



APPENDIX E

Urban Design

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energy2U
Alliance



North Sydney Zone Substation Redevelopment
Urban Design Impacts on 136-140 Walker Street



QUALITY INFORMATION


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This project is being delivered by the Energy2U Alliance which brings together partners from EnergyAustralia, Leighton Contractors Pty Limited, AECOM Pty Limited and PowerServe Australia Pty Limited to undertake works for EnergyAustralia.



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Figure 1.1: Subject Site

Source: Google Earth

Note houses shown on aerial photo have been demolished and the site is currently an excavation (completed as part of a separate approval)

LEGEND

- | | | |
|--|---|---|
|  PROPOSED SUBSTATION DEVELOPMENT SITE |  EXISTING SUBSTATION |  PUBLIC PLAZA |
|  136-140 WALKER STREET |  EXISTING CAR PARK |  144-150 WALKER STREET |



1 INTRODUCTION

This project is being delivered by the Energy2U Alliance which brings together partners from EnergyAustralia, Leighton Contractors Pty Limited, AECOM Pty Limited and PowerServe Australia Pty Limited to undertake works for EnergyAustralia.

This report has been prepared to assess the urban design impacts on 136-140 Walker Street to support a Part 3A planning approval application to the Department of Planning (DoP) for the construction equipping and operation of a new electricity substation at No 3-11 Ward Street North Sydney (The Site) - refer to Figure 1.1. The proposed substation would be built to the property boundaries and have a maximum height of 26.7 metres (RL 94.5 m) at Ward Street and 29.7 metres at Harnett Street.

Although the proposed substation would be proximate to a number of existing buildings (including a commercial building at 76 Berry Street and the Wilson Parking carpark) the focus of this urban design report has been on the proposed mixed use development at 136-140 Walker Street due to the proximity of the proposed units.

The subject site is located on the western boundary of 136-140 Walker Street which has a DA approved by North Sydney Council for a mixed use development that includes 46 residential units.

The proximity of the substation's eastern wall to the development at 136-140 Walker Street has potential to create adverse impacts on the amenity of 8 west facing units as there is only 4.835 metres between the facade wall of the units and the substation wall. The distance between the substation and the unit balconies is:

- » 1.235 metres to 2.885 metres at level 5
- » 2.885 metres at levels 6 to 8.

This report has been prepared to:

- » Assess the general urban design impacts that the proposed design for the substation has on the approved development at 136-140 Walker Street.
- » Assess the urban design impacts in relation with SEPP 65 (*Design Quality of Residential Flat Development*) principles for the proposed development at 136 - 140 Walker Street.
- » Assess the urban design impacts that would affect the approved development at 136-140 Walker Street if the substation site was developed with a building envelope that took into consideration *North Sydney Development Control Plan 2002 (NSDCP 2002)*.
- » Assess the urban design impacts on the 8 west facing units (level 5 to 8) at 136 - 140 Walker Street.

North Sydney Council approved a Development Application at 144-150 Walker Street on 19 July 2010. It is assumed in this report that the urban design impacts of the proposed substation on the approved development at 144-150 Walker Street are negligible as it is located approximately 10 metres north-east of the subject site.



2 PROPOSED SUBSTATION

The continued growth and prosperity of the North Sydney CBD has generated a growing demand for utility services. An operational decision has been made by EnergyAustralia to replace the existing substation at 70-74 Berry Street, as it is ageing and unable to supply the forecast energy demand for the North Sydney CBD.

Following investigations into suitable sites, EnergyAustralia has determined that the most suitable site for the new substation is a site at 3-11 Ward Street, North Sydney (the subject site) which adjoins the existing North Sydney Substation to the south.

The proposed substation site is located on the eastern side of Ward Street between Harnett and Berry Streets. The subject site shares a common boundary with 136-140 Walker Street and 76 Berry Street to the east and with the Wilson Parking car park in Ward Street to the north (refer to Figure 1.1 Subject Site).

The subject site has an approximate area of 1,200 square metres with a frontage of 55 metres to Ward Street and a depth of 22 metres. The site is currently vacant and has been excavated as part of a separate approval.

The subject site is located within the North Sydney CBD. It is predominately surrounded by a mix of commercial development to the north west and residential development to the north east.

The project has an RL of 94.5 with Ward Street as the primary street frontage. The proposed substation has a total of 5 levels, with a maximum building height of 26.7 metres at the southern end and a maximum building height of 29.7 metres at the northern end (Harnett Street frontage). Once developed, vehicular access to the subject site would be via Harnett Street.

3 BACKGROUND TO THE DEVELOPMENT AT 136-140 WALKER ST

On 22 October 2008 North Sydney City Council issued approval for the construction of a mixed use development at 136-140 Walker Street, North Sydney (the adjacent development). The adjacent development is legally described as Lot B DP 952192 and is located on the western side of Walker Street between McLaren and Berry Streets.

The adjacent development has an approximate area of 1,170 square metres with a frontage of 28.8 metres to Walker Street and a depth of 40.3 metres and is currently occupied by two residential /multi unit dwellings.

The approved development has a height up to RL 132.5. The development would have its primary street frontage to Walker Street and a pedestrian through site link from Harnett Street to Walker Street (refer to Figure 3.1).

In summary, the approved development is comprised of:

- » 3 basement levels for plant, storage and car parking
- » 3,530 square metres of retail/commercial floor space across 5 levels (the podium), and
- » 46 units across 16 levels of residential floor space.

Figures 3.2, 3.3, 3.4 and 3.5 show a total of eight west facing units between levels 5 to 8 that have potential to be impacted by the proposed substation.

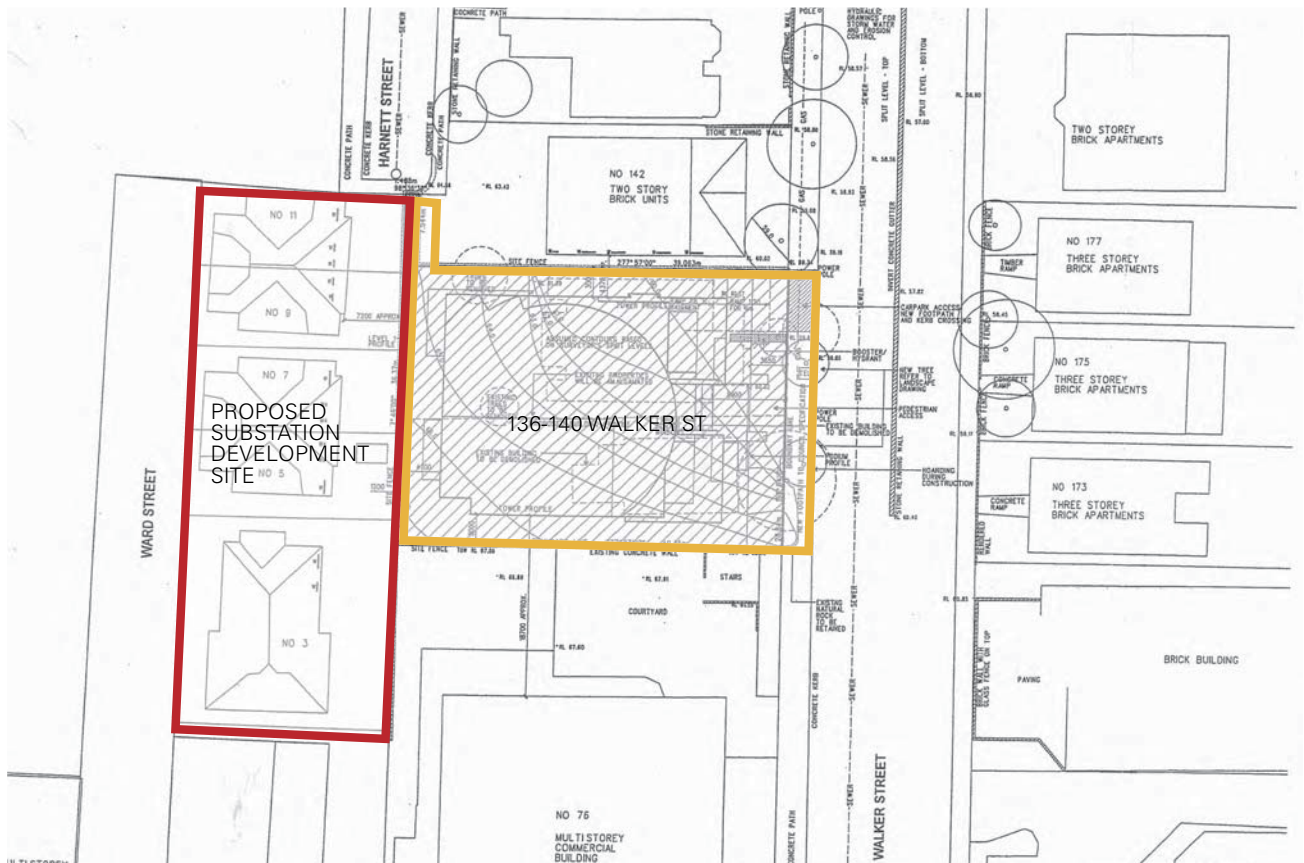


Figure 3.1: 136-140 Walker Street - Site Plan

Source: DA Plans for 136-140 Walker St, 2008

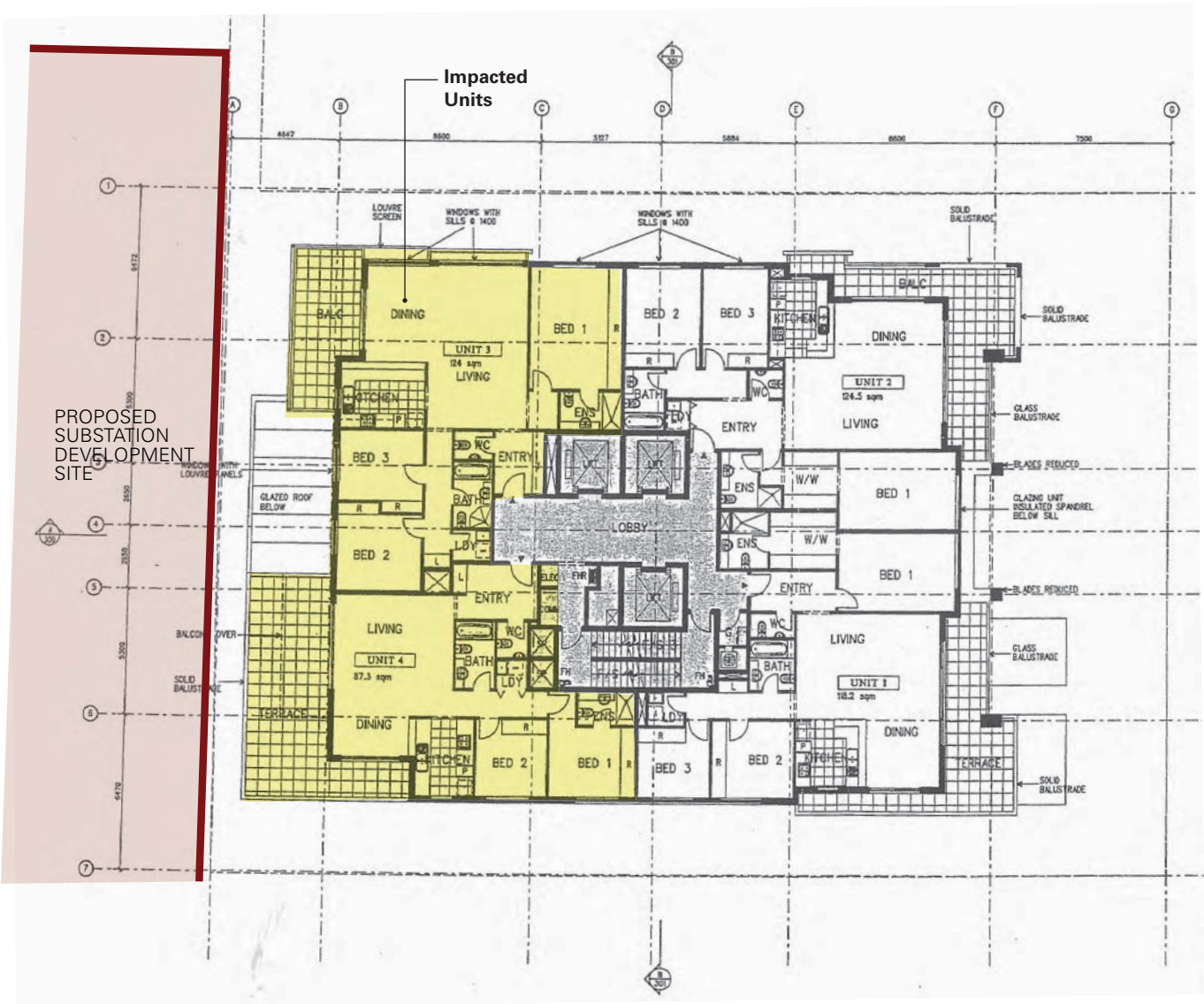


Figure 3.2: 136-140 Walker Street - Approved typical residential level (Level 5)

Source: DA Plans for 136-140 Walker St, 2008

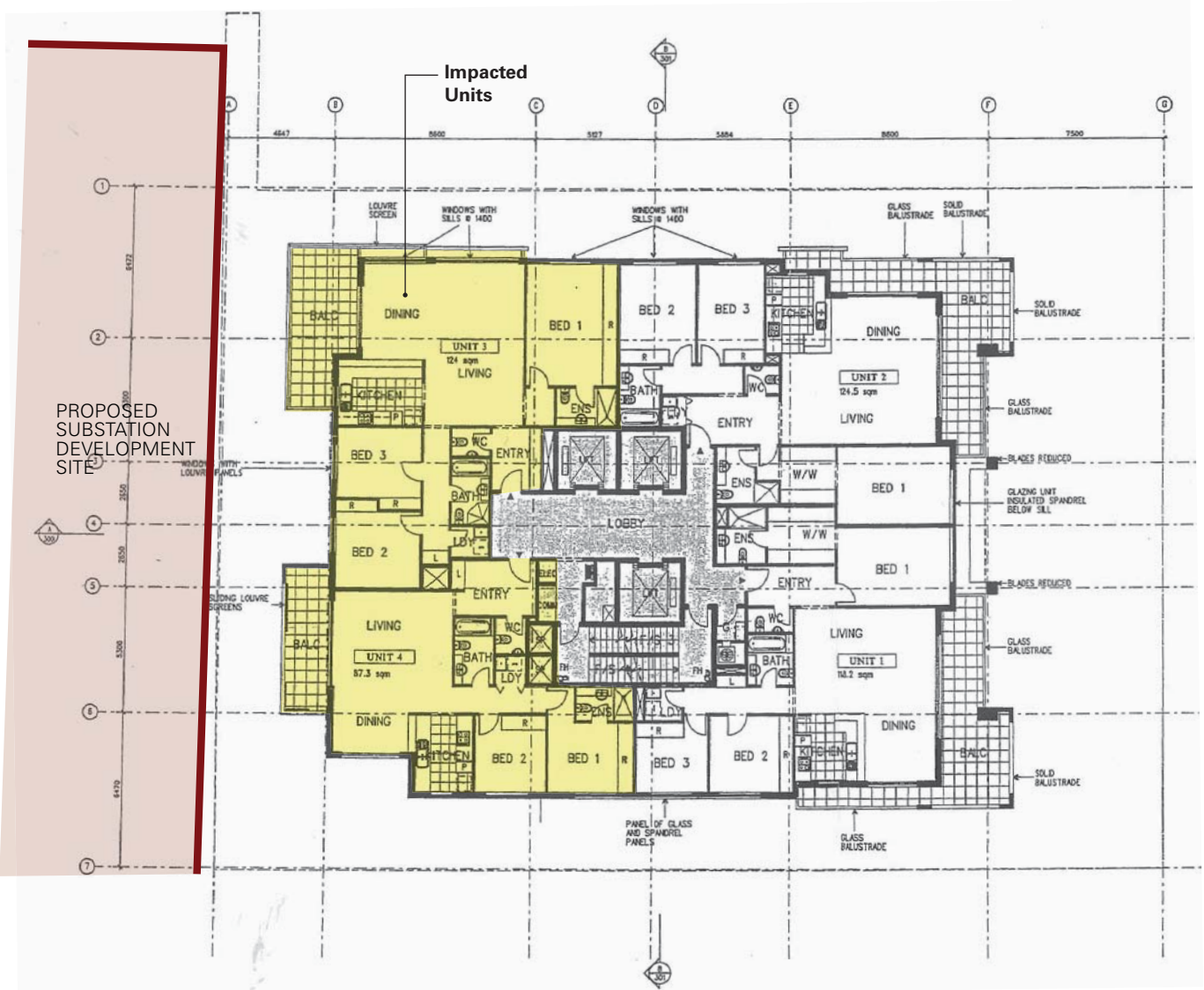


Figure 3.3: 136-140 Walker Street - Approved typical residential level (Levels 6 to 8)

Source: DA Plans for 136-140 Walker St, 2008

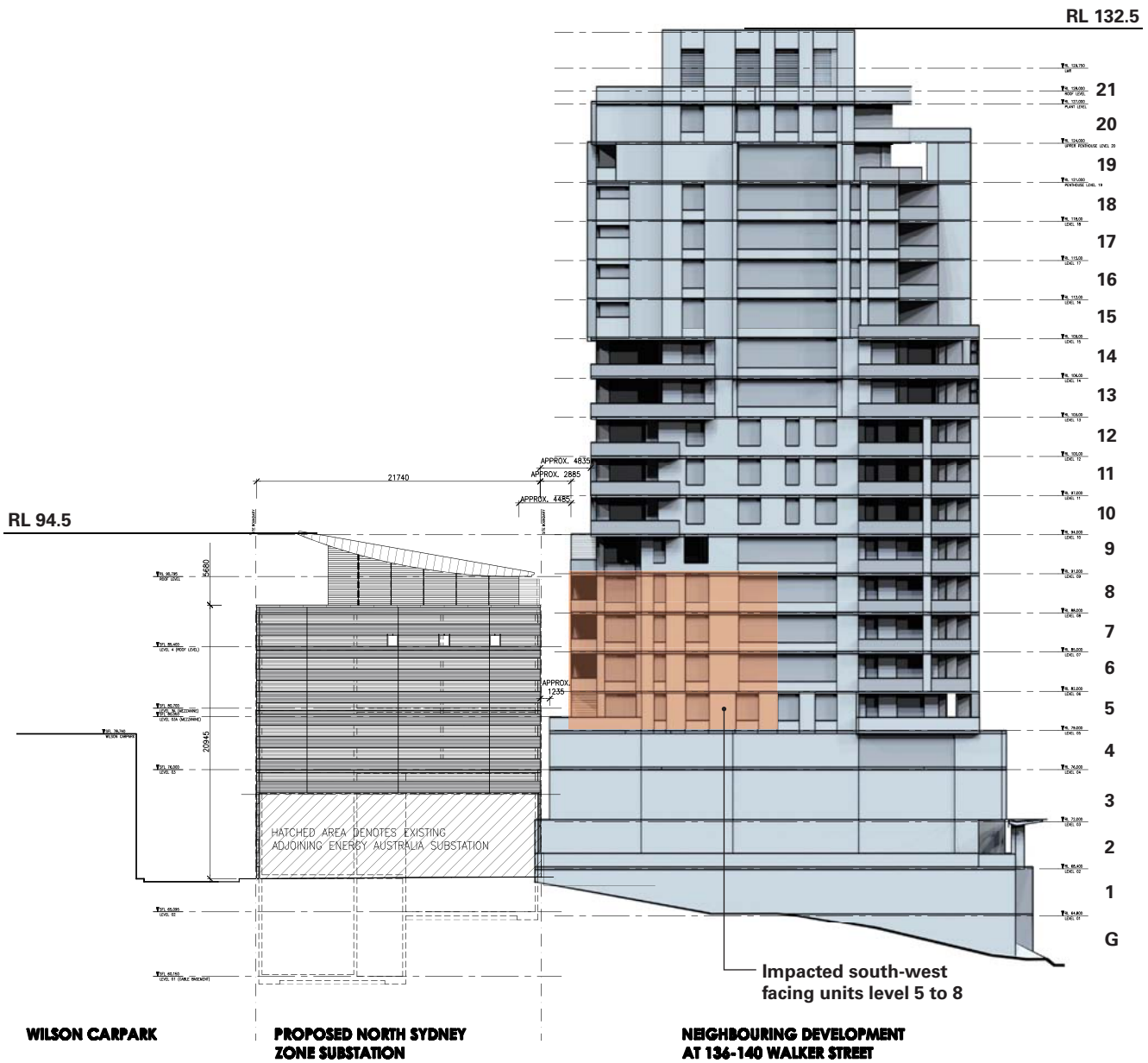


Figure 3.4: Southern Facade of 136-140 Walker Street

Source: Kann Finch Group, 2010
(Measurement in millimetres)

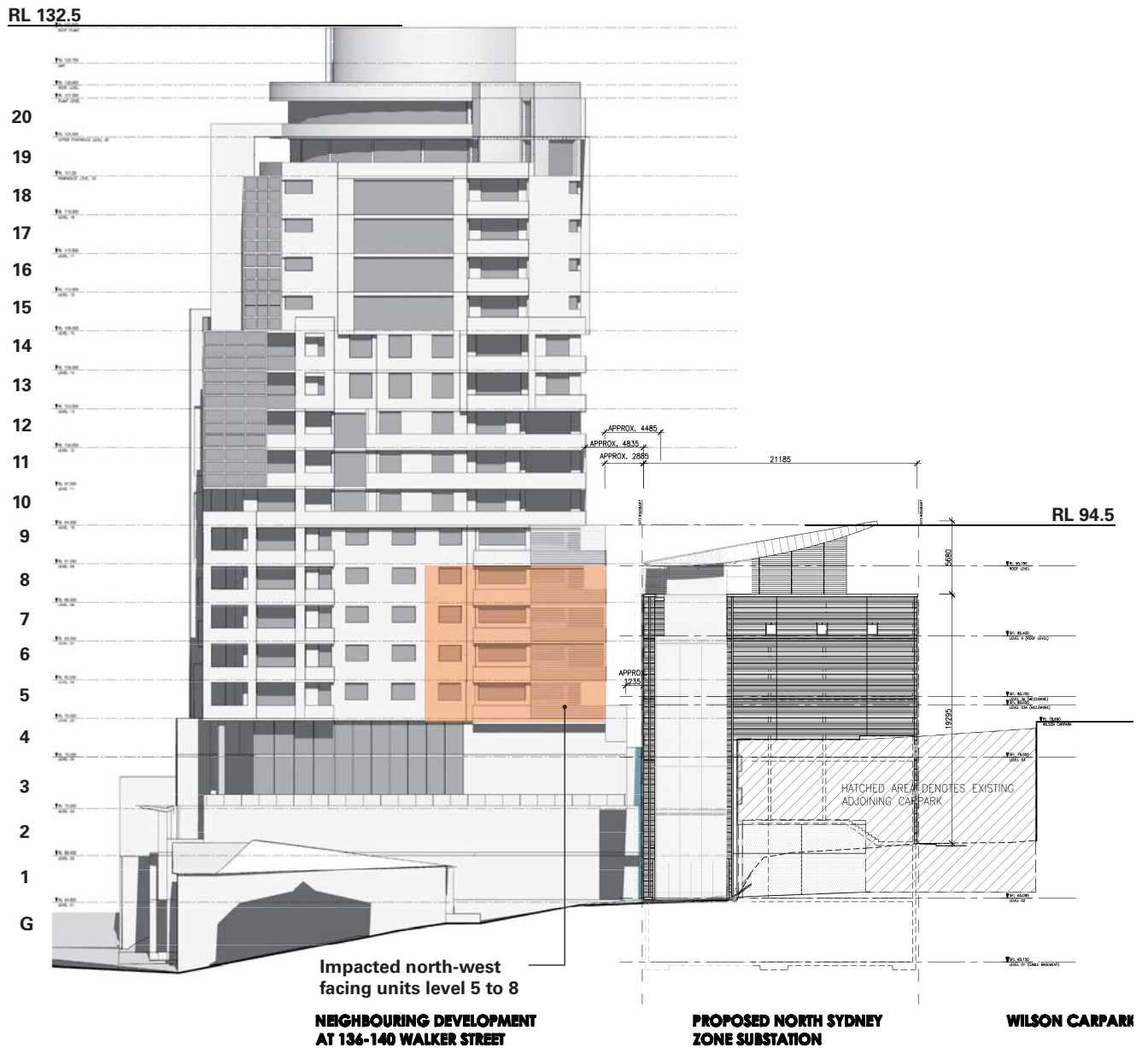
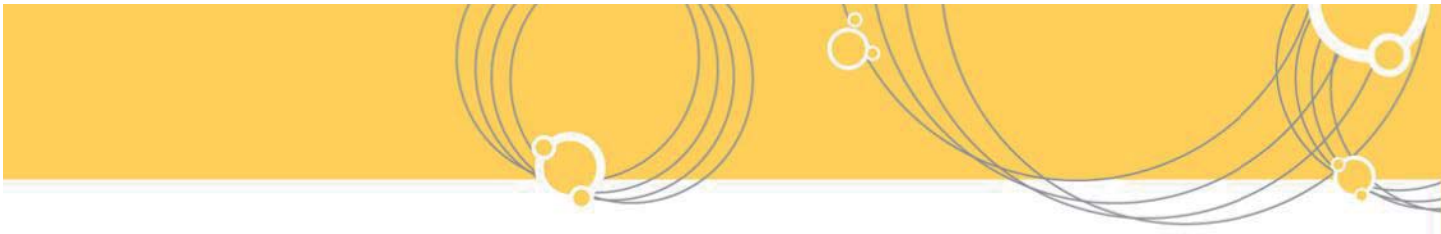


Figure 3.5: Northern Facade of 136-140 Walker Street

Source: Kann Finch Group, 2010
(Measurement in millimetres)



4 ENVELOPE CONTROLS AT PROPOSED SUBSTATION SITE

The subject site is located within the Central Business District Character Area in the *North Sydney Development Control Plan 2002* (NSDCP 2002) (refer to Figure 4.1 - Central Business District Character Area). The NSDCP allows building in the substation site to have heights up to RL 111 metres and 125 metres (refer to Figure 4.2 – Height Controls).

The building envelope controls for the character area that relate to the site include:

- » Zero setback at ground level.
- » 4 metre setback above podium along Ward Street.

Although there are no setbacks for 3-11 Ward Street, the NSDCP has setback controls for 136-142 Walker Street, referred as Site 03 (refer to Figure 4.3 – NSDCP 2002 Additional Setbacks for Site 03).

Additional setbacks associated with 136-142 Walker Street are no longer effective as the NSW Land and Environment Court in *Castle Constructions Pty Ltd vs North Sydney Council (2007) NSWLEC 563*, declared that this section of NSDCP 2002 is invalid and ineffective. Despite this, it is assumed that the setbacks for Site 03 would apply to 3-11 Ward Street as both sites are within the same Character Area and have similar height controls. The setbacks are:

- » 7 metres along eastern boundary.
- » 6 metres along southern boundary.
- » 9 metres along northern boundary.
- » 6.5 metres along western boundary.

North Sydney Council rejected a development proposal for 3-11 Ward Street in 2007 on the grounds that the site did not have sufficient depth to accommodate a viable building footprint.

However, AECOM considers that the site should be given the same consideration for redevelopment as any other site in North Sydney regardless of the site width. AECOM has prepared an indicative floor plan to demonstrate that residential units can still be accommodated in a narrow site that uses the above

outlined setbacks (refer to Figures 4.4 and 4.5 – Potential residential layout at the subject site).

The layout consists of 4 duplex apartments on every second level that optimize orientation towards the east and north while being cross ventilated over the two internal levels.

In principle, the potential layout would meet SEPP 65 and the Residential Flat Development Code requirements, for the following reasons:

- » There would be a mix of units types.
- » All units would be cross ventilated.
- » All units would have at least two frontages to maximise sun access during mid winter.
- » All units would have sufficient depth to accommodate living rooms and bedrooms.
- » There would be no visual and acoustic privacy issues with surrounding developments including 136-140 Walker Street.
- » All units would meet indoor and outdoor spatial requirements.
- » All units would have efficient layouts and service areas.
- » Units could be designed to have ease of access for all age groups and degrees of mobility.

The reduced envelope could also accommodate commercial floor space at all levels including the podium.

A 3D model of the potential building envelope at 3-11 Ward Street is show in Figure 4.6.



Figure 4.1: North Sydney Central Business District

- PROPOSED SUBSTATION DEVELOPMENT SITE
- 136-140 WALKER STREET
- EXISTING SUBSTATION

Source: Kann Finch Group, 2010

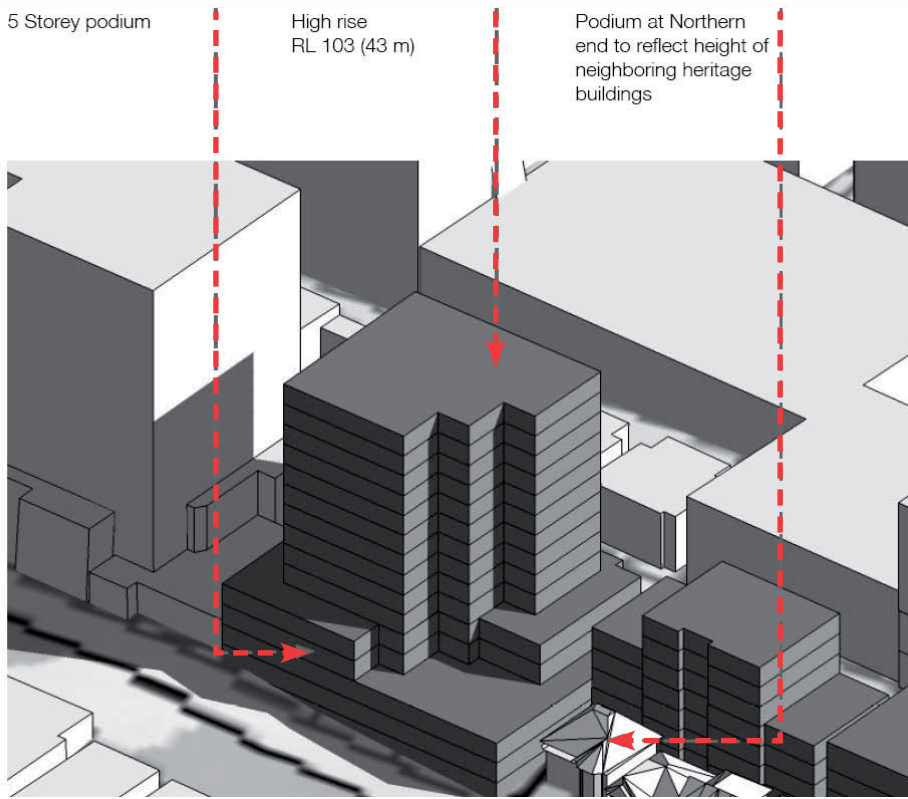
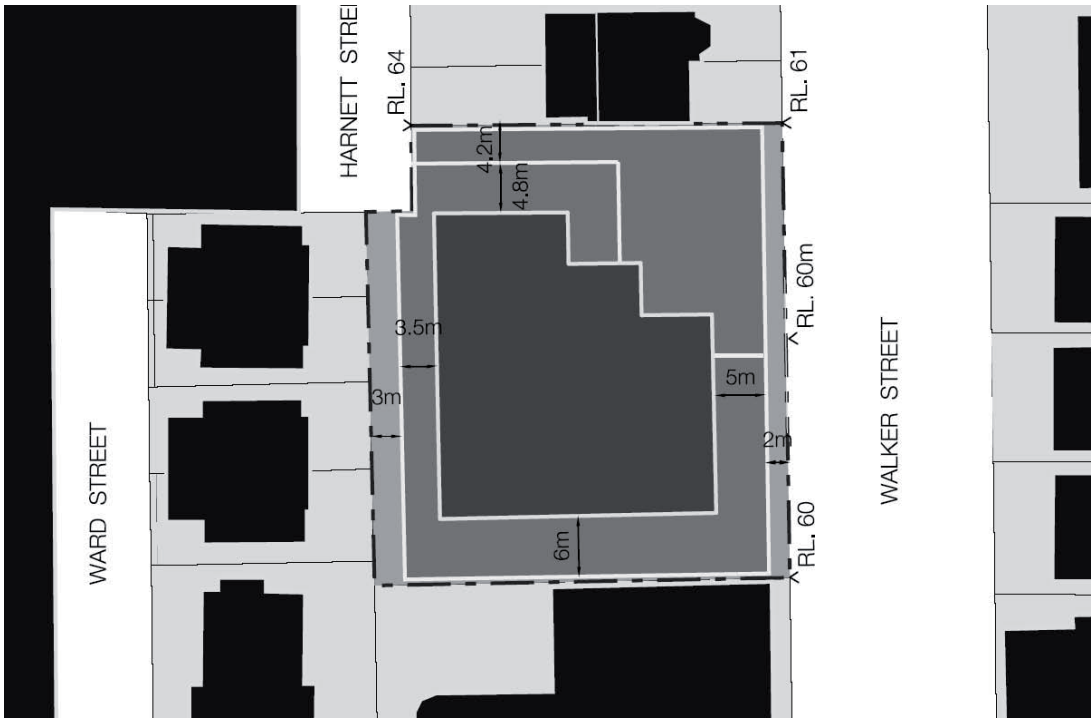




Source: Kann Finch Group, 2010

Figure 4.2: Height Controls

- Subject Site
- Building Height (expressed as Reduced Levels)



Source: North Sydney DCP 2002

Figure 4.3: NSDCP 2002 Additional Setbacks for Site 03 (136-142 Walker Street)



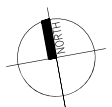
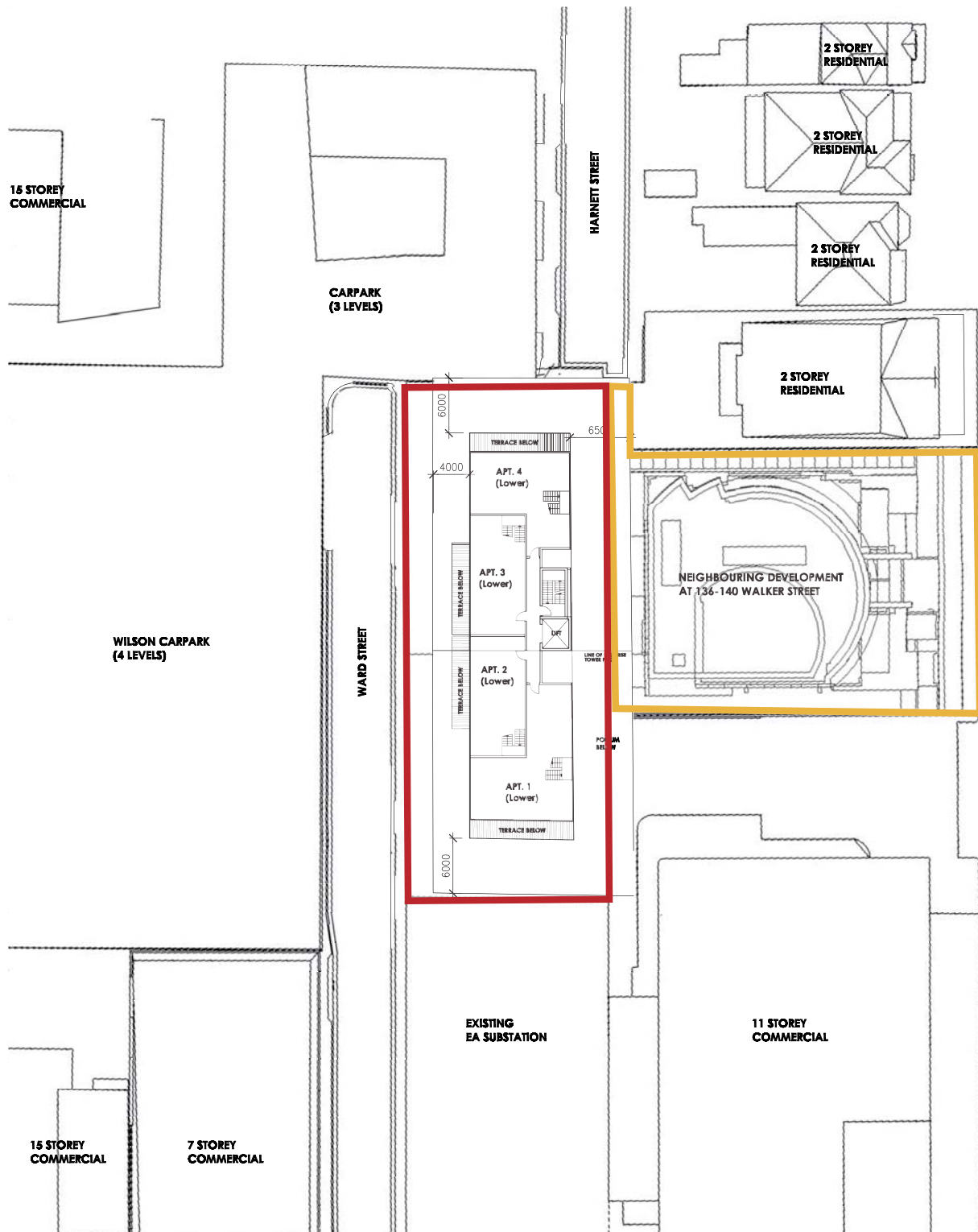


Figure 4.4: Potential Residential Layout at the Subject Site (Lower Level)

Source: Kann Finch Group, 2010

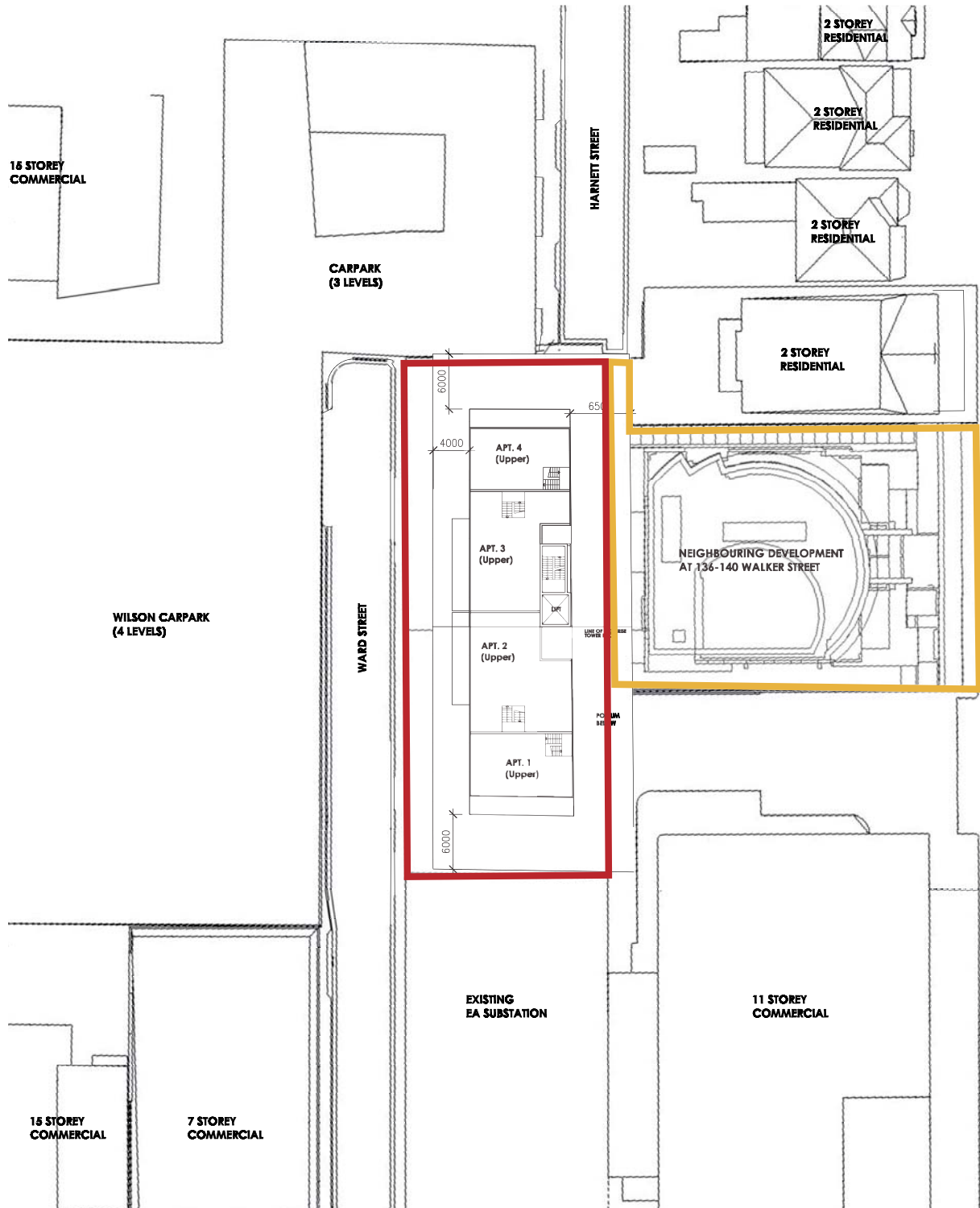


Figure 4.5: Potential Residential Layout at the Subject Site (Upper Level)

Source: Kann Finch Group, 2010

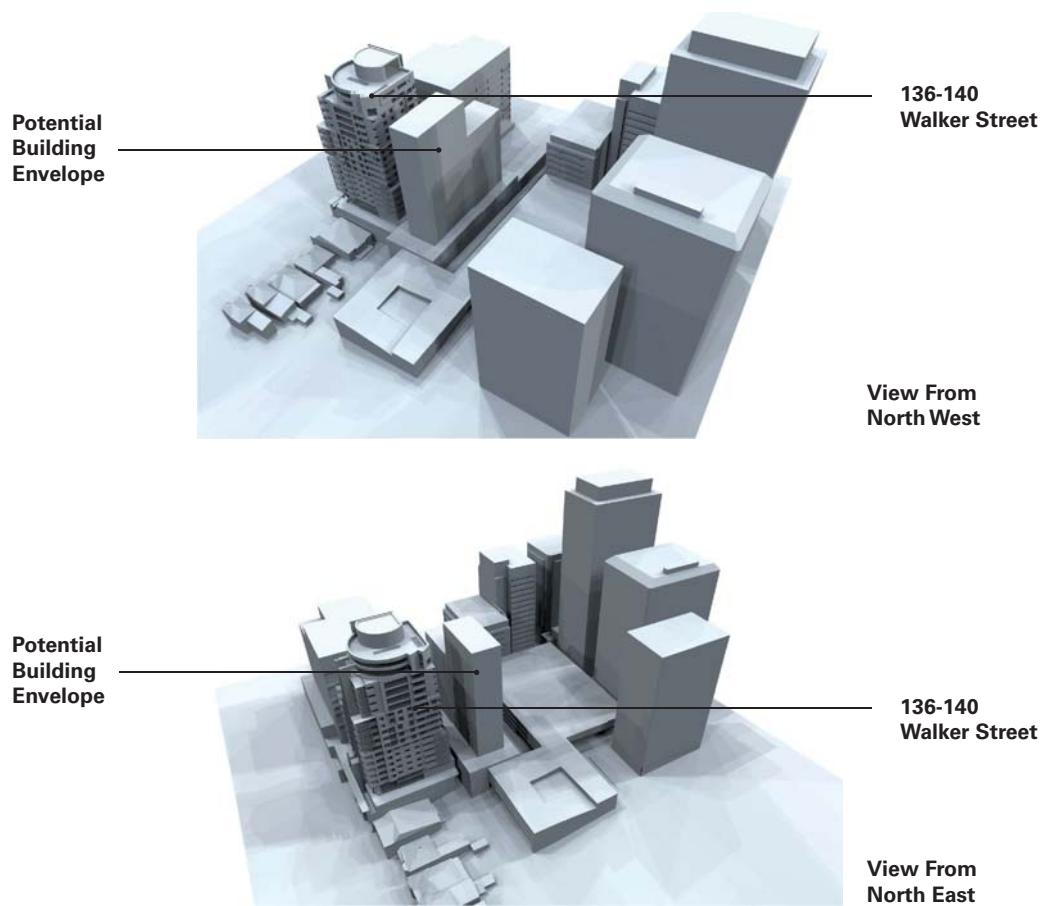


Figure 4.6: Proposed Development at 136-140 Walker Street and Potential Building Envelope at 3-11 Ward Street

Source: Kann Finch Group, 2010



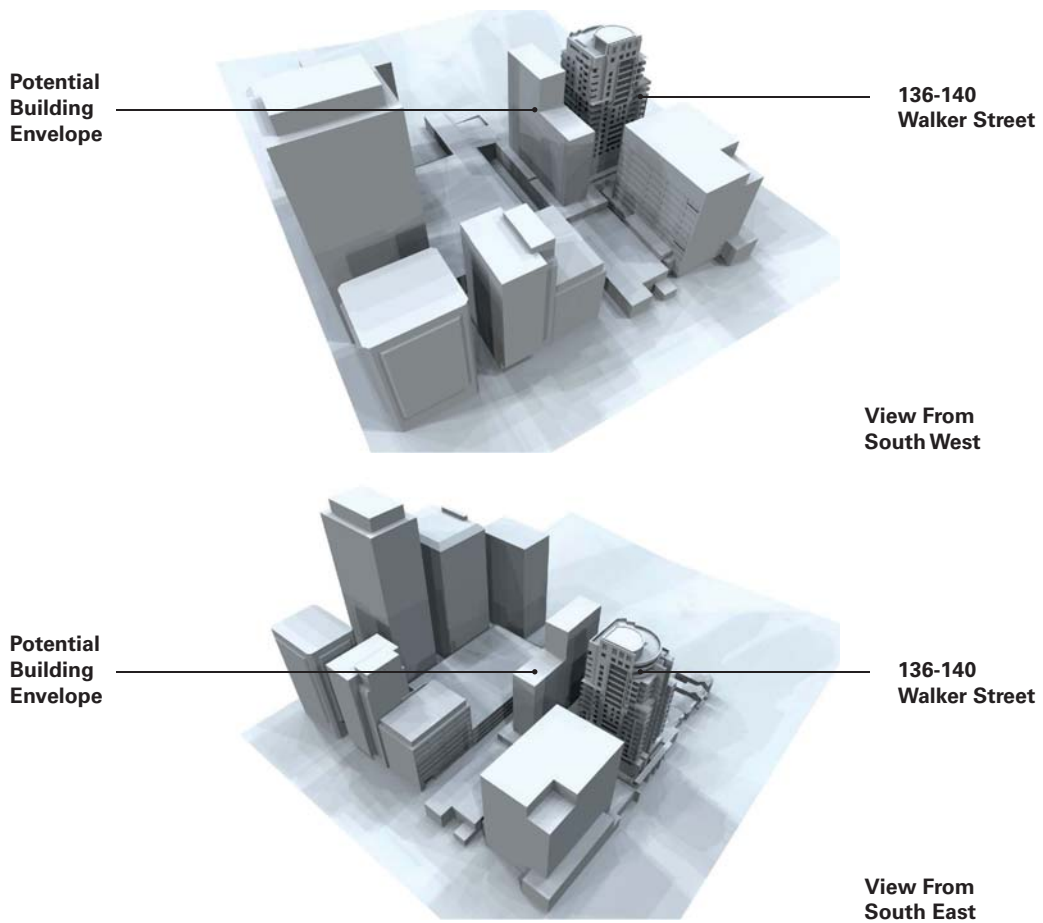


Figure 4.6: Proposed Development at 136-140 Walker Street and Potential Building Envelope at 3-11 Ward Street

Source: Kann Finch Group, 2010

