

04 | Built Form

Built Form, Design Excellence, and Materiality

The language of the towers seeks to achieve design excellence in several ways: first by expressing generously dimensioned balconies that provide a diversity of enclosure and wind protection, making them more usable throughout the seasons; next creating a sense of proportion that emphasizes verticality; finally, by using high quality materials in a design that responds to the needs of a high-performance low-carbon building.

The balcony expression complements a cladding strategy with a low window to wall ratio and high levels of insulation; as well, the robust double-storey balcony frames accommodate an externally hung structure that would greatly limit thermal bridging. The balconies terminate at the penthouse in a syncopated rhythm of solids, providing an enclosure to the mechanical systems that is harmonious with the overall design.

Several features acknowledge the civic nature of the context: the light colour of the durable metal rainscreen cladding emulates that of the Civic Centre; a colonnaded porch at the base of the west tower provides a civic scale as a transition from residential building the library and Civic Centre; in the podium, double-storey masonry piers frame deeply-recessed windows in an expression that contributes to the sense that this complex is part of a civic precinct.

Heritage Requirements

According to the Heritage Impact Assessment, the proposed design has no physical impact on the heritage attributes of the SCC. 158 Borough Drive does not aim to mimic geometric properties that are unique to its context, rather, it seeks to complete the block. The east tower is designed to be the tallest building functioning as a landmark, the west tower is stepping down towards the Scarborough Civic Centre in compliance with the context massing. Moreover, the two-storey street wall expression forms a unified edge with the Public Library to the west, and the residential development to the east of the site. Finally, this design aims to extend the character and scale of the residential neighbourhood by introducing a 6-storey podium that relates to the podium heights of the towers to the north.

Fig 46. Aerial Photo of the Proposed Building in Context



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Barrier-free Connections

158 Borough Drive has a unique grading condition, sloping up from southwest to northeast side of the site. Additionally, connecting Borough Drive to Albert Campbell Square requires a significant grade change. The design for the Promenade slopes at 4 to 5% to create a barrier-free connection to Albert Campbell Square and, significantly, to allow a parking entrance beneath this ramp at the northwest corner of the site. The final section of the woonerf also slopes up to meet with the Promenade. These grade differences on all sides require level changes on the ground floor lobbies to ensure accessibility and animated front-edges.

Ground Floor Use

The ground floor plays an important role in the creation of a pedestrian-friendly area. Child Care, amenity spaces, and lobbies are located to animate sidewalks facing Borough Drive and Town Centre Court.

Building Entrance

Building entrances provide shelter from the weather in several ways: the west entrance does so with a colonnaded porch; deeply recessed doors framed by masonry piers provide cover for the south child care entrance as well as for the lobby of the east tower; the principal child care entrance on the woonerf benefits from a deep recess that shelters parents arriving by car as well as on bicycle, providing a marshalling area from strollers and bikes.

Towers & Facade

This development is designed to provide a minimum of 600 units, 50% of which will be affordable units. It is designed to be a landmark for Scarborough Centre at the intersection of Borough Drive and Town Centre Court.

Tall-Building Guidelines

Two residential towers are proposed with 750sqm floor plates, heights of 27 and 42 storeys with a 6 storey podium, and a two-storey scaled street wall. The building is setback from Borough Drive and Town Centre Court to satisfy the new vision for an enhanced Borough Drive street section. Additionally, the two towers are positioned with respect to the 25m minimum distance recommended by the Tall Building Guidelines, in particular achieving good separation from the existing tower northeast of the site. Lastly, the two-storey street wall is introduced to bring a sense of pedestrian scale to the development and unify the base of the building and fit with the adjacent context of the two-storey public library.

Height Strategy

The towers heights are determined with respect to the contextual height of the existing buildings and the shadow impact on Albert Campbell Square. Tower 2 creates a height peak at 42 storeys and marks the corner of Borough Drive and Town Centre Court, while tower 1 steps down towards Scarborough Civic Centre with 27 storeys and minimizes the shadow cast on Albert Campbell Square.

Fig 47. Preliminary Concept | The Site

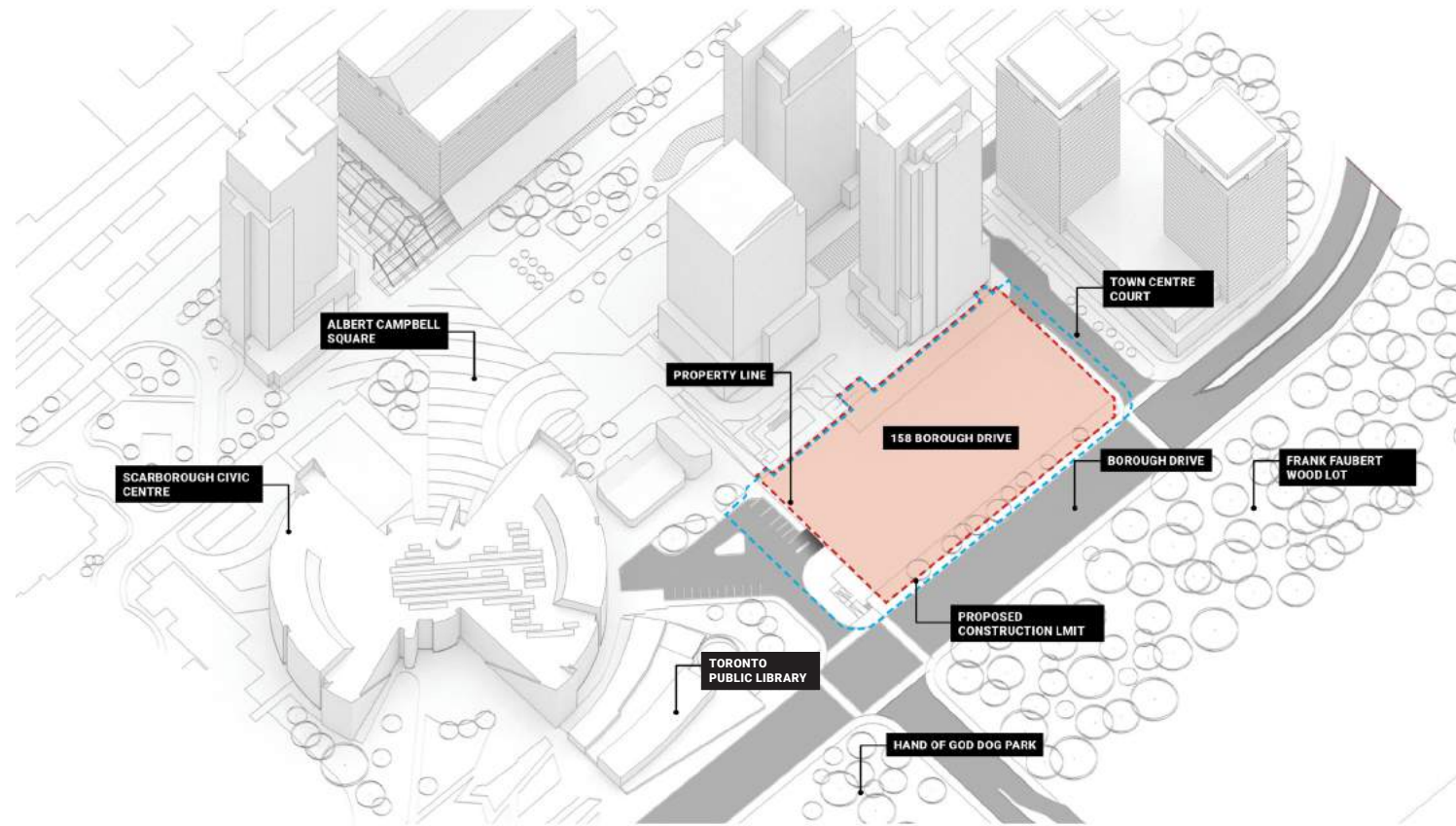


Fig 48. Preliminary Concept | Strategies for Barrier-Free Connections

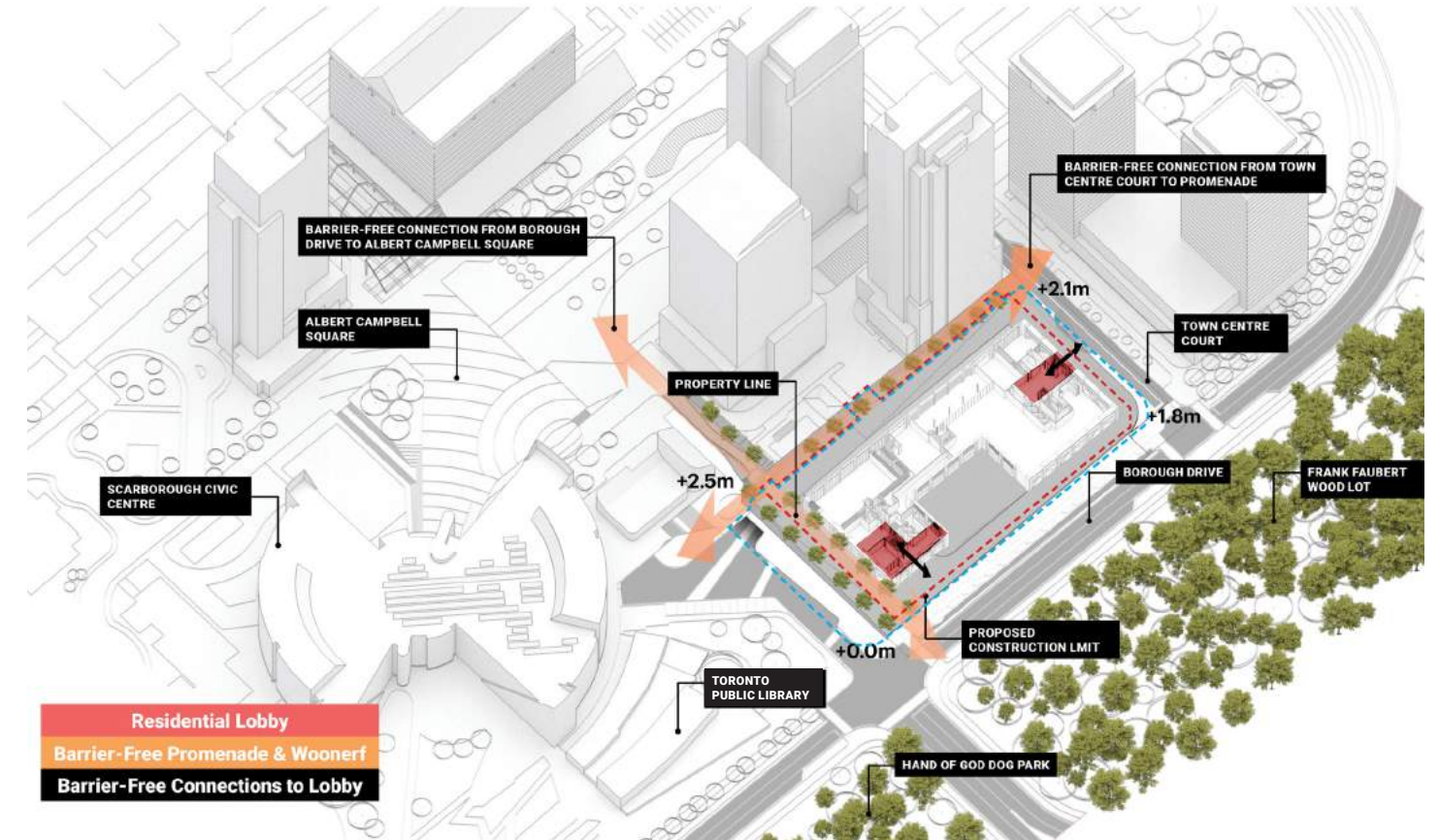


Fig 49. Preliminary Concept | Setbacks and Tower Separations

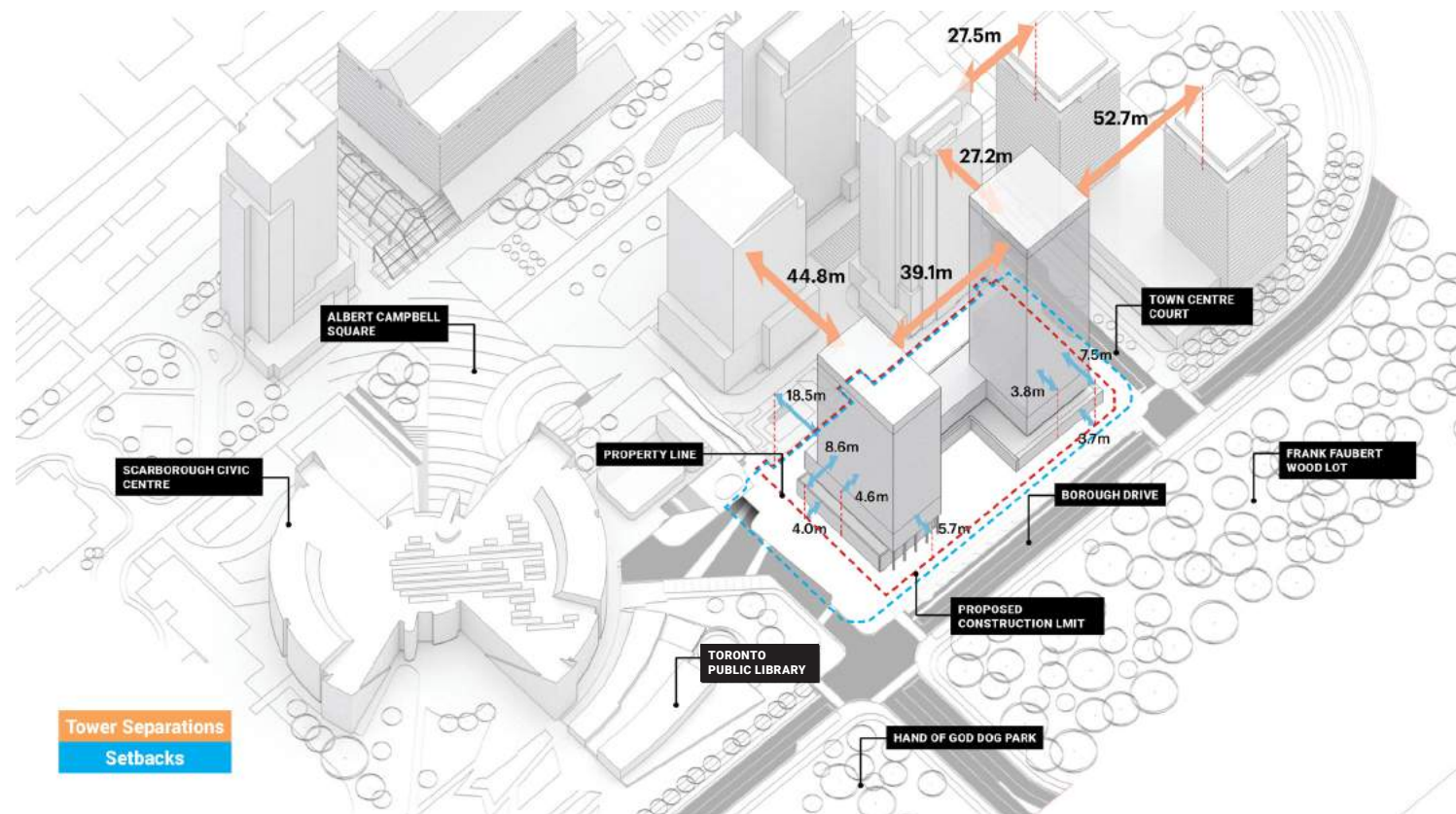
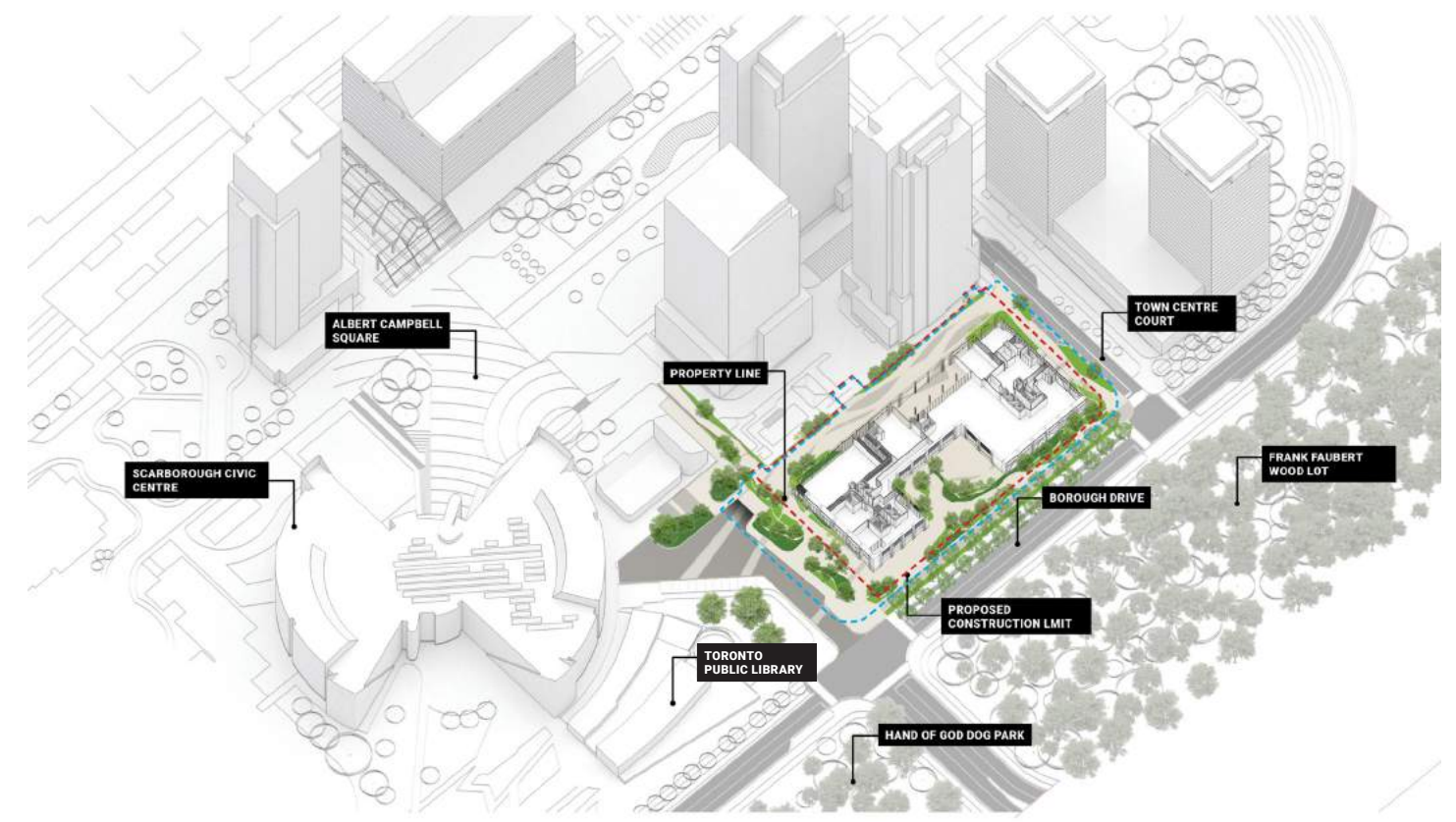


Fig 50. Preliminary Concept | Unifying the Site with Landscape

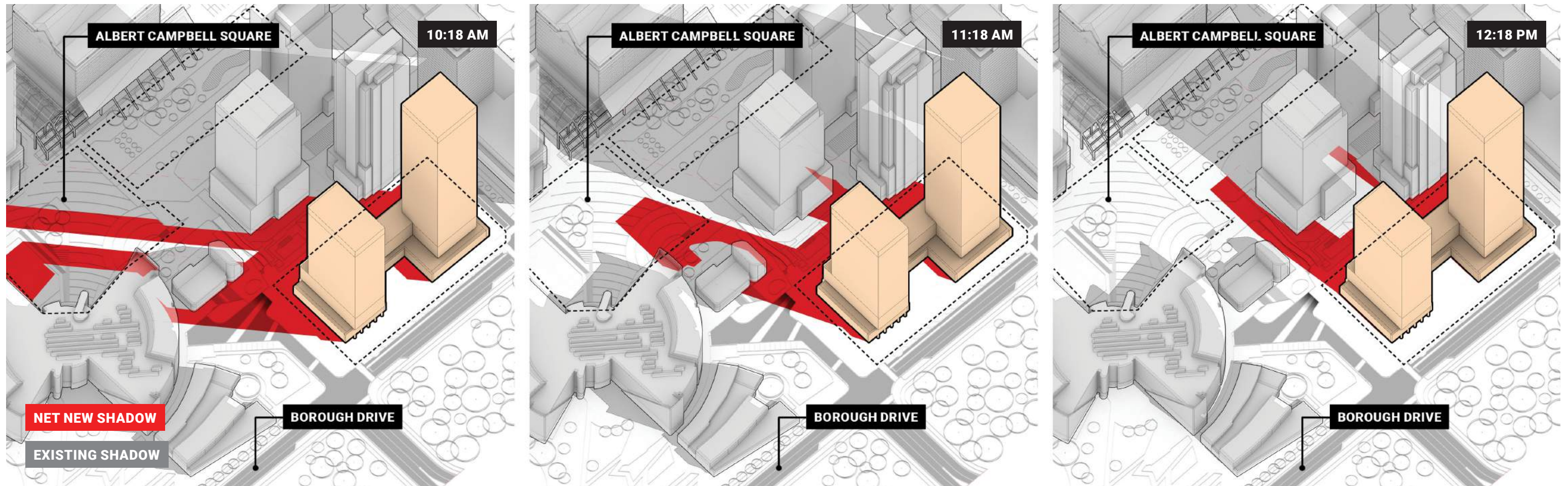


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Shadow Impacts

Since this development is in close proximity to heritage-protected buildings and public spaces, it will cast shadows on SCC and Albert Campbell Square at certain times of the day. The floor plate, height, and position of each of the towers are optimized to minimize the shadow impact on Albert Campbell Square, ensuring daylight on the square starting from 10 am and no shadow by 12 pm. At 10:18 am, on March 21st, 39 percent of the square is shadowed by the existing buildings. The proposed development casts shadows over an additional 40 percent of the square, leaving approximately one-fifth of the square with direct sun access. At 11:18 am, only 20 percent of Albert Campbell Square is affected by existing shadows, whereas the design contributes nearly 14 percent in net new shadows, creating a total of 34 percent of shadowed area. At 12:18 pm, the shadow cast by the new development moves entirely off the square; 80 percent of this square has access to direct sunlight. With addition of the proposed development Albert Campbell Square achieves 5 hours of good sunlight access (75 percent or more) from 11:18 am to 4:18 pm between the Spring and Fall equinoxes. (March 21st and Sept 21st)

Fig 51. Preliminary Concept | Shadow Studies at Spring Equinox



Mechanical Penthouse Treatment

The intent of the MPH is to form part of the overall architecture of the building and act as a “crown” with no discernible setback from the rest of the building. The proposed tower design represents a wholistic approach to the form, one that includes the penthouse, and indicates a completion of the architectural expression as it meets the sky. Such an approach is especially appropriate near the Civic Centre, as it is intended to avoid diminishing the skyline with a utilitarian form and materiality often seen for the mechanical penthouse.

Fig 52. Preliminary Concept | 7.5m Street Wall Unifying the Base

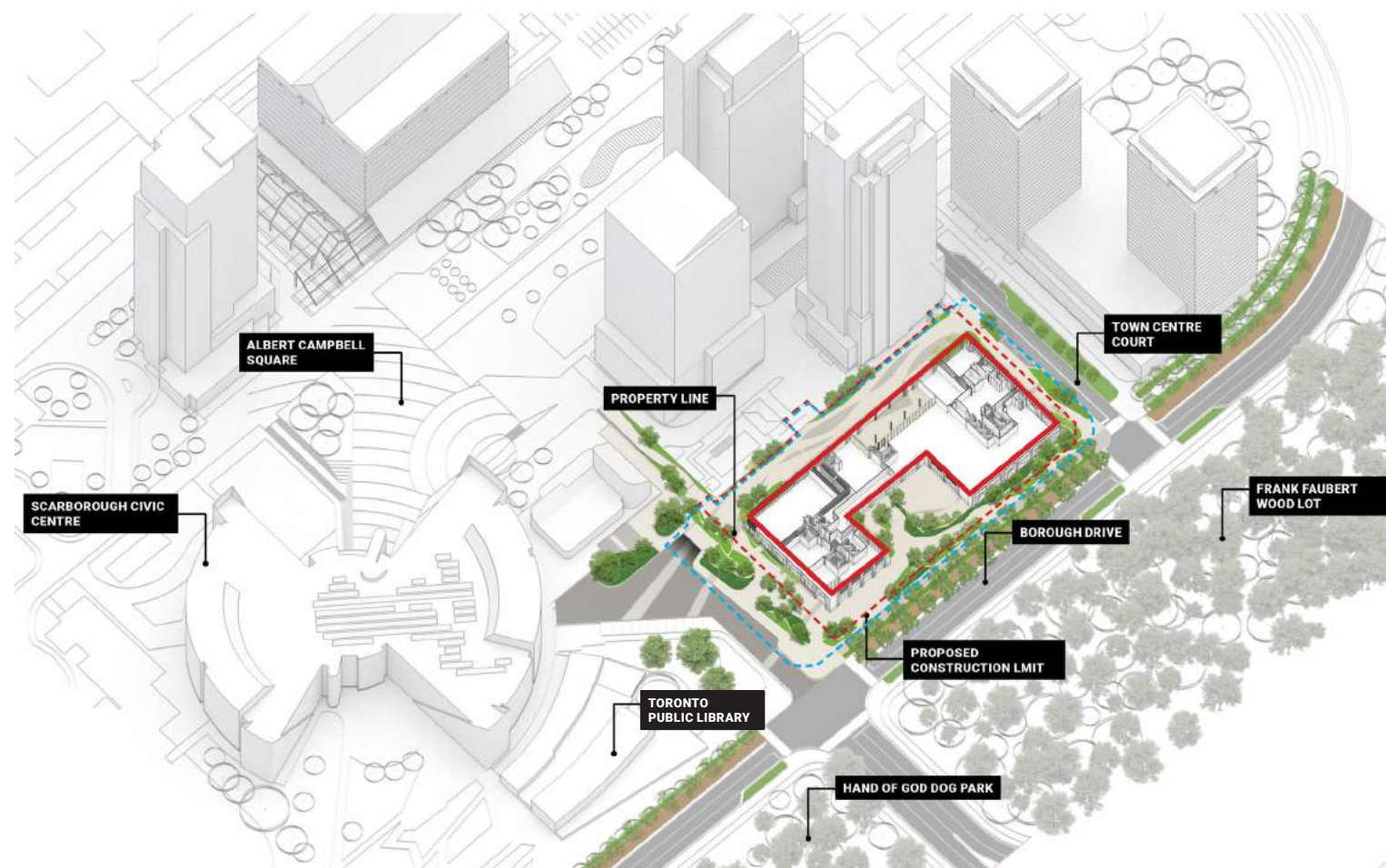


Fig 53. Preliminary Concept | Integrated Design

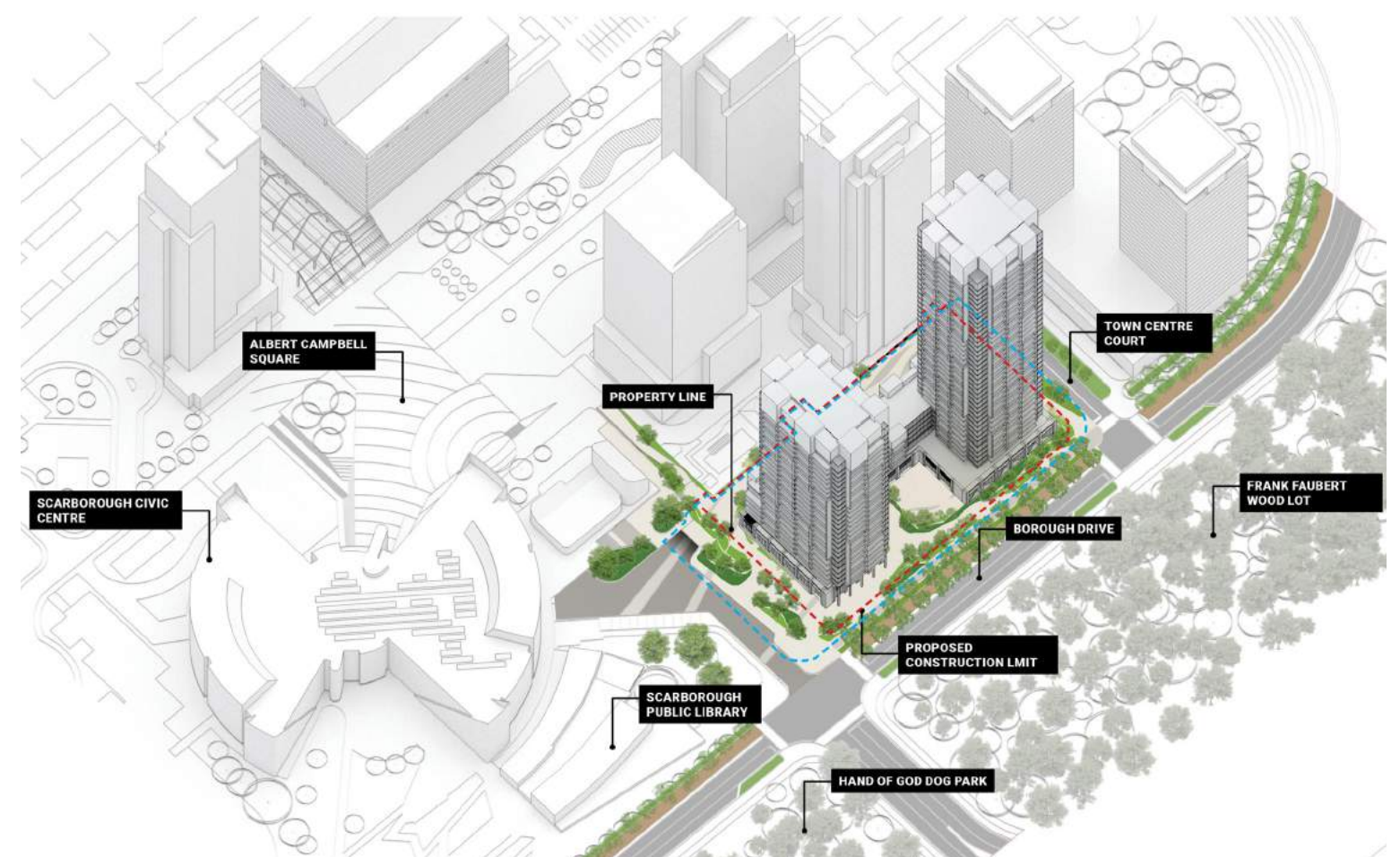


Fig 54. Ground Floor Plan Detail



Fig 55. Roof Plan

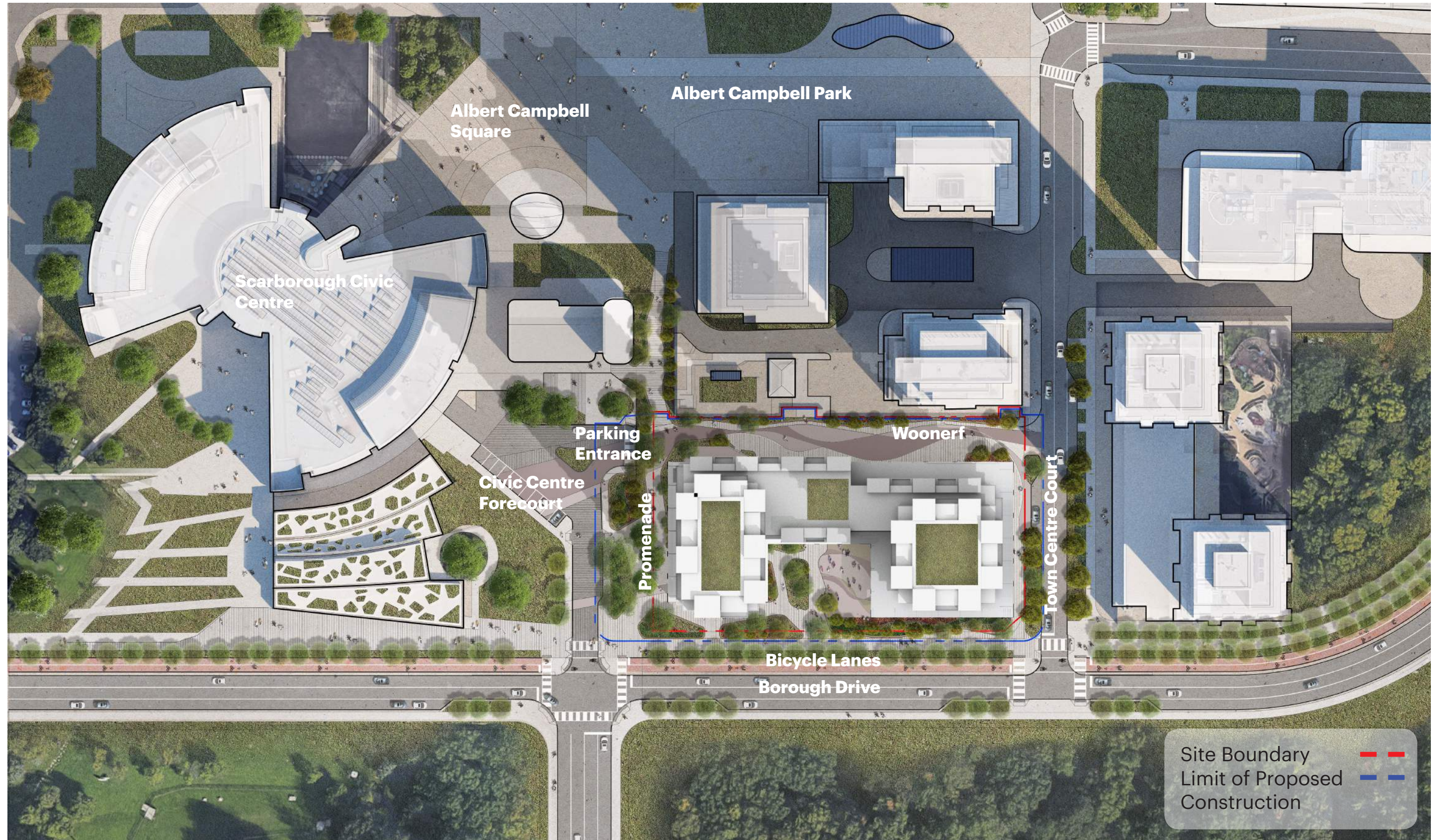


Fig 56. South Elevation

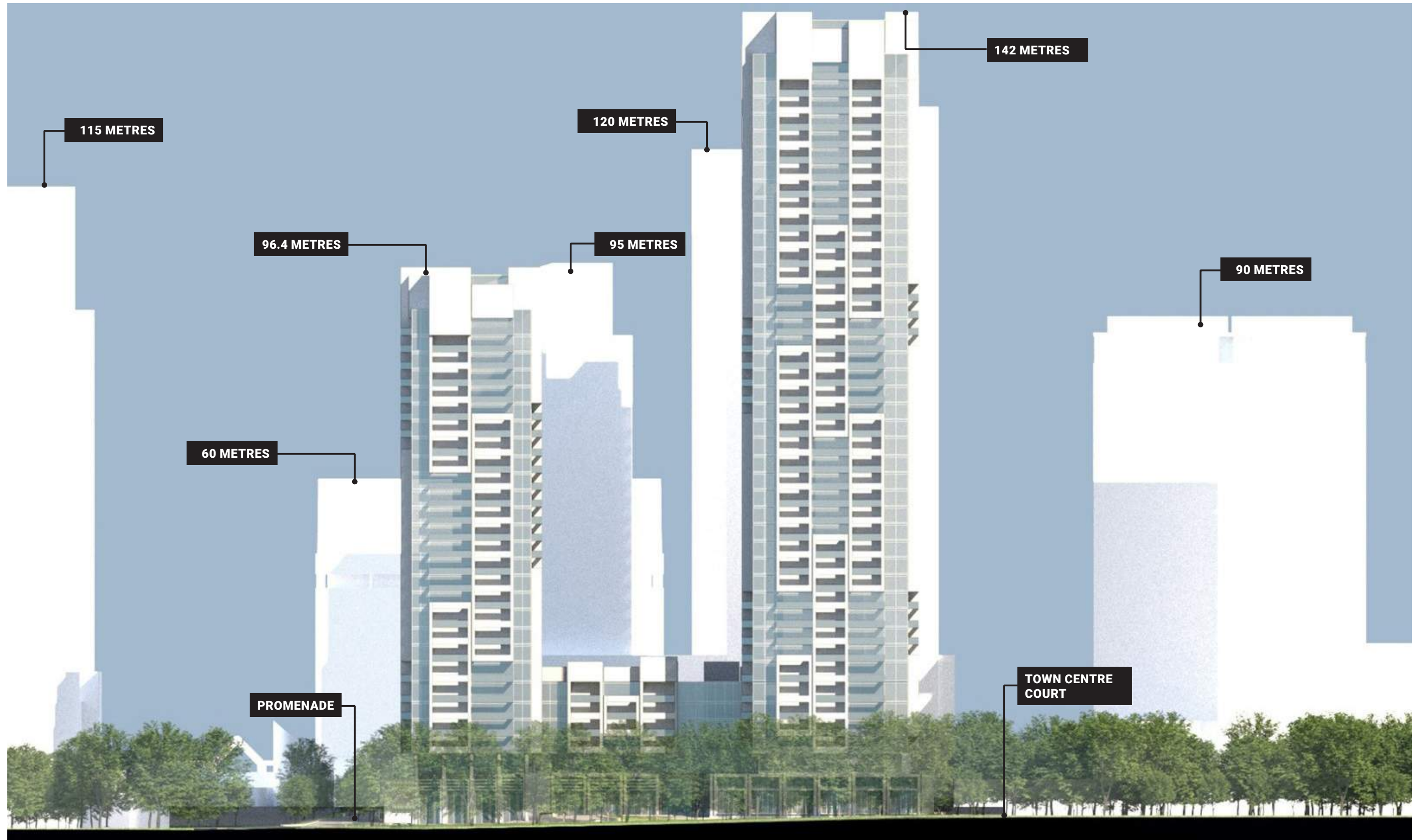


Fig 57. East Elevation



Fig 58. Axonometric View | Southeast

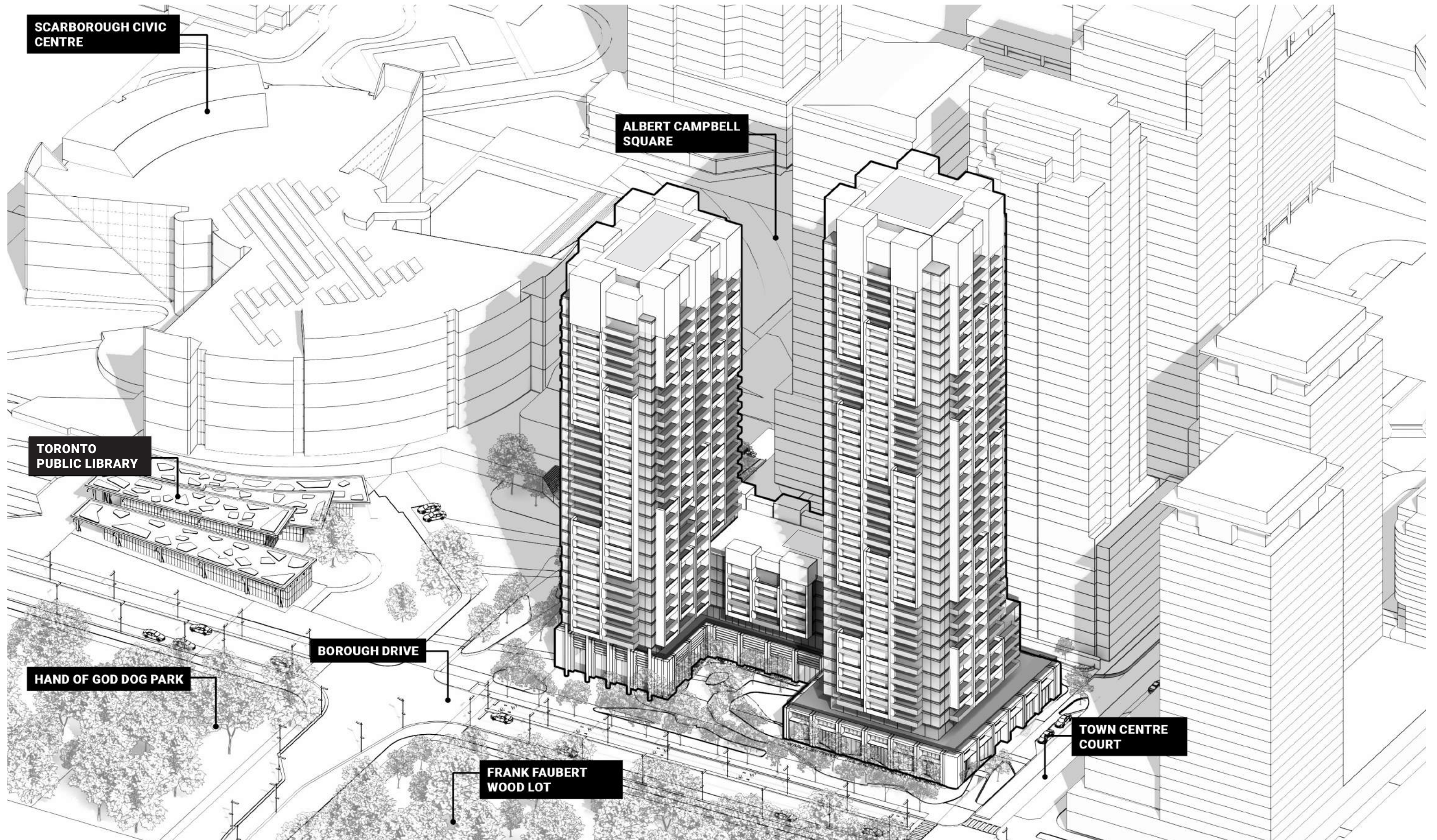


Fig 59. Axonometric View | Southwest

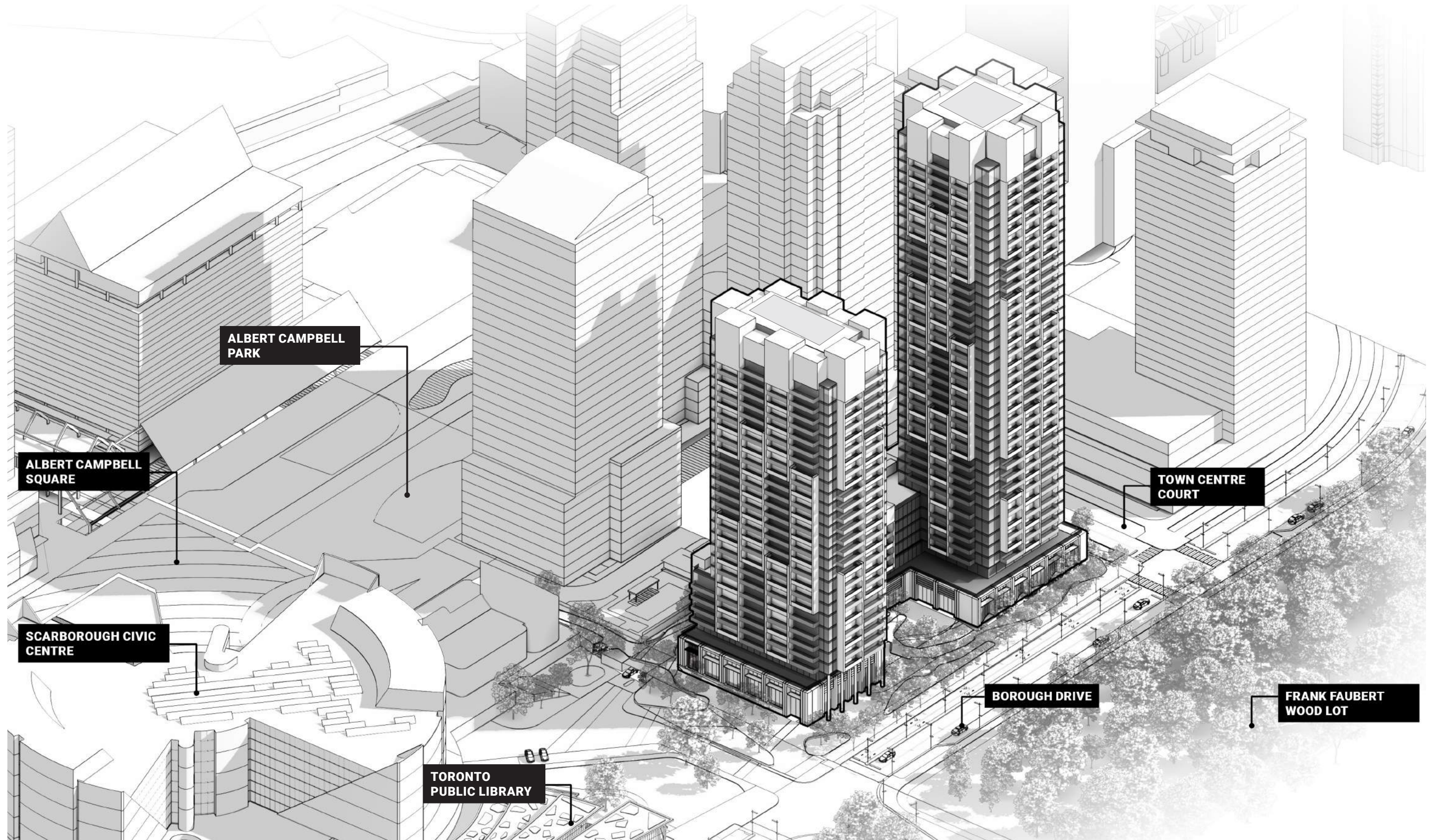


Fig 60. West Elevation

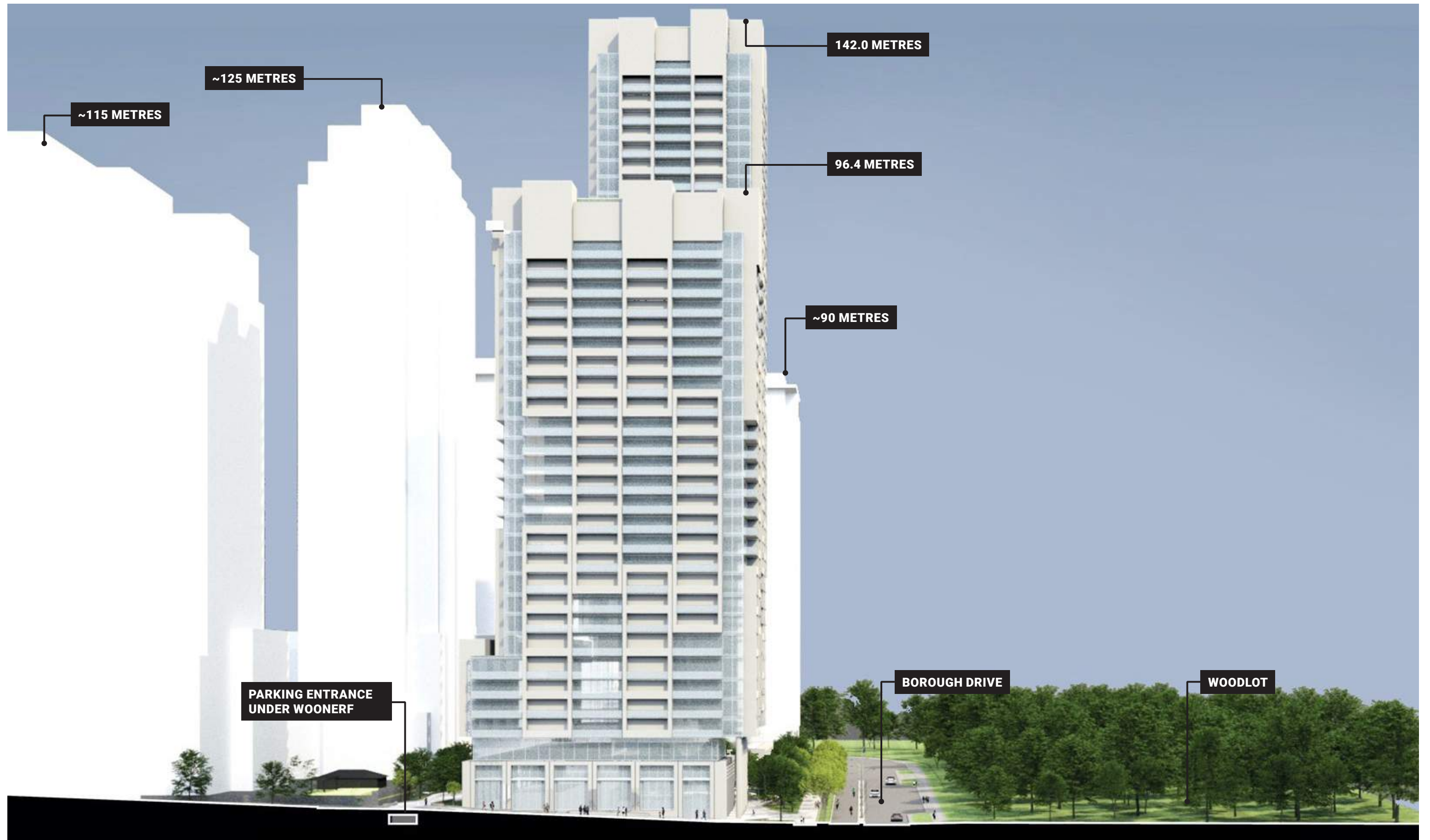


Fig 61. North-South Section

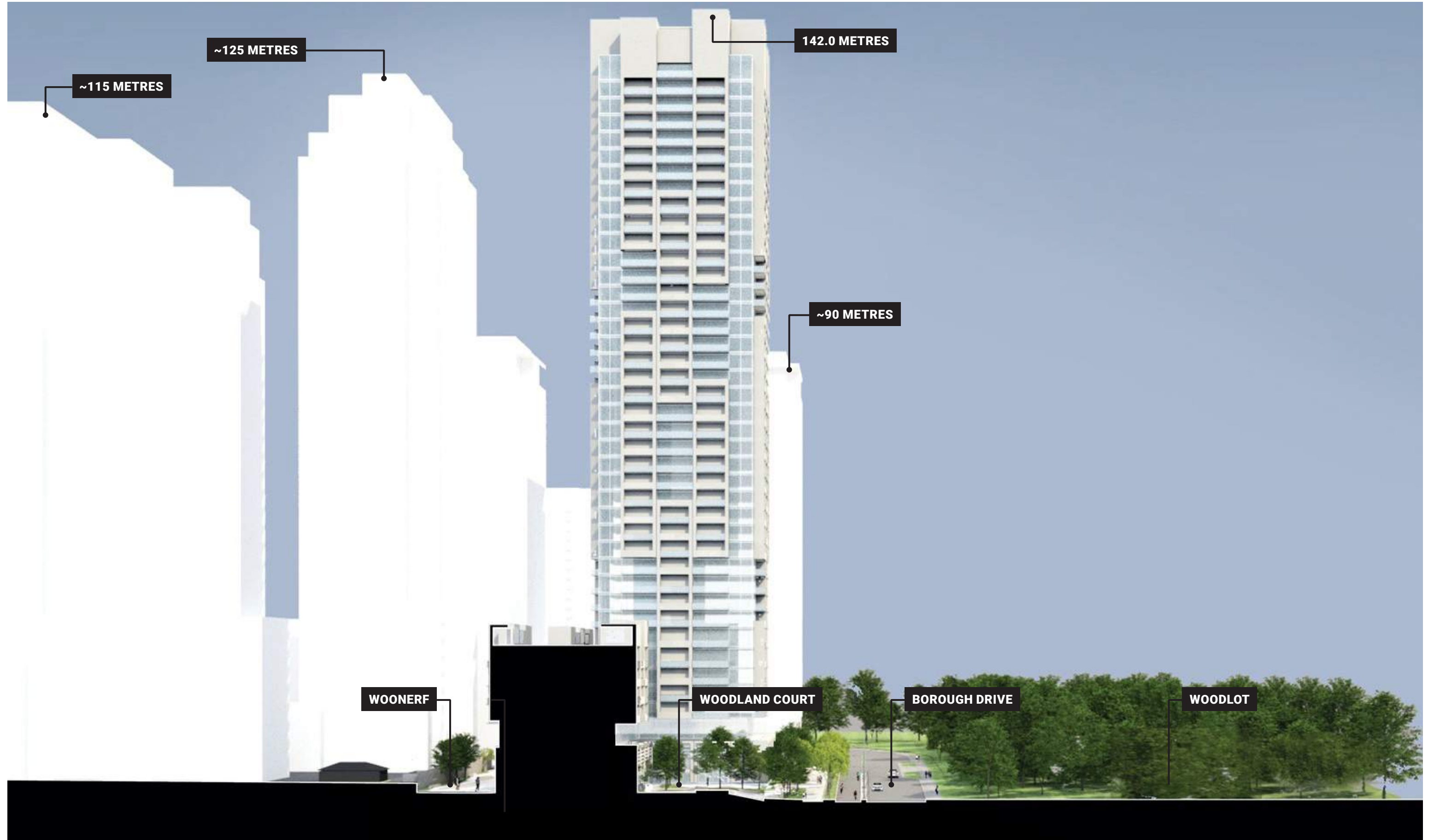


Fig 62. View from Borough Drive



Fig 63. Southeast View

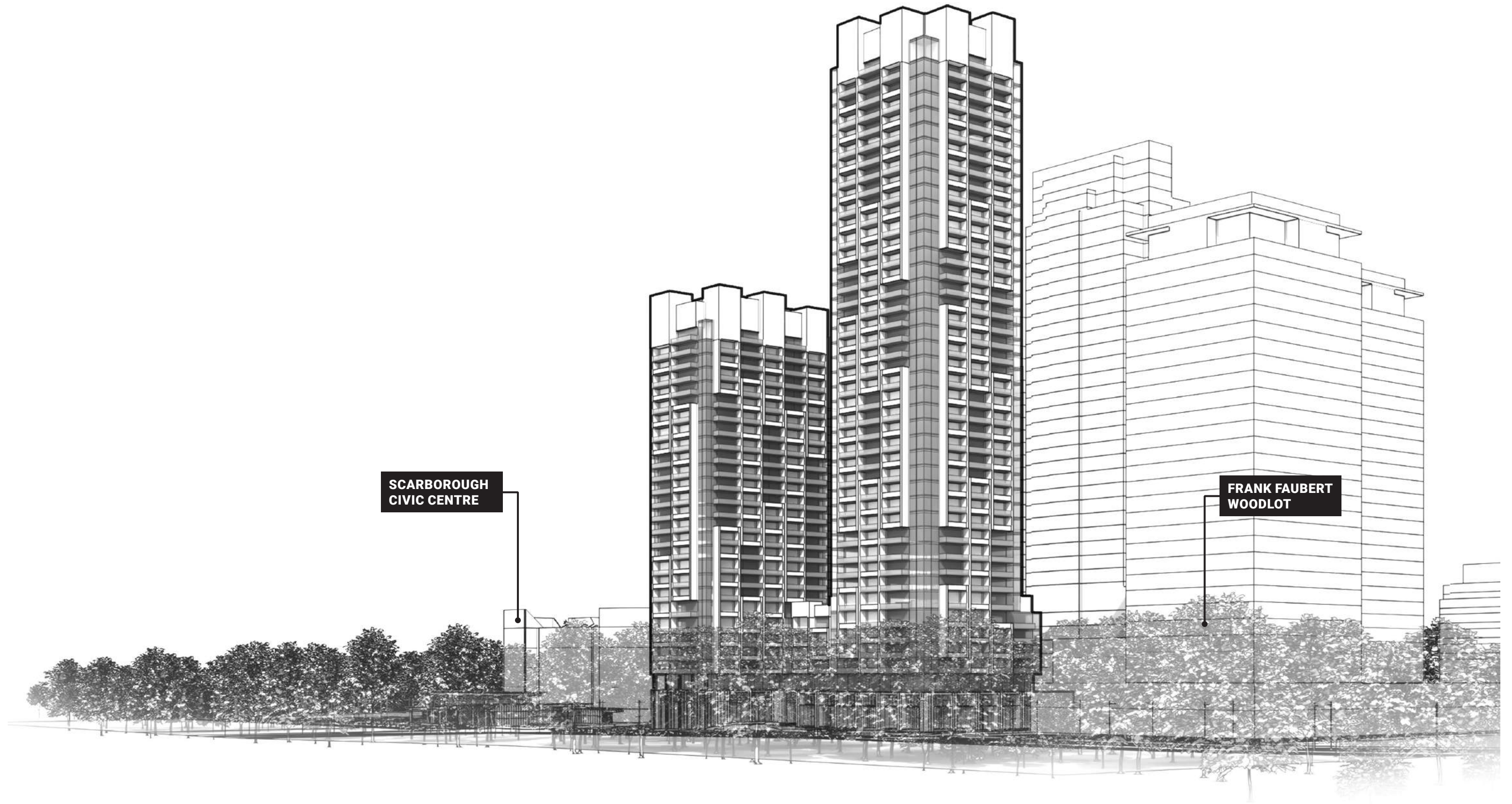


Fig 64. Southwest View

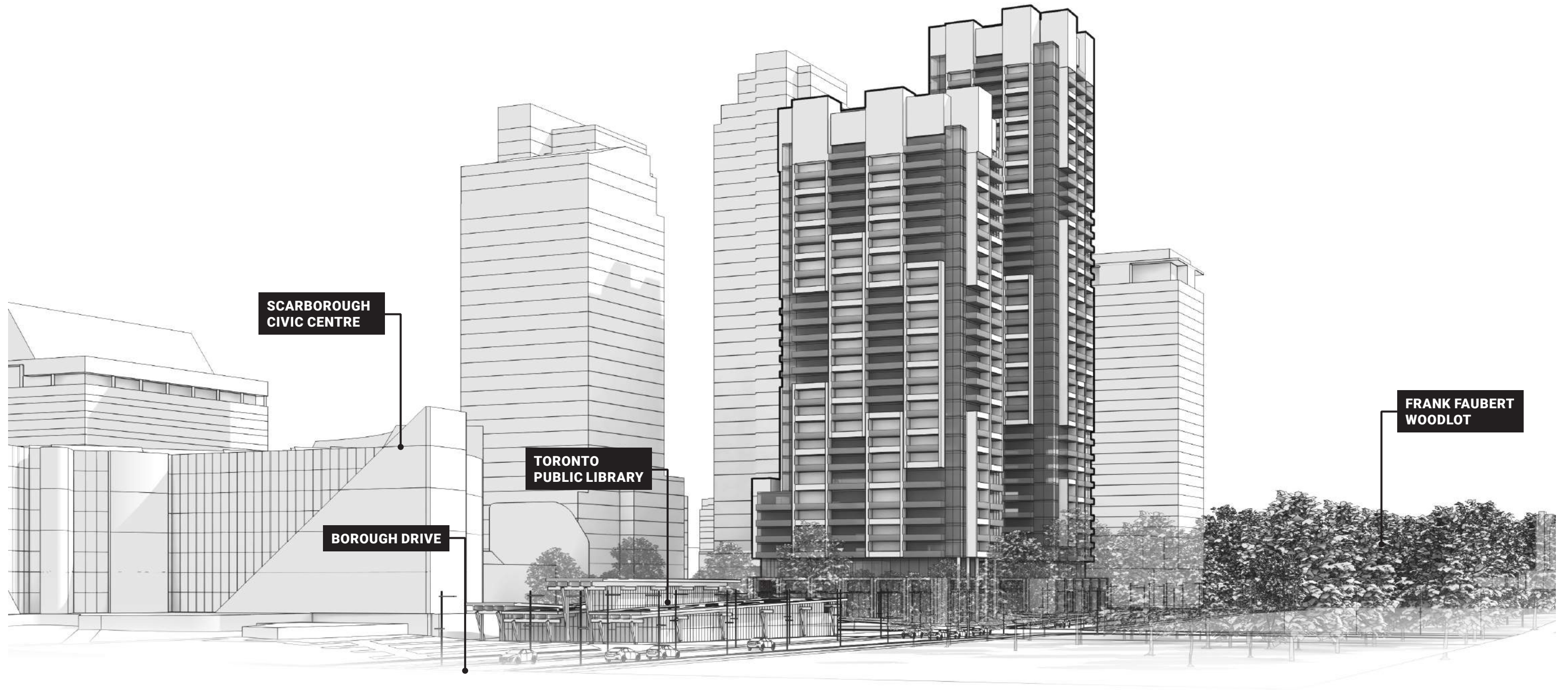


Fig 65. Borough Drive Elevation Before Development

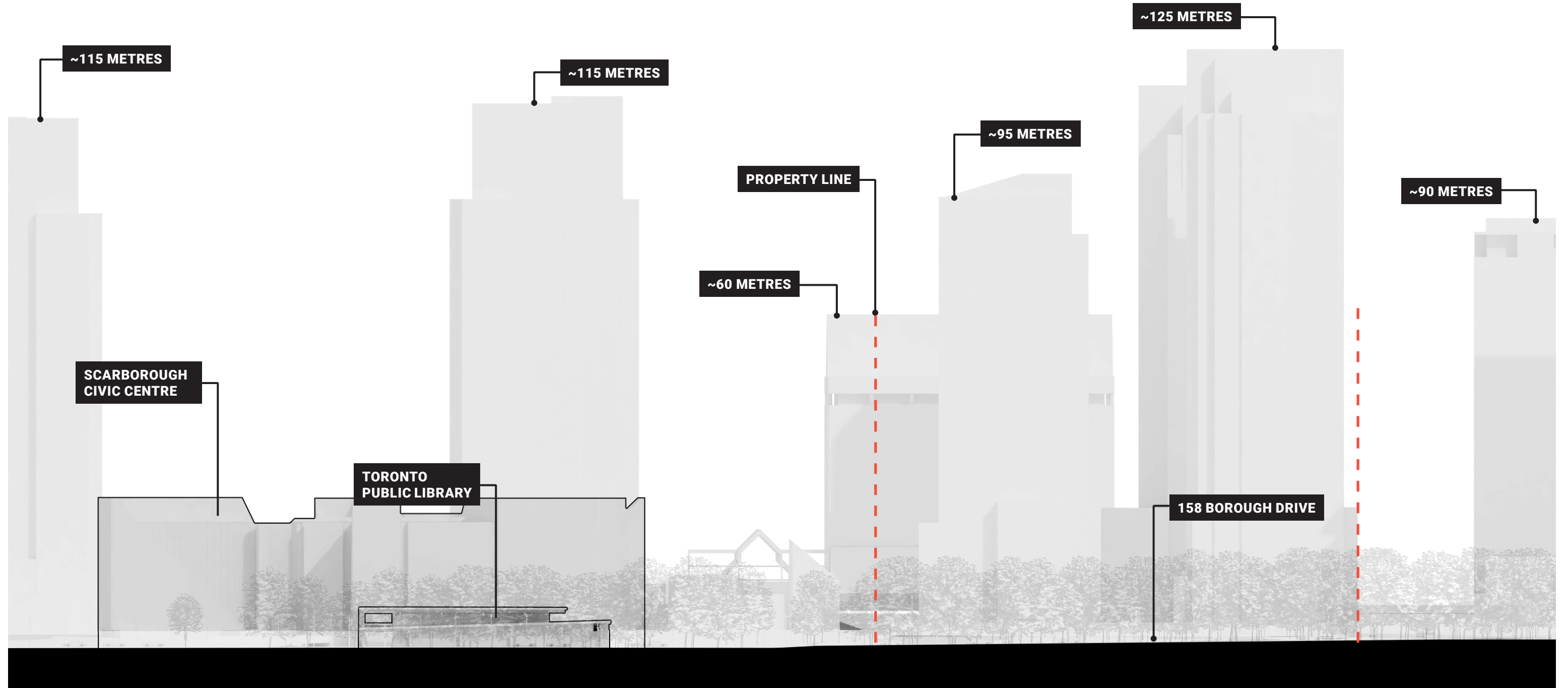


Fig 66. Borough Drive Elevation After Development

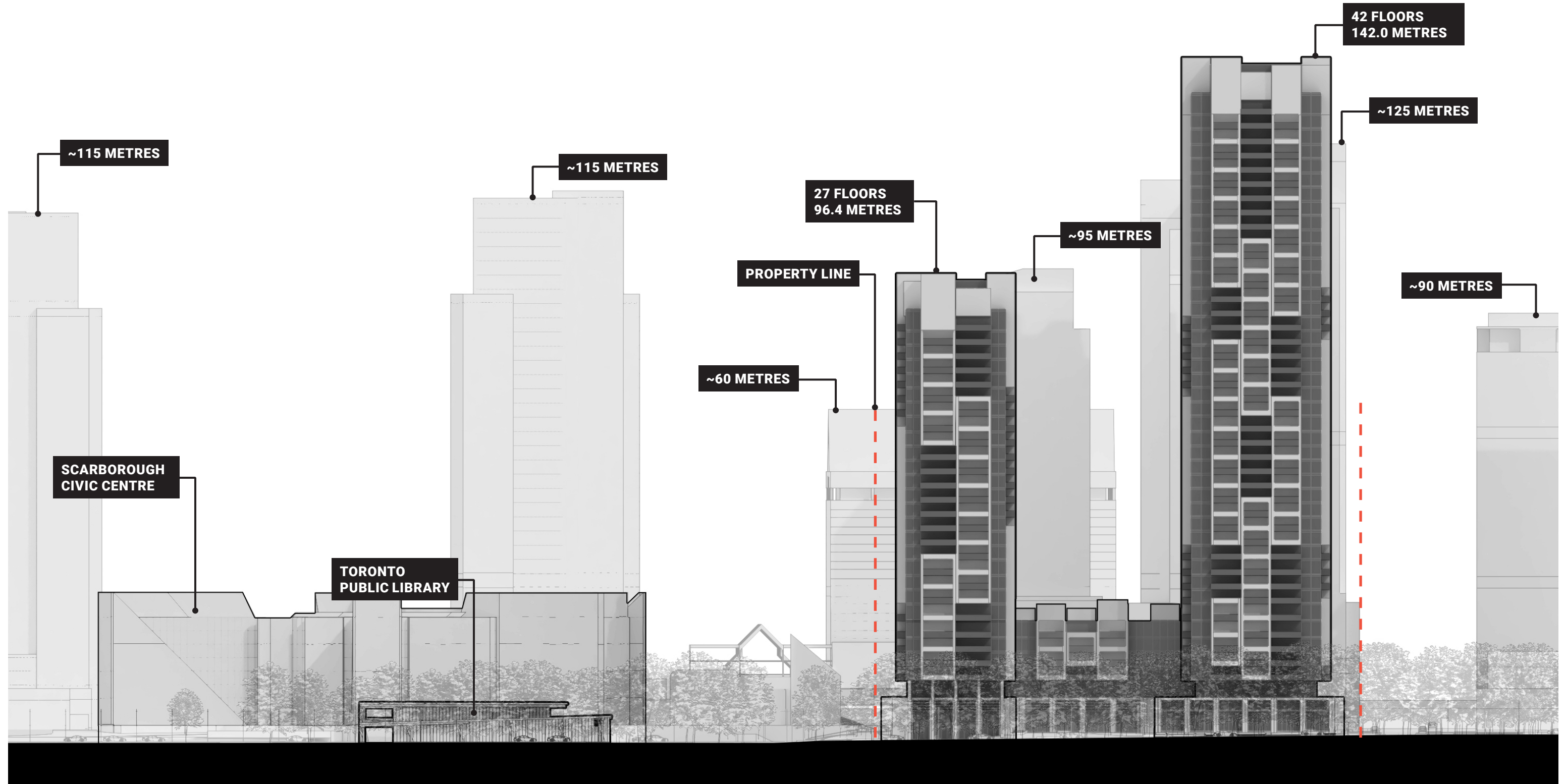


Fig 67. Southwest View



Fig 68. View from Albert Campbell Square



Fig 69. Borough Drive Streetscape



05 | Sustainability

Toronto Green Standard

This design brief proposes a sustainable and environmentally-friendly development that meets a minimum of Toronto Green Standard V3 - Tier 2. This goal is achieved through high-performance enclosures, innovative balcony strategies, optimized window-wall ratio, and overall an energy-efficient design. Additionally, the landscaping of this development enhances the urban forest, prioritizes pedestrian experience, and provides a short-term bicycle parking location.

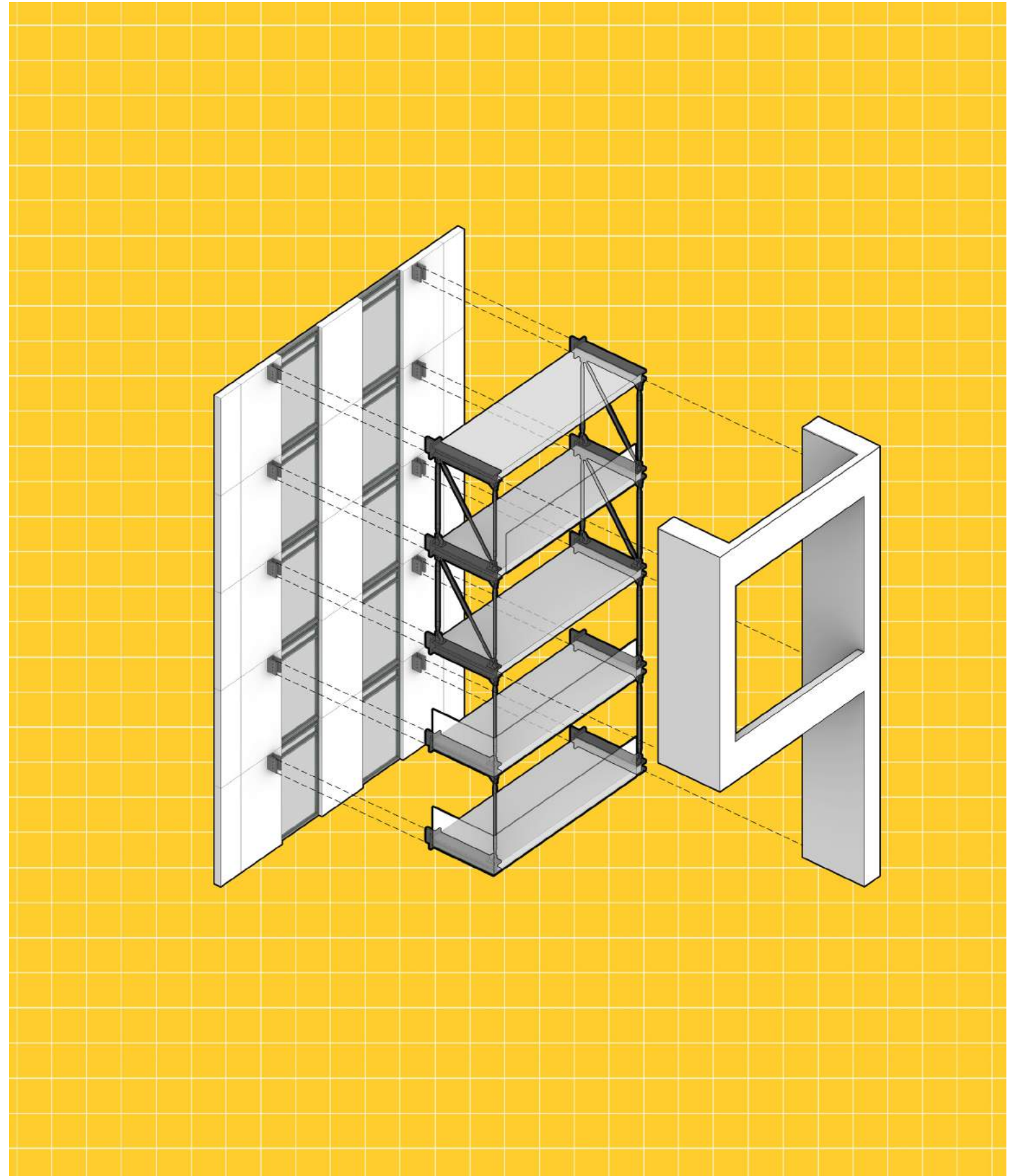
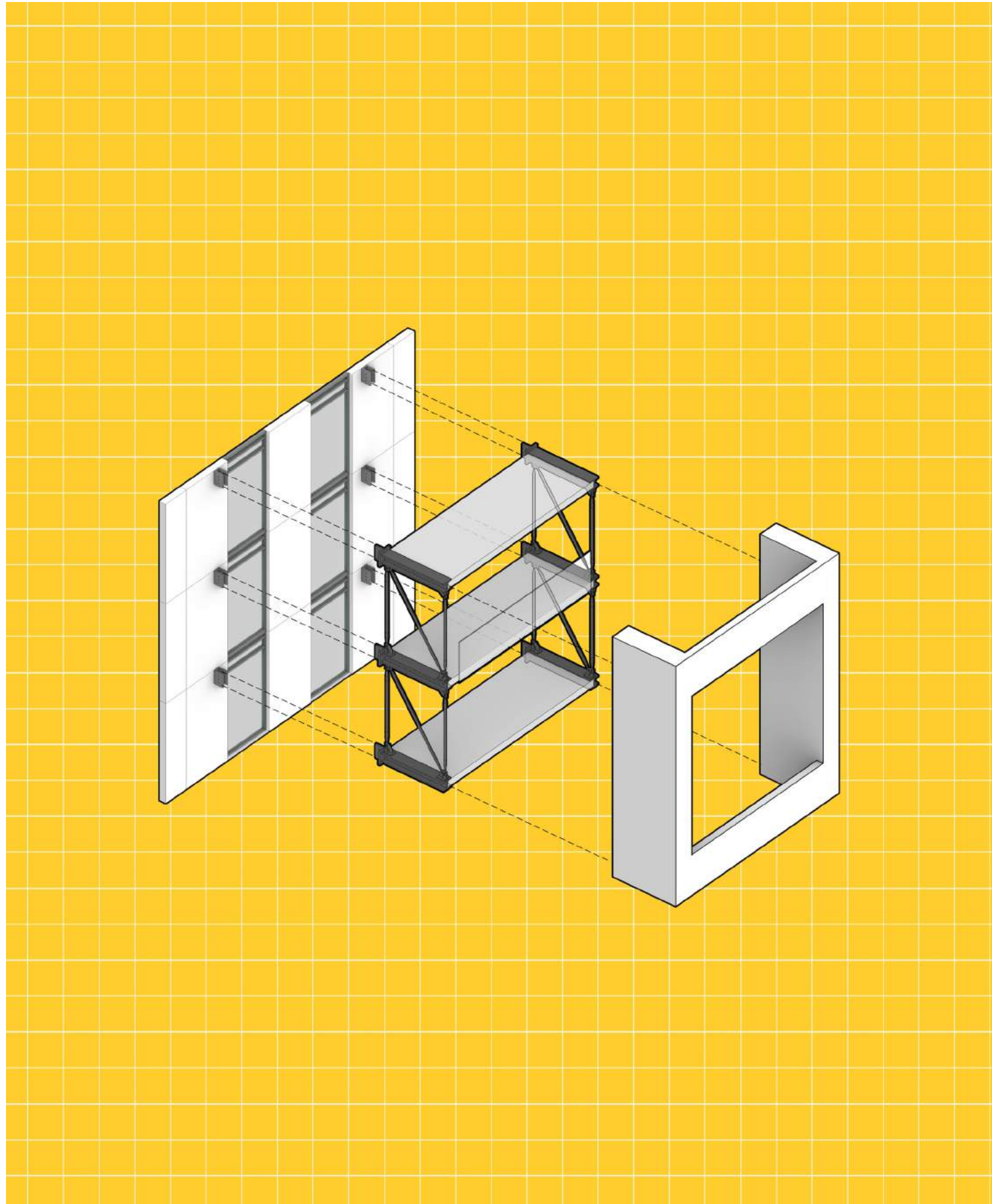
Innovative Balcony Strategies

158 Borough Drive provides balconies for a great majority of the residential units with minimal impact on the thermal performance of the enclosure. Instead of connecting the balcony slab directly to the facade, the balconies are attached to a vertical truss which is clamped onto the building via thermally broken connections as illustrated in Fig 49.

Window To Wall Ratio

The proposed facade design, structural grid, and floor plan layout create an opportunity for an optimum window-wall ratio. Glazing can be minimized for bedrooms and maximized for living rooms; this not only introduces a 40-60 window-wall ratio but also maintains views and daylight access in the living area.

Fig 70. Exploded Diagrams of Thermally Broken Balconies



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