



DESIGN BRIEF | **SUBMISSION**

RICHMOND ROAD APARTMENTS

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Ottawa

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SECTION 1

This Design Brief has been prepared in support of a Site Plan Control Application and Major Zoning By-law amendment for the lands known as 797 Richmond Road. Its legal description is as follows:

Part of Lot 26 and 27, Concession 1 (Ottawa Front), Geographic Township of Nepean, Ottawa

As illustrated in Figure 1 on Page 4, the subject lands are located on the north side of Richmond Road, south of the intersection at Cleary Ave and Richmond Road. Richmond is a designated arterial road within the City's Official Plan and the property is subject to an unequal road widening Right of Way, 7.5m from the centreline of the road on the north side. This site is subject to the Cleary-New Orchard secondary plan and is in close proximity (within 600 Meters) the future Cleary Light Rail Transit station.

.1 VISION STATEMENT

The purpose for this application is to permit the construction of a mixed use, 9 storey building with ground floor commercial space, 8 storeys of apartment units, and a rooftop amenity room and patio. Two levels of underground parking are proposed to serve as visitor parking for the proposed 60 residential units.

.2 OFFICIAL PLAN POLICY

The subject site is designated Traditional Mainstreet on Schedule B of the Official Plan. The proposed mid-rise mixed use development conforms to the general intent and purpose of this land use designation, and is appropriately located along the north side of Richmond Road, a traditional Mainstreet, and directly across from the future Cleary LRT Station.

Section 3.6.3 of the Official Plan provides policy direction for Traditional Mainstreets, generally these policies speak to the intent for Traditional Mainstreet developments to support multi-modal connectivity, high-quality urban design (i.e., landscaping, amenities and the public realm) and appropriate building relationships with the street. These policies are further detailed in Sections 2.5.1 and 4.11 of the Official Plan which speak to the design quality and compatibility of new development.

The proposed land uses (i.e., residential, medical facility (denture clinic), and other non-residential uses to be determined) are permitted uses within the Traditional Mainstreet designation, and are encouraged in the mixed-use format proposed. The proposal provides all parking underground (at 0.6 spaces per dwelling unit) with the exception of a lay-by area and single front yard temporary space. The combined temporary parking space (parallel with the street) and lay-by area does not represent the type of parking that is intended to be phased out from Traditional Mainstreets. The lay-by area and single temporary parking space are critical components for safe and efficient site functionality, as they allow vehicles with temporary parking needs (i.e. pick-up / drop off, service vehicles, loading vehicles, etc.) to easily locate and utilize the parking space without the need to access the underground garage or obstruct access to the sidewalk or proposed driveway. In the design of this space, consideration has been made to maintain the general look, feel, and function for a traditional mainstreet along this short stretch of the public realm, which helps ameliorate impact to the pedestrian environment.

The proposal represents a timely and desirable redevelopment of a site, as it will allow for the owner to maintain their dental practice within a new building space, while drawing on the proximity of the future LRT station to optimize the site through appropriately scaled intensification. The proposal will consist of a single mid-rise building that encloses and defines the street edge with active frontage, and provides and appropriately designed public realm which balances pedestrian circulation with site functionality.

The proposal conforms to the applicable policies of section 3.6.3 of the Official Plan and will play an important role in supporting the City's objectives for intensification and mainstreet evolution along corridors supported by rapid transit and pedestrian infrastructure.

.3 SECONDARY PLANS, POLICIES AND GUIDELINES

The subject property falls under the Cleary and New Orchard Secondary Plan, which was completed in 2018 and serves to provide strategic planning direction to guide future growth and redevelopment of the lands that are in close proximity to the Cleary and New Orchard light rail transit stations.

Section 2.1 of the secondary plan contains vision statements intended to provide direction for the future of how the area will evolve and how the mainstreet will develop. The intent is for Richmond Road to consolidate as a more populated, mixed, active and dynamic traditional mainstreet. The area should continue to evolve into an attractive and liveable urban community, with prominent green space components as well as a wide mix of uses and range of housing types. Intensification should be compatible and compliment adjacent neighbourhoods with an emphasis on "Human Scale" pedestrian interaction.

Section 2.2 of the secondary plan contains four guiding principals that the proposed development must demonstrate conformity with. The first is that the norther frontage of Richmond Road, to which our property belongs, will be characterized by a mid-rise development, and taller elements, where permitted will be set back. The tallest buildings will be near the two rapid transit stations. The second principal is that all usable public greenspace will be retained, increased or expanded where possible, the third is that all development will be designed with the human scale in mind, and the final guiding principle is that the scale and character of existing neighbourhoods shall be preserved through height transitions to new development, with an emphasis on Light Rail Transit over automobile transportation.

The proposed mid-rise mixed use development demonstrates conformity with the Guiding Principles of section 2.2 and will be supportive of the vision statements described within section 2.1. The proposal introduces an appropriate site design that includes a mid-rise building with articulations that help break up mass and accentuate a subtle base, middle and top. Building placement and site layout help to enclose and define the street edge with active frontage and provides and appropriately designed public realm which balances pedestrian circulation and site functionality.

The proposed development is a mixed use building with all non-residential uses on the ground floor, accessed by a common entrance in the lobby area - the only residential component to the ground floor is a leasing office at the rear of the floor plate. The proposal includes a single vehicle access into the site: a lane way which leads to and from the underground parking garage. The ramp to the garage is concealed in the back of the property providing a more attractive and engaging frontage on the traditional mainstreet. All required parking is proposed underground, with the exception of a temporary parallel parking space within the lay by area.

The proposed mixed-use development conforms to the general intent and purpose of the Cleary and New Orchard Secondary Plan. For an itemized discussion of the Official Plan and Secondary Plan as it relates to this proposal, please refer to the Planning Rationale from Stantec which accompanies this design brief.

.1 THE SITE

The subject property 797 Richmond is a north-south site located on the north side of Richmond Road south of Cleary Ave. The property has approximately 110m of frontage along Richmond road, and has a depth of approximately 35m, and is about 3,850 m² in area. The existing construction on the subject is a single storey office presently occupied by a denture clinic, with at grade parking. The site is current zoned as "TM" – Traditional Mainstreet.

.2 COMMUNITY CONTEXT

The subject property and its immediate surrounding are designated as Traditional Mainstreet in the Official Plan. The lands immediately north of the property are designated General Urban Area in the official plan and are zoned Minor Institutional in the zoning bylaw. The property faces the tail end of the Byron Tramway Park, with the Cleary Light Rail Transit Station planned just north-east of the property.

Within the immediate context of the subject site there are a few mid and high rise development projects. To the east, there are two multi-unit residential properties, a relatively small 3 storey development and a more considerable 12 storey development named "the Continental". Low rise commercial developments line Richmond Road to the west of the site, and two places of worship, a church and synagog are located directly north of the rear property line. Across the tramway park on Byron Ave, facing the subject site are several mid and low rise residential properties.

The surrounding residential neighbourhoods to the west and southwest are designated "General Urban Area", which permits a full range of housing types in combination with conveniently located local employment, service, cultural, leisure, entertainment and institutional uses. Because of the broad nature of this designation, the Zoning By-law details more specific lists of permitted uses and development regulations in order to achieve more appropriate land uses and built forms and overall compatibility. Presently the surrounding neighbourhoods are primarily single family homes and low-mid rise multi-unit residential.

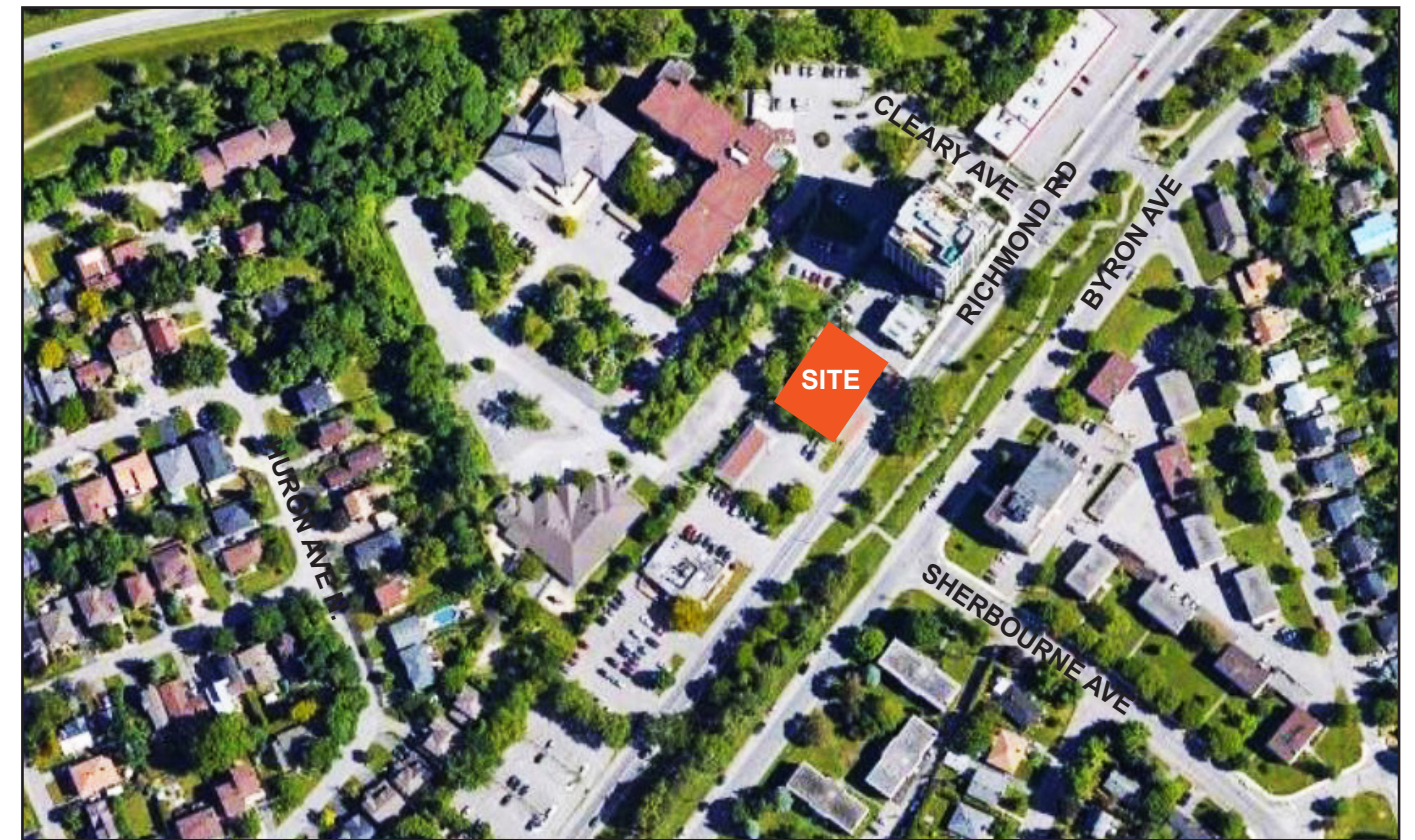
New development must relate to existing community character, and build upon desirable, established patterns and built form. Residential intensification should help to achieve a balance of many types and tenures to provide a full range of housing and a variety of demographic profiles

.3 797 RICHMOND ROAD

Bordering the site to the south is Richmond Road which has an east-west orientation and operates as a traditional mainstreet and a cross-town bikeway for cyclists. Beyond Richmond Road is the Byron Tramway Park, and the location of the future Light Rail Transit surface railway, which is bordered on the south side by Byron Ave.

Richmond Road is designated as an arterial road within the City's Official Plan. The site is within 600 meters of the Cleary LRT Station, which will continue to alter traffic patterns over time as the LRT is expanded, and characterize the evolution of the long term uses of the immediate context of the area. The proximity to the LRT provides an opportunity for the redevelopment on several under utilized properties. New development should be encouraged to incorporate animated and activity-generating land uses, buildings and spaces that take advantage of its excellent transit access.

.4 FIGURE 1: AERIAL SITE PLAN





LEGEND

- 1. FIRST UNITARIAN CONGREGATION OF OTTAWA
- 2. UNITARIAN HOUSE RETIREMENT HOME
- 3. ANCOURA CHARITY HEADQUARTERS
- 4. RIVER PARKWAY CHILDREN'S CENTRE
- 5. THE CONTINENTAL CONDOMINIUMS

- 6. KRISTY'S RESTAURANT
- 7. FORMER CLEARY STATION LOCATION - POTENTIAL FUTURE DEVELOPMENT
- 8. CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS
- 9. MCKELLAR PARK
- 10. OTTAWA FARMER'S MARKET

- 11. TENNIS COURT / BASEBALL FIELD / SOCCER PITCH
- 12. LORD RICHMOND APARTMENTS 851
- 13. FUTURE DEVELOPMENT
- 14. FUTURE CLEARY LRT STATION
- 15. BYRON TRAMWAY PARK

- - - 100m RADIUS FROM SITE
- - - BIKE PATH
- OC TRANSPRO STOP



KEY PLAN



1 - Looking South-West from Richmond Road



2 - Looking West from Richmond Road



3 - Looking North-East from Richmond Road



4 - Looking South-East from Richmond Road

.6 STREET VIEW CONTEXT IMAGES



KEY PLAN



5 - Looking North-East from Richmond Rd.



6 - Looking South-East from Cleary Ave

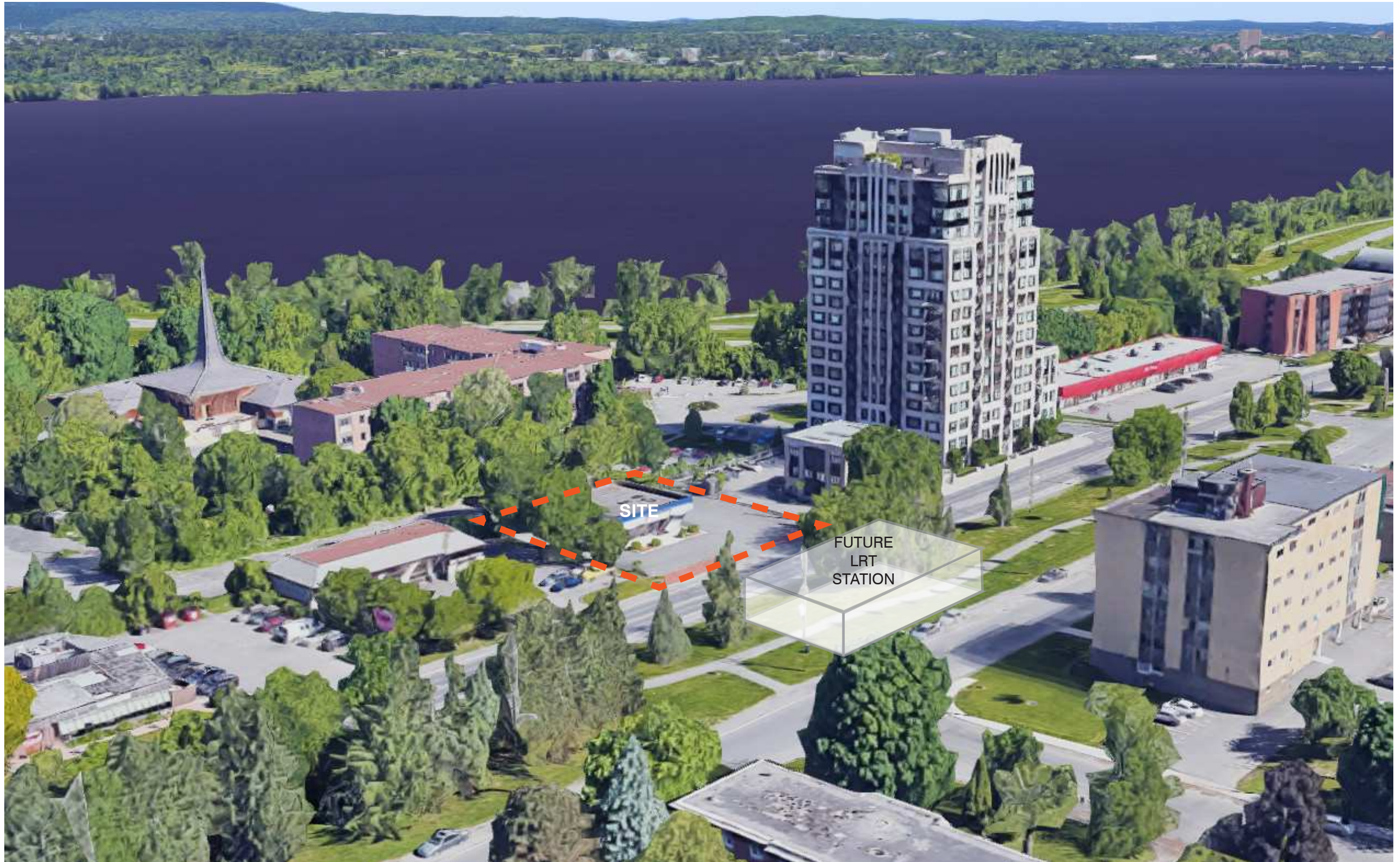


7 - Looking South-West from Richmond Road

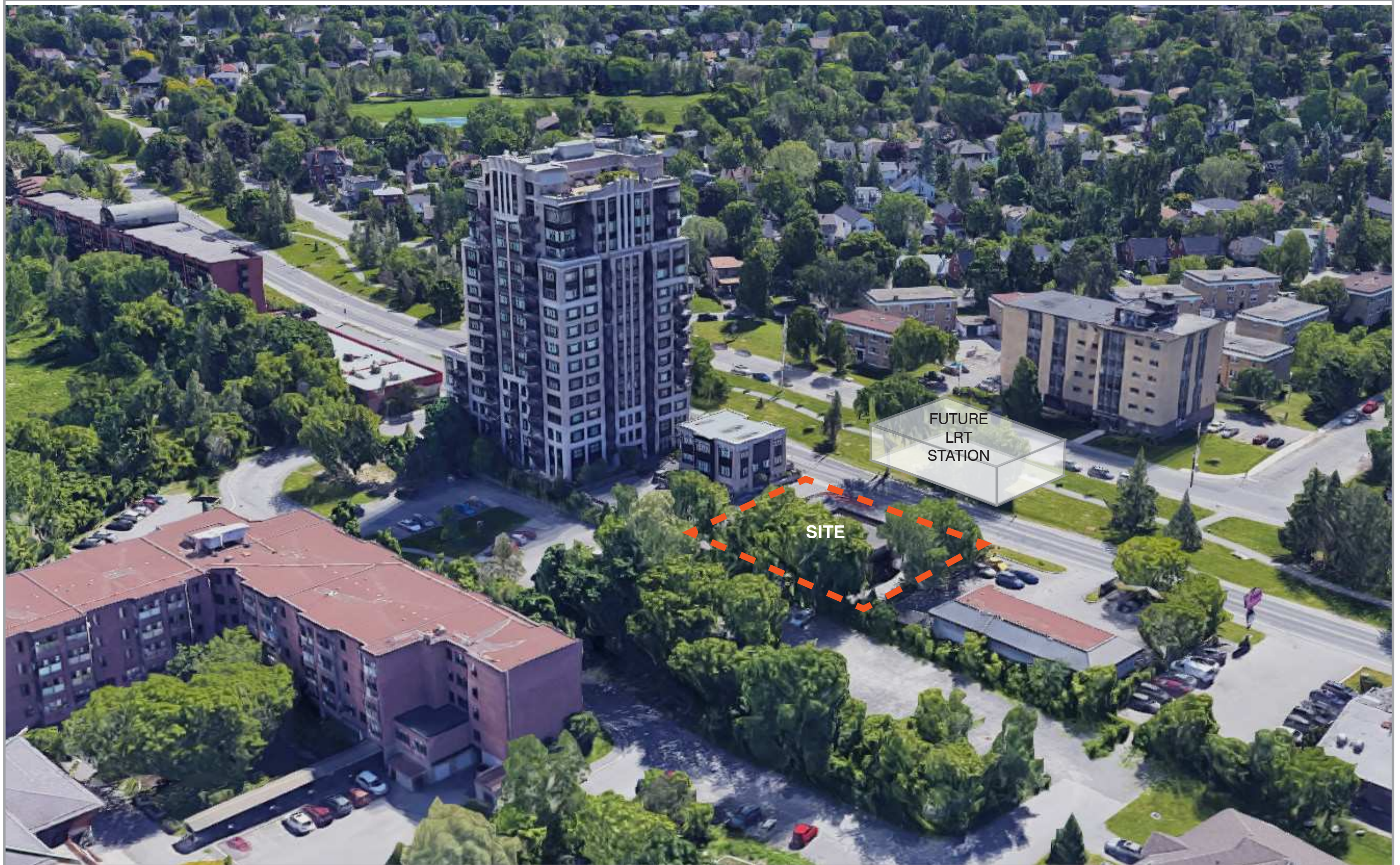


8 - Looking South-West from Byron Ave

.7 STREET VIEW CONTEXT IMAGES



.8 AERIAL VIEW FROM SOUTH-WEST



.9 AERIAL VIEW FROM NORTH WEST



.10 AERIAL VIEW FROM SOUTH-EAST



.11 AERIAL VIEW FROM NORTH EAST

SECTION 2



.1 BUILDING MASSING - AERIAL VIEW FROM SOUTH-EAST



.2 BUILDING MASSING - AERIAL VIEW FROM NORTH-EAST



.3 BUILDING MASSING - AERIAL VIEW FROM SOUTH-WEST



.4 BUILDING MASSING - AERIAL VIEW FROM NORTH-WEST



.5 BUILDING PERSPECTIVE - VIEW FROM RICHMOND LOOKING NORTH-EAST



.6 BUILDING PERSPECTIVE - VIEW FROM RICHMOND LOOKING SOUTH-WEST



.7 BUILDING PERSPECTIVE - VIEW FROM CLEARY LOOKING SOUTH-WEST



Future Cleary LRT Station

.8 BUILDING PERSPECTIVE - VIEW FROM BYRON LOOKING NORTH



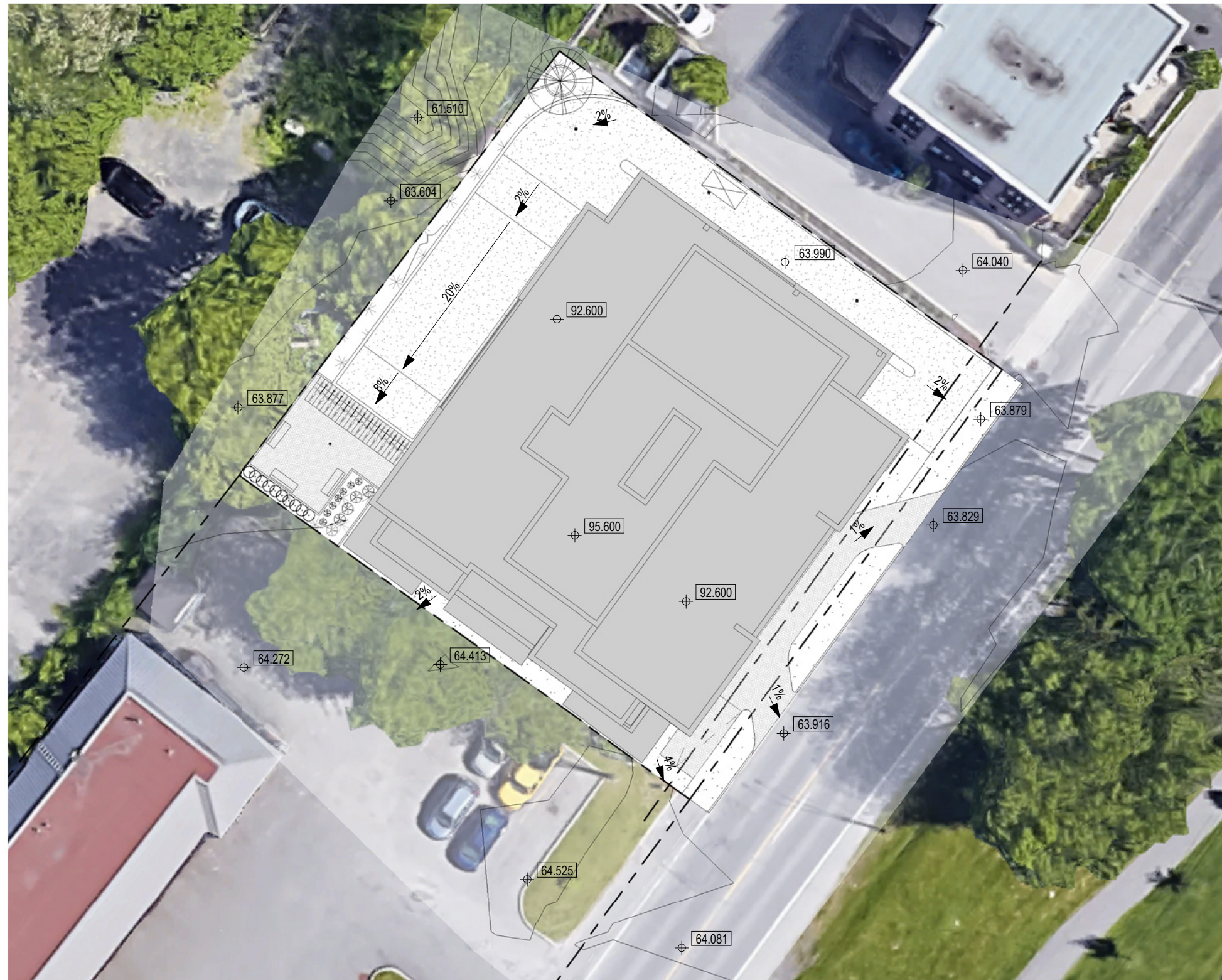
Single Storey Commercial Property

Proposed Development

3 Storey Residential Development

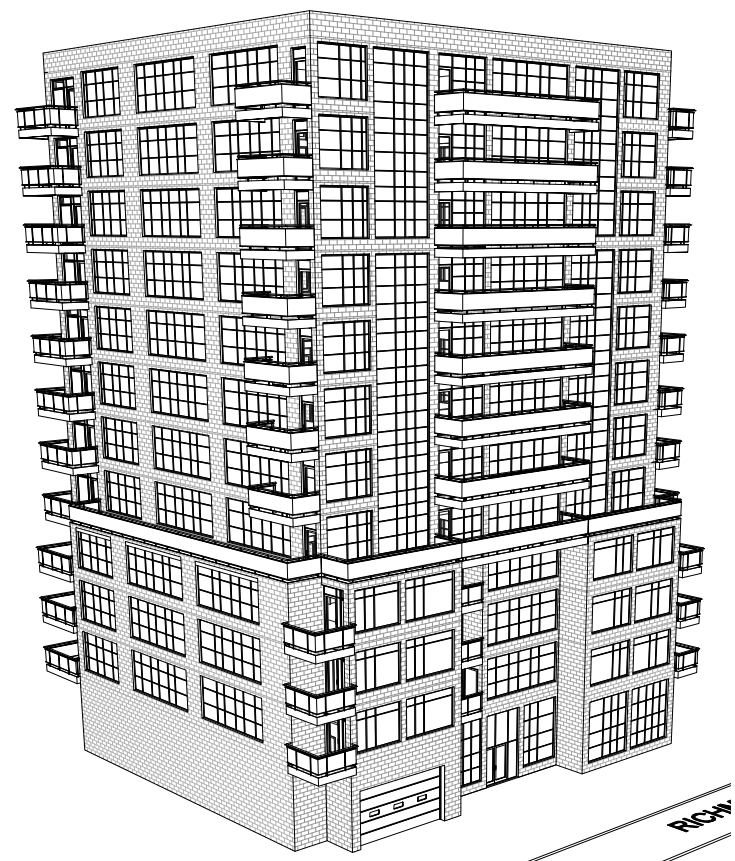
15 Storey Residential Development

.9 BUILDING TRANSITION

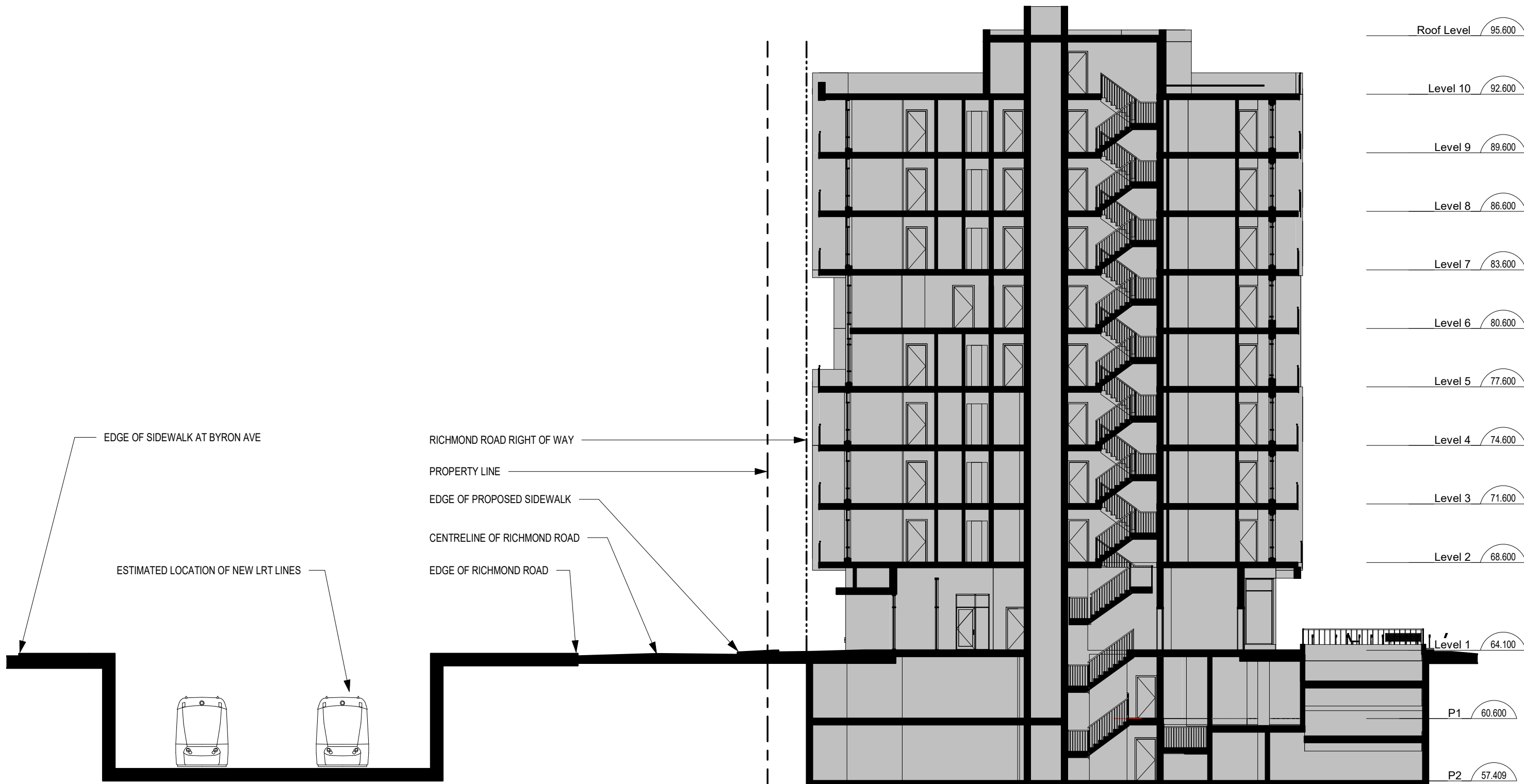


- Grey area indicates extent of building including balconies, overhangs and permitted projections.
- Grades shown are approximate only for illustrative purposes. For precise proposed grades, refer to grading and drainage plan from Ainley.
- Primary grade-level drainage to be achieved through internal catch basins within the drive aisle, and at the rear amenity.
- The vehicular lay by at front of property will be distinguished from the abutting concrete sidewalks primarily through a change in material (interlock). The intention is for the lay by to be at the same level as the adjacent pedestrian sidewalks to promote ease of pedestrian use, and particularly for additional barrier free accessibility. Curbs will be reestablished at the location of the temporary parking stall to ensure considerate vehicle parking.

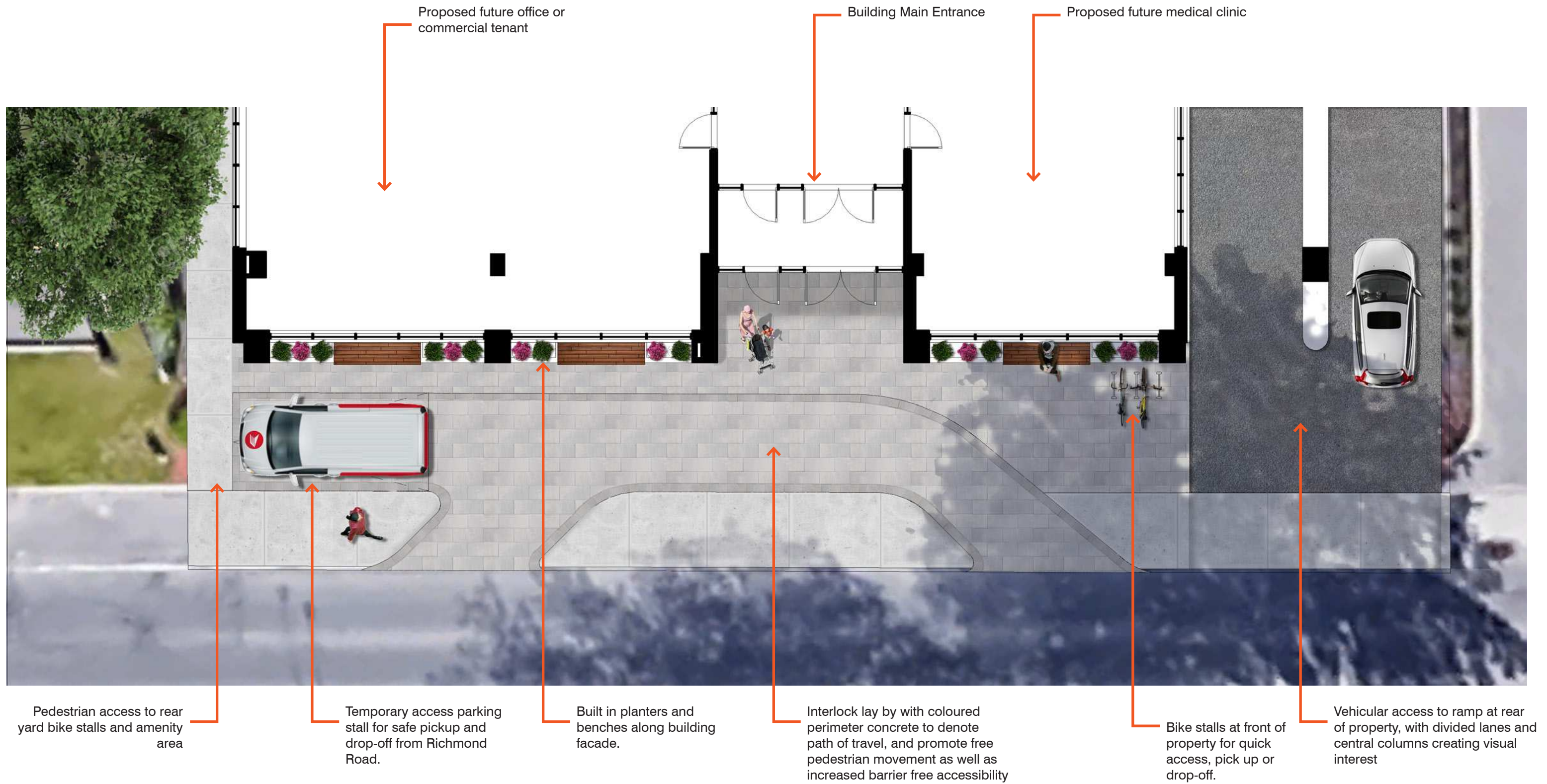
.10 BUILDING GRADING



.11 ALTERNATIVE IMAGERY



.1 STREETScape



.2 RELATIONSHIP TO PUBLIC REALM

The proposed development was designed as a modular, 9 storey building. The intention was not to duplicate the height and slenderness of the adjacent Charlesfort development “The Continental” and instead offer a structure whose facade proportions were more in keeping with the golden ratio, where the width across the frontage is more proportional to the height of the building. The overall massing becomes more grounded, reassuring and visually pleasing.

The front facade is broken into four quadrants with a central band at the 5th and 6th floors consisting of 2 storey curtain wall. The projecting quadrants create a dynamic facade when viewed from Richmond Road at the street level, and form a cohesive and clear language when viewed from Byron Ave.

At the street level, large glass windows for the commercial tenants will allow for a vibrant interaction between interior and exterior. Built in planters and benches along the facade under the windows are friendly and inviting, allowing patrons waiting for a pickup along the interlock lay by to sit comfortably. A small overhang announces the single main entrance, which is set back from the facade, and will be well lit and clearly articulated. Signage for the building will be incorporated above the overhang, with more directional signage included within the building itself. Signage for the commercial tenants may be incorporated as part of the spandrel panels above the windows.

The front yard will be entirely landscaped with interlock, using alternative colours to announce the direction and location of the lay by, which will be sloped such that barrier free accessibility is achieved. Easy accessibility is important for the client, as their commercial office is a denture clinic and it is anticipated that elderly patrons will require accommodation in this regard. The lay by will slope away from the pedestrian level at the location of the parking stall, and a small curb around the stall will ensure that temporary parking is within the limits of the stall.

The eastern facade, facing the adjacent 3 storey residential construction as well as the residential is almost exclusively balconies which maximizes the favourable views toward the river. The balconies are framed by a projecting columns, which sit overtop of the drive aisle providing access to the ramp at the rear. This softens and reduces the appearance of the drive aisle from the street.

The north facade borrows from the language of the street-facing facade, this time with a continuous vertical ‘waterfall’ of balconies running between the 4 quadrants at the corners. These quadrants are designed to project minimally through the use of materials rather than through a cantilever like on the street-facing facade. Large windows take advantage of the favourable views.

The west facade faces steps back from the property line as it moves up the building. Balconies of the upper levels are set in to preserve their usefulness in the event the adjacent site will be redeveloped, which is highly likely given the proximity of the LRT. A similar frame-based typology to the east facade is employed, though the west facade enjoys more articulation and a strong vertical element which is reminiscent of the “waterfall” on the rear of the building.

The rear lot includes a small amenity area, shielded from the adjacent parking lot to the west by a cedar hedge and ornamental planting, with ample bike storage and well lit outdoor seating. Rear exits from the stairwells and lobby are sheltered and recessed into the building for added safety and security.

The material palette will be a combination of charcoal metal panel for the projecting quadrants at the north and south facades, white metal panel or a fibre cement board for the remainder of the building, with a similarly scaled white stone panel at grade level for added durability, and a wood-textured panel in select areas to highlight design and provide visual interest. Spandrel panels in the multi-storey curtain wall configuration will be back painted glass, and the balcony railings will be fully transparent glass which will be installed proud of the concrete floor edge, concealing it and creating a more contiguous volume.

Exterior lighting will be accomplished through luminaires installed under the projecting soffits of the lower two charcoal-coloured quadrants, with lighting incorporated into the canopy to highlight the main entrance. Lighted bollards will provide

safe and bright grade level illumination without projecting light upward interfering with the condo units for the parking stall, west sidewalk as well as the rear amenity.

The rooftop level includes both a mechanical room and an amenity room with full glass facades facing the favourable views north and east. The outdoor rooftop amenity area will be on the north side of the building facing the river, protected from the noise of Richmond Road. The mass of the rooftop enclosures will be a light grey metal finish so as to visually recede from view. The mechanical equipment will be largely located within the mechanical room on the rooftop level, and equipment not able to be located within the room will be screened from the view from Richmond Road with light grey metal louvers. The design of the building incorporates the rooftop parapets visually into the massing of the quadrants, which will help to conceal service equipment from the street.



LEGEND

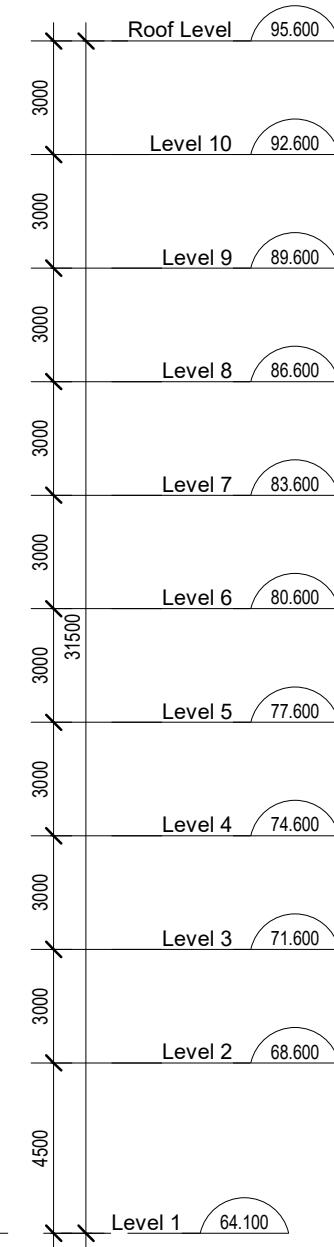
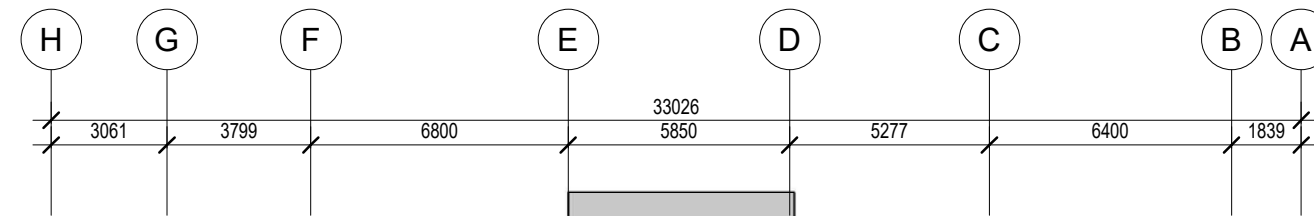
- 1. WHITE CEMENT PANEL
- 2. CHARCOAL METAL PANEL
- 3. WHITE STONE
- 4. GLAZING
- 5. BACK PAINTED GLASS SPANDREL
- 6. WOOD TEXTURED METAL PANEL
- 7. BALCONY GUARD (GLAZED)



.2 SOUTH ELEVATION

LEGEND

- 1. WHITE CEMENT PANEL
- 2. CHARCOAL METAL PANEL
- 3. WHITE STONE
- 4. GLAZING
- 5. BACK PAINTED GLASS SPANDREL
- 6. WOOD TEXTURED METAL PANEL
- 7. BALCONY GUARD (GLAZED)



.3 NORTH ELEVATION

LEGEND

- 1. WHITE CEMENT PANEL
- 2. CHARCOAL METAL PANEL
- 3. WHITE STONE
- 4. GLAZING
- 5. BACK PAINTED GLASS SPANDREL
- 6. WOOD TEXTURED METAL PANEL
- 7. BALCONY GUARD (GLAZED)



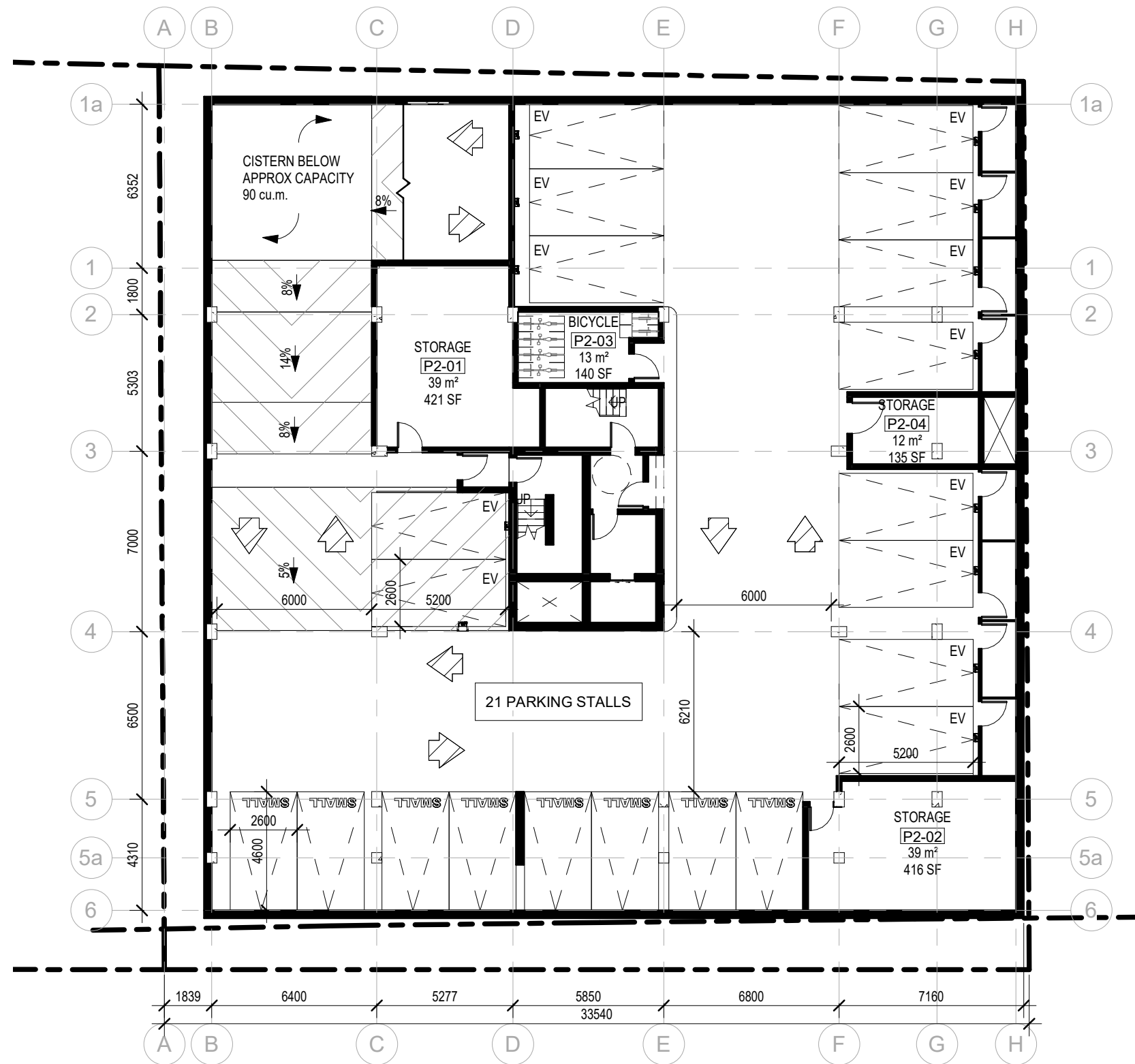
.4 EAST ELEVATION

LEGEND

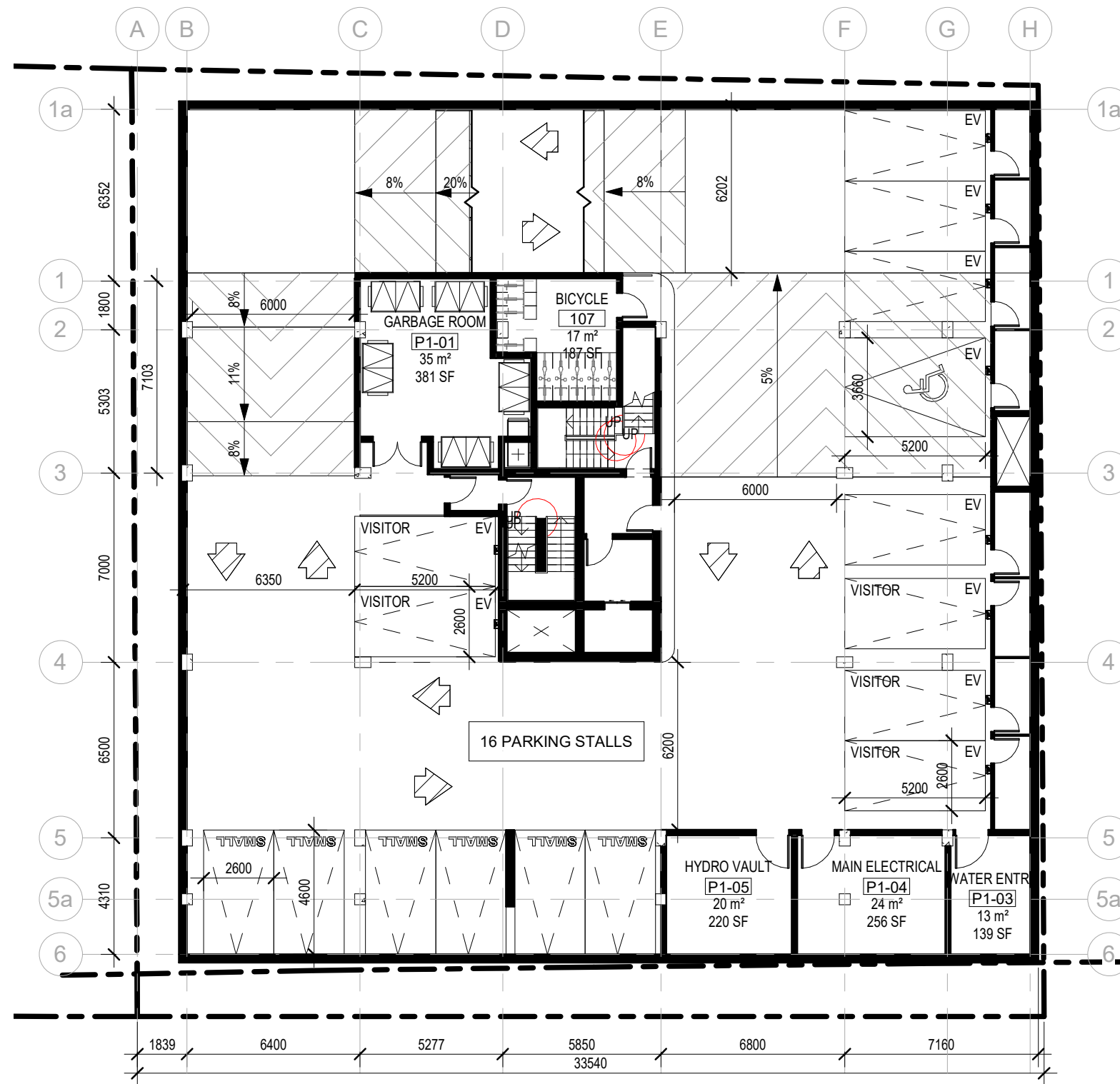
- 1. WHITE CEMENT PANEL
- 2. CHARCOAL METAL PANEL
- 3. WHITE STONE
- 4. GLAZING
- 5. BACK PAINTED GLASS SPANDREL
- 6. WOOD TEXTURED METAL PANEL
- 7. BALCONY GUARD (GLAZED)



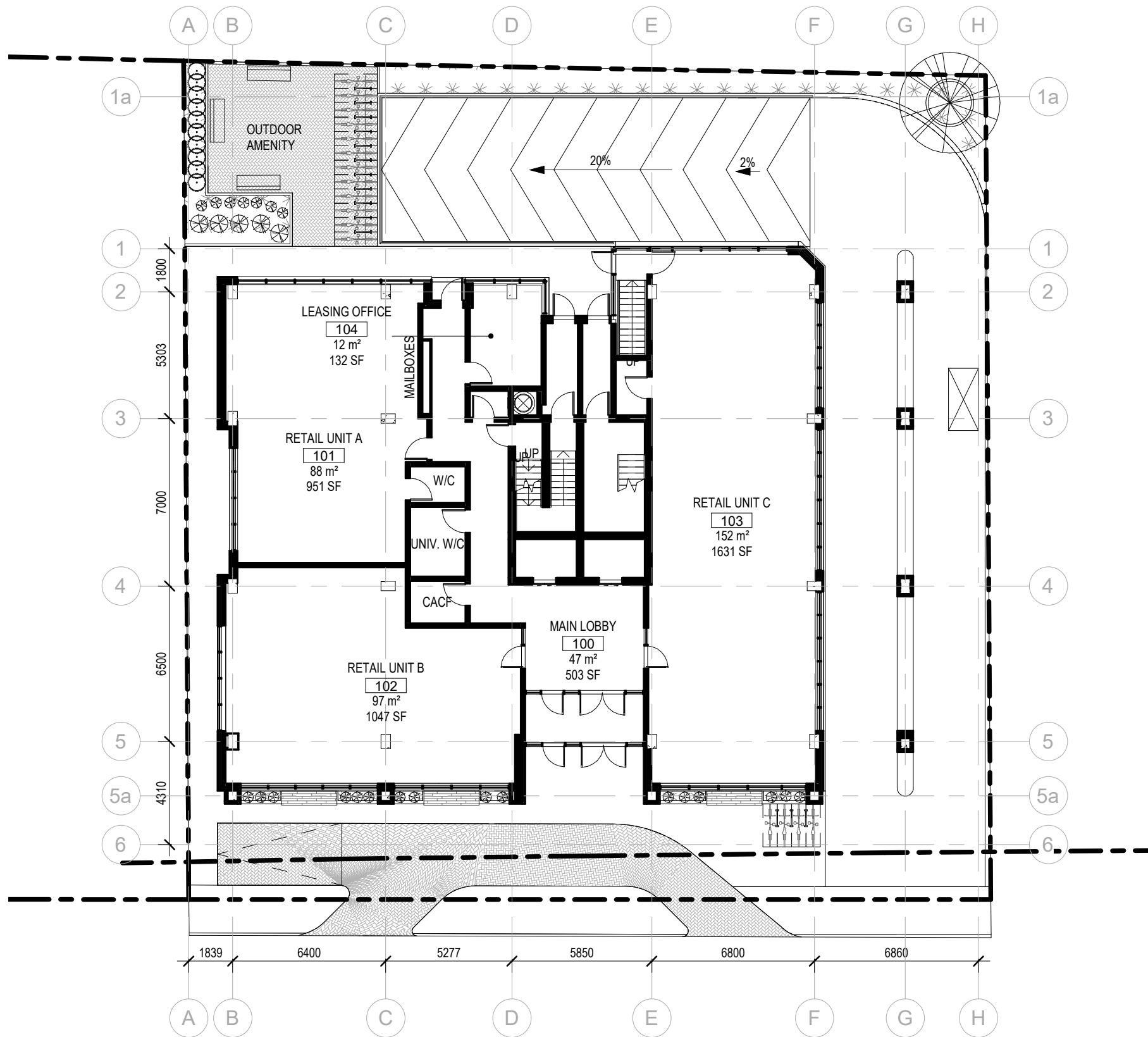
.5 WEST ELEVATION



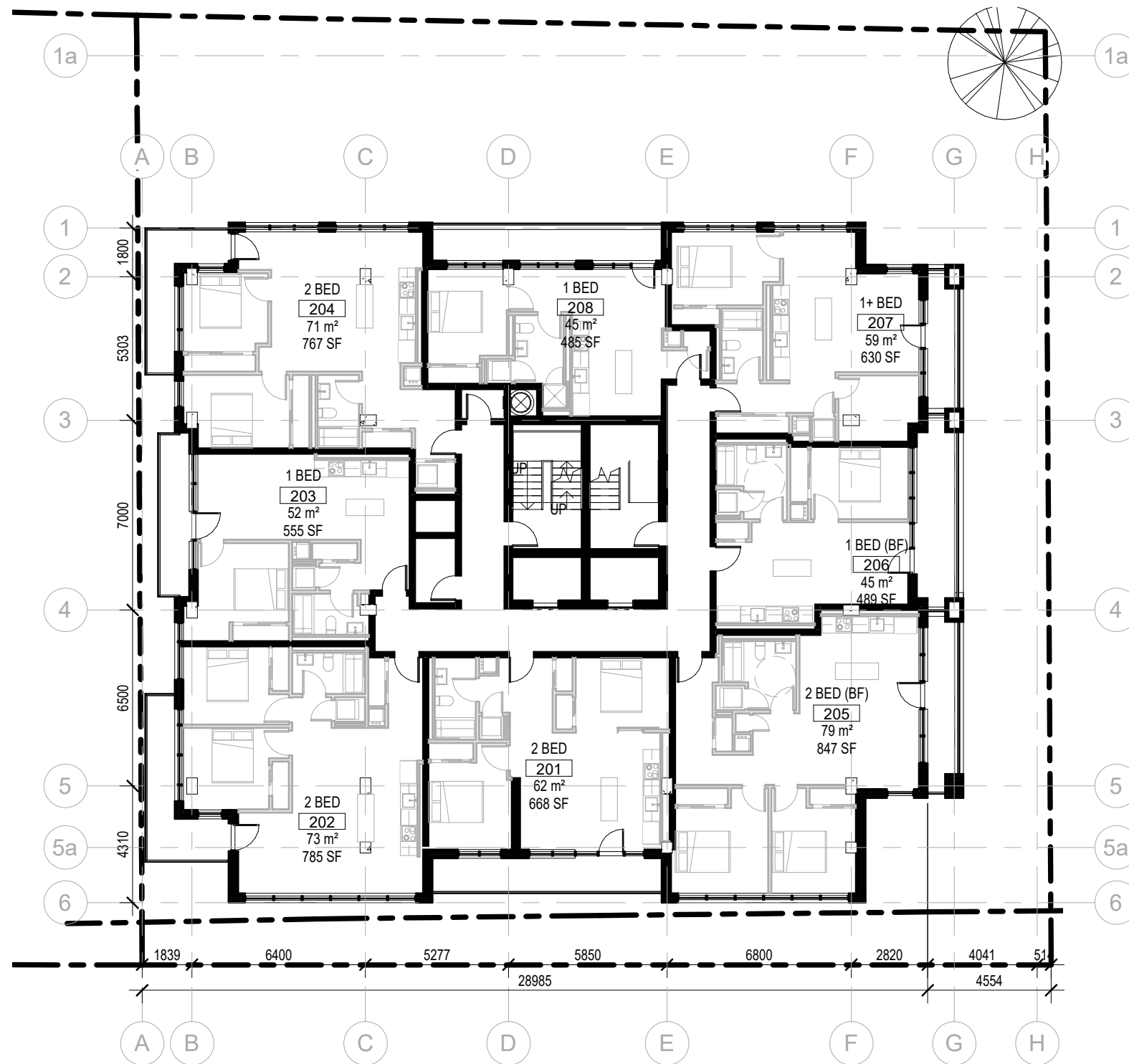
.6 LEVEL P2 FLOOR PLAN



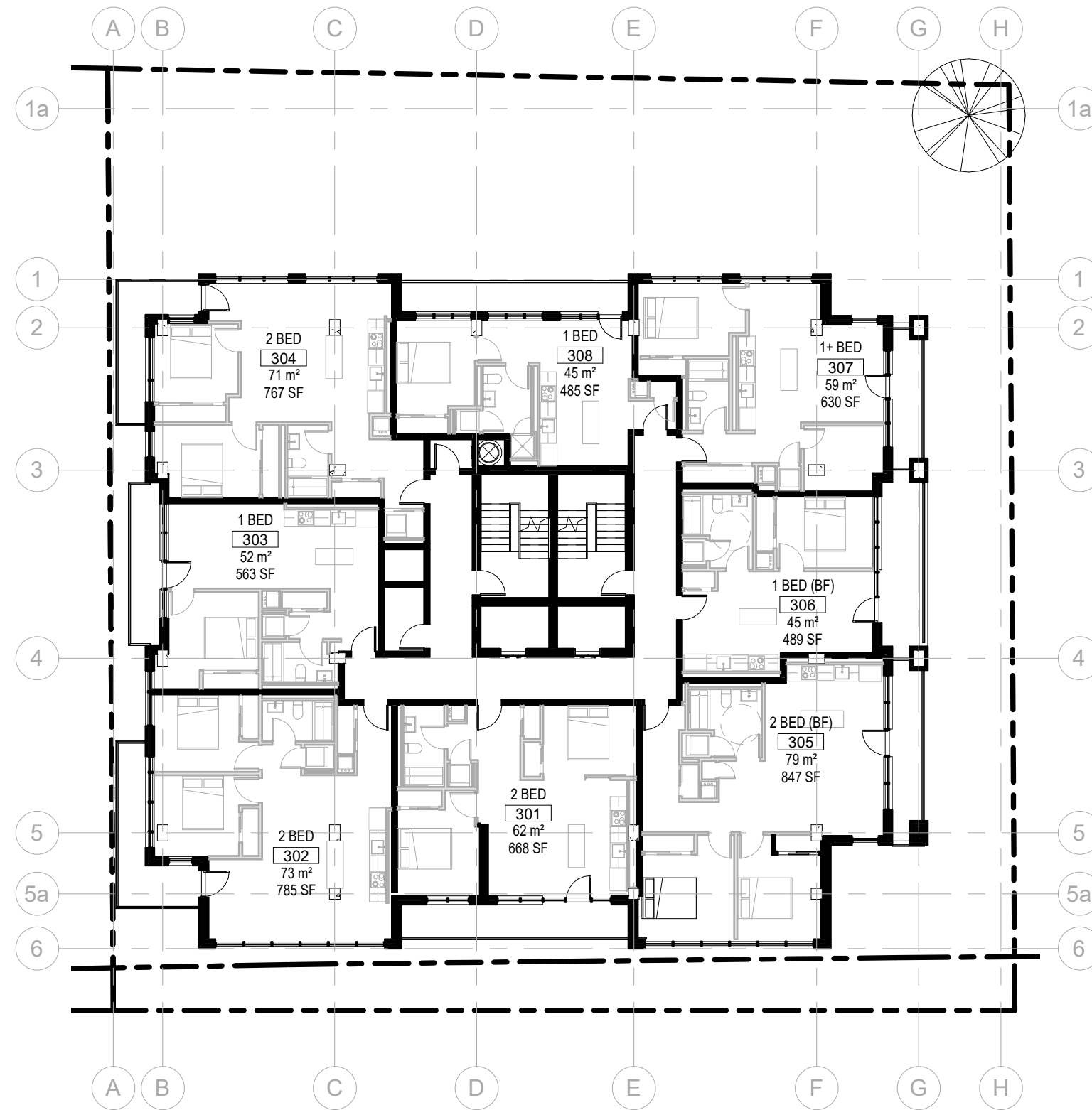
.7 LEVEL P1 FLOOR PLAN



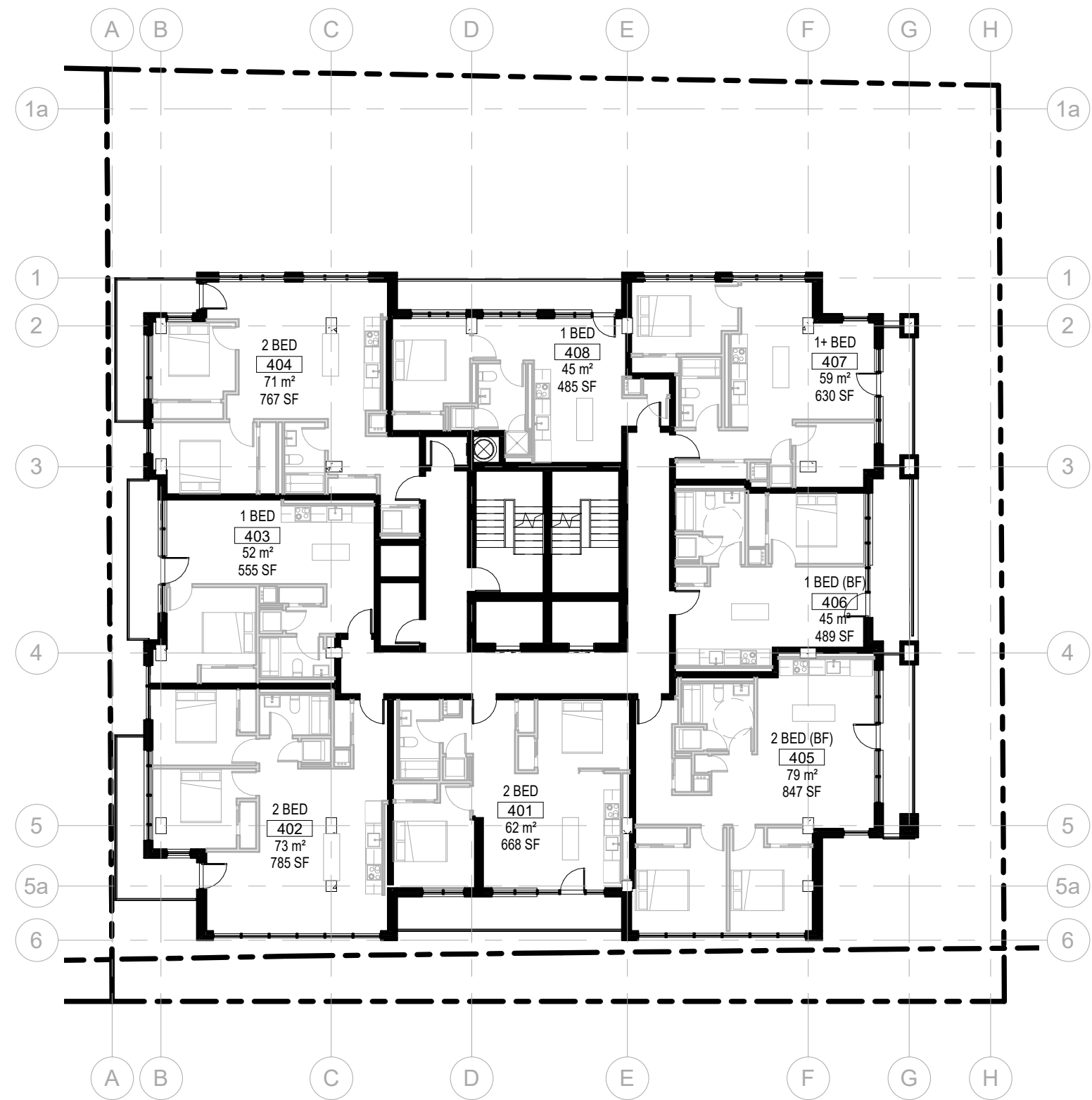
.8 GROUND LEVEL FLOOR PLAN



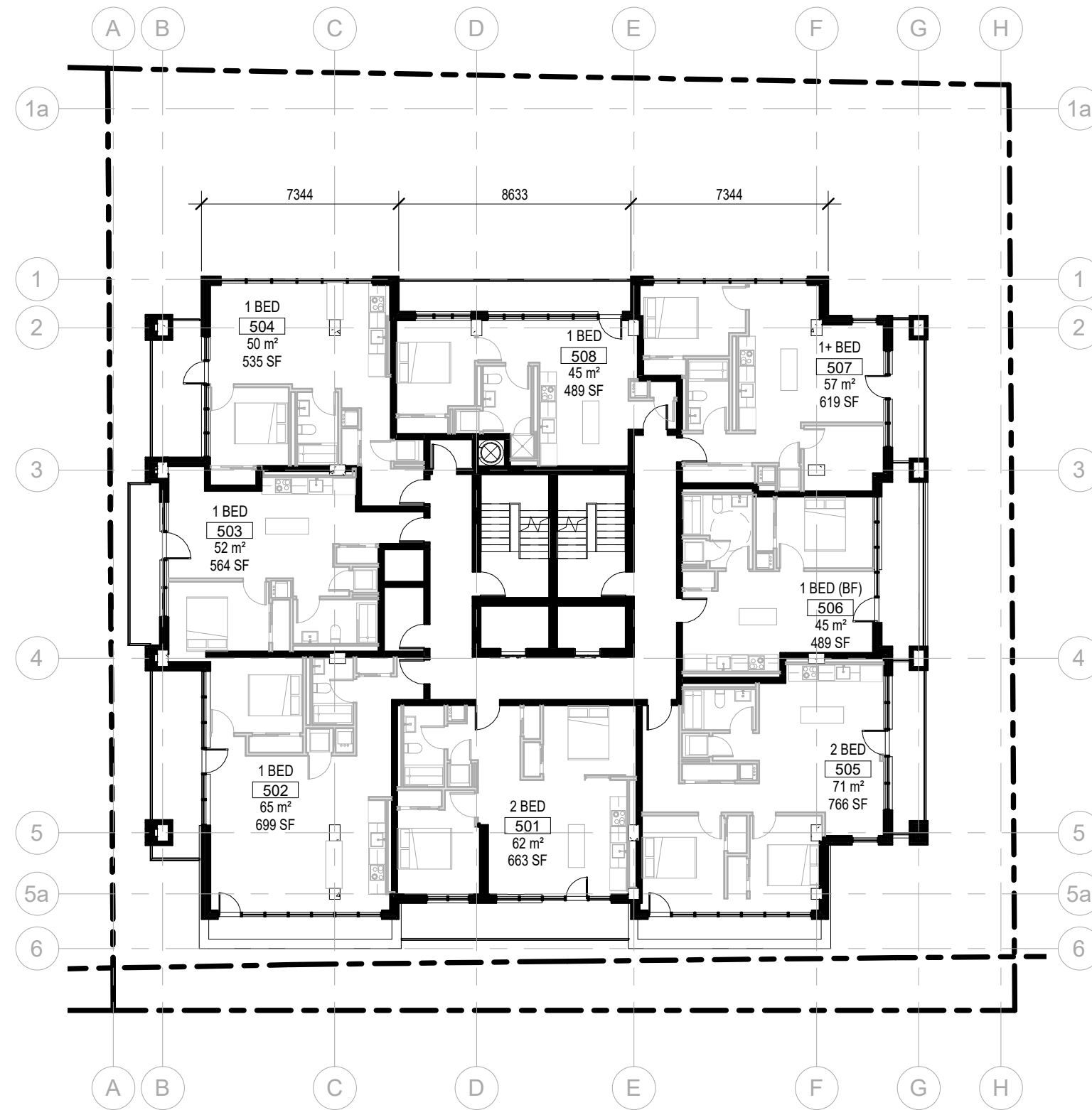
.9 LEVEL 2 FLOOR PLAN



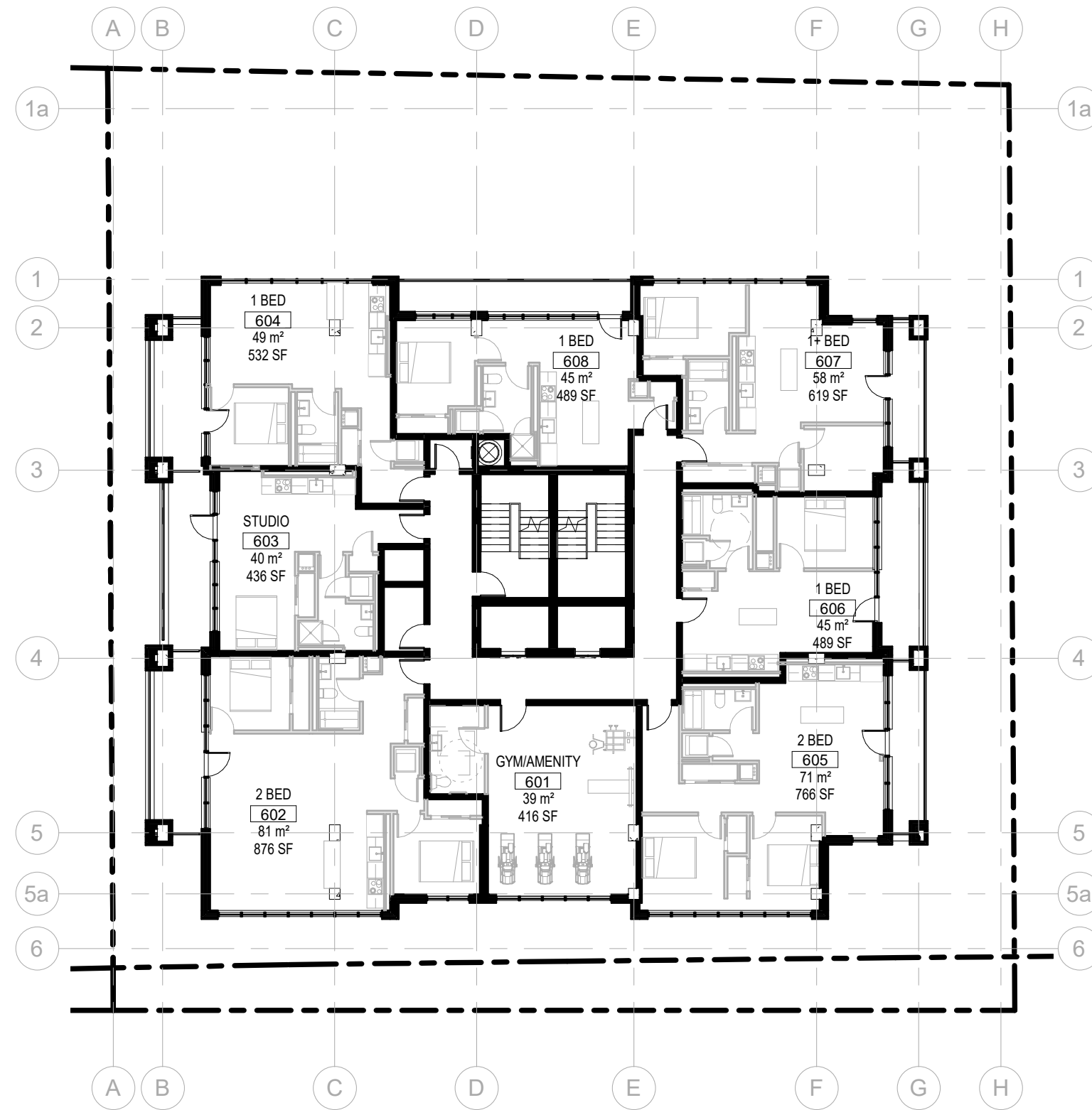
.10 LEVEL 3 FLOOR PLAN



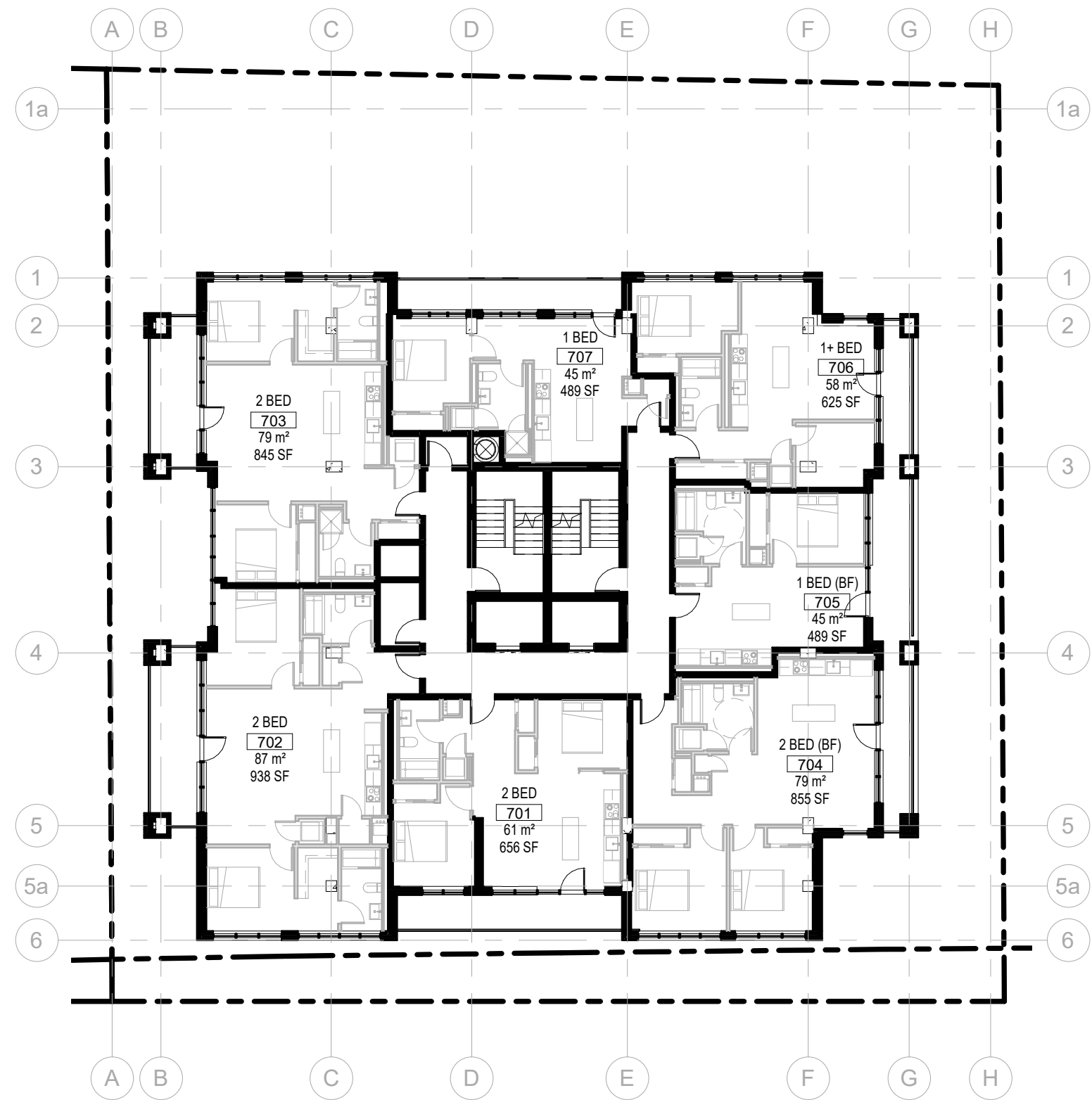
.11 LEVEL 4 FLOOR PLAN



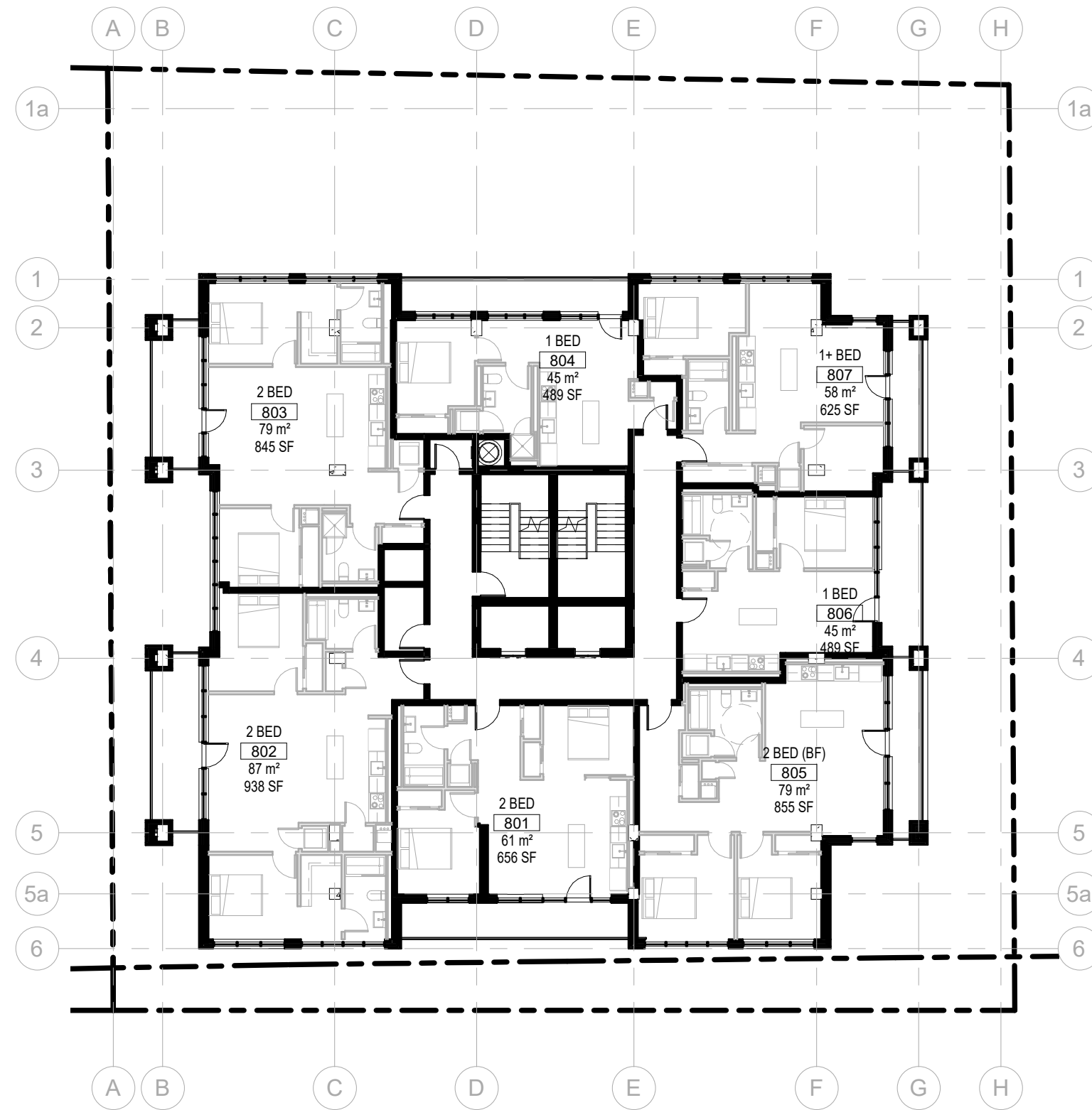
.12 LEVEL 5 FLOOR PLAN



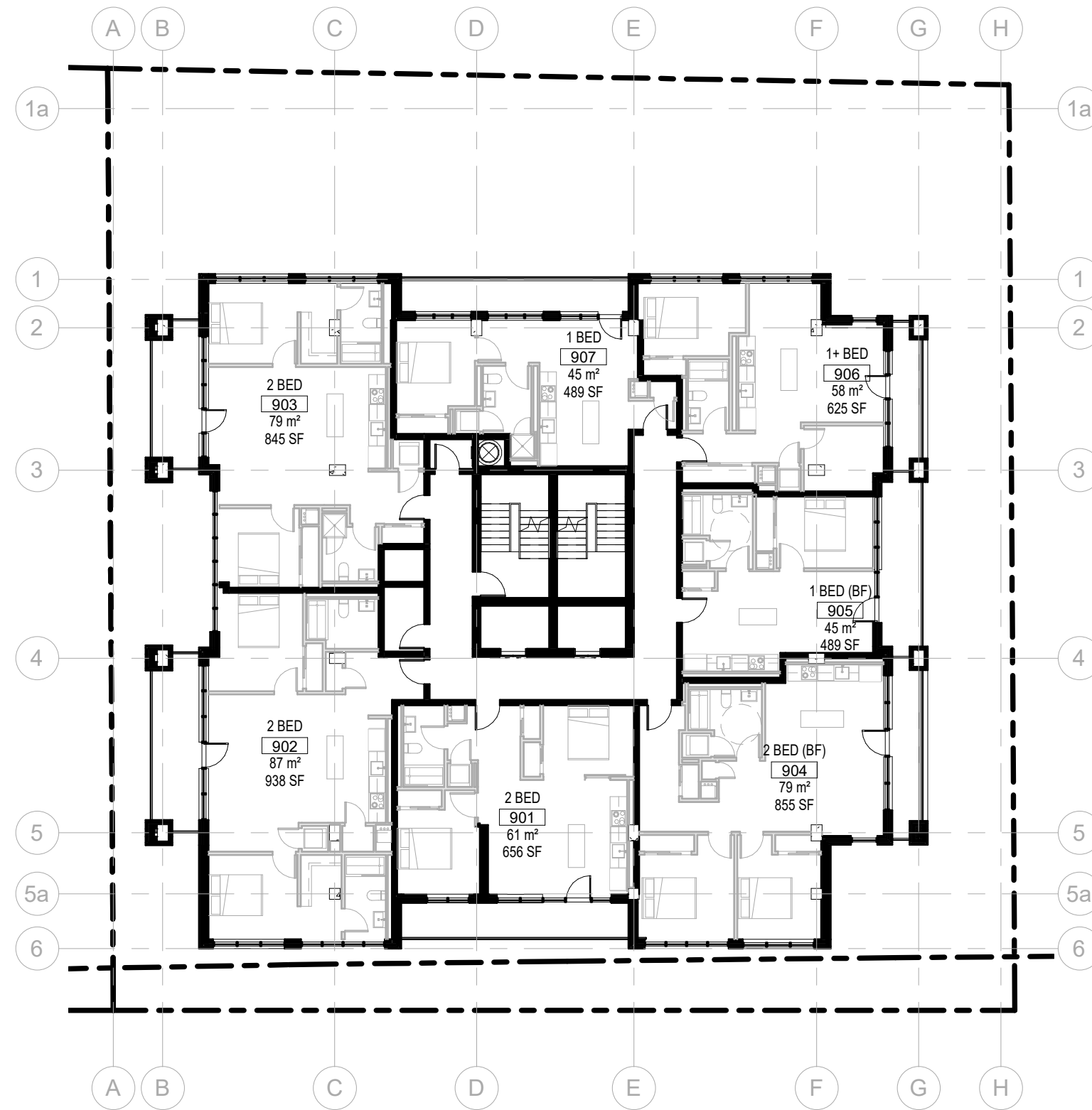
.13 LEVEL 6 FLOOR PLAN



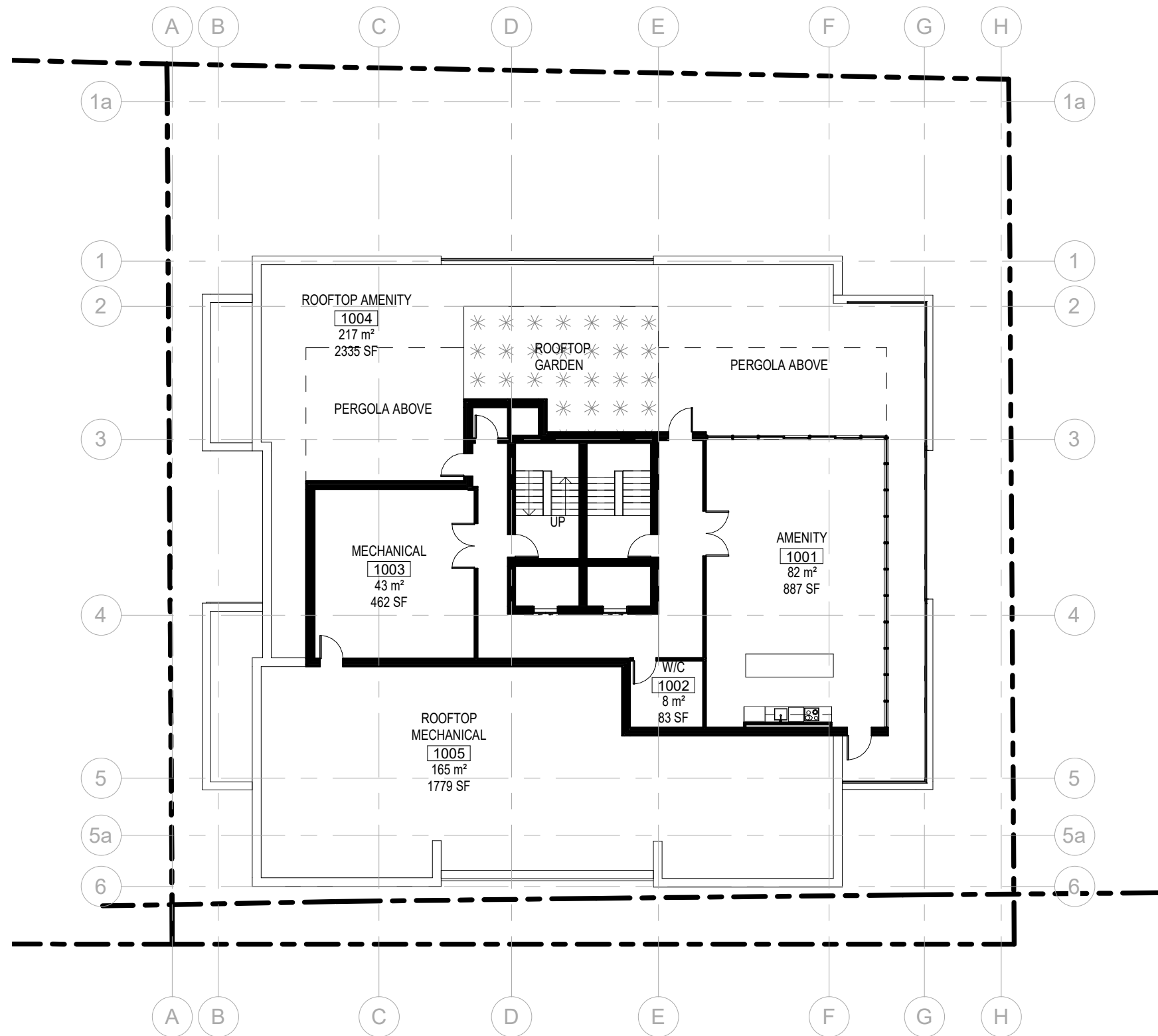
.14 LEVEL 7 FLOOR PLAN



.15 LEVEL 8 FLOOR PLAN



.16 LEVEL 9 FLOOR PLAN



.17 ROOF LEVEL FLOOR PLAN

While not seeking LEED designation at this time, the proposed development plans to address several different avenues for sustainability. As a mixed use apartment building, the client intends to own the building, and is further planning a tenancy for their dental practice in the ground floor unit. The client is therefore interested in durable, long lasting construction which naturally contributes to sustainable principles, as compared to the quick, cheap construction characterized by so many condominium developments.

The direct access to the Cleary LRT station across the road from the development means no parking is required for the site through city bylaws, though a limited number of parking stalls are being provided (approximately 0.6 stalls per unit). The client plans to provide around half the available parking stalls with rough ins for EV charging stations.

Bicycle parking is provided in several locations to promote free and easy access to cycling opportunities. 4 stalls are located in the front of the building, 11 stalls at the rear, and the remainder in bike storage areas within the underground parking. In addition to this, nearly half of the parking stalls are equipped with individual storage lockers which can facilitate bike storage as well.

A large rooftop amenity area will include a green roof space, which will offset urban heat sink. Unoccupied and Mechanical roofs will be specified with white ballast/membranes to reflect the heat from the conditioned space, and roof pavers will be selected to balance light reflectivity with occupant comfort.

The client plans to explore additional sustainability approaches including grey water recycling from the stormwater cistern, as well as photovoltaic enabled glass guardrails, windows and spandrel panels. At this time, the client is still reviewing the feasibility of these proposals and has not committed to implementation.

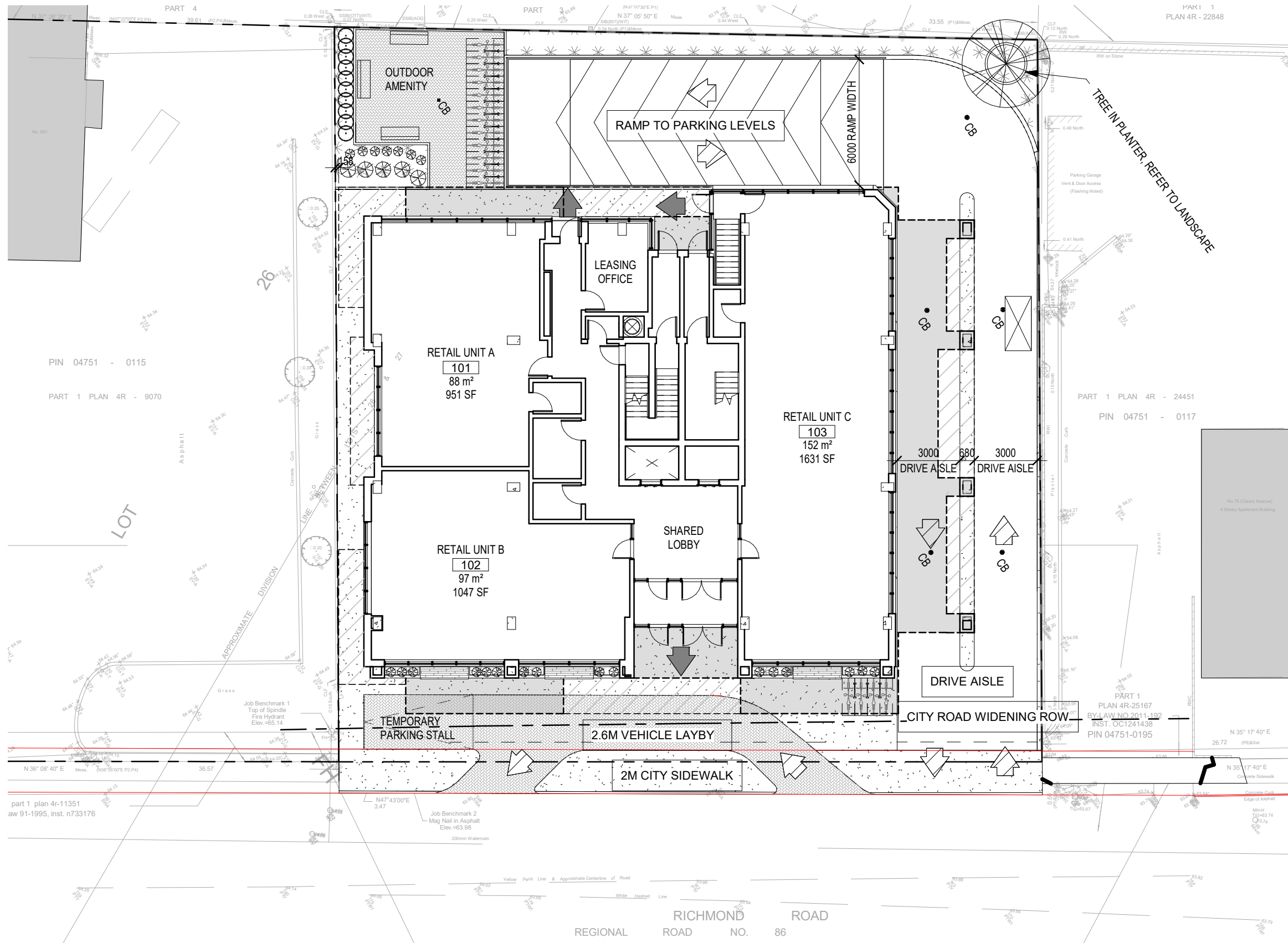


Underground EV Charging
 Mario Duran Ortiz / Wikimedia Commons / CC-BY-SA 4.0

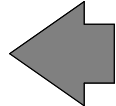
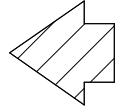




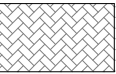



Green Roof
 User:GreenRoofGardener / Wikimedia Commons / CC-BY-SA 3.0

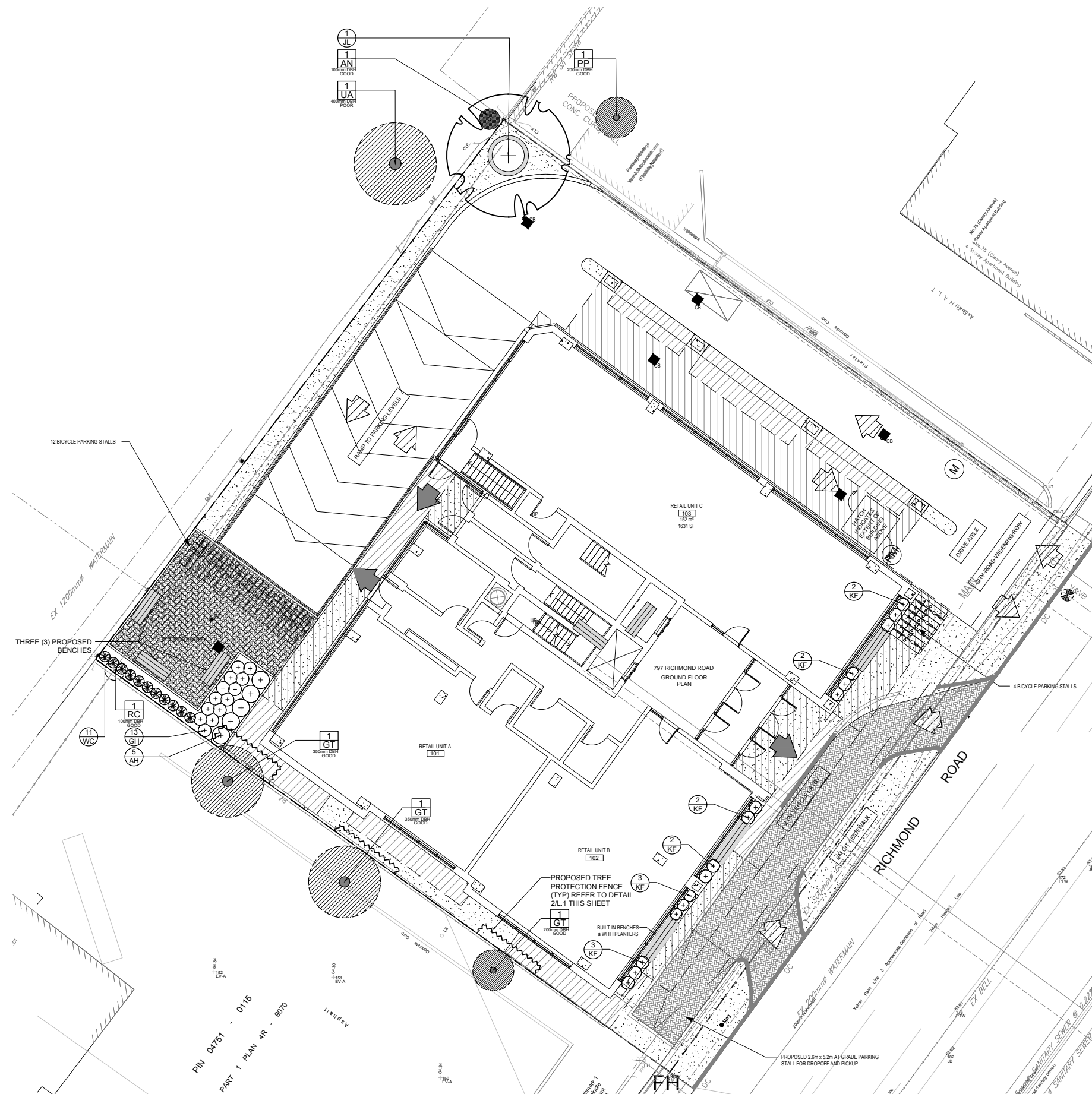
.1 SUSTAINABILITY FEATURES



LEGEND

-  BUILDING EXIT
-  DIRECTIONAL TRAFFIC ARROW
-  EXTENT OF BUILDING ABOVE
-  EXTENT OF PERMITTED PROJECTIONS ABOVE
-  EXISTING ADJACENT BUILDINGS
-  CONCRETE SIDEWALK, REFER TO CIVIL, LANDSCAPE
-  INTERLOCK, REFER TO CIVIL, LANDSCAPE
-  BICYCLE PARKING

.1 SITE PLAN FOR FULL PLAN AND DETAILS, REFER TO DRAWING SP-01



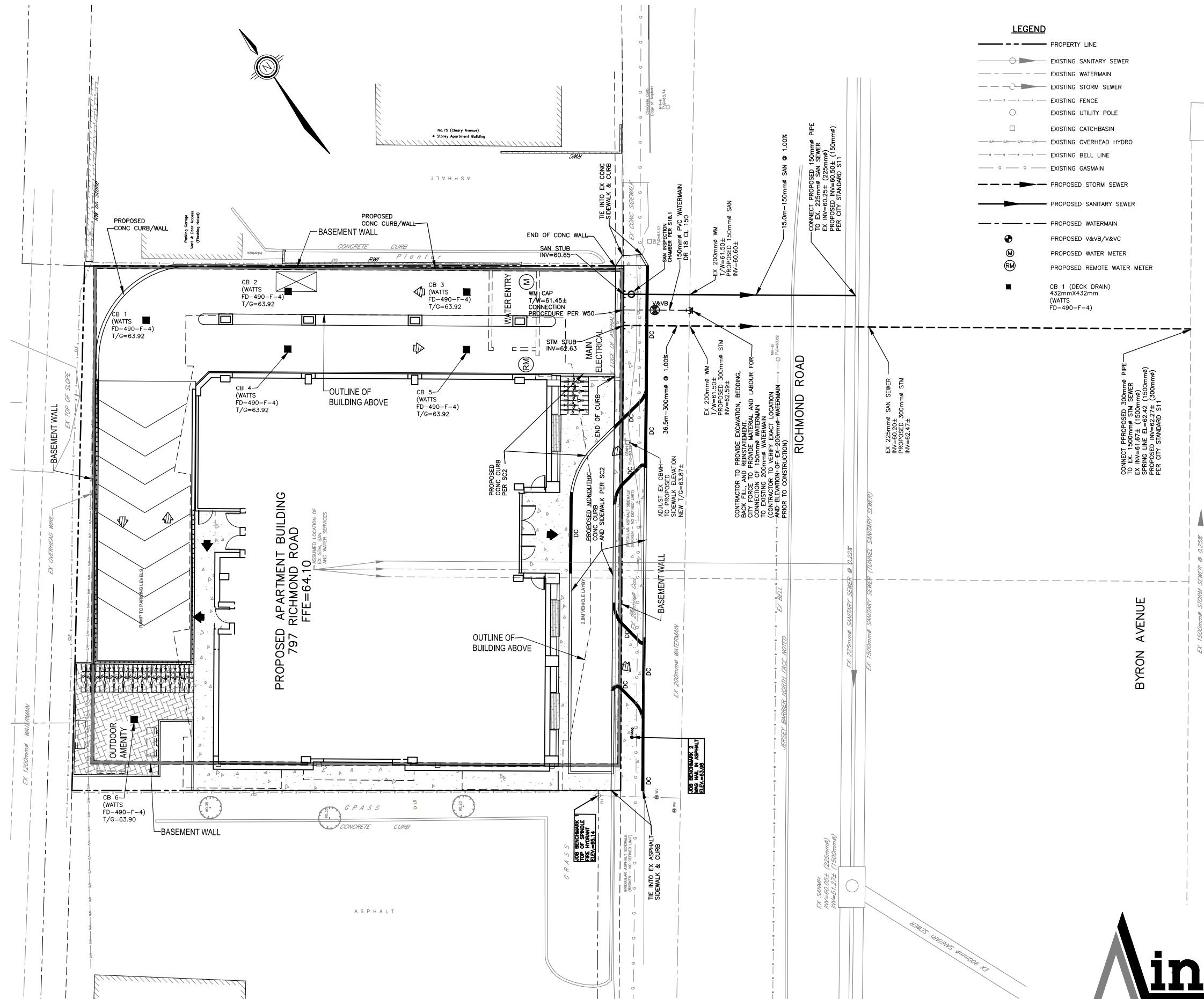
PIN 04751 - 0115
 PART 1 PLAN 4R - 9070

.2 LANDSCAPE PLAN FOR FULL PLAN AND DETAILS, REFER TO DRAWING L.1

797 Richmond Road | 01-05-2021 | City of Ottawa Design Brief

JAMES B. LENNOX & ASSOCIATES INC.
LANDSCAPE ARCHITECTS
 3332 CARLING AVE. OTTAWA, ONTARIO K2H 5A8
 Tel. (613) 722-5168 Fax. 1(866) 343-3942





- LEGEND**
- PROPERTY LINE
 - EXISTING SANITARY SEWER
 - EXISTING WATERMAIN
 - EXISTING STORM SEWER
 - - - - - EXISTING FENCE
 - EXISTING UTILITY POLE
 - EXISTING CATCHBASIN
 - EXISTING OVERHEAD HYDRO
 - EXISTING BELL LINE
 - EXISTING GASMAIN
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - PROPOSED WATERMAIN
 - PROPOSED V&VB/V&VC
 - PROPOSED WATER METER
 - PROPOSED REMOTE WATER METER
 - CB 1 (DECK DRAIN) 432mmx432mm (WATTS FD-490-F-4)

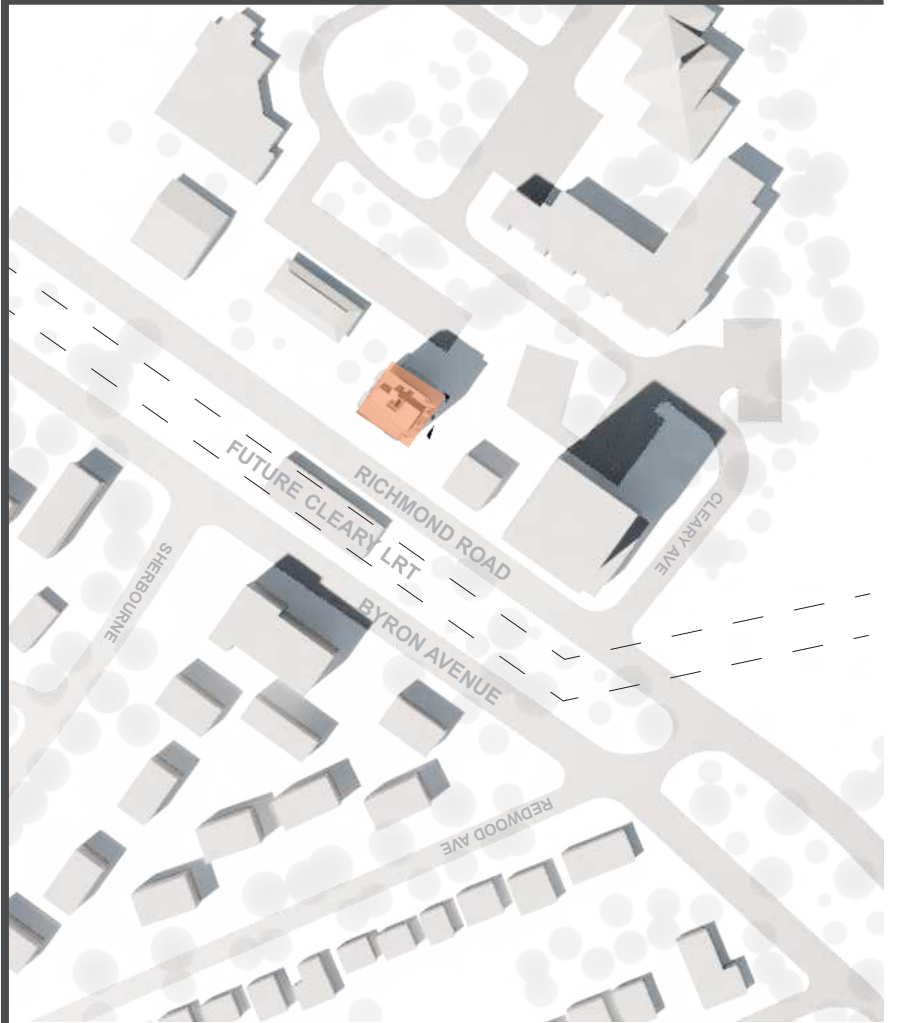
.3 SERVICING PLAN FOR FULL PLAN AND DETAILS, REFER TO DRAWING L.1



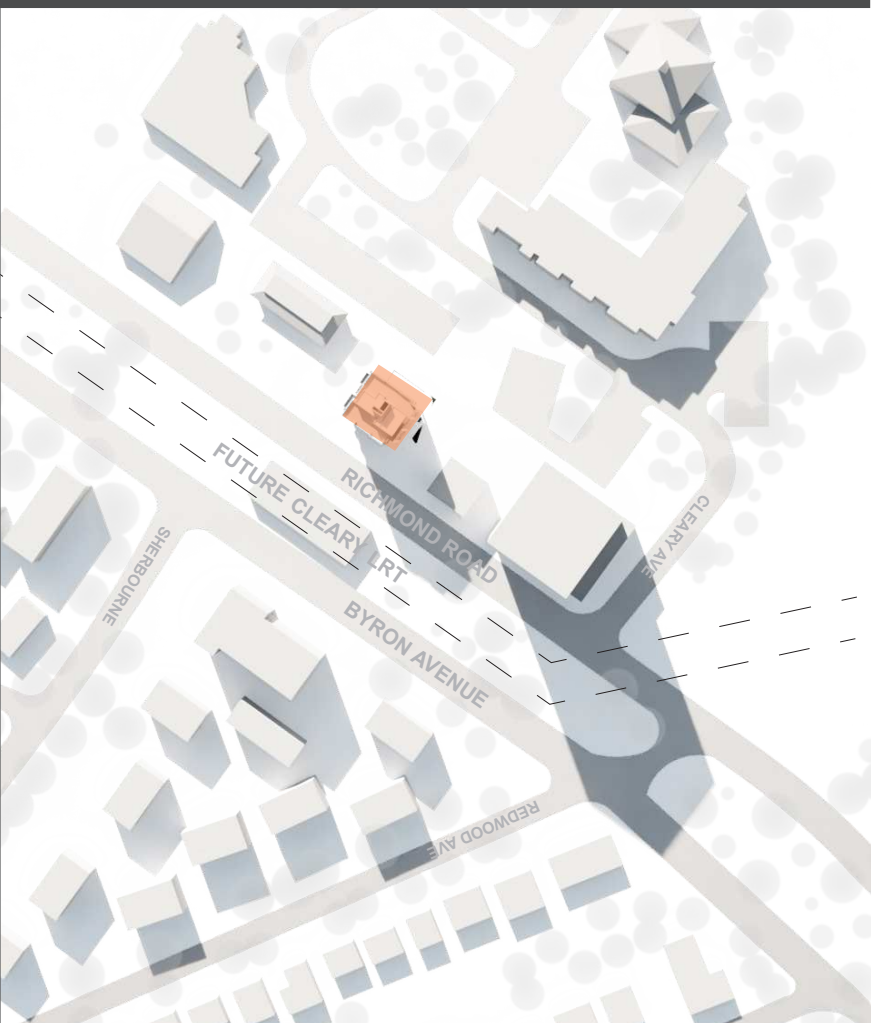
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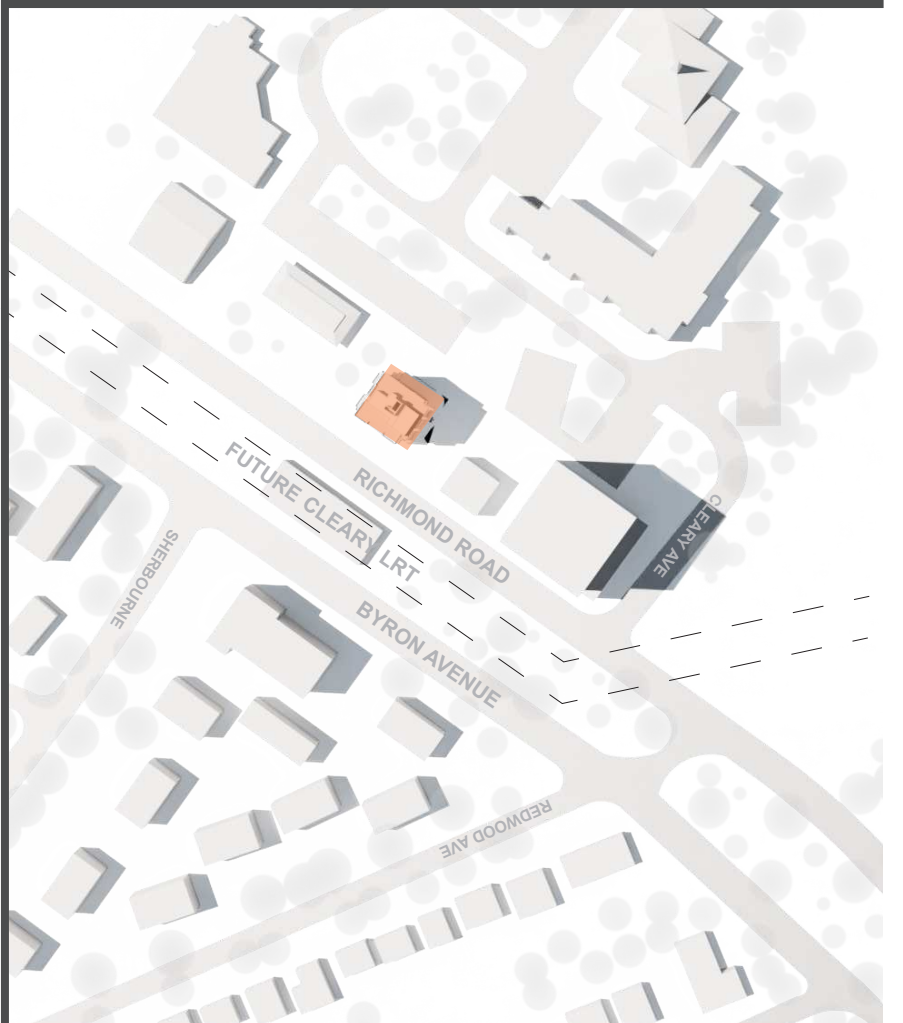
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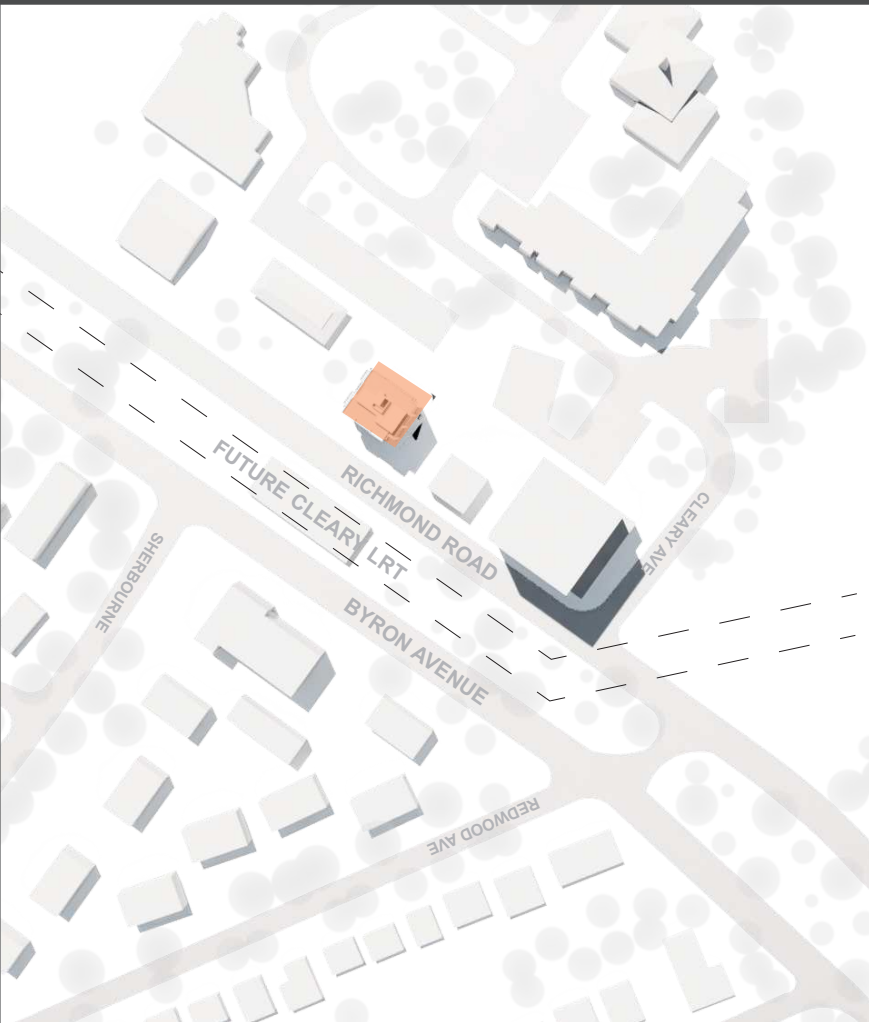
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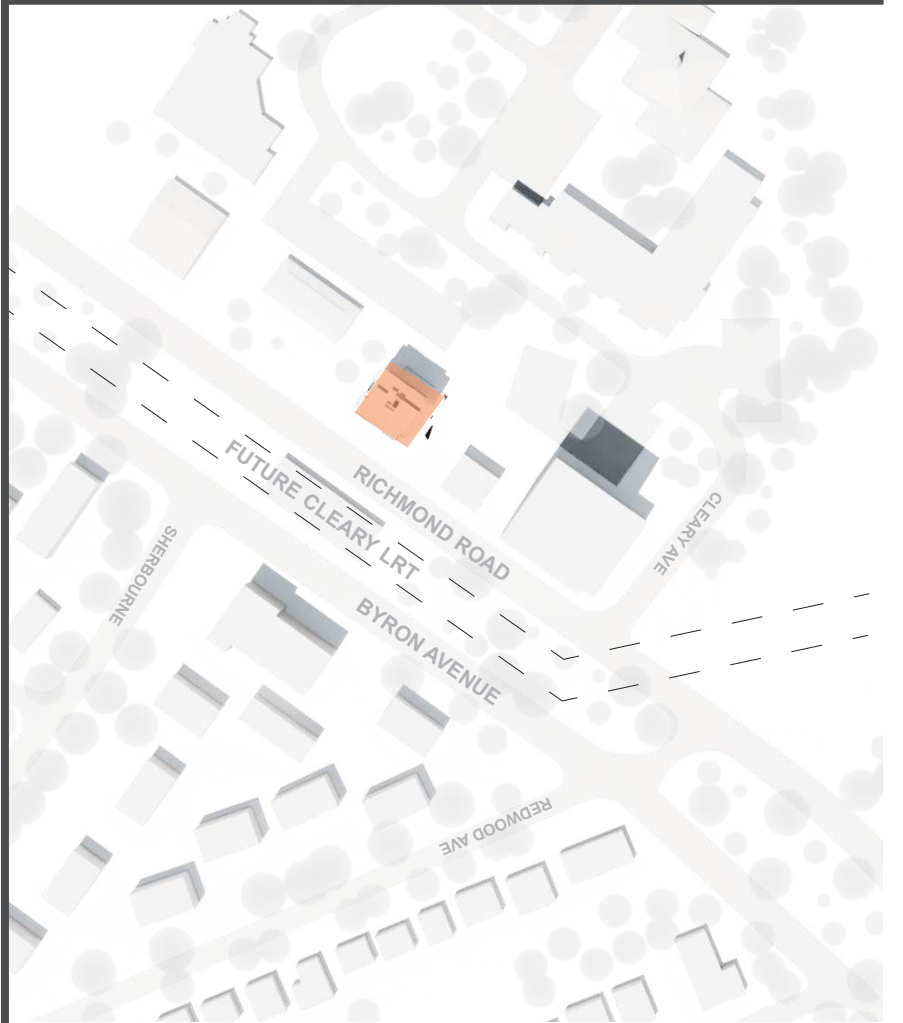
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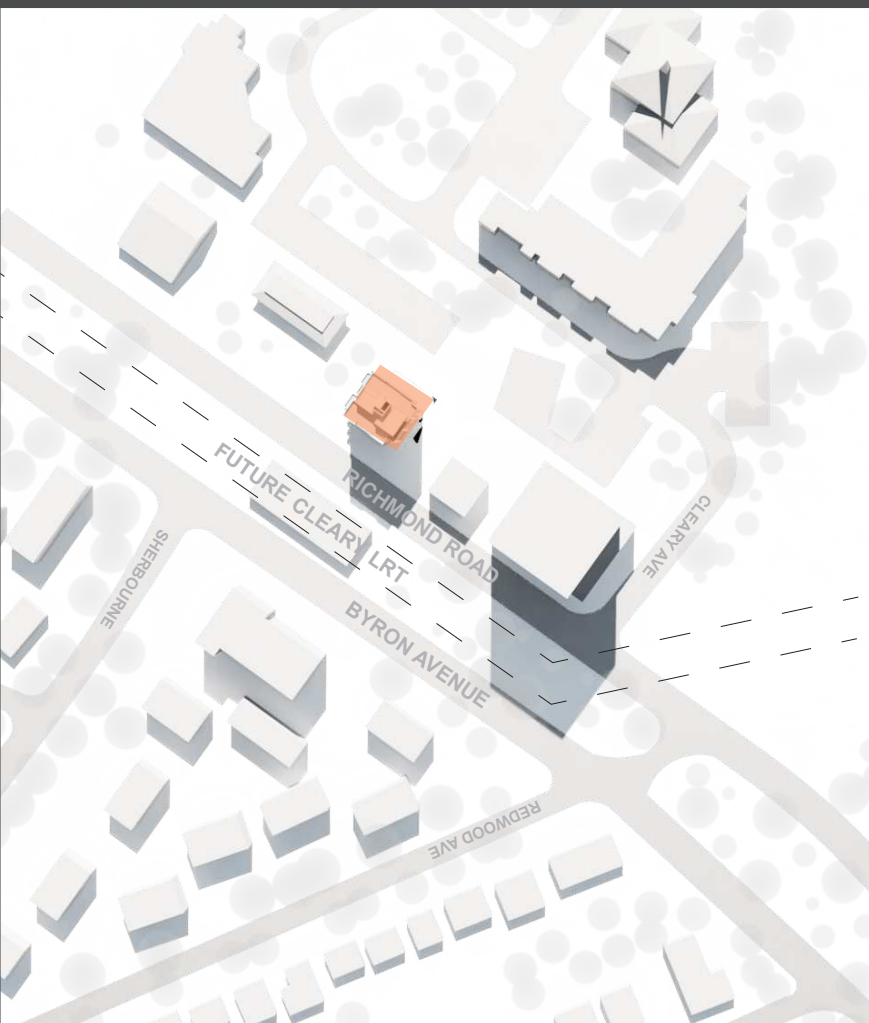
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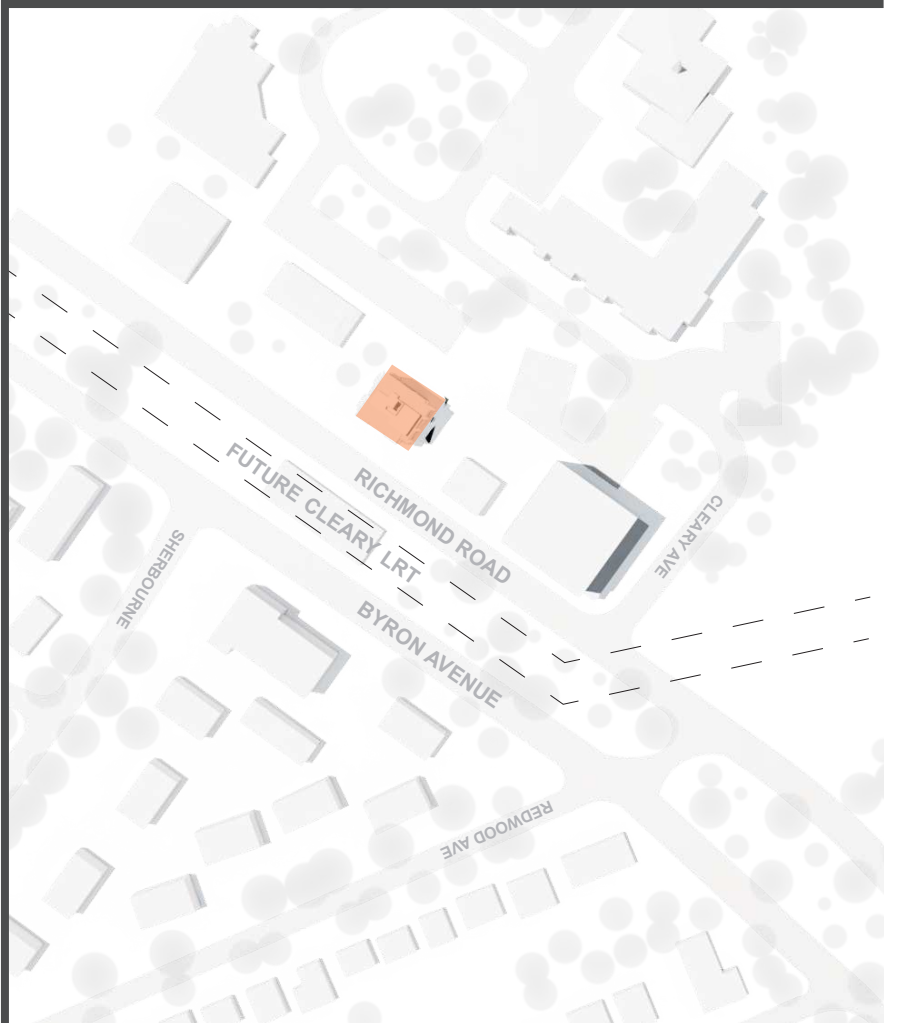
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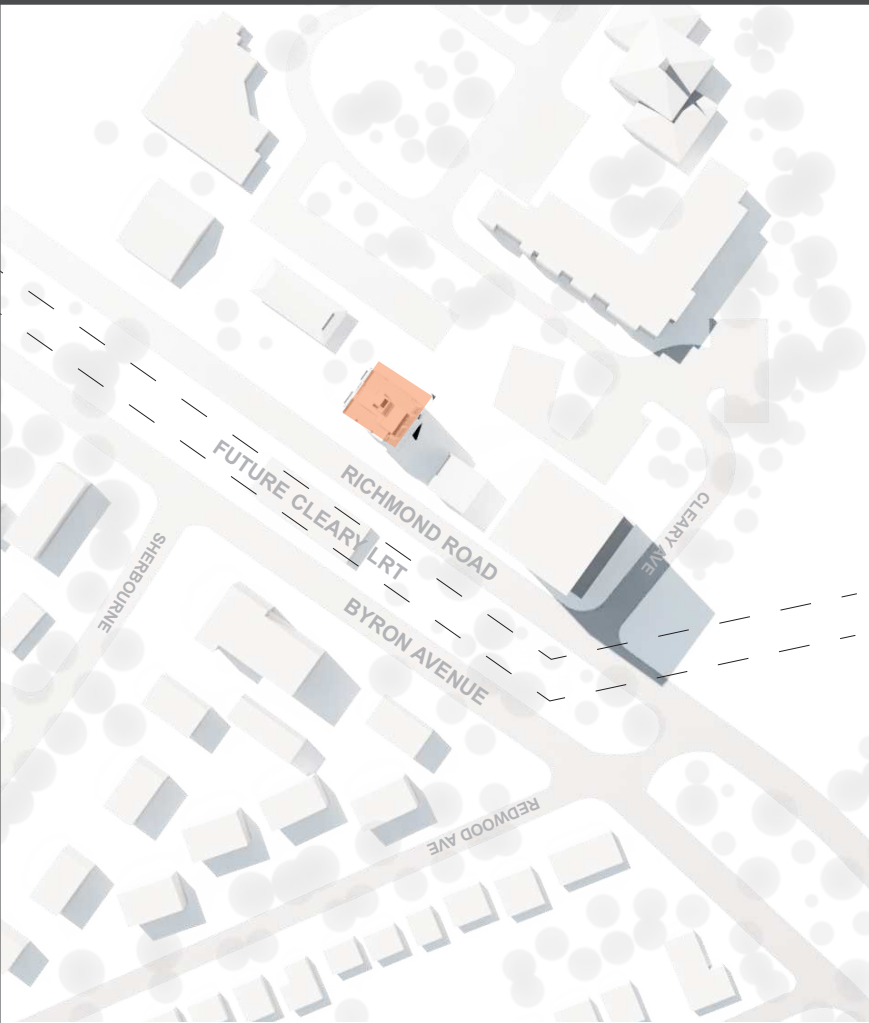
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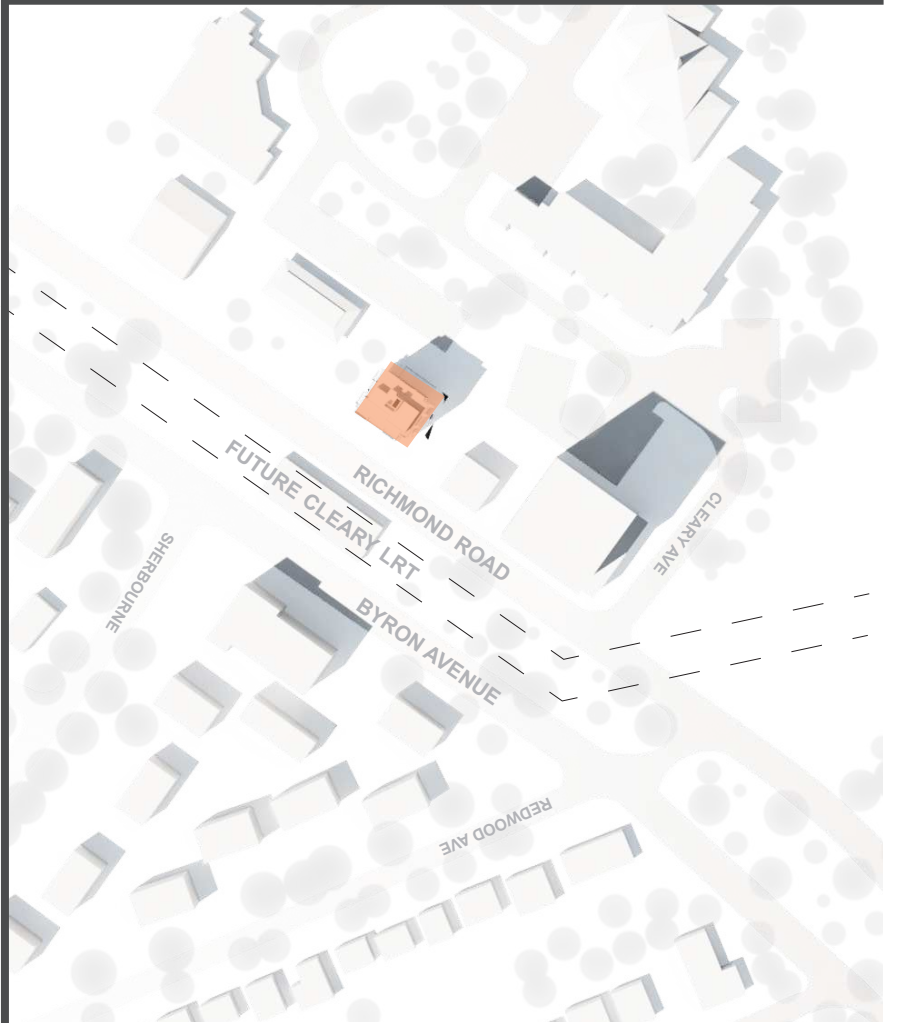
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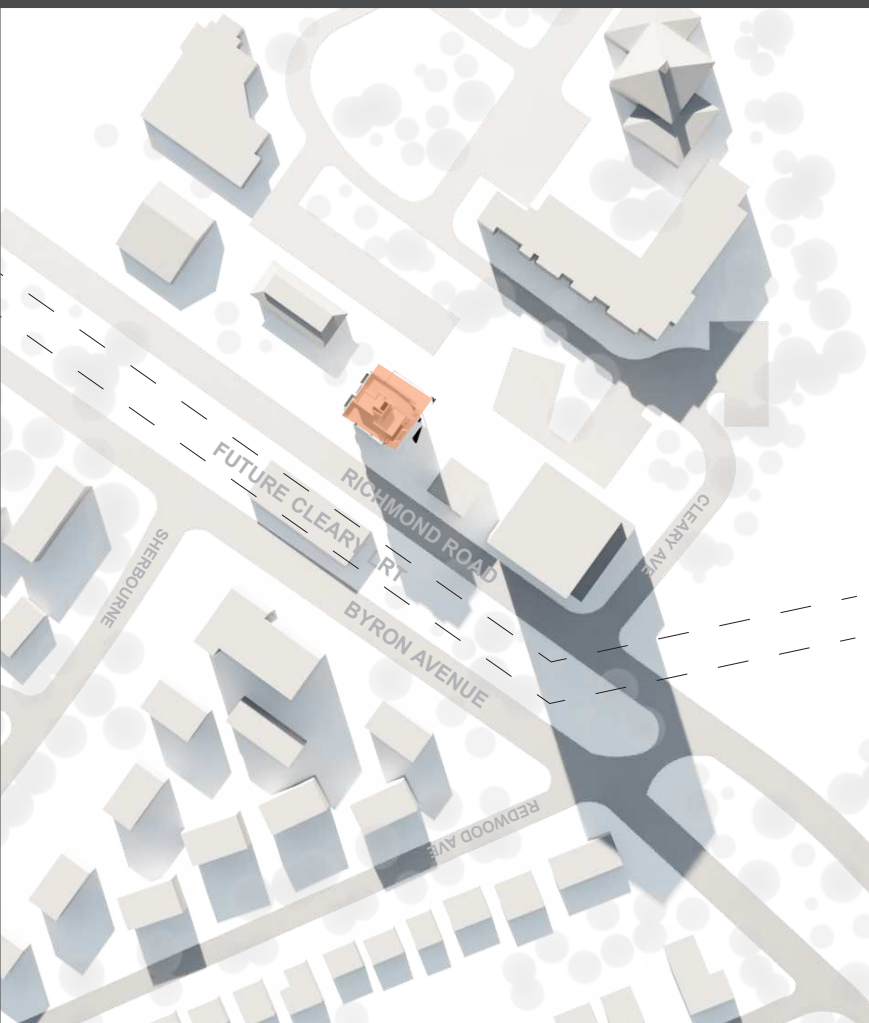
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SEPTEMBER 21ST 10:00AM



SEPTEMBER 21ST 4:00PM



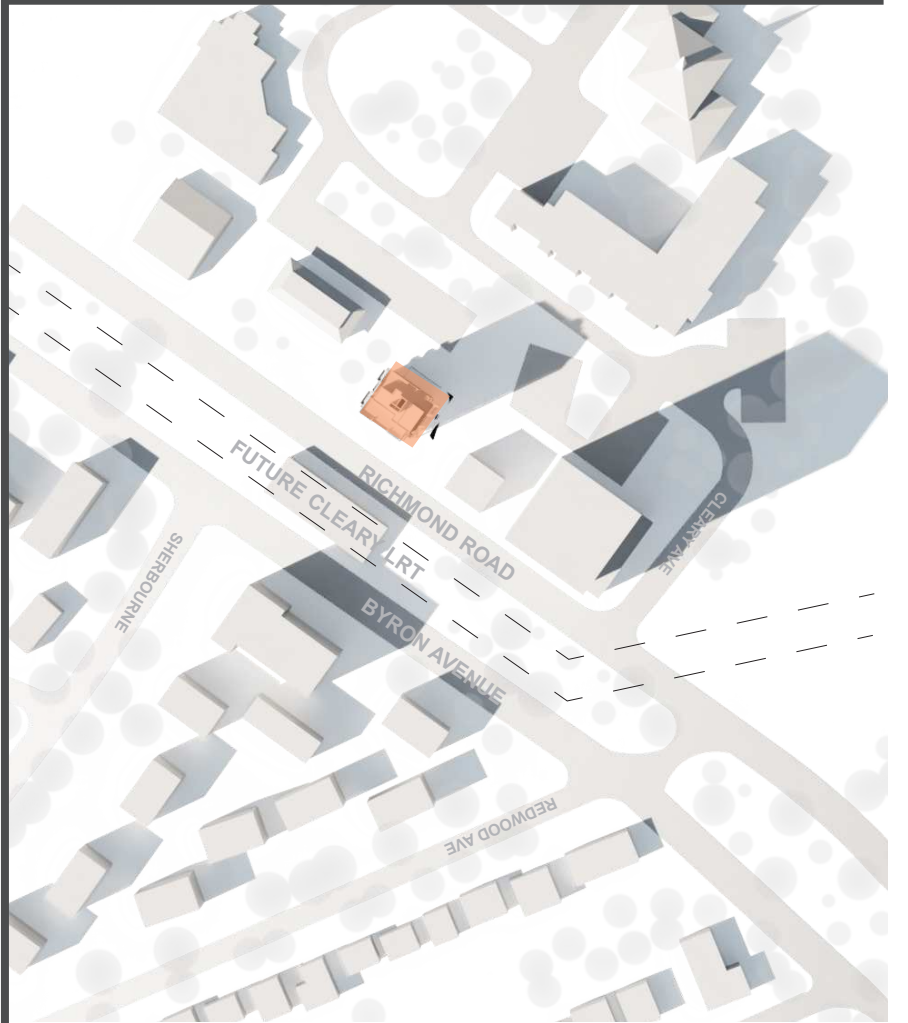
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DECEMBER 21ST 2:00PM



DECEMBER 21ST 10:00AM



DECEMBER 21ST 4:00PM



DECEMBER 21ST 12:00PM



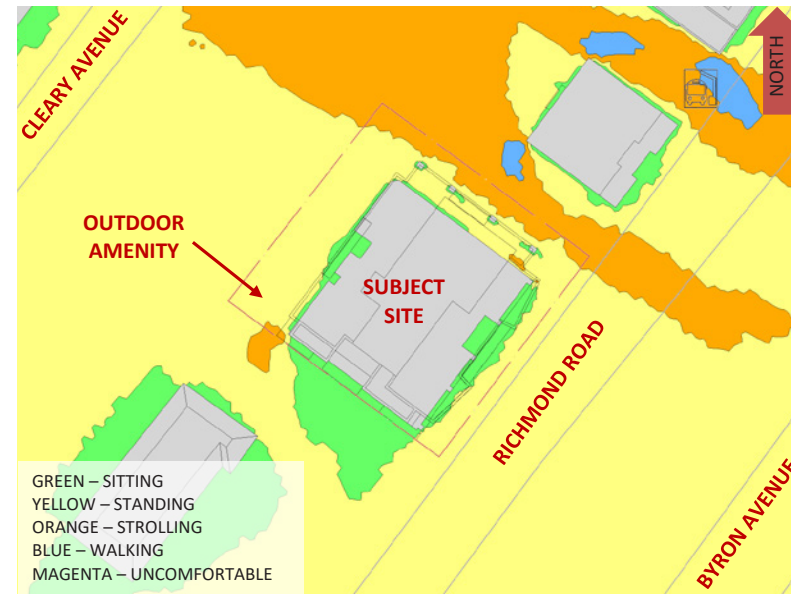
EXECUTIVE SUMMARY

This report describes a pedestrian level wind (PLW) study undertaken to satisfy concurrent Zoning By-law Amendment (ZBLA) and Site Plan Control application submissions for the proposed development located at 797 Richmond Road in Ottawa (hereinafter referred to as “subject site” or “proposed development”). Our mandate within this study is to investigate pedestrian wind comfort and safety within and surrounding the subject site, and to identify any areas where wind conditions may interfere with certain pedestrian activities so that mitigation measures may be considered, as required.

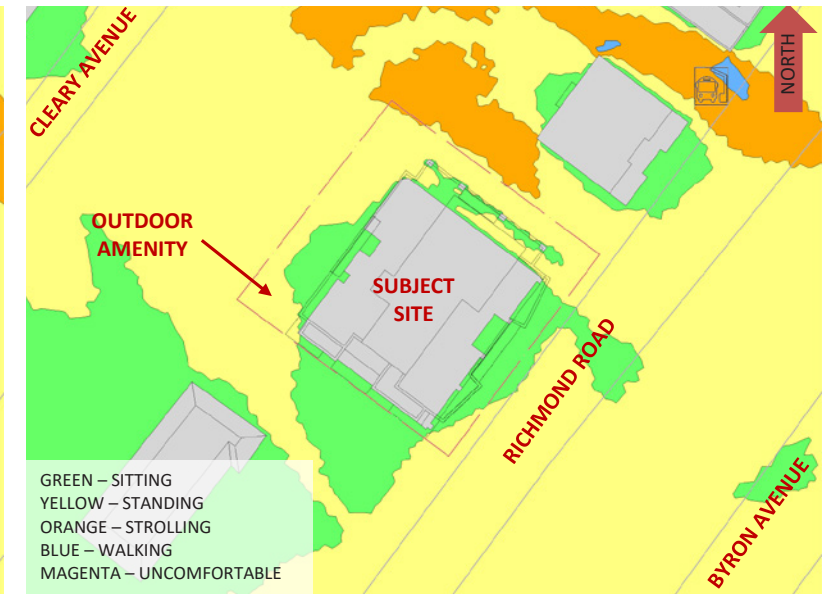
The study involves simulation of wind speeds for selected wind directions in a three-dimensional (3D) computer model using the computational fluid dynamics (CFD) technique, combined with meteorological data integration, to assess pedestrian wind comfort and safety within and surrounding the subject site according to City of Ottawa wind comfort and safety criteria. The results and recommendations derived from these considerations are detailed in the main body of the report (Section 5), illustrated in Figures 3A-8B, and summarized as follows:

- 1) All grade-level areas within and surrounding the subject site are predicted to be acceptable for the intended pedestrian uses throughout the year. Specifically, wind conditions over surrounding sidewalks, building access points, transit stops, and nearby parking lots are considered acceptable for the intended pedestrian uses throughout the year. One exception is as follows:
 - a. During the typical use period, defined as May to October, conditions over the amenity space at the northwest corner of the proposed development are predicted to be suitable for a mix of sitting and standing. Depending on the programming of the space, these conditions may be considered acceptable. If required, sitting conditions may be extended over the full area using landscape features such as glazed wind barriers or coniferous plantings in dense arrangements along the north and east perimeters of the space.
- 2) To extend sitting conditions over the full rooftop amenity terrace, it is recommended that a 1.6-metre-tall barrier, typically glazed, be installed around the full perimeter of the terrace.
- 3) Within the context of typical weather patterns, which exclude anomalous localized storm events such as tornadoes and downbursts, no pedestrian areas within and surrounding the subject site were found to experience conditions that could be considered dangerous.

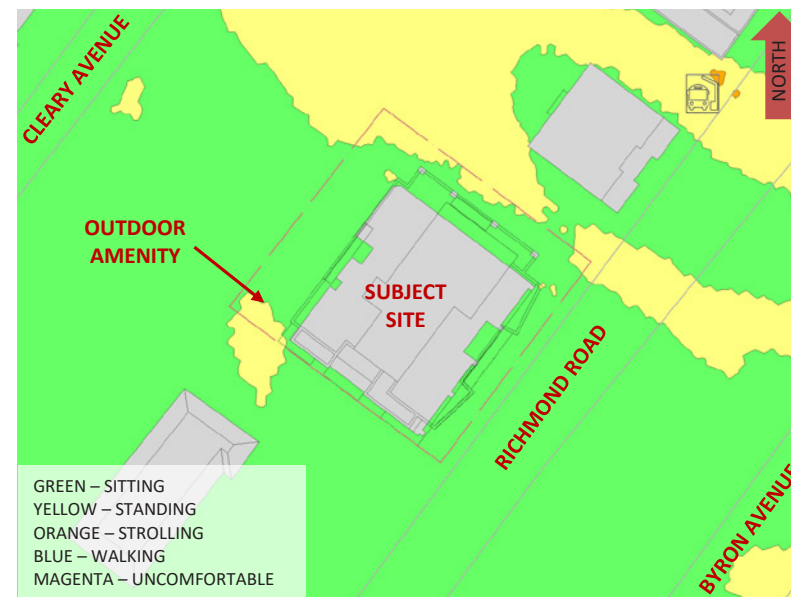
Dentech Holdings Inc.
797 RICHMOND ROAD, OTTAWA: PEDESTRIAN LEVEL WIND STUDY



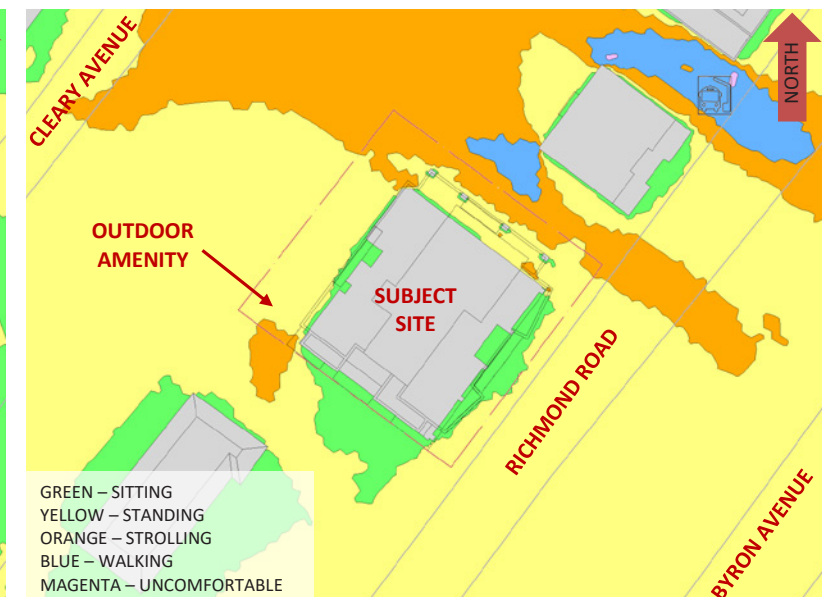
SPRING WIND CONDITIONS



FALL WIND CONDITIONS



SUMMER WIND CONDITIONS



WINTER WIND CONDITIONS