring and recording power consumption of major load types to enable monitoring and detection of higher than normal power usage, indicating possible failure of mechanical equipment. Metering will also provide residents and commercial tenants a baseline to gauge power usage, and create incentives to reduce consumption.

LIGHTING

Lighting will be designed to better the minimum lighting power density (LPD) requirements and control requirements of ASHRAE 90.1 2016. All luminaires installed in the building will use LED light sources which are currently the most efficient lighting system commercially available. High efficacy LED lighting systems will be specified for the project. A low-voltage control system will provide centralized control of lighting in interior and exterior common areas.

The lighting control system will have timelock functionality, multiple zone controllable relays, and will operate with motion, photocell and daylight sensors. Lighting in spaces vacated by occupant(s) will automatically de-energize after 20 minutes (or less) to ensure minimal wastage of lighting energy. Lighting power in the parkade will be minimal when no motion is detected while maintaining a minimal lighting level for safety. Automated lighting controls will reduce parkade lighting when not required, but maintain a safe level of illumination for security purposes.

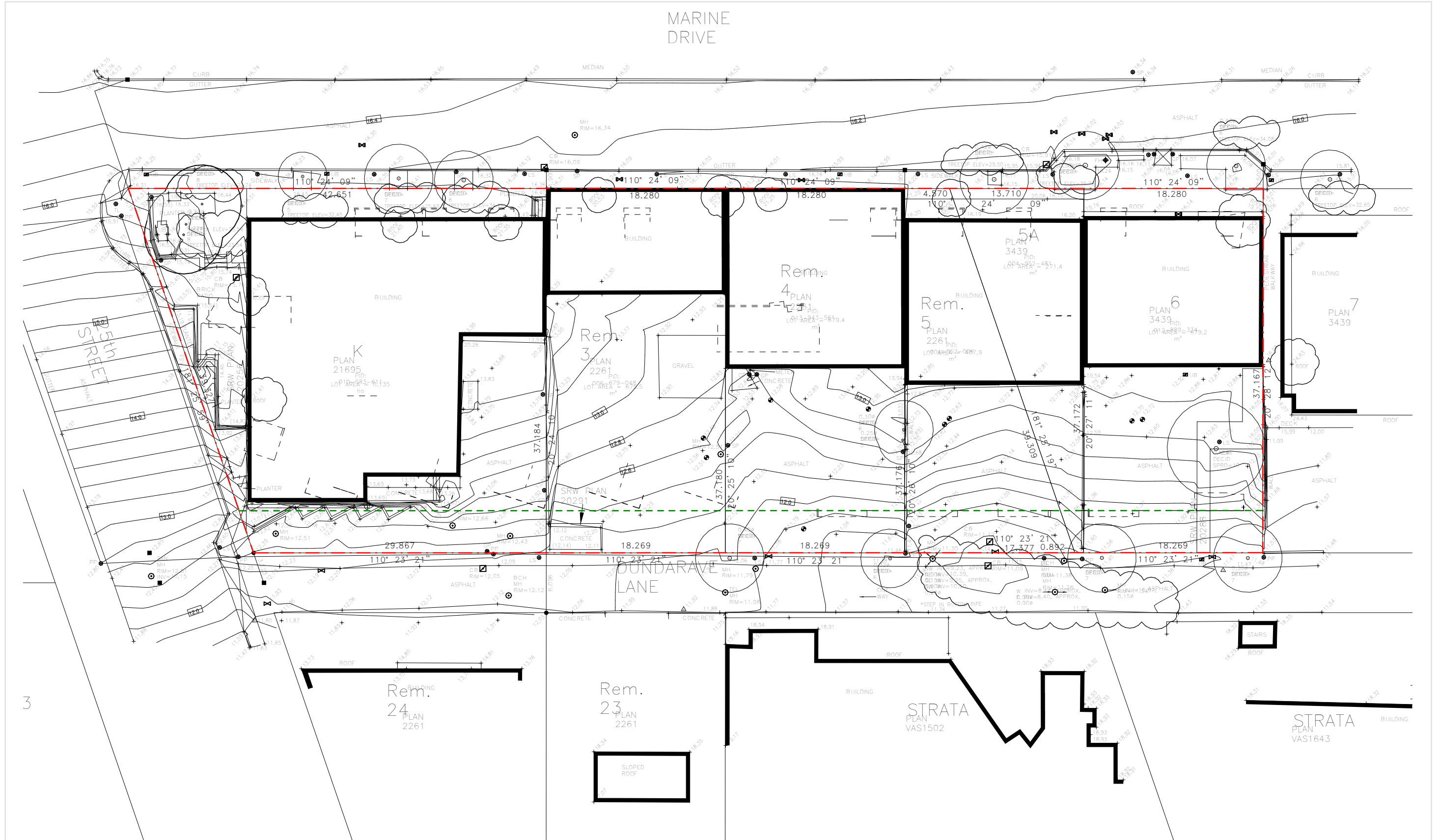
RECYCLING AND WASTE MANAGEMENT

Recycling facilities will be provided for both residential and commercial properties. The building will have recyclable storage facilities that will be accessible to all users of the property. Recyclables generated in the building will be collected in dedicated bins for at a minimum paper, corrugated cardboard, glass, plastics, metals and compost.

E. Architectural Drawings

The following drawings are not to scale. Please refer to separate full size drawing set at 24" x 36".

E. ARCHITECTURAL DRAWINGS - SURVEY



E. ARCHITECTURAL DRAWINGS - CONTEXT PLAN



E. ARCHITECTURAL DRAWINGS - PROJECT DATA & STATISTICS

MARINE DRIVE, WEST VANCOUVER

CIVIC ADDRESS 2490, 2474, 2466, 2464, 2460, and 2452 Marine Drive, West Vancouver, BC

ZONING C2 – Commercial Zone 2

SITE AREA:

	Required (min. sq ft)	Provided (sq ft)
2490 Marine Drive		14,514
2474 Marine Drive		7,314
2466 Marine Drive		7,313
2464 Marine Drive		4,391
2460 Marine Drive		2,921
2452 Marine Drive		7,311
TOTAL SITE AREA	5,000	43,765

HEIGHT & SETBACKS:

HEIGHT	Fir to Flr Height (ft)
Level 3	10'- 0"
Level 2	10'- 0"
Level 1 North (Marine Drive)	14'-6"
Level 1 South (Dundarave Lane)	10'- 0"
Level 0 (Dundarave Lane)	10'- 0"
Ground Level Lane (Dundarave Lane)	11'-6"
Level P3	9'0"
MARINE DRIVE TOTAL	34'-6"
DUNDARAVE LANE TOTAL	46'-9"

	Allowable	Provided
BUILDING HEIGHT (FT)	35.10	40.10
NO. OF STOREYS	2	3

SETBACKS	Required (ft)	Provided (ft)
Front Yard	0.00	6.56
Rear Yard	14.11	14.11
Side Yard (West)*	0.00	8.20
Side Yard (East)*	0.00	9.84

*4.99 ft req'd if provided

AREA:

AREA	2022-04-12 (sq ft)
<i>Commercial</i>	
Office	9,932
Retail	12,227
<i>Residential</i>	
Amenity Room	992
Corridors	12,946
Lobby	1,185
Mechanical/Electrical	560
SUB TOTAL	98,747
<i>Exclusions</i>	
One Entrance Lobby (Level 1 - N)	465
Common floor area at Basement*	3,140
SUB TOTAL	3,605
TOTAL DENSITY	101,887
FSR	2.33

Ground Level Lane (sq ft)	Level 0 (sq ft)	Level 1 - North (sq ft)	Level 1 - South (sq ft)	Level 2 (sq ft)	Level 3 (sq ft)
9,932		12,227			
	10,461		11,257	23,220	15,967
	992				
2,396	2,221	2,193	2,237	2,043	1,856
224	183	465		152	161
	112		112	112	112
12,552	13,969	14,997	13,606	25,527	18,096
		465			
	3,140				
	3,140	465			
15,692	13,969	15,462	13,606	25,527	18,096
12,552	13,969	14,997	13,606	25,527	18,096

DENSITY WITH EXCLUSIONS	98,747
FSR TOTAL	2.26

* This includes corridors, elevator shafts, stairwells, M/E rooms, garbage rooms, * All mechanical/electrical areas below Level 0 are not included in this calculation.

UNIT MIX:

	ADAPTABLE UNITS						TOTAL			
	1 BR	1+ BR	2 BR	2+ BR	3 BR	3+ BR	1 BR - AD	1+ BR - AD	2 BR - AD	TOTAL
Level 3			2	2	5	1			2	12
Level 2	2	2		11	2				4	21
Level 1 South		1	2	4			1	3		11
Level 0		4	3					3	1	11
TOTAL	2	7	7	17	7	1	1	10	3	55
%	4%	13%	13%	31%	13%	2%	2%	18%	5%	100%

PARKING:

COMMERCIAL PARKING			
Bylaw 352.10	Comm. GFA (sqm)	Comm. GFA (sq ft)	Stalls Required
1/37.5 sqm of COMM. GFA	2,058.62	22,159.00	55

RESIDENTIAL PARKING				
Bylaw 352.10	Res. Units	Res. GFA (sqm)	Res. GFA (sq ft)	Stalls Required
1 / 83.6 sqm of RES GFA or 1 / Dwelling Unit	55	5,658.21	60,905.00	55

SUBTOTAL PARKING REQUIRED	110
----------------------------------	------------

minus space reduction per provided residential bike parking (bylaw 143.01 (04)):55 x 0.17 = -9.35 spaces

TOTAL PARKING REQUIRED	101
-------------------------------	------------

PARKING FOR PERSONS WITH DISABILITIES		Min. Stalls Required
Bylaw 142.09		
1 if 10-75 Comm. & Res. Parking Stalls Required		
2 if 76-125 Comm. & Res. Parking Stalls Required		2
3 if 126-200 Comm. & Res. Parking Stalls Required		
TOTAL		2

LEVEL	PROVIDED PARKING STALL TYPE			TOTAL PROVIDED BY USE		
	Regular	Small	Accessible	Total Commercial	Total Residential	Grand Total
LEVEL P1	17	26	1	44		44
LEVEL P2	21	23	1	14	31	45
LEVEL P3	19	6	0		25	25
TOTAL PARKING PROVIDED	57	55	2	58	56	114
	50.0%	48.2%	1.8%			

LOADING	Bays Required	Bays Provided
	0	2

SECURE BICYCLE PARKING SPACES				
Bylaw 143.01	Res Units	Comm. GFA (sqm)	Stalls Required	Stalls Provided
Residential (1.5/DU)	55		82.5	84
Comm (0.3/100 sqm)		2,058.64	6	6
TOTAL			89	90

SHORT TERM BICYCLE PARKING SPACES				
Bylaw 143.01	Res Units	Comm. GFA (sqm)	Stalls Required	Stalls Provided
Residential (0.2/DU)	55		11	11
Comm (0.4/100 sqm)		2,058.64	8	9
TOTAL			19	20

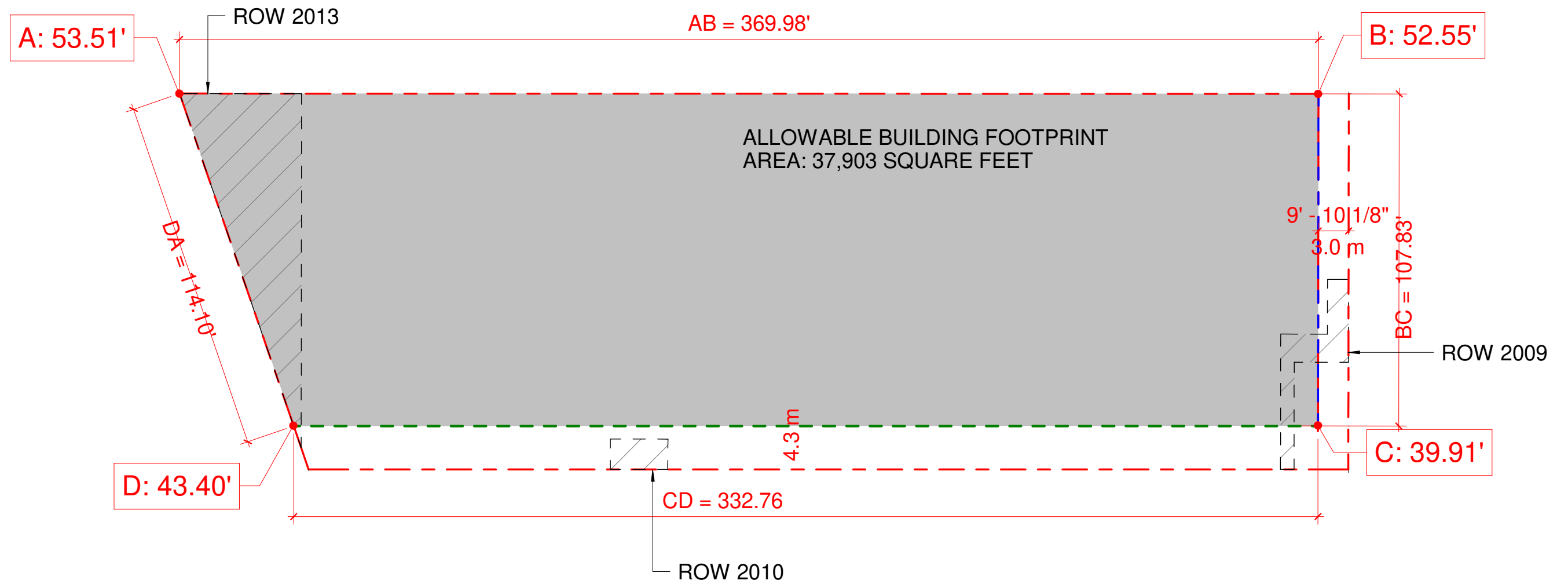
AVERAGE GRADE:

Section	Length	Y
AB (53.51 + 52.55) / 2	369.98	19,620
BC (52.55 + 39.91) / 2	107.83	4,985
CD (39.91 + 43.40) / 2	332.76	13,861
DA (43.40 + 53.51) / 2	114.10	5,529
TOTAL (FT)	924.67	43,995
AVERAGE GRADE (FT)		47.58

E. ARCHITECTURAL DRAWINGS - PROJECT DATA & STATISTICS

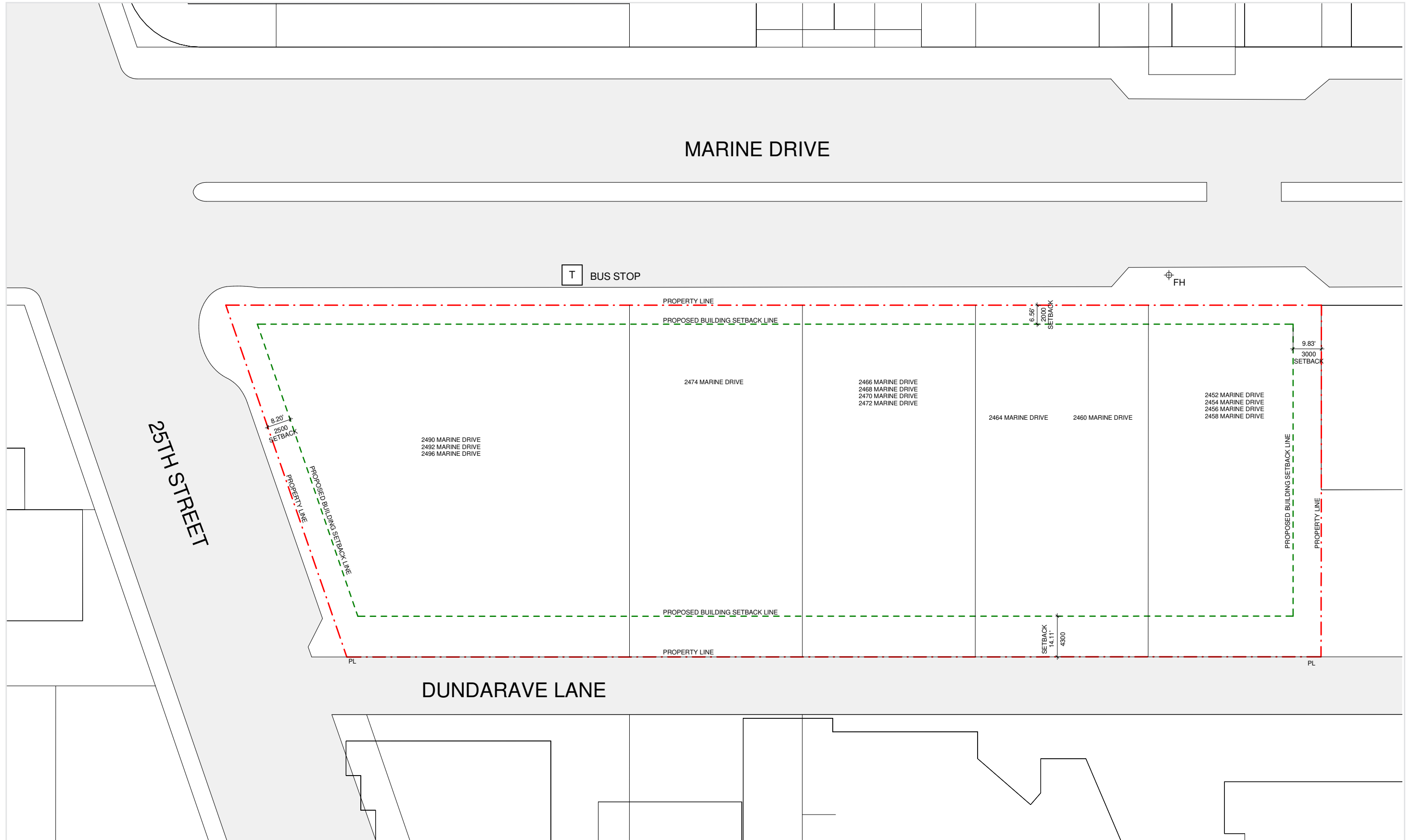
AVERAGE GRADE:

Section	Length	Y
AB $(53.51 + 52.55) / 2$	369.98	19,620
BC $(52.55 + 39.91) / 2$	107.83	4,985
CD $(39.91 + 43.40) / 2$	332.76	13,861
DA $(43.40 + 53.51) / 2$	114.10	5,529
TOTAL (FT)	924.67	43,995
AVERAGE GRADE (FT)		47.58

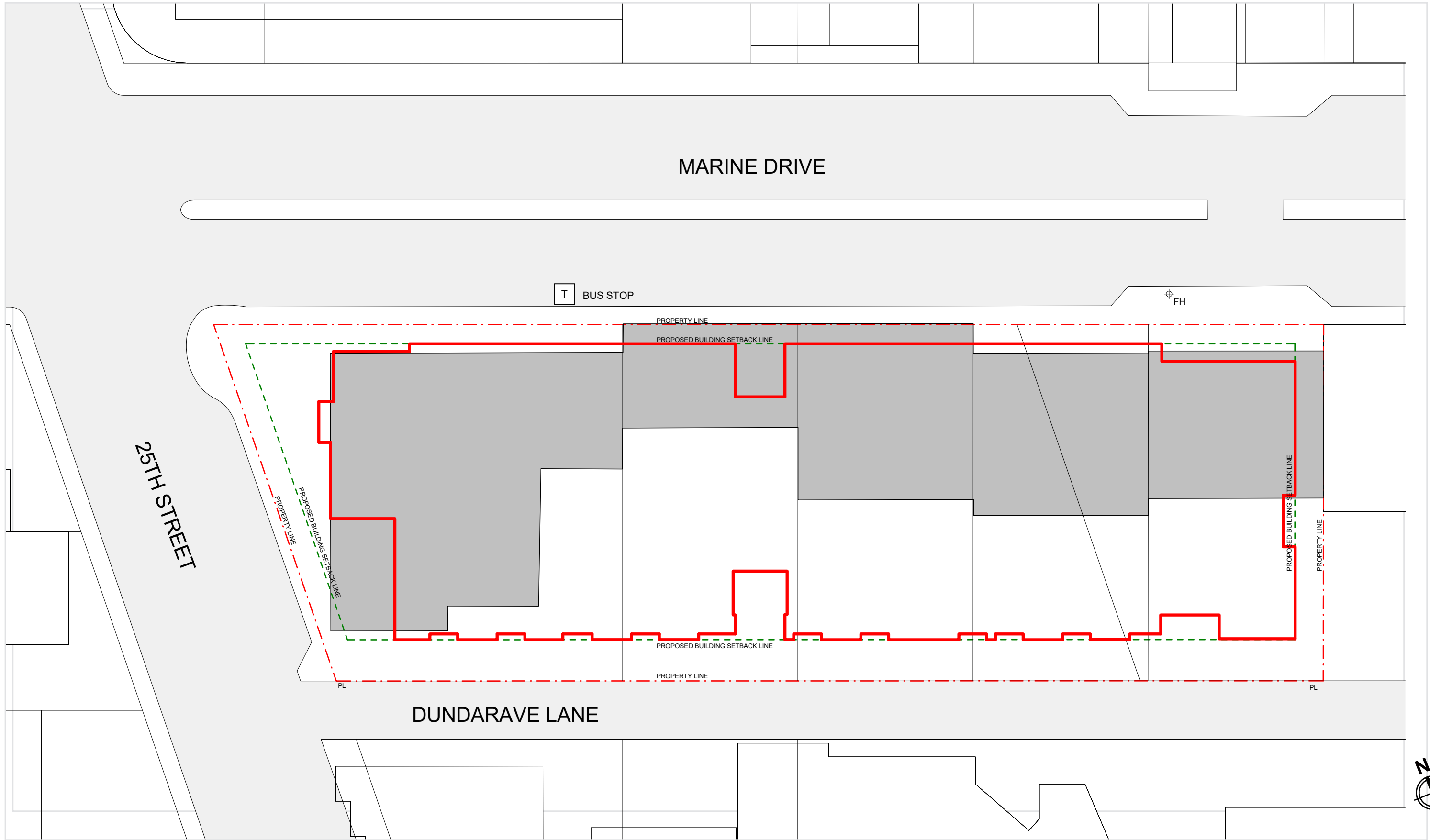


1 AVERAGE GRADE CALCULATION
 A13 Scale: 1/32" = 1'-0"

E. ARCHITECTURAL DRAWINGS - SITE PLAN (EXISTING)



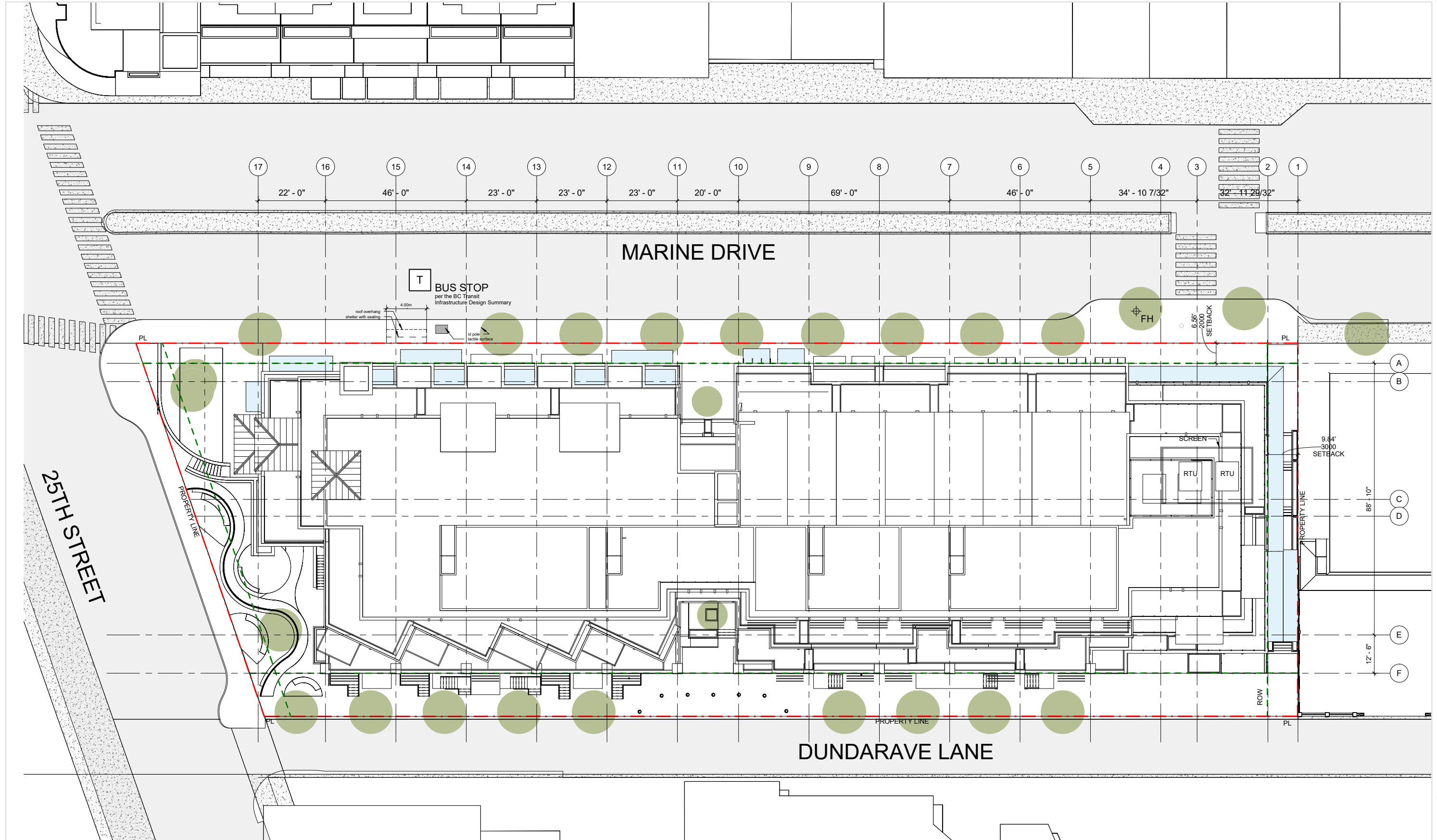
E. ARCHITECTURAL DRAWINGS - SITE COMPARISON



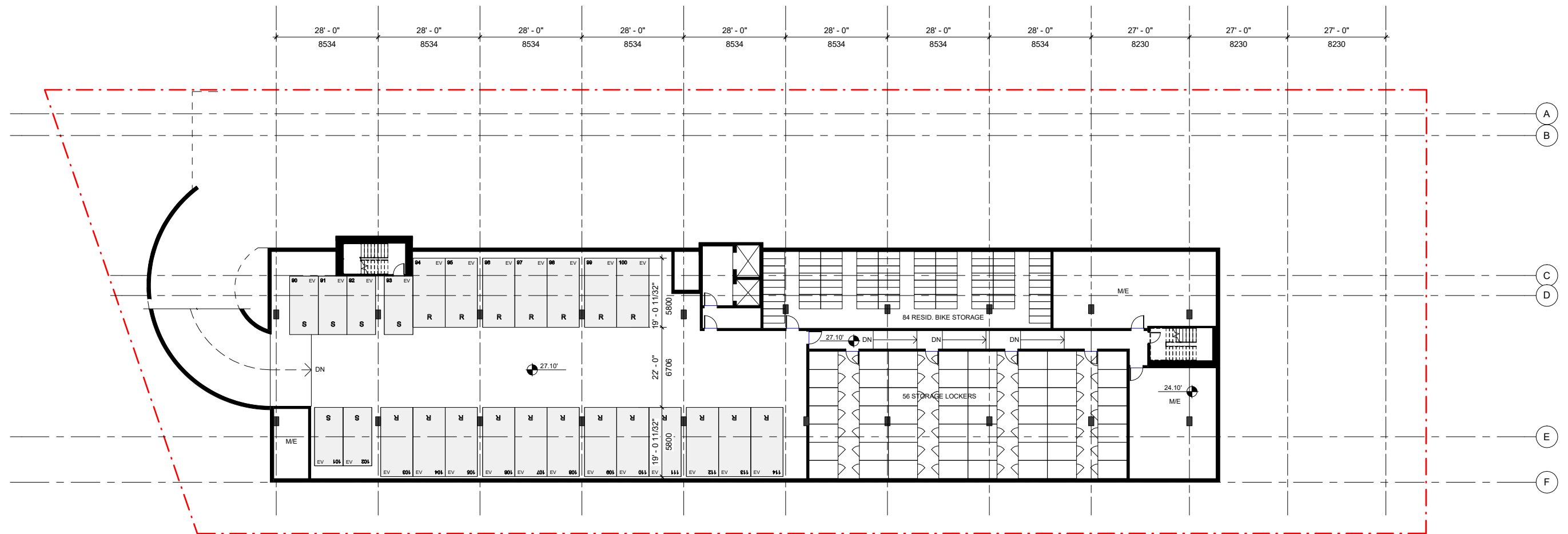
— OUTLINE OF PROPOSED SCHEME

■ EXISTING BUILDING

E. ARCHITECTURAL DRAWINGS - SITE PLAN (PROPOSED)



E. ARCHITECTURAL DRAWINGS - LEVEL P3



P3
25 RESID. PARKING STALLS

* EV - CHARGING OUTLETS TO PROVIDE LEVEL 2 CHARGING FOR ELECTRIC VEHICLE



E. ARCHITECTURAL DRAWINGS - OFFICE/RETAIL LEVEL & LEVEL P2



P2
Office/Retail Level
 31 RESID. PARKING STALLS
 14 COMM. PARKING STALLS

* EV - CHARGING OUTLETS TO PROVIDE LEVEL 2 CHARGING FOR ELECTRIC VEHICLE



E. ARCHITECTURAL DRAWINGS - LEVEL 0 & LEVEL P1



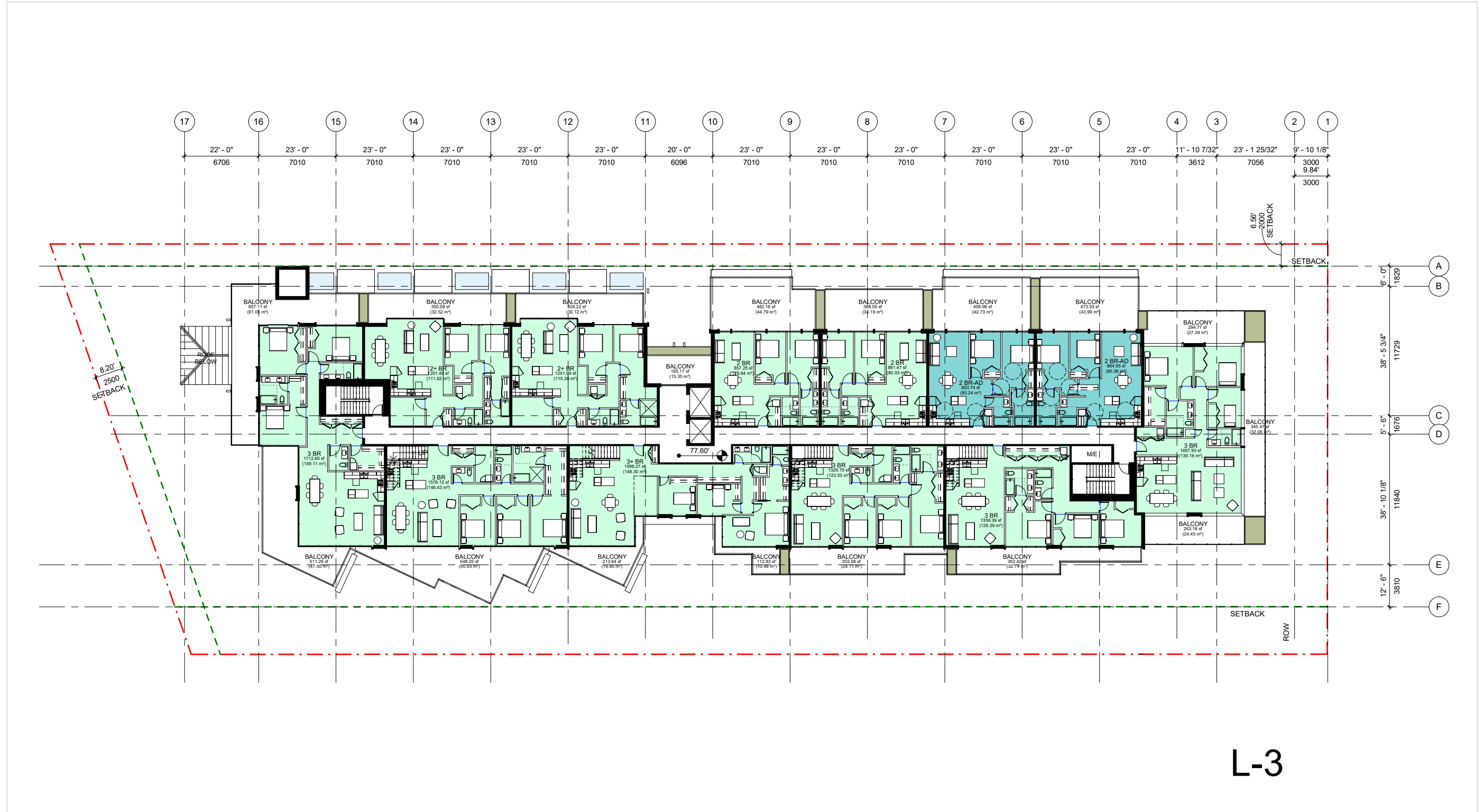
P1
L-0
44 COMM. PARKING STALLS



E. ARCHITECTURAL DRAWINGS - LEVEL 2



E. ARCHITECTURAL DRAWINGS - LEVEL 3



L-3



E. ARCHITECTURAL DRAWINGS - ROOF



E. ARCHITECTURAL DRAWINGS - ELEVATIONS

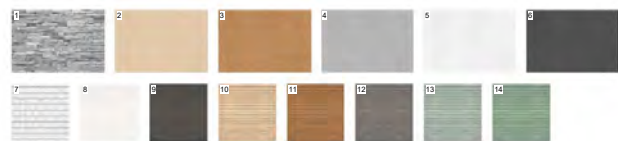


NORTH ELEVATION ALONG MARINE DRIVE



SOUTH ELEVATION ALONG DUNDARAVE LANE

EXTERIOR FINISHES LEGEND	
①	STONE - GREY COLOUR
②	FIBER CEMENT - LIGHT WOOD COLOUR
③	FIBER CEMENT - WOOD COLOUR
④	FIBER CEMENT - GREY COLOUR
⑤	FIBER CEMENT - WHITE COLOUR
⑥	FIBER CEMENT - DARK GREY COLOUR
⑦	FIBER CEMENT SIDING - WHITE COLOUR
⑧	HORIZONTAL WOOD CLADDING - WHITE COLOUR
⑨	HORIZONTAL WOOD CLADDING - DARK GREY COLOUR
⑩	HORIZONTAL WOOD CLADDING - LIGHT WOOD COLOUR
⑪	HORIZONTAL WOOD CLADDING - WOOD COLOUR
⑫	HORIZONTAL WOOD CLADDING - GREY COLOUR
⑬	HORIZONTAL WOOD CLADDING - LIGHT GREEN COLOUR
⑭	HORIZONTAL WOOD CLADDING - GREEN COLOUR
⑮	METAL ROOF
⑯	SHINGLES ROOF
⑰	GLASS CANOPY
⑱	AWNING
⑲	GUARDRAIL - GLAZING
⑳	WHITE SEASIDE RAILING
㉑	SUN SHADE



E. ARCHITECTURAL DRAWINGS - ELEVATIONS

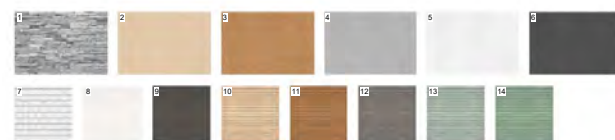


WEST ELEVATION ALONG 25TH STREET

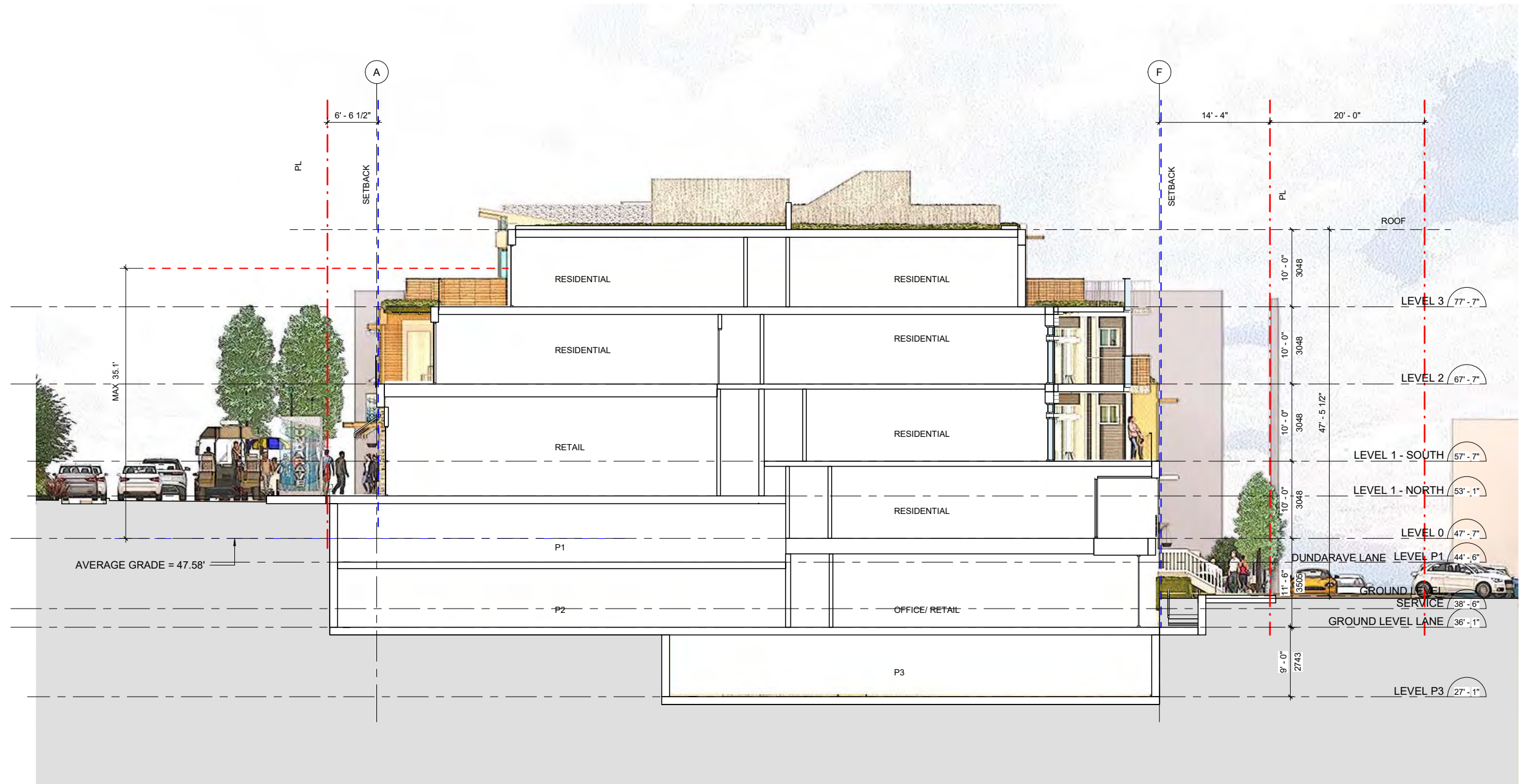


EASTERN ELEVATION ALONG EXPANDED NORTH-SOUTH PUBLIC WALKWAY

EXTERIOR FINISHES LEGEND	
①	STONE - GREY COLOUR
②	FIBER CEMENT - LIGHT WOOD COLOUR
③	FIBER CEMENT - WOOD COLOUR
④	FIBER CEMENT - GREY COLOUR
⑤	FIBER CEMENT - WHITE COLOUR
⑥	FIBER CEMENT - DARK GREY COLOUR
⑦	FIBER CEMENT SIDING - WHITE COLOUR
⑧	HORIZONTAL WOOD CLADDING - WHITE COLOUR
⑨	HORIZONTAL WOOD CLADDING - DARK GREY COLOUR
⑩	HORIZONTAL WOOD CLADDING - LIGHT WOOD COLOUR
⑪	HORIZONTAL WOOD CLADDING - WOOD COLOUR
⑫	HORIZONTAL WOOD CLADDING - GREY COLOUR
⑬	HORIZONTAL WOOD CLADDING - LIGHT GREEN COLOUR
⑭	HORIZONTAL WOOD CLADDING - GREEN COLOUR
⑮	METAL ROOF
⑯	SHINGLES ROOF
⑰	GLASS CANOPY
⑱	AWNING
⑲	GUARDRAIL - GLAZING
⑳	WHITE SEASIDE RAILING
㉑	SUN SHADE

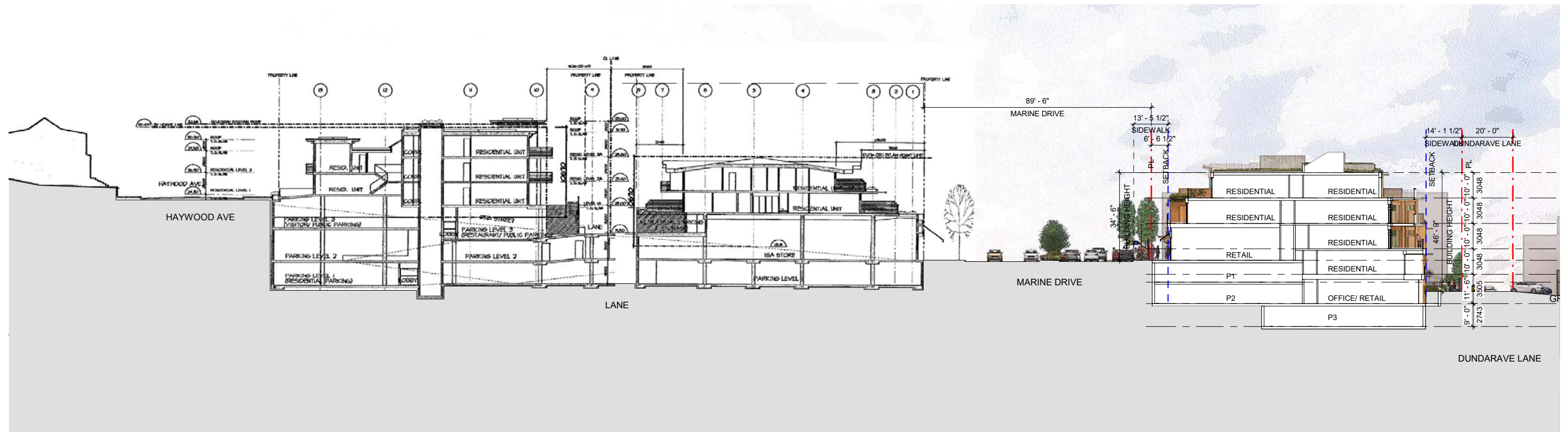


E. ARCHITECTURAL DRAWINGS - SECTION



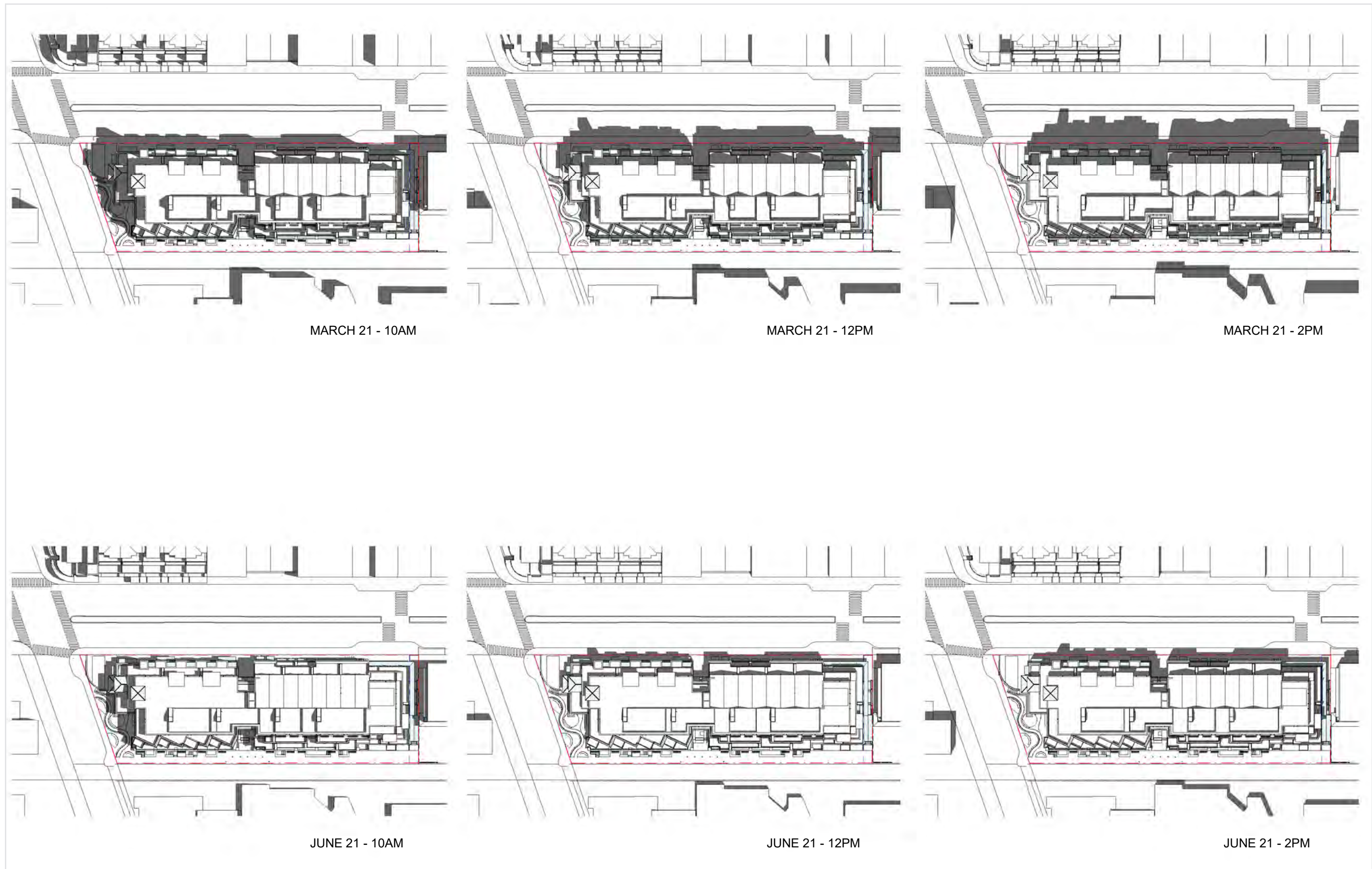
CROSS SECTION

E. ARCHITECTURAL DRAWINGS - SECTION

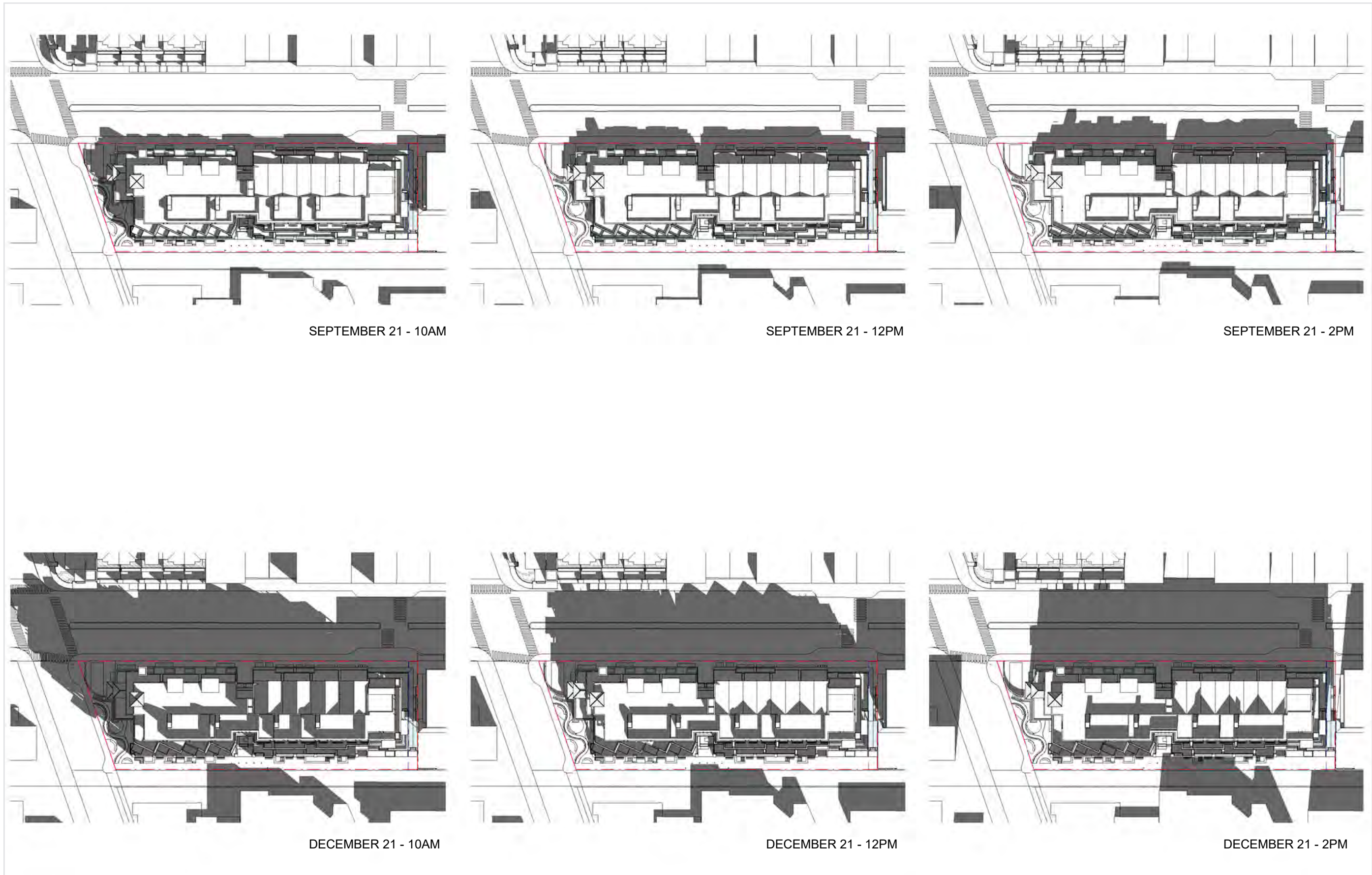


CROSS SECTION WITH IGA BUILDING FOR HEIGHT COMPARISON

E. ARCHITECTURAL DRAWINGS - SHADOW ANALYSIS



E. ARCHITECTURAL DRAWINGS - SHADOW ANALYSIS



E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE AND 25TH STREET - LOOKING EAST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE AND 25TH STREET - LOOKING EAST AT PLAZA

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE AND DUNDARAVE LANE - LOOKING EAST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



DUNDARAVE LANE - LOOKING NORTHEAST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



DUNDRAVE LANE - LOOKING NORTHWEST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE AND EXPANDED N-S PUBLIC WALKWAY - LOOKING WEST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE - LOOKING SOUTHWEST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



DUNDARAVE LANE AND 25TH STREET - LOOKING NORTHEAST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE AND 25TH STREET - LOOKING SOUTHEAST

E. ARCHITECTURAL DRAWINGS - RENDERINGS



DUNDAVE LANE - LOOKING NORTH AT SOUTH LOBBY

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE - LOOKING SOUTH AT RESIDENTIAL LOBBY

E. ARCHITECTURAL DRAWINGS - RENDERINGS



MARINE DRIVE ELEVATION

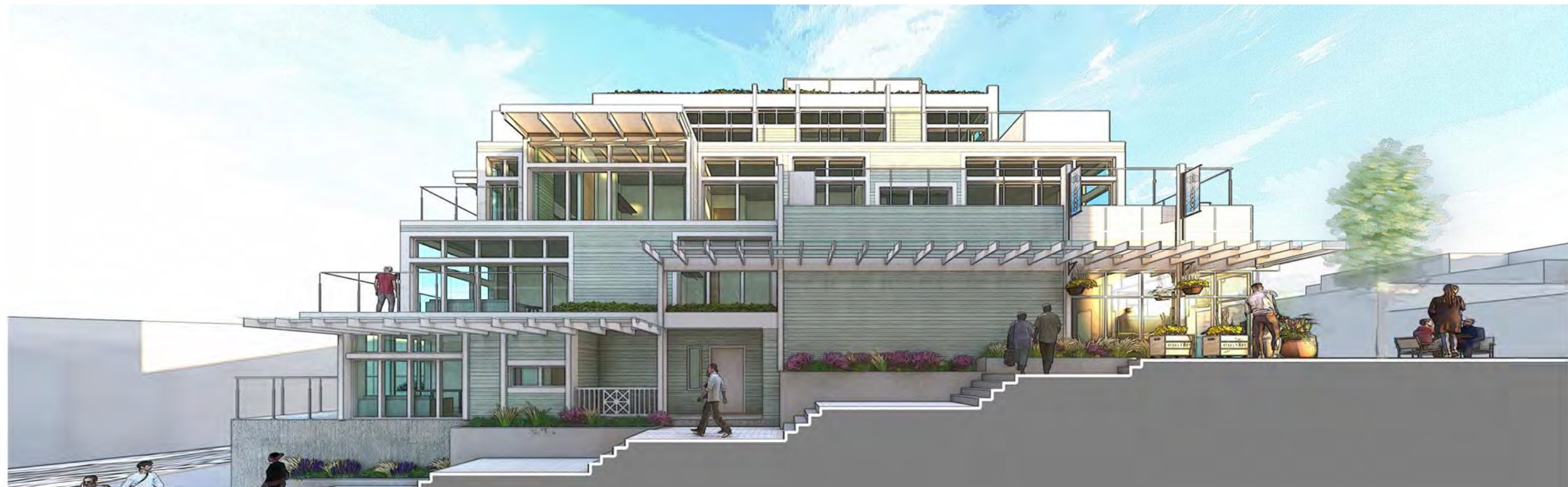


DUNDARAVE LANE ELEVATION

E. ARCHITECTURAL DRAWINGS - RENDERINGS



25TH STREET ELEVATION



EASTERN ELEVATION AT PUBLIC WALKWAY

F. Landscape Drawings

The following drawings are not to scale. Please refer to separate full size drawing set at 24" x 36".

F. LANDSCAPE DRAWINGS - CONCEPT PLAN

MATERIAL LEGEND

Graphic	Description
	CIP Concrete Finish: Light Broom, Sawcut Control Joints To District of West Van Engineering and Park Department Standards
	CIP Coloured Concrete Finish: Light Broom, Sawcut Control Joints Colour: Charcoal
	Stone Tile Paving - Vancouver Island Marble Finish: Sandblasted Size: 12" x 24" Pattern: As Shown Supplier: Vancouver Island Marble Quarries
	Stone Tile Paving - Vancouver Island Marble Finish: Sandblasted Size: 4" x 18" Pattern: As Shown Supplier: Vancouver Island Marble Quarries
	Stone Tile Paving - Vancouver Island Marble Finish: Tumbled Size: 4" x 4" Pattern: As Shown Supplier: Vancouver Island Marble Quarries
	Hydrapressed Paving Stabs - Roof Level Finish: Textada Size: 12" x 24" Pattern: As Shown Colour: Natural Supplier: Abbotsford Concrete
	Flagstone Paving
	Structural Soil 36" depth under paving at lane

FURNITURE AND SITE ELEMENTS LEGEND

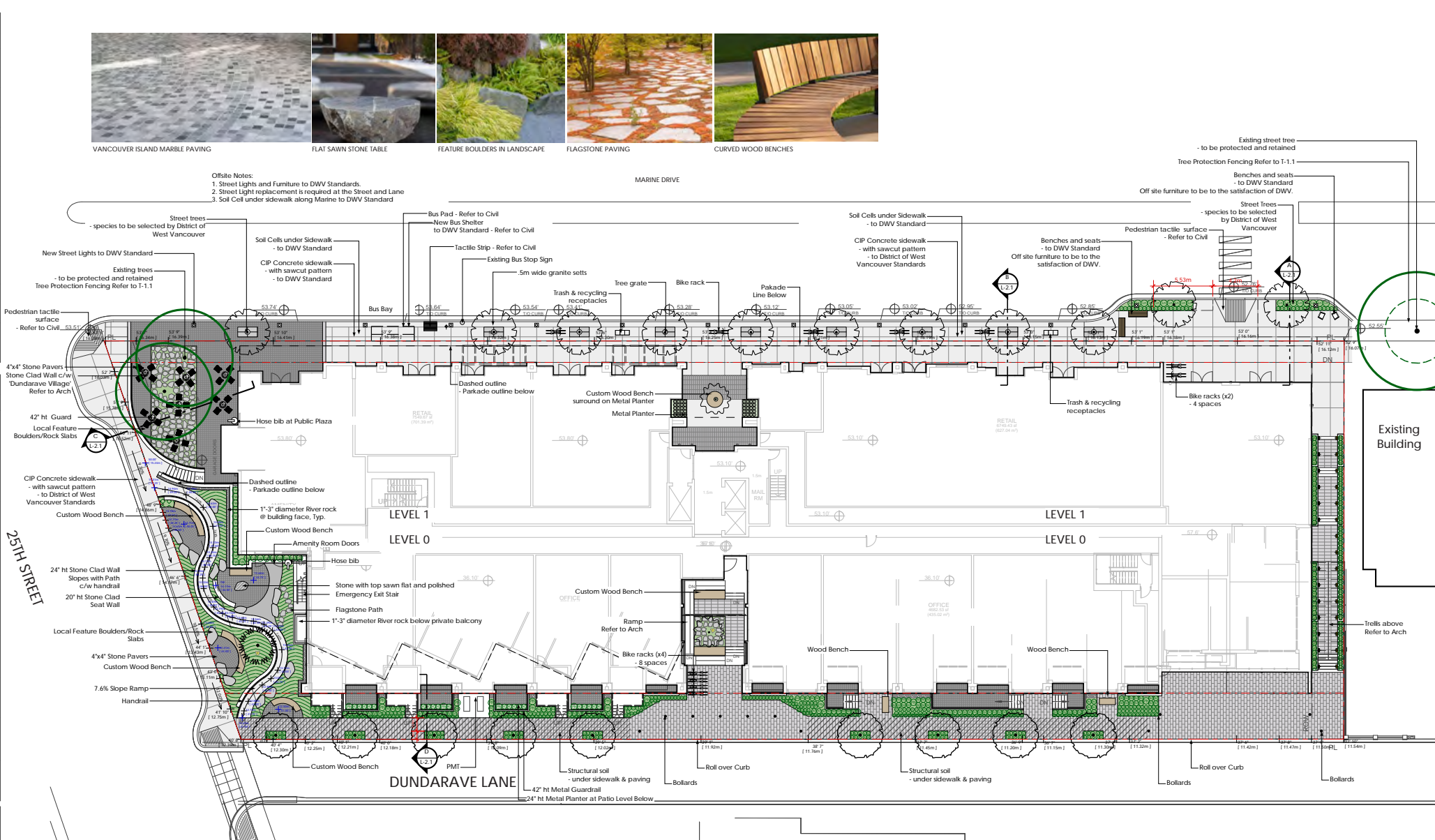
Graphic	Description
	Timber Bench - Offsite (Marine Drive) Model: Harpo Backed bench 17" x 31" x 49" Manufacturer: Landscape Forms Timber colour: modified ash
	Chairs - Offsite (Marine Drive) Model: Harpo Backed seats 17" x 31" x 24" Manufacturer: Landscape Forms Timber colour: modified ash
	Trash & recycling receptacles - Offsite (Marine Drive) Model: Select recycling unit Manufacturer: Landscape Forms Powdercoat Finishes: Aluminum Texture
	Bike Rack - Offsite (Marine Drive) Supplier: Landscape Forms Model: Ring Finish: Powdercoat finish, Colour: Silver Installation: Surface Mount
	Tree Grates - Offsite (Marine Drive) Supplier: Iron Age Model: Locust Size: 36" x 72" x 1.25" Finish: Powdercoat finish Installation: Surface Mount
	Light poles - Offsite (Marine Drive) Layout to be confirmed by Electrical at BP stage
	Bike Rack (Ground Level) Supplier: Landscape Forms Model: Loop Finish: Powdercoat finish, Colour: Silver Installation: Surface Mount
	Tables/Chairs at Public Plaza (Ground Level) Supplier: Landscape Forms Model: Parc Centre Finish: Powdercoat finish Colour: Silver
	Outdoor kitchen (Amenity Roof Level) Supplier: Urban Bonfire/Kentsdale Lumber Size: TBD Finishes: TBD

LIGHTING LEGEND

Graphic	Description
	Uplighting (located under trees) Supplier: TBD
	Inset wall lights (located at steps) Supplier: TBD

MECHANICAL LEGEND

Graphic	Description
	Hose Bibs
	Irrigation Stub Out



Revisions:

no.	date	item
04	04.07.2022	Issued for DP
03	13.08.2021	DP Re-Submission
02	28.05.2021	DP Re-Submission
01	30.11.2020	Issued for DP

North

Project:
 DUNDARAVE
 2452-2490 Marine Drive
 West Vancouver

Drawn by: KS
 Checked by: PK
 Date: 07 April 2022
 Scale: 1/16" = 1'
 Drawing title:
Landscape Plan
 Project No.:
19060
 Sheet No.:

PLANT LIST

Symbol	Qty	Botanical Name	Common Name	Size/Comments
	2	Acer japon 'Autumn Moon'	Japanese Maple	3.5 m ht. Specimen
	6	Amelanchier alnifolia	Serviceberry	3.0m ht.
	2	Arbutus menziesii	Arbutus	3m ht. B&B Specimen
	9	Acer rubrum 'Red Rocket'	Red Maple	7 cm cal. B+B Std.
	11	Acer rubrum 'Red Rocket'	Red Maple	7 cm cal. B+B Std.
	1	Tsuga heterophylla	Western Hemlock	5m ht B&B Specimen

Symbol	Qty	Botanical Name	Common Name	Size/Comments
	20	Fragaria chiloensis	Beach Strawberry	4" pot
	40	Thymus citrodorus	Lemon Thyme	4" pot
		Alternative Lawn Wildflower Mix	Supplier West Coast Seeds	500g

Symbol	Qty	Botanical Name	Common Name	Size/Comments
	20	Anemone hepatica 'Sept. Charm'	Japanese Anemone	#1 pot
	40	Arctostaphylos uva-ursi	Kinnikinnick	#1 pot
	30	Azalea 'Gumpo White'	Dwarf White Azalea	#2 pot
	35	Azalea 'Gumpo Pink'	Dwarf Pink Azalea	#2 pot
	50	Fragaria chiloensis	Beach Strawberry	#1 pot
	50	Iberis sempervirens	Candytuft	#1 pot
	30	Lupinus polyphylus	Big Leaf Lupine	4" pot
	30	Penstemon 'Blue Midnight'	Blue Penstemon	4" pot
	3	Phladelphus lewisii	Mock Orange	#3 pot
	15	Polystichum munium	Sword Fern	#1 pot
	3	Ribes sanguinum	Red Flowering Currant	#1 pot
	50	Stipa tenuissima	Mexican feathergrass	#2 pot
	5	Symphoricarpos albus	Snowberry	#3 pot
	30	Symphoricarpos subspicatum	Douglas Aster	#1 pot

Symbol	Qty	Botanical Name	Common Name	Size/Comments
	15	Asarum caudatum	Wild Ginger	4" pot
	5	Dicentra formosa	Pacific Bleeding Heart	4" pot
	15	Liloupe muscarif	Lilyturf	4" pot
	25	Polypodium glycyrrhiza	Licorice Fern	4" pot

LANDSCAPE NOTES

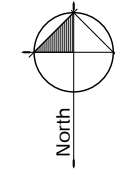
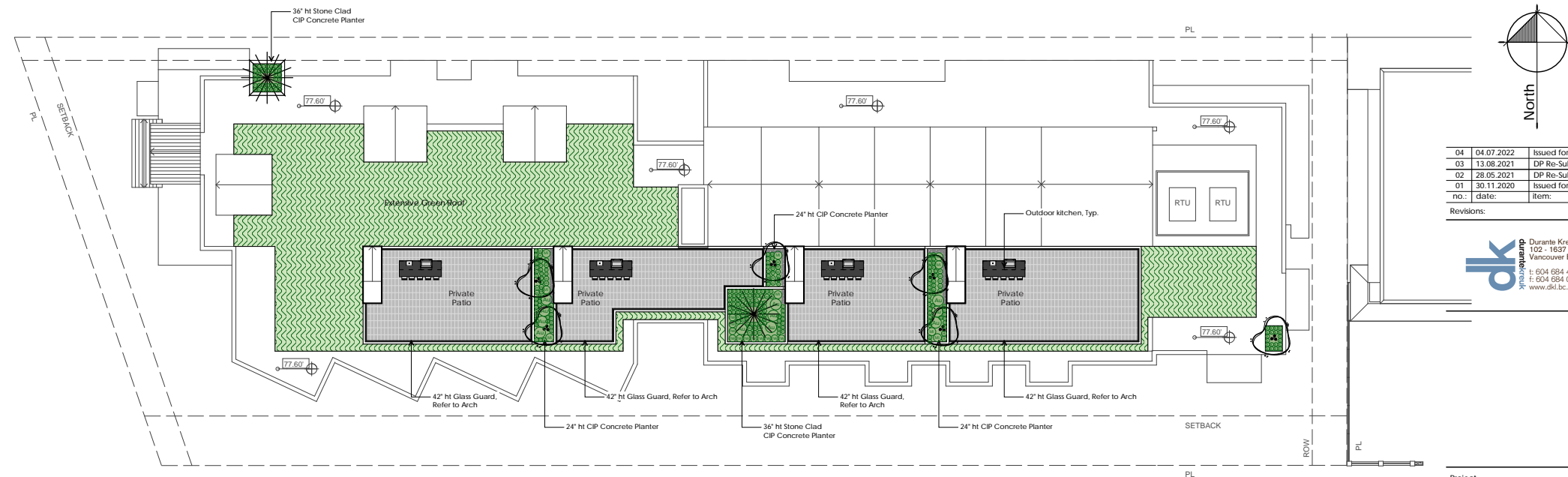
- All work shall meet or exceed the requirements as outlined in the current edition of the Canadian Landscape Standards.
- All 'Soft Landscape Areas' are to be irrigated with a high efficiency irrigation system. A high efficiency irrigation system specified in all common areas, including the entry and upper terrace areas.
- The irrigation system design and installation shall be in accordance with the Irrigation Industry of Canadian Landscape Standards and Guidelines.
- All landscaped patios to be provided with a hose bib. Hose bibs should be provided for all patio and common areas greater than 100sq.ft.

PLANTING NOTES

- All work shall meet or exceed the requirements as outlined in the Current Edition of the Canadian Landscape Standards.
- Plant sizes and related container classes are specified according to the Canadian Landscape Standards, Current Edition. For container classes #3 and smaller, plant sizes shall be as shown in the plant list and the Standard; for all other plants, both plant size and container class shall be as shown in the plant list. Specifically, when the plant list call for #5 class containers, these shall be as defined in the Canadian Landscape Standards.
- All trees to be staked in accordance with Canadian Landscape Standards.

Note:
 Street Tree - final location and species to the satisfaction of District of West Vancouver Engineering and Parks

F. LANDSCAPE DRAWINGS - ROOF PLAN



04	04.07.2022	Issued for DP
03	13.08.2021	DP Re-Submission
02	28.05.2021	DP Re-Submission
01	30.11.2020	Issued for DP
no.	date:	item:

Revisions:

dk Duranto Kreuk Ltd.
 102 - 1637 West 5th Avenue
 Vancouver BC V6J 1N5
 t: 604 684 4611
 f: 604 684 0577
 www.dk.bc.ca

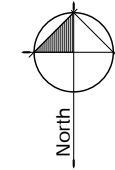
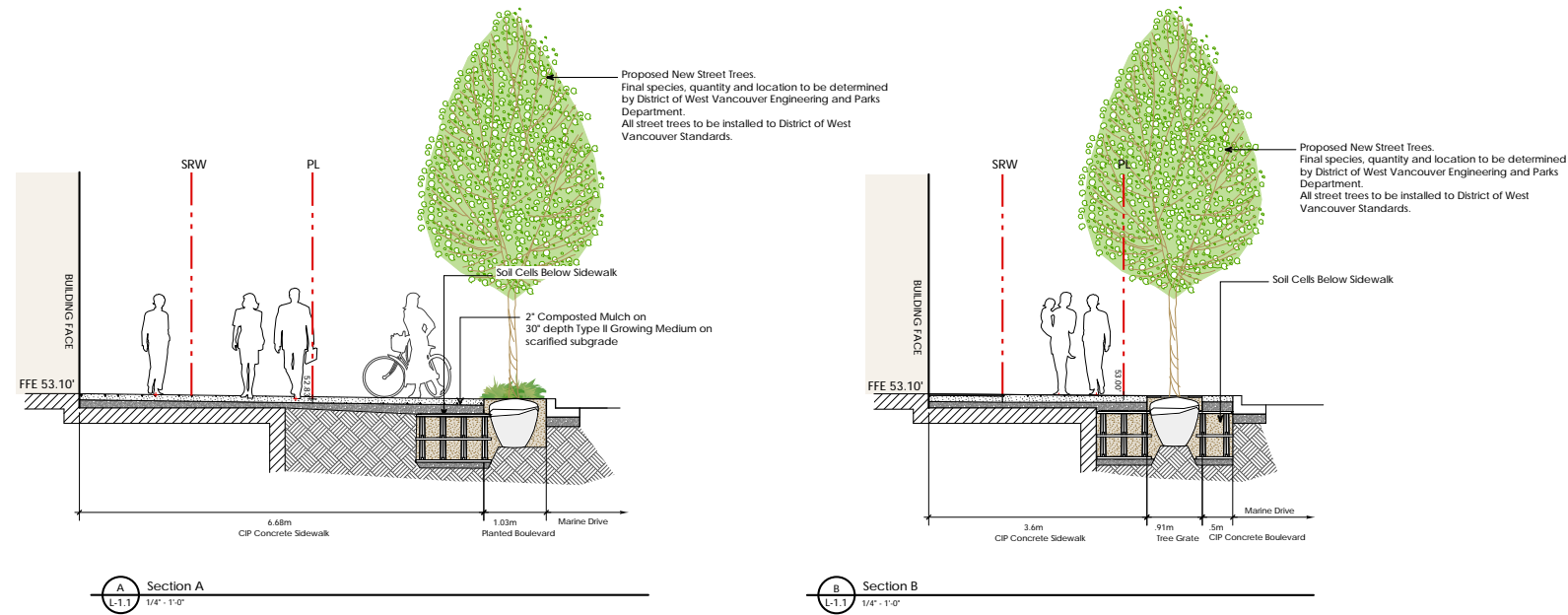
Project:
DUNDARAVE
 2452-2490 Marine Drive
 West Vancouver

Drawn by: KS
 Checked by: PK
 Date: 07 April 2022
 Scale: 1/16" = 1'
 Drawing Title:
**Roof Level
 Landscape Plan**

Project No.:
19060
 Sheet No.:

L-1.2

F. LANDSCAPE DRAWINGS - SECTIONS



04	04.07.2022	Issued for DP
03	13.08.2021	DP Re-Submission
02	28.05.2021	DP Re-Submission
01	30.11.2020	Issued for DP
no.	date:	item:

Revisions:



Project:
DUNDRAVE

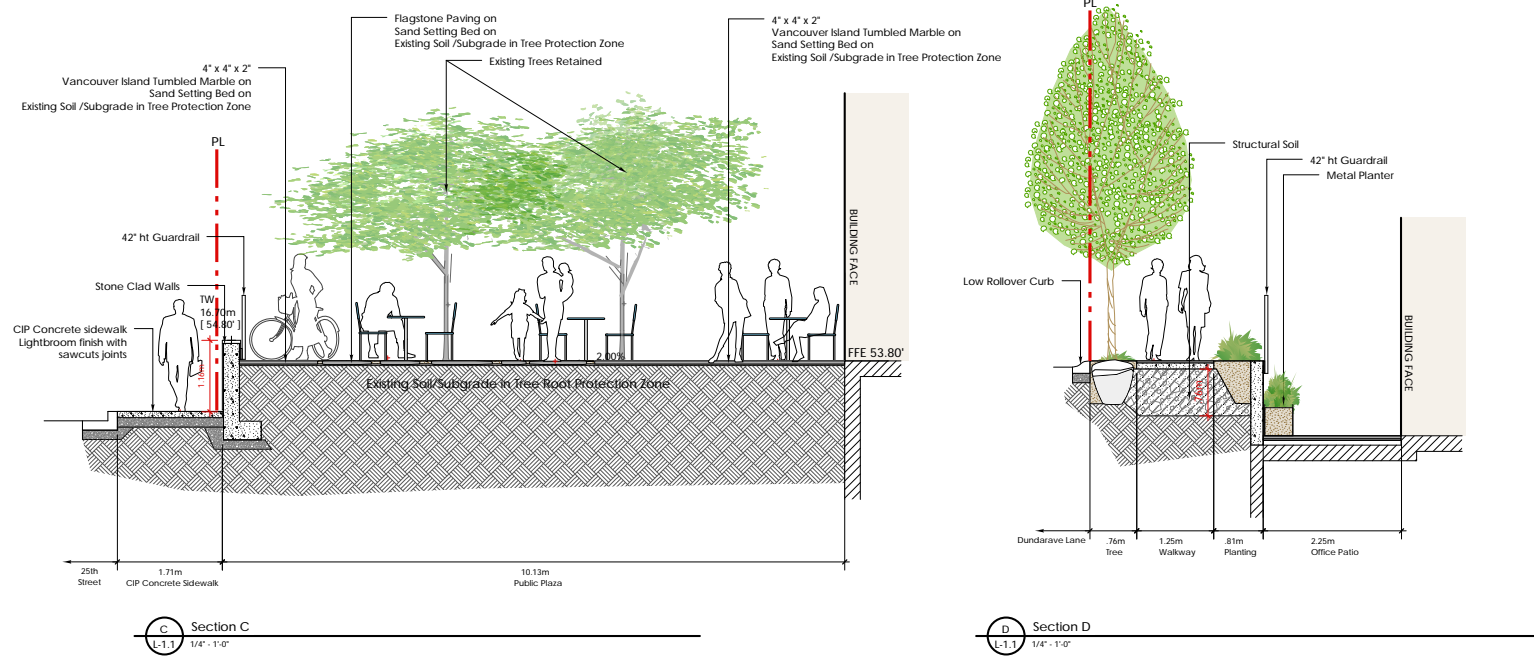
2452-2490 Marine Drive
West Vancouver

Drawn by: KS
Checked by: PK
Date: 07 April 2022
Scale: 1/4" = 1'
Drawing Title:
Landscape Sections

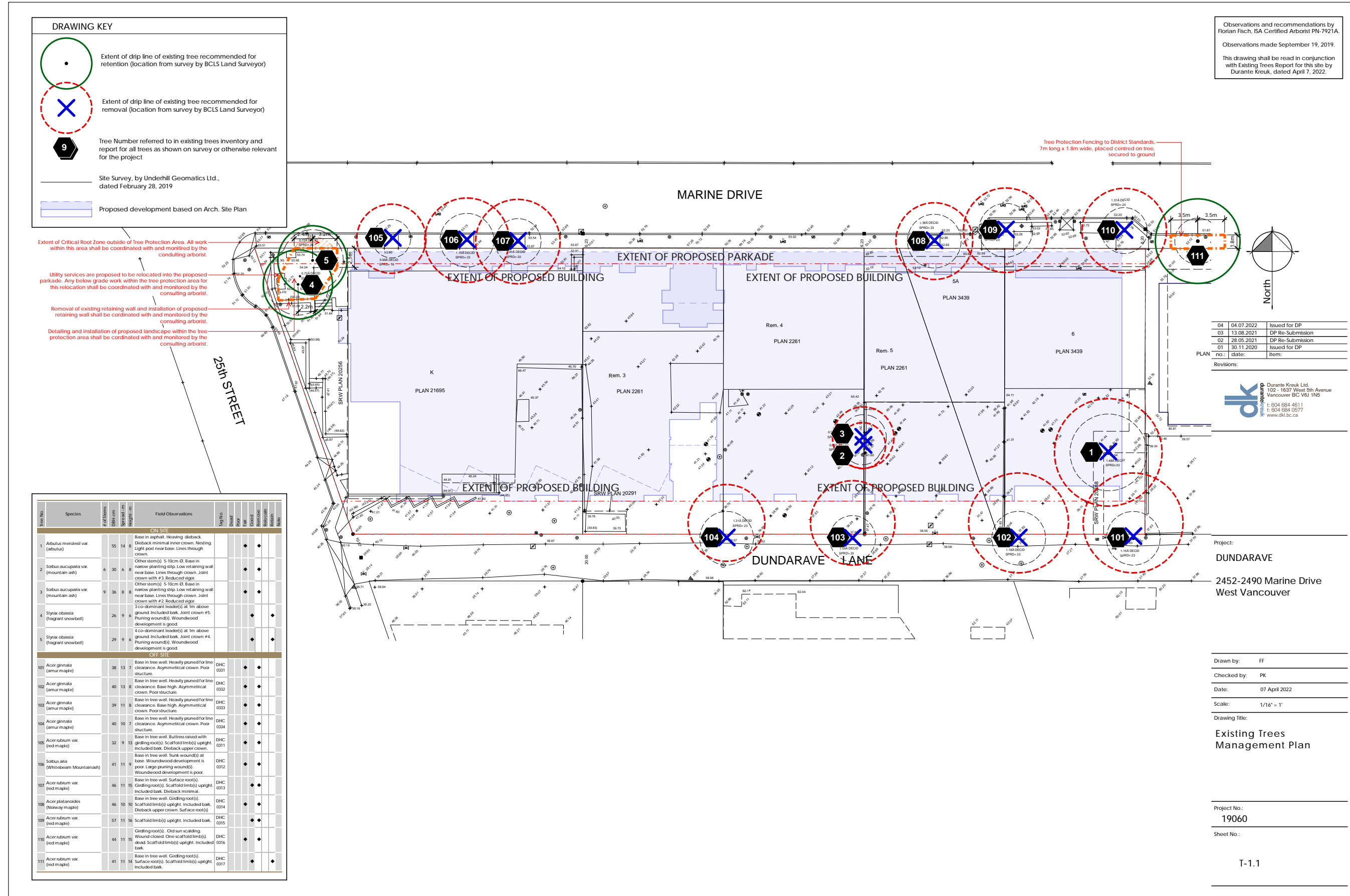
Project No.:
19060

Sheet No.:

L-2.1



F. LANDSCAPE DRAWINGS - EXISTING TREES MANAGEMENT PLAN



DRAWING KEY

- Extent of drip line of existing tree recommended for retention (location from survey by BCLS Land Surveyor)
- Extent of drip line of existing tree recommended for removal (location from survey by BCLS Land Surveyor)
- Tree Number referred to in existing trees inventory and report for all trees as shown on survey or otherwise relevant for the project
- Site Survey, by Underhill Geomatics Ltd., dated February 28, 2019
- Proposed development based on Arch. Site Plan

Observations and recommendations by Florian Fisch, ISA Certified Arborist PN-7921A.
 Observations made September 19, 2019.
 This drawing shall be read in conjunction with Existing Trees Report for this site by Durante Kreuk, dated April 7, 2022.

Extent of Critical Root Zone outside of Tree Protection Area. All work within this area shall be coordinated with and monitored by the consulting arborist.

Utility services are proposed to be relocated into the proposed parkade. Any below grade work within the tree protection area for this relocation shall be coordinated with and monitored by the consulting arborist.

Removal of existing retaining wall and installation of proposed retaining wall shall be coordinated with and monitored by the consulting arborist.

Detailing and installation of proposed landscape within the tree protection area shall be coordinated with and monitored by the consulting arborist.

Revisions:

04	04.07.2022	Issued for DP
03	13.08.2021	DP Re-Submission
02	28.05.2021	DP Re-Submission
01	30.11.2020	Issued for DP

dk Durante Kreuk Ltd.
 102 - 1637 West 5th Avenue
 Vancouver BC V6J 1N5
 T: 604 684 4611
 F: 604 684 0577
 www.dk.bc.ca

Tree No.	Species	# of stems	DBH - cm	Height - m	Field Observations	Tag No.	Root	Canopy	Health	Notes
ON SITE										
1	Abutilon menziesii var. (abutilon)	55	14		Base in asphalt. Heaving dieback. Dieback minimal inner crown. Nesting light post near base. Lines through crown.					
2	Sorbus aucuparia var. (mountain ash)	6	30	6	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #3. Reduced vigor.					
3	Sorbus aucuparia var. (mountain ash)	9	36	8	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #2. Reduced vigor.					
4	Styrax obassia (fragrant snowbell)	26	9		3 co-dominant leader(s) at 1m above ground. Included bask. Joint crown #5. Pruning wound(s). Woundwood development is good.					
5	Styrax obassia (fragrant snowbell)	29	9		4 co-dominant leader(s) at 1m above ground. Included bask. Joint crown #4. Pruning wound(s). Woundwood development is good.					
OFF SITE										
101	Acer ginnata (amur maple)	38	13		Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0331				
102	Acer ginnata (amur maple)	40	13		Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0332				
103	Acer ginnata (amur maple)	39	11		Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0333				
104	Acer ginnata (amur maple)	40	10		Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0334				
105	Acer rubrum var. (red maple)	32	9		Base in tree well. Buttress raised with 18 girdling root(s). Scaffold limb(s) upright. Included bask. Dieback upper crown.	DHC 0311				
106	Sorbus aria (Whitebeam Mountainash)	41	11		Base in tree well. Sunk wound(s) at base. Woundwood development is poor. Large pruning wounds. Woundwood development is poor.	DHC 0312				
107	Acer rubrum var. (red maple)	46	11		Base in tree well. Surface root(s). Girdling root(s). Scaffold limb(s) upright. Included bask. Dieback minimal.	DHC 0313				
108	Acer platanoides (Norway maple)	46	10		Base in tree well. Girdling root(s). Scaffold limb(s) upright. Included bask. Dieback upper crown. Surface root(s).	DHC 0314				
109	Acer rubrum var. (red maple)	57	11		Scaffold limb(s) upright. Included bask.	DHC 0315				
110	Acer rubrum var. (red maple)	44	11		Girdling root(s). Old sun scalding. Wound closed. One scaffold limb(s) dead. Scaffold limb(s) upright. Included bask.	DHC 0316				
111	Acer rubrum var. (red maple)	41	11		Base in tree well. Girdling root(s). Surface root(s). Scaffold limb(s) upright. Included bask.	DHC 0317				

Project: **DUNDARAVE**
 2452-2490 Marine Drive
 West Vancouver

Drawn by: FF
 Checked by: PK
 Date: 07 April 2022
 Scale: 1/16" = 1'
 Drawing title:
Existing Trees Management Plan

Project No.: **19060**
 Sheet No.:

arboricultural report and inventory

DUNDARAVE
2452-2490 MARINE DRIVE, WEST VANCOUVER, BC

Project No:
19060 / 1.3

Client:
Dundarave Beachside LP

Report Date:
Updated April 07, 2022

Arborist Fieldwork / Report completed by:
Florian Fisch, ISA Certified Arborist PN – 7921A, ISA TRAQ

Assessment Date:
September 19, 2019

Survey by:
Underhill Geomatics Ltd.

Survey Date:
February 28, 2019

Architectural background by:
IBI Group

Background Date:
April 04, 2022

1.0 INTRODUCTION

Durante Kreuk Ltd. was requested by the client to carry out a visual tree assessment and review of site conditions for all existing trees on and adjacent to the subject site to assess potential for tree retention within the proposed development.

The observations consist of a Level 2 visual assessment of individual trees using criteria set out by the International Society of Arboriculture (ISA). The objective of this review is to determine the species, size and general condition of each tree, and suitability for retention within the proposed new development of the subject site. Following parameters are taken into consideration during the evaluation process:

- Species, age, size, health, condition and anticipated longevity
- Visible indicators of structural defects in individual trees
- Location, exposure
- Current and potential hazard to persons or property
- Windfirmness or potential for blowdown in the area

The accompanying Existing Trees Management Plan (Appendix B) shows the tree locations, diameters at breast height (DBH) and tree numbers corresponding to this report. The tree locations are based on a survey plan provided by company as noted above unless noted otherwise on the drawings. The plan also shows the proposed retention or removal status for each tree in the proposed development. Further, the plan outlines the extent of the tree protection areas and specific tree protection measures, if applicable.

As a base for our recommendations outlined in this report, we use the District of West Vancouver Tree Bylaw No. 4892, 2016 amended November 02, 2020.

This report and the corresponding Existing Trees Management Plan are not a tree removal permit. Obtaining a proper tree removal permit from the relevant municipal authority prior to removal of any tree shall be the responsibility of the owner of the property or their representatives.

2.0 GENERAL OBSERVATIONS

2.1 The Subject Site

The site is part of a commercial area with surrounding mixed users and falls within the the Dundarave neighbourhood, District of West Vancouver. This site is part of a residential neighborhood. One block south and across the train tracks lies Dundarave park and Dundarave Beach.

The subject site is located on Marine Drive, the main road through lower West Vancouver and 25th Street, a neighbourhood access road. The site is bound by a lane on the south side. A mixed use low rise building occupies the adjacent lot to the east.

The subject site consists of multiple lots, currently occupied with single story commercial buildings. The site slopes in a general direction to the south by approximately one full floor elevation difference between Marine Drive and the Lane.

2.2 Tree Inventory

A detailed Tree Inventory (Appendix A), including all notes from field observations, is attached at the end of this report.

2.3 Existing Trees on Subject Site

Existing trees on the subject site can be summarized into 2 general groups as outlined below:

- .1 Trees within the parking area along the Lane:
Trees within this group consist of broadleaves only. The dominant tree within this group is tree #1 (arbutus). It is located within a small planting area surrounded by the parking lot and retaining wall along the property line. Other trees within this group are sub-dominant trees #2 and #3 (mountain ash). These trees are located within small planting areas within the the parking lot. These trees are in fair condition.
- .2 Trees within the corner plaza near the intersection of Marine Drive and 25th Street:
Trees within this group consist of broadleaves only. Trees #4 and #5 (fragrant snowbell) form a joint crown and are located in a dominant location at the entry of the Dundarave commercial strip. These trees are in good condition.

2.4 Existing Trees within adjacent Road Allowance

Existing trees within the adjacent road allowance can be summarized into 2 general groups as outlined below:

- .1 Trees within the Lane:
Trees within this group consist of broadleaves only. Trees #101 - #104 (amur maples) are all located within small planting areas between the lane and the parking area. All trees have heavily been pruned for overhead line clearance. These trees are generally in fair condition.
- .2 Trees within the Marine Drive Street Frontage:
Trees within this group consist of a broadleaves only. They are organized into two sub groups, one towards the west end of the site and the other one towards the east end of the site. Trees #105 (red maple), #106 (whitebeam mountainash) and #107 (Norway maple) form a less uniform western group. These trees are located in small planting wells. These trees are generally in fair to good condition. Trees #108 (Norway maple) and #109 - #111 (red maple) form a more uniform eastern group. Some of these trees are located in small planting wells, others are located in more spacious planting areas. These trees are generally in fair to good condition.

3.0 TREE MANAGEMENT RECOMMENDATIONS WITHIN THE PROPOSED DEVELOPMENT

The proposed mixed use building and underground parking structure would replace the existing buildings. The underground parking structure is proposed to cover almost the entire site, with the exception of a small triangular area near the northwest corner. The above ground building is proposed to be set back by approximately 6' from the northern property line to allow for a more generous and open sidewalk with structural soil and new street trees.

The following recommendations take the proposed site development as well as other site conditions and trees health into account:

- a) Trees #1, #2 and #3 are falling within the footprint of the proposed development. These trees are recommended for removal.
- b) Trees #4 and #5 are falling outside the footprint of the proposed development and into an area of substantial landscape upgrading. These trees are recommended for retention. Following protection measures are recommended:
 - i. Tree Protection Barrier shall be installed as shown on Existing Trees Management Plan prior to any other work commencing on site.
 - ii. Removal of Utility Services and relocation of below grade lines into the proposed structure shall be coordinated with and monitored by the consulting arborist as needed. Any excavation for that purpose shall be avoided or kept to an absolute minimum.
 - iii. Removal of existing retaining wall and installation of new retaining wall shall be coordinated with and monitored by the consulting arborist. Detailing of the new wall shall be coordinated with and reviewed by the consulting arborist. Any excavation for the installation of the new wall, past the existing retaining wall, shall be avoided.
 - iv. Landscape resurfacing within the tree protection area and the entire critical root zone as marked on the Existing Trees Management Plan shall be coordinated with and monitored by the consulting arborist. Any surfacing material shall be permeable. Any base buildup shall be kept to a minimum and be placed on top of existing grade. Any base material shall be clear grain to allow for air and water circulation.
 - v. Any temporary adjustments to the tree protection barrier for construction access shall be coordinated with the consulting arborist.
- c) Trees #101 - #104 are falling immediately next to the footprint of the proposed development and into an area of off-site improvements and significant landscape improvements. Landscape improvements include placement of structural soil allowing for planting of a row of street trees along the lane with increased potential. Off-site improvements include lane widening, which would be in conflict with the location of these trees. These trees are recommended for removal.
- d) Tree #105 - #110 are falling immediately next to the proposed footprint of the underground parking structure and within an area of significant off site improvements. These trees are recommended for removal.
- e) Tree #111 is located within the street frontage of the adjacent lot. The critical root zone of this tree will not be impacted by the proposed development and off site improvements. No work is proposed within the street frontate of the adjacent site and businesses within this building will be operating. This tree is recommended for retentions. Following protection measures are recommended:
 - i. Tree Protection Barrier shall be installed as shown on Existing Trees Management Plan prior to any other work commencing on site. Barrier shall be installed to District Requirements allowing for sufficient pedestrian flow.
 - ii. No work is expected within this area. Anyhow, would any work within 1m fo the tree protection area be required, it shall be coordinated with the consuling arborist.

4.0 SUMMARY OF TREE REMOVAL AND REPLACEMENT TREES

Table below shows a summary of trees recommended for removal and retention as well as municipal requirements for replacement trees or total of trees required on site after construction.

Description	On Site	Off Site
Existing Trees	5	11
Trees Recommended for Removal	3	10
Trees Recommended for Retention	2	1
Replacement trees required (one for each removed tree)	3	10
Trees proposed on ground level (per DK landscape drawings)	11	11

Per the table above, the tree replacement requirements are satisfied. Additional trees past the minimal requirement are proposed to be planted on this site. In addition to the trees listed in the table above, another 8 small trees are proposed to be planted on the roof level. The overall tree canopy condition would be improved in the long term.

5.0 LIMITATIONS OF THIS REPORT

It shall be noted that site conditions and tree health can change over time. Prior to construction, the client shall contact DK to confirm the validity of this report and the corresponding Existing Trees Management Plan. Additional field observations and revisions to the documentations may be required at this point to ensure accuracy of this documentation. Any additional effort past the field observations and reporting for the initial submission are not included within the original proposal fee and may be charged to the client at an additional cost.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) in the surrounding site, and the proximity of property and people. Except where specifically noted in the report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

The conclusions and recommendations made in this report are based on conditions as recorded on the date(s) of the field review. Notwithstanding the recommendations and conclusions, it must be realised that trees are living organisms, and their health and vigour constantly changes over time. They are not immune to changes in site conditions, or seasonal variations in the weather.

While reasonable efforts have been made to determine that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or parts of them, will remain standing and whole. It is impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or their component parts in all future circumstances. Inevitably any standing tree will pose some risk. In accordance with standard practice, the assessment presented in this report is valid at the time it was undertaken. Durante Kreuk Ltd. accepts no responsibility for subsequent damage or deterioration.

Notwithstanding the recommendations made in this report, Durante Kreuk Ltd. accepts no responsibility for the implementation of all or part of the recommendations, unless we have been specifically retained to review the implementation measures as they are carried out.

Implementation of the recommendations in no way implies any supervisory or inspection role on the part of Durante Kreuk Ltd.

This report shall be considered a whole; no sections or parts are severable. The report shall be considered incomplete if any pages are missing, including the attached plan.

Yours truly,

DURANTE KREUK LTD.

A handwritten signature in black ink, appearing to be 'Florian Fisch', written over a horizontal line.

Florian Fisch
ISA Certified Arborist PN – 7921A

FF/jb

TABLE OF APPENDICES:

- A – EXISTING TREE INVENTORY**
- B – EXISTING TREE MANAGEMENT PLAN**

Tree No.	Species	# of Stems	DBH-cm	Spread - m	Height - m	Field Observations	Tag No.	Dead	Poor	Fair	Good	Remove	Relocate	Retain	Note
ON SITE															
1	<i>Arbutus menziesii</i> var. (arbutus)		55	14	8	Base in asphalt. Heaving dieback. Dieback minimal inner crown. Nesting. Light post near base. Lines through crown.				◆		◆			
2	<i>Sorbus aucuparia</i> var. (mountain ash)	6	30	6	8	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #3. Reduced vigor.				◆		◆			
3	<i>Sorbus aucuparia</i> var. (mountain ash)	9	36	8	8	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #2. Reduced vigor.				◆		◆			
4	<i>Styrax obassia</i> (fragrant snowbell)		26	9	6	3 co-dominant leader(s) at 1m above ground. Included bark. Joint crown #5. Pruning wound(s). Woundwood development is good.					◆			◆	
5	<i>Styrax obassia</i> (fragrant snowbell)		29	9	6	4 co-dominant leader(s) at 1m above ground. Included bark. Joint crown #4. Pruning wound(s). Woundwood development is good.					◆			◆	
OFF SITE															
101	<i>Acer ginnala</i> (amur maple)		38	13	7	Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0331			◆		◆			
102	<i>Acer ginnala</i> (amur maple)		40	13	8	Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0332			◆		◆			
103	<i>Acer ginnala</i> (amur maple)		39	11	8	Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0333			◆		◆			
104	<i>Acer ginnala</i> (amur maple)		40	10	7	Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0334			◆		◆			
105	<i>Acer rubrum</i> var. (red maple)		32	9	13	Base in tree well. Buttress raised with girdling root(s). Scaffold limb(s) upright. Included bark. Dieback upper crown.	DHC 0311			◆		◆			
106	<i>Sorbus aria</i> (Whitebeam Mountainash)		41	11	9	Base in tree well. Trunk wound(s) at base. Woundwood development is poor. Large pruning wound(s). Woundwood development is poor.	DHC 0312			◆		◆			
107	<i>Acer rubrum</i> var. (red maple)		46	11	15	Base in tree well. Surface root(s). Girdling root(s). Scaffold limb(s) upright. Included bark. Dieback minimal.	DHC 0313				◆	◆			
108	<i>Acer platanoides</i> (Norway maple)		46	10	10	Base in tree well. Girdling root(s). Scaffold limb(s) upright. Included bark. Dieback upper crown. Surface root(s)	DHC 0314			◆		◆			
109	<i>Acer rubrum</i> var. (red maple)		57	11	16	Scaffold limb(s) upright. Included bark.	DHC 0315				◆	◆			
110	<i>Acer rubrum</i> var. (red maple)		44	11	15	Girdling root(s). Old sun scalding. Wound closed. One scaffold limb(s) dead. Scaffold limb(s) upright. Included bark.	DHC 0316			◆		◆			
111	<i>Acer rubrum</i> var. (red maple)		41	11	14	Base in tree well. Girdling root(s). Surface root(s). Scaffold limb(s) upright. Included bark.	DHC 0317				◆			◆	

Observations and recommendations by Florian Fisch, ISA Certified Arborist PN-7921A.
 Observations made September 19, 2019.
 This drawing shall be read in conjunction with Existing Trees Report for this site by Durante Kreuk, dated April 7, 2022.

DRAWING KEY

- Extent of drip line of existing tree recommended for retention (location from survey by BCLS Land Surveyor)
- Extent of drip line of existing tree recommended for removal (location from survey by BCLS Land Surveyor)
- Tree Number referred to in existing trees inventory and report for all trees as shown on survey or otherwise relevant for the project
- Site Survey, by Underhill Geomatics Ltd., dated February 28, 2019
- Proposed development based on Arch. Site Plan

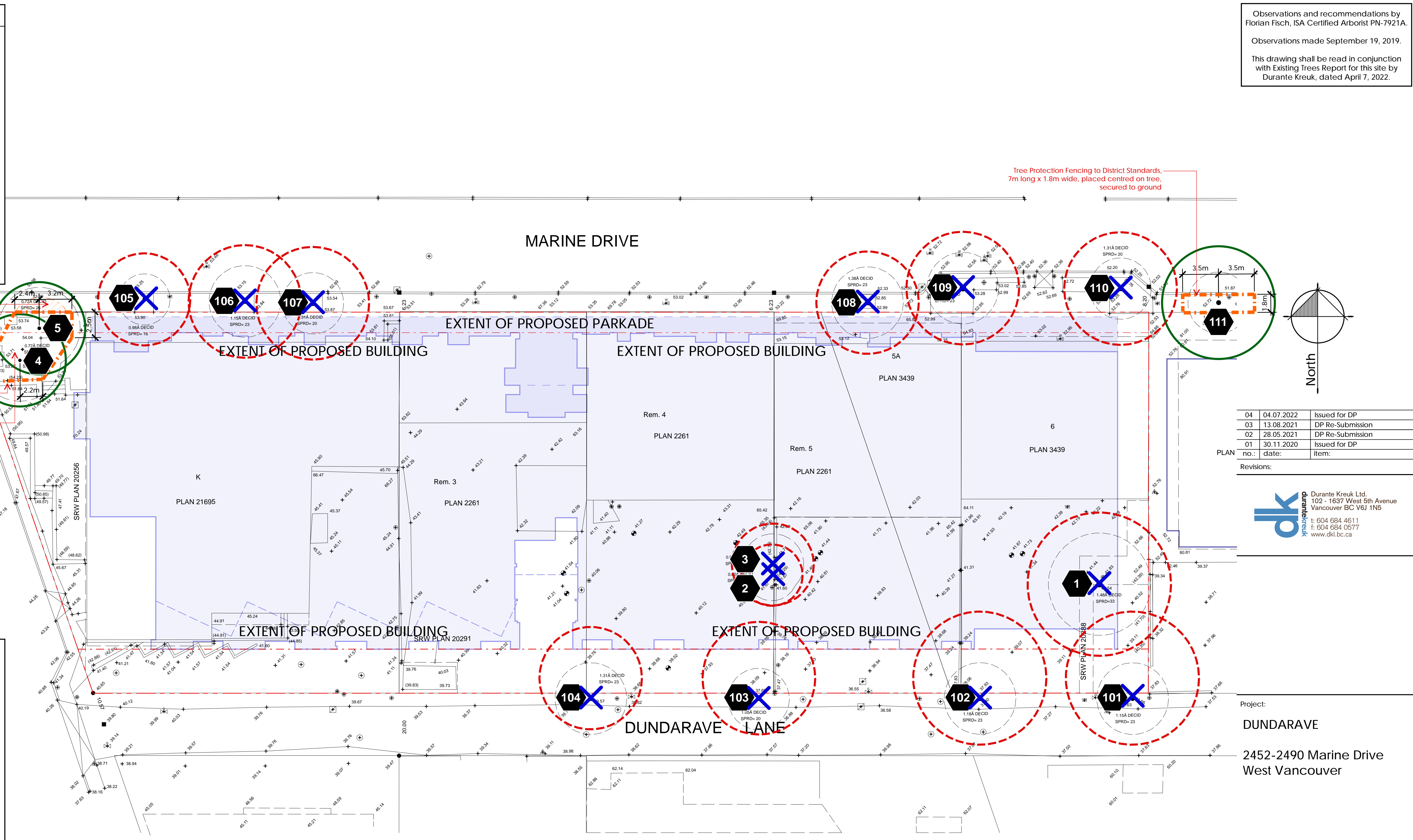
Extent of Critical Root Zone outside of Tree Protection Area. All work within this area shall be coordinated with and monitored by the consulting arborist.

Utility services are proposed to be relocated into the proposed parkade. Any below grade work within the tree protection area for this relocation shall be coordinated with and monitored by the consulting arborist.

Removal of existing retaining wall and installation of proposed retaining wall shall be coordinated with and monitored by the consulting arborist.

Detailing and installation of proposed landscape within the tree protection area shall be coordinated with and monitored by the consulting arborist.

Tree No.	Species	# of Stems	DBH - cm	Spread - m	Height - m	Field Observations	Tag No.	Dead	Poor	Fair	Good	Remove	Relocate	Retain	Note
ON SITE															
1	<i>Arbutus menziesii</i> var. (<i>arbutus</i>)	55	14	8		Base in asphalt. Heaving dieback. Dieback minimal inner crown. Nesting Light post near base. Lines through crown.									
2	<i>Sorbus aucuparia</i> var. (<i>mountain ash</i>)	6	30	6	8	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #3. Reduced vigor.									
3	<i>Sorbus aucuparia</i> var. (<i>mountain ash</i>)	9	36	8	8	Other stem(s) 5-10cm Ø. Base in narrow planting strip. Low retaining wall near base. Lines through crown. Joint crown with #2. Reduced vigor.									
4	<i>Styrax obassia</i> (<i>fragrant snowbell</i>)	26	9	6	6	3 co-dominant leader(s) at 1m above ground. Included bark. Joint crown #5. Pruning wound(s). Woundwood development is good.									
5	<i>Styrax obassia</i> (<i>fragrant snowbell</i>)	29	9	6	6	4 co-dominant leader(s) at 1m above ground. Included bark. Joint crown #4. Pruning wound(s). Woundwood development is good.									
OFF SITE															
101	<i>Acer ginnala</i> (<i>amur maple</i>)	38	13	7	7	Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0331								
102	<i>Acer ginnala</i> (<i>amur maple</i>)	40	13	8	8	Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0332								
103	<i>Acer ginnala</i> (<i>amur maple</i>)	39	11	8	8	Base in tree well. Heavily pruned for line clearance. Base high. Asymmetrical crown. Poor structure.	DHC 0333								
104	<i>Acer ginnala</i> (<i>amur maple</i>)	40	10	7	7	Base in tree well. Heavily pruned for line clearance. Asymmetrical crown. Poor structure.	DHC 0334								
105	<i>Acer rubrum</i> var. (<i>red maple</i>)	32	9	13	13	Base in tree well. Buttress raised with girdling root(s). Scaffold limb(s) upright. Included bark. Dieback upper crown.	DHC 0311								
106	<i>Sorbus alba</i> (<i>Whitebeam Mountainash</i>)	41	11	9	9	Base in tree well. Trunk wound(s) at base. Woundwood development is poor. Large pruning wound(s). Woundwood development is poor.	DHC 0312								
107	<i>Acer rubrum</i> var. (<i>red maple</i>)	46	11	15	15	Base in tree well. Surface root(s). Girdling root(s). Scaffold limb(s) upright. Included bark. Dieback minimal.	DHC 0313								
108	<i>Acer platanoides</i> (<i>Norway maple</i>)	46	10	10	10	Base in tree well. Girdling root(s). Scaffold limb(s) upright. Included bark. Dieback upper crown. Surface root(s).	DHC 0314								
109	<i>Acer rubrum</i> var. (<i>red maple</i>)	57	11	16	16	Scaffold limb(s) upright. Included bark.	DHC 0315								
110	<i>Acer rubrum</i> var. (<i>red maple</i>)	44	11	15	15	Girdling root(s). Old sun scalding. Wound closed. One scaffold limb(s) dead. Scaffold limb(s) upright. Included bark.	DHC 0316								
111	<i>Acer rubrum</i> var. (<i>red maple</i>)	41	11	14	14	Base in tree well. Girdling root(s). Surface root(s). Scaffold limb(s) upright. Included bark.	DHC 0317								



04	04.07.2022	Issued for DP
03	13.08.2021	DP Re-Submission
02	28.05.2021	DP Re-Submission
01	30.11.2020	Issued for DP
PLAN no.:	date:	item:

Revisions:



Project: **DUNDARAVE**
 2452-2490 Marine Drive
 West Vancouver

Drawn by: FF
 Checked by: PK
 Date: 07 April 2022
 Scale: 1/16" = 1'

Drawing Title: **Existing Trees Management Plan**

Project No.: **19060**
 Sheet No.: