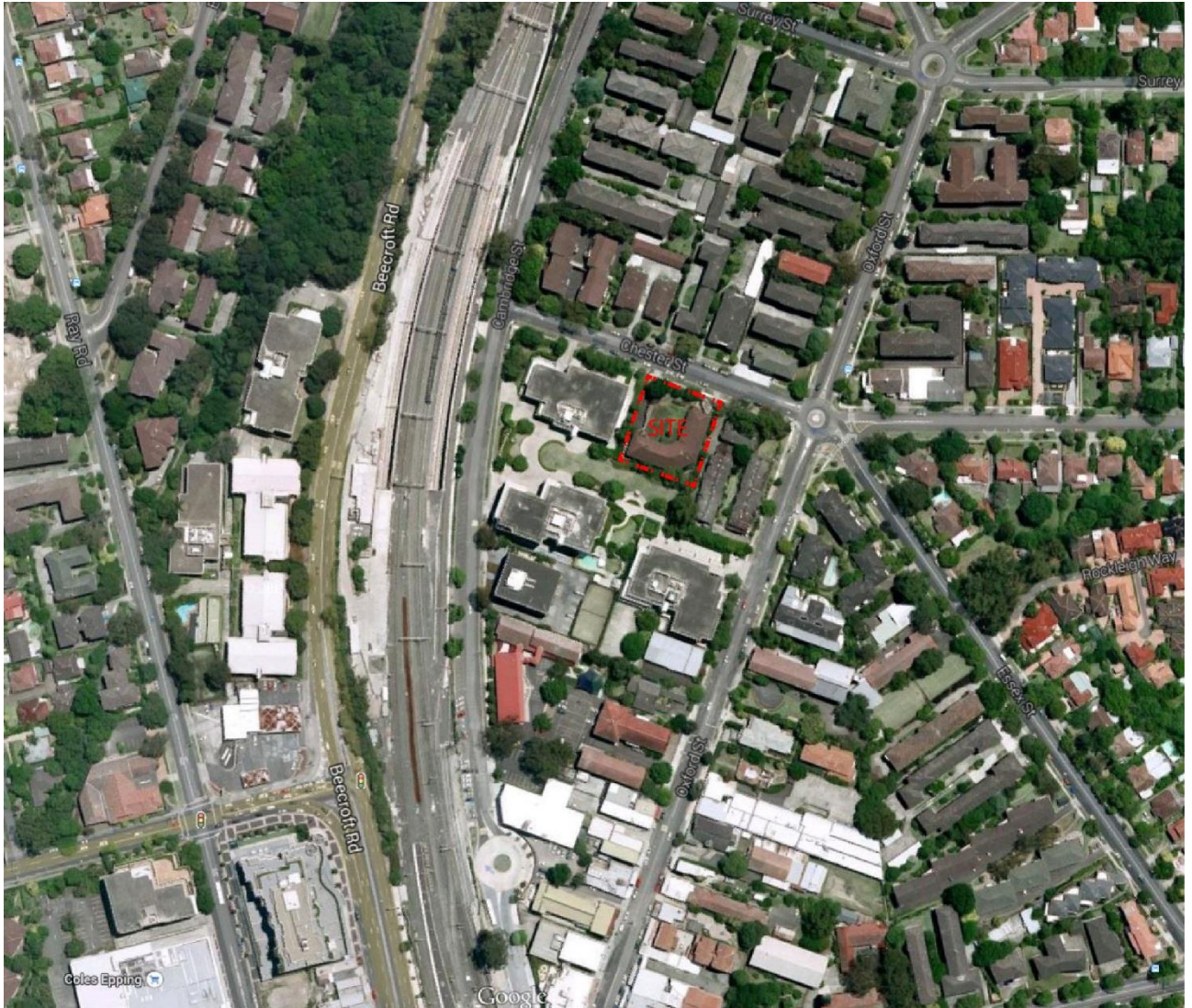


Urban Design Assessment

GMU Ref. 15054



Proposed Residential Flat Building 2-4 Chester St, Epping

April 2015



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1.0 Introduction

GM Urban Design and Architecture (GMU) has been appointed by Hornsby Shire Council to undertake a SEPP 65 assessment and urban design review for the proposed residential flat development at 2-4 Chester St, Epping. The subject site is a singular allotment and is legally described as Lots 3 in DP 621462.

The purpose of this report is to evaluate the development proposal and provide an assessment on its design and performance against the applicable planning controls, SEPP 65 and the principles of the Residential Flat Design Code (RFDC), as well as its likely impacts on the adjoining properties.

1.1 Subject Site and Proposed Development

The subject site is located within the Epping Town Centre Core– East Precinct Boundary as identified in Council's DCP Part 4. However, it is zoned R4- High Density Residential and is subject to the applicable built form controls in Part 3 Residential of the DCP. It is an infill site with approximately 40.2m of street frontage to Chester Street along its northern boundary.

The site has an area of approximately 1,851m². It has an existing double storey brick building developed for multi-dwelling housing (aged care facility), which is not in use at present. This two storey building wraps around a central landscaped area. The western and southern boundaries are shared with 37-41 Oxford Street and they are currently used as the Cambridge Office Business Park.

The proposed development is a 15 storey residential flat building, consisting of:

- 40 apartments within a podium, appearing as 3 storey fronting Chester Street and 4 storey at the rear, facing 37-41 Oxford St – (Cambridge Business Office Park)
- 79 apartments in a 11 storey tower (levels 6-17 in A301 Section A)
- A total of 119 units
- Four levels of split basement car park– a total of 124 car parking spaces

This report identifies levels in accordance to the submitted Architectural drawings of the subject proposal which is not consecutive.

1.2 Documents Reviewed

In preparing this report, GMU has reviewed the following documents describing the development proposal:

- Architectural drawings- Issue A by Mijollo International dated 27 January 2015
- Survey Plan by Dunlop Thorpe and Co dated 19 November 2014
- Landscape Plans by Sturt Noble Plans dated 2 February 2015
- Waste Management Plan by Elephants Foot dated January 2015
- Hydraulic Service Development Application report by Insync Services dated 4 February 2015
- Statement of Environmental Effect by City Plan Services dated February 2015
- BASIX Certificate Number 604496M by ESD Synergy Services dated 2 February 2015
- Traffic Impact Assessment by GTA Consultants dated 18 December 2014
- SEPP 65 Verification statement by Urban Link Architecture dated 5 February 2015
- Initial Geotechnical Site Assessment Report by Coffrey Geotechnics Pty Ltd dated 27 January 2015

GMU has reviewed the following controls relevant to the development proposal:

- Hornsby Local Environmental Plan 2013 (HLEP 2012)
- Hornsby Development Control Plan 2013 (HDCP)
- SEPP 65 and the Residential Flat Design Code (RFDC)

As Epping Town Centre has been rezoned in March 2014, GMU has further reviewed the following documents to understand the adopted strategic context and vision for this Urban Activation Precinct:

- Epping Urban Activation Precinct Structure Plan (the Structure Plan)
- Epping Urban Activation Precinct Planning Report (the Planning Report)

GMU has also conducted a site visit and photographic documentation on 8 April 2015.

2.0 Preliminary analysis

2.1 Local Context

The subject site is located on the northern perimeter of the Epping Town Centre Core (ETC) – East Precinct. It is identified in the HDCP – Part 3 Residential to be the ‘Oxford St, Epping Precinct’, north from the Oxford Street commercial and retail strip. It is situated approximately 100m away from the railway corridor and it is approximately 600m from Epping Train Station. It is also located on a zone boundary, as this R4- High Density zone adjoins the B2- Local Centre zone. The subject site is identified as the ‘Oxford St- Epping Precinct’ in Part 3 of the HDCP. Its western and southern boundaries are also in common with one of the key large sites – ‘Cambridge Street- Epping Precinct’, as identified in HDCP- part 4 and the Structure Plan. Under the HDC, both of these identified precinct have specific ‘Key Development Principles’ applicable to them.

The existing context on Chester St till Oxford St intersection, is predominately 3 storey apartment buildings with tree lined streetscape.

The proposal’s response to the site context is further considered below.

2.1.1 Relationship with the surrounding Site Context

The proposed development is on a single consolidated lot, which is located in the transition zones. As noted in the Structure Plan, Clause 3.2: *“Town core: high rise building - mixed use. This is a transition area generally between existing residential flat development and the higher density areas.”*

The important relationships are the Chester Street interface and the interfaces with adjoining B2-Local Centre properties’ podium, on the western and southern boundaries.

Chester Street is one of the bounding streets of the Epping Town Centre Core; therefore, it is important for the design of this subject site to consider edge treatment to transition down building massing from the HLEP maximum permissible height of 48m to 17.5m across the street.

B2- Local Centre zone is the tallest and densest zone of the town centre, the subject site transitions to R4- High Density residential use and the interfaces with B2 zones is important to be well considered. In the larger Structural Plan context & HDCP, a new pedestrian link is proposed between Oxford Street and Cambridge Street. There is potential for open space and connectivity at the rear (western and southern) boundaries of the site.

It is also approx. 100m from the railway corridor and will be impacted by noise. Proposed development should include acoustic design treatments to the higher levels of the western façade.

Future Context

Furthermore, the adjoining Cambridge Office Business Park, 37-41 Oxford Street, ‘Cambridge St – Epping Precinct’ mentioned in 2.1, has been approved to be subdivided into 2 lots (20-28 Cambridge Street and 37-41 Oxford Street) in September 2014. Due to its huge development potential, 20-28 Cambridge Street was recently purchased in February 2015. The owner is now undertaking site subdivision drainage (a DA condition) construction works on site. This subject DA proposal at 2-4 Chester St, represents an opportunity to define the urban edge of the Epping Town Centre as a set of generic principles. As this area will promptly be redevelopment to its new development potential due to the changes in planning controls. Therefore, GMU recommends considering the street frontage and rear boundaries of the block as a whole and assess this proposal with the integrated building massing, scale, connectivity and public domain response to the rest of the street edges.

2.1.2 Building Height

The maximum allowable building height for the site is 48m under the Hornsby LEP and the submitted architectural plans suggest the overall building height to be within the 48m building height control, however the lift overrun exceeds this control by 0.9m. HELP height controls has included 1.5m allowance for roof articulation, in additions to standard residential floor heights, leaving the proposed developments sufficient room to accommodate building services. GMU recommends the applicant to reconfigure the lift overrun to ensure that it sits within the 48m height control and to demonstrate in sections this compliance. The submitted drawings A401-A North Elevation and A213-A Typical Plan- Roof Level also show inconsistent levels which should be amended.

Height Transitions

The respective maximum allowable heights apply to adjoining zones; in south west B2 zone – it is 72m and in the R4 zone to the north across Chester Street, it is 17.5m.

A transition of building heights is suggested in HDCP 3.5.4 in sensitive interfaces, GMU recommends following the same principle to apply to the zone (B2-R4) and building height interfaces (72m-48m-17.5m) present at the subject site:

- At boundaries interfaces with B2- Local Centre zone to the south and west, proposed development height should respond to this change in height up to 72m and gradually transition its massing to a 'pedestrian friendly scale'.
- The proposed podium height facing Chester Street, should be limited to reflect the 17.5m control the across street to provide for a balance streetscape to further enhance the pedestrian experience.

2.1.3 Floor Space Ratio (FSR)

The site has no allowable FSR controls under the Hornsby LEP. The proposed development is a residential flat building and has a gross floor area (GFA) of 8,893 m² as suggested in the submitted Architectural Drawing cover page and SEE. Over its site area of 1,851m², the proposed development has a FSR of 4.804:1. The GFA is not highlighted on the submitted plans.

The SEE that accompanies the proposed development suggests the proposed development complies with the overall FSR and the maximum residential FSR. Though the subject site and surrounding R4 zone has no FSR controls, the adjoining B2- Local Centre zone has an allowable FSR of 4.5:1

GMU considers that a more appropriate FSR to be less than the B2 zone area. B2- Local Centre zone, in the strategic context for the Epping Town Centre is the second densest area (FSR 4.5:1) within the Centre, all other areas in the perimeter should gradually reduce in density.

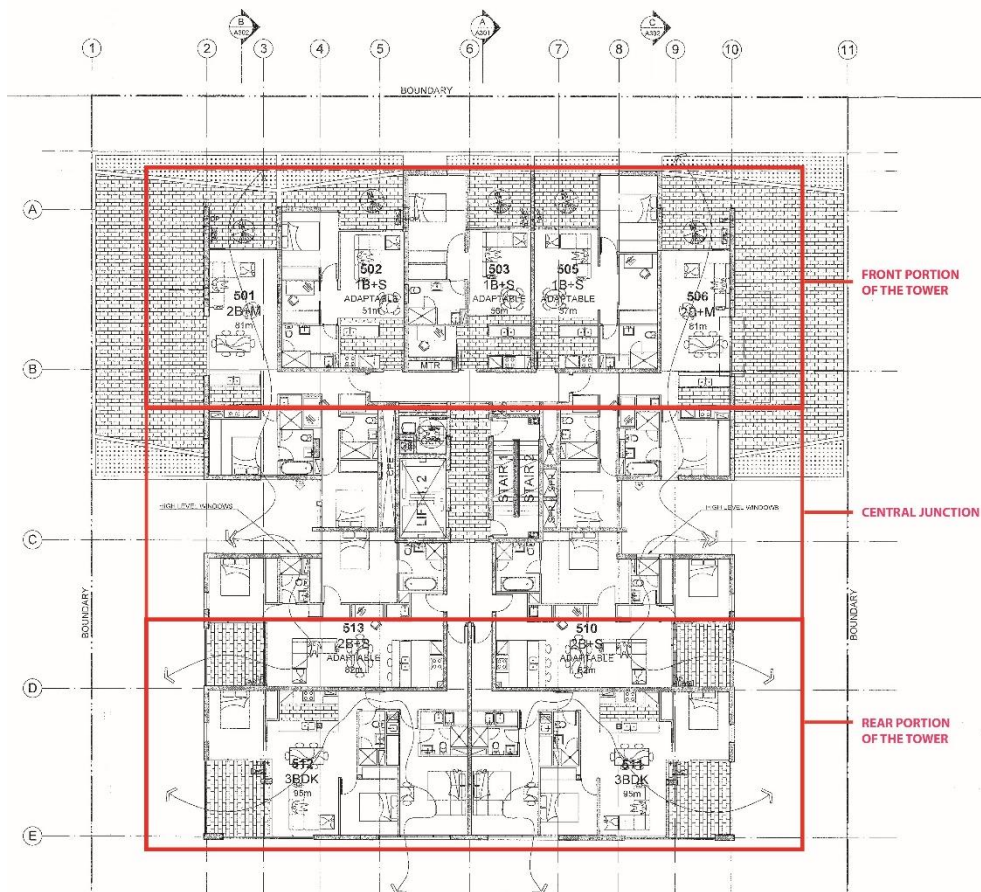


Figure 1- Use this Key diagram to Building components referred in further discussions (Front portion, Central Junction & Rear portion)

2.1.4 Building Depth

The RFDC suggests that the appropriate building depth for an apartment building is 10 to 18m (glass to glass) to ensure that the bulk of the development is in scale with its context and to provide adequate solar access and natural ventilation for the building's occupants.

The submitted architectural drawings have no dimensions, the applicant should clarify the overall building and individual apartment dimensions. An assessment was carried out by scaling the drawings. The proposed development has 3-4 levels of podium which generally have a larger floor plate. However, as the proposed use for the podium is for residential use, it should provide adequate levels of amenity to conform to the RFDC's 18m depth.

The building depths vary within the propose development.

- Levels 1-3 and rear part of level 5 forms the podium (noted that Level 4 is deleted). On levels 1-3, the building depths of the front northern building portion is approximately 17m glass to glass. However, on levels 1-3 and 5 the rear southern building portion has approximately 20.4-28m.
- On the higher levels, the front portion of the building depth, on levels 7-16, is approximately 16.5m.
- In the rear portion, the building depth for levels 7-9 is approx. 22m and for levels 10-17, it is approx. 15m.

The additional depth above the RFDC standards compromises the apartment layout and amenity, such as ventilation and solar access. This is especially the case for units on podium levels and units at the central junction throughout the building. For more details, see 2.3 Building Design to follow.

GMU recommends the building depth of the rear portion of the podium to be reduced in length to around 18m (glass to glass). See Figure 2.

2.1.5 Side Setbacks and Separations

HDCC-Clause 3.5.14 recommends development within the 'Oxford St, Epping Precinct' to provide a continuous podium of three storeys facing Chester St and Oxford St as part of the strategic vision to define the Epping Town Core Centre.

The proposed development follows these HDCC Key Development Principles at the podium (levels 1-3 and 5 as indicated on the drawings); with a setback of:

- 3m from Chester St front boundary;
- 6m from rear boundary and half the length of the side boundaries;
- zero setback from half of the side boundaries at the front to form a continuous podium with adjoining properties.

The proposed tower above the podium is further setback from the boundaries as follows:

- At Level 5:
 - The tower is setback 4-6m from Chester St with balconies encroaching in this setback by 2m.
 - The front and rear portions of the tower are setback 6m for the entire length of rear and side boundaries.
 - The basement carpark projects into the secondary setback zone and it is 0.7m above the ground level.
- At levels 6-15 front part- The tower maintains the same setback at the front portion (4-6m to Chester St and 6m to half of the side boundary length).
- At level 16 front part- the building is set back 6m from Chester St and 9m to the side boundaries.
- At level 17 front part - the building is further setback to 7-8.95m to the front and 9m to the sides.
- The rear part of the tower is progressively setback. At levels 7-9 there is a 9m from the rear boundary and the side boundaries; and at levels 10-17 there is a 12m setback.

GMU understands the proposal attempts to respond to the numerical setbacks to create a tower form on a continuous podium 'street wall' along Chester Street; however, the significant issue with the proposal is that it creates an unacceptable bulky built form that will take away amenity from residents in future development on the adjoining sites and from the residents on the subject site itself. The proposal will particularly impact the eastern side of the property which adjoins with R4 zone (43-47 Oxford St). GMU considers it more appropriate for a reconfiguration of the proposal to meet RFDC and HDCC requirements.

The numerical application of the requirement of the RFDC is often interpreted as a 'stepping form', which is not promoting an elegant slender tower form that contributes to a high quality streetscape and public domain. In GMU's opinion, the tower needs to increase the setbacks to the side boundaries as per the requirement of the RFDC to the entire length of the tower above the podium. In the RFDC, residential flat buildings that are 9 storeys high or more, on facing non-habitable rooms should be separated by min. 18m. The separation between towers windows of habitable rooms or balconies over 9 storeys is 24m. The standard application of this requirement is to apply 50% of the separation to each of the adjoining sites.

The western boundary of the site adjoins B2 – Local Centre zone. This zone allows for mixed use development and commercial use. The owner of the site to the west on 37-41 Oxford St in their Pre-DA options included an option with an open space/pocket park directly next to the subject site. A commercial use can be treated as a non-habitable use as per the RFDC; however, all aspects of amenity and visual privacy need to be ensured. If the proposed new tower next door was a mixed use with a residential component, a total separation of 24m would be required; however, considering the likelihood of the development of the next door site as an open space or a commercial building, GMU considers a setback of minimum 9m to the western boundary as acceptable.

The proposed setback of 6m for the front portion of the tower will result in borrowing amenity and significant impacts on the sites next door and is not acceptable from an amenity point of view.

On the eastern boundary, where the subject site adjoins an existing aged care building and a R4 – High Density Residential Zone – the potential for a new residential tower next door is high, therefore a 24m building separation is required between habitable rooms for buildings of 9 storeys and above. This results in a 12m setback for the full length of the tower on the eastern side. See Figure 5.

Furthermore, at the western façade of the podium, the proposed development is not complying with the HDCP Clause 3.5.5 – Oxford St Precinct-d: *‘The following minor structures are able to encroach into the prescribed setbacks: Driveways or basement ramps up to 6 metres wide with deep soil verges at least 2 metres wide adjacent to the side boundary’*. The proposed driveway is approx. 8.5m wide and a 2m wide deep soil is not provided on the eastern side boundary. The letterbox location is also non-compliant with the HDCP and should be setback 2m away from side boundary.

Considering the recent pre-DA plans submitted for 37-41 Oxford St, the proposed scheme's arrangement includes two towers in a staggered configuration. This has created two main public spaces that allow for good separation and transition between the different zones. It will also allow for a break in the continuous podium wall which will wrap around both Cambridge St and Chester Street. This will contribute to the 2-4 Chester St development, providing more views, solar access and dealing with any potential privacy issues. GMU considers this adjacent public space favourable especially on the edge of the Epping Town Centre as it softens the 3 storey continuous podium wall by creating breaks that allow for pedestrian linkages, minimising a 'cliff edge' effect to the town centre while providing an appropriate and desirable landscape frontage.

Clause 4.6.5 in the HDCP guides the side setback for podiums in the B2 – Local Centre zone, therefore the potential new development to the west could provide a continuous podium of 3 levels. In our opinion a minimum of 6m or greater separation would deliver a better outcome for this street, as it is located at the edge of the town centre facing a lower scale residential zone with greater landscape setbacks and separation. However, the option that considers an open space in the current Pre DA drawings would be the most successful in our opinion.

The proposal needs to provide a treatment to the side walls of the podium, which do not include windows. The treatment is to ensure a good quality finish and to avoid the overwhelming impression of the blank walls. It can include a pattern of different materials; such as glass bricks that could bring some light into the podium units. It could also potentially be viable to allow for windows in this place with a condition of removal upon development on the site next door, subject to Council's consideration.

2.1.6 Front Setbacks

The subject site has a 40.235m street frontage, which meets the minimal required frontage for residential flat building of 6 storeys and above.

The podium façade of the proposed development complies with the HDCP's requirement for "Oxford St Precinct" to provide a 3m setback from the primary boundary. However, the 8.5m wide driveway does not comply with setback encroachment conditions and should be amended to a maximum of 6m with a 2m deep soil to the side boundary as per Clause 3.5.5 in the HDCP.

The HDCP allows for ground floor terraces encroaching into the front setback with no prescribed encroachment limits. The proposed private open space of ground floor units encroach into the primary setback zone and are set back 0.6m across more than one third of the frontage. Although this complies with the minimum setback, it does not meet the objectives/principles of the control that require the frontage to be landscaped to soften the frontage and streetscape.

The HDCP clause 3.5.14, Key Development Principles for "Oxford St Precinct" (including the subject site) require a 'landscaped setback along street frontages'. Similar objectives apply to the frontage controls for the B2- Local Centres zone to the west of the site.

The proposed 0.5-0.6m setback provides for a very narrow landscape strip located in front of a property fence and a blank wall of the projected basement level as the slope changes to the west of the building with the height of 2m from the ground at its western side. The proposed treatment delivers an outcome that would be appropriate in a more urbanised zone, not at the edge of a centre facing landscape setbacks across the street and next door. It also doesn't meet the objective of providing landscaped streetscape.

GMU recommends the private ground terraces be set back by a minimum 2m for the provision of a better landscaped streetscape transition between the zones. Low shrubs and small trees are recommended to be planted along this setback to provide for privacy for the ground terraces and a better outcome for the public domain.

The controls prescribe a 6m setback from the boundary to the tower. This setback can be reduced to 4m for a maximum of 1/3 of the building width. The control also allows the balconies to encroach within this setback up to 4m subject to daylight and privacy impacts.

The proposed tower is setback by 6m for approx.39% of the building front (11m out of 28m in total). The rest of the façade has been moved forward to the 4m setback line. This includes 2 bedroom areas with walls, which constitute the 1/3 of the façade width as the compliant encroachment and the rest are balconies which are allowed to encroach as well. However, two of the balconies are surrounded by full height walls, combined with the next door projected bedrooms they create a continuous full height built wall setback of 4m from the boundary but only 1m above the podium wall. This creates an unacceptable outcome with an overwhelmingly bulky scale to the street. This contrasts with the sites across the street are residential zone with a 17.5m height limit and a 8-10m street setback.

GMU considers this outcome not appropriate and recommend increasing the setback to a minimum 4m from the podium line to create a visible break between the podium and the tower.

2.2 Site Design

2.2.1 Site Configuration

Deep Soil Zones

The RFDC suggests a minimum of 25% of open space area within a site should be allocated as deep soil zone. The DCP for 'Oxford Precinct' requires deep soil to be at least 4m wide and continuous to on one site boundary.

Deep soil zone has been provided within the site at the rear of the site, with a complying minimum dimension with the DCP (landscape deep soil is 22.5% of site area). Deep soil zone and landscaped area have not been specified in drawings. However, based GMU's estimates, the proposed development complies with the RFDC, achieving more than 25% of the open space being deep soil zone.

Landscape Design

The proposed landscaping areas are mainly located on the level 1 within the communal open space and as private gardens or balconies level 1, 6 and 10. Planter boxes on level 6 and 10 are generally south facing, overshadowed by the building and planter soil depths are not provided. Council's landscape architect should assess the proposed species to determine if the depths of the planter boxes are sufficient to enable the growth of the proposed plant species.

Open Space

RFDC suggests that at least 25-30% of the site area be used as communal open space. The proposed communal open space is located on level 1, based on rough scaling of drawings, it is approx. 21% of its site area. Applicant can improve this non-compliance with the RFDC, by reducing the rear portion of the podium building depth as previously recommended and increase communal open space at the south west corner and may consider the provision of additional communal open space at level 6 terrace.

The submitted shadow diagrams for the proposed development show that the communal open space only partially receives direct sunlight for less than 2 hours (between 11am -1pm) in mid-winter. However, these shadow diagrams include concept building massing of the adjoining Cambridge St, which differs with the Pre-DA proposal for 37-41 Oxford St submitted to Council. Should the 37-41 Oxford St development continue with the their proposal to provide for 'Public domain space' to the western boundaries of the subject site, the quality of the subject communal open space will be enhanced as it may receive more than 3 hours of direct sunlight in mid-winter. This will align with the HDCP Key Development Principle to 'achieve a co-ordinated network of open spaces upon adjoining properties'.

Proposed private open spaces generally comply with the HDCP, except for Unit 510 & 513, which requires amendment to ensure the provision of sufficient area.

2.2.2 Site Amenity

Safety

The RFDC suggests that development should optimise the visibility, functionality and safety of building entrances by orienting entrances towards the street, improving opportunities for casual surveillance and minimising concealment.

The main safety concerns are the proposed communal open space and the convoluted corridors to the lift lobby.

The RFDC recommends design to minimise opportunities for concealment especially around the lifts and common areas. GMU recommends the applicant to reconfigure the building entry to have direct visibility into the lift lobby.

The communal open space has low levels of amenity and therefore it is likely to be disused, creating safety concerns for future residents living at this level. Furthermore, Units 110 and 111 can easily be accessed from the communal open space over the low terrace wall, as it is on similar ground level. Should the applicant's amended plans provide more communal open space at level 6, the communal landscaped area out of sight lines on level 1 can be private gardens for level 1 units.

As an alternate option, should the 37-41 Oxford St pre-DA proposal continue its provision of public space to the west of the subject site and primary movement at the rear of the subject site, a secondary entry can be provided to the north of Unit 113 to the lift core. This is in line with the HDCP Key Development Principle to 'achieve a co-ordinated network of open spaces upon adjoining properties'. Proposed planters or partly open boundary fence should be not more than 1.8m to maintain passive surveillance.

Furthermore, the proposed driveway with the loading dock (approx. 8.5m wide) located on the west can potentially conflict with pedestrian traffic to the public space in the 37-41 Oxford St pre-DA scheme. It might be more appropriate to be relocate the driveway to the east.

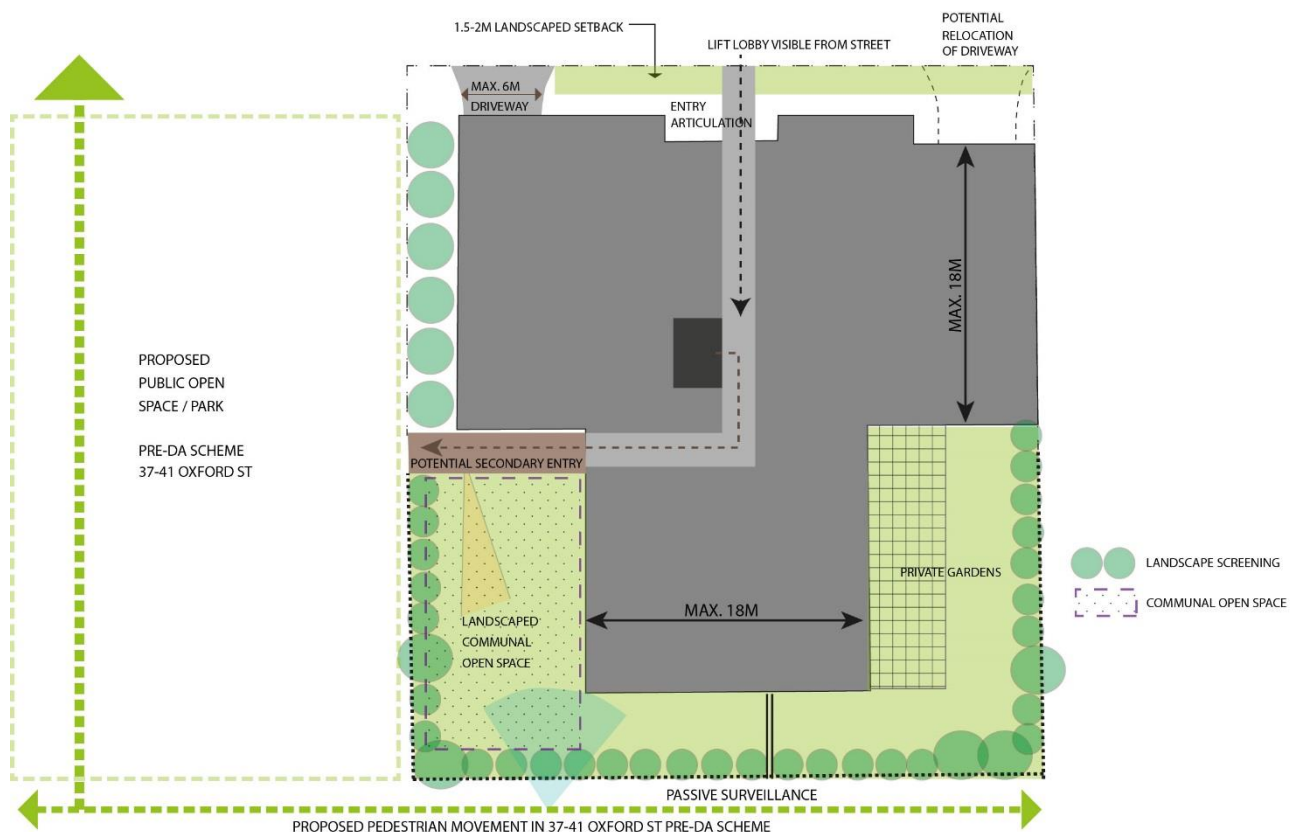


Figure 2- Recommendations for building entry and building depth at Level 1. Possible arrange with consideration to pre-DA scheme submitted

Figure 2 illustrates:

- Direct entry from street, allowing clear visibility into the lift lobby area;
- Reduced building depth to enhance internal amenity;
- Increased area for a communal open space;
- Secondary entry from a potential new open space to the west and from the communal open space;
- Limited depth of building to the RFDC required 18m glass-to-glass;
- Potential change of driveway if found appropriate; and
- Landscape screening to screen the private areas from the public areas.

Visual Privacy

Should the above alternate option be supported by Council, based on the public domain proposed in pre-DA scheme, rear units on level 1 should have vegetation or screens to provide privacy to the private open space and living areas and high level windows to bedrooms.

GMU suggests the use of horizontal shelves or planters to part of the private terraces on level 5 and 10 to mitigate visual privacy issue from occupants on the units above these levels.

2.2.3 Site Access

Building Entry

The RFDC suggests that entries should be located to relate to the existing streets and subdivision pattern, street tree planting and pedestrian access network.

The proposed pedestrian entry is not well articulated, as a narrow corridor on the side. As discussed above and shown in Figure 2, a direct access from building entry to lift lobby should be provided to enhance safety and visual connection to the street.

2.3 Building Design

2.3.1 Building Configuration

Apartment Layout

- As mention in 2.1.4, due to excessive building depth, the apartments in the podium and the central junction (between the front and the rear portion of the tower) are compromised. Due to the HDCP requirement to provide for 'a continuous podium of three storeys facing Chester St', the zero setback to the side boundaries at these podium levels creates constraints to openings to the east and west, due to overlooking issues with adjoining properties in the future. Restricting apartments to only have aspect to the north and south, resulting in the following issues:
 - All Chester St facing units at podium levels 1-3 have extremely narrow and undesirable snorkel windows to master bedrooms. Likewise to Units 110 and 113's master bedrooms which also are adjacent to building servicing ducts.
 - At the central junction, apartment bedrooms in this location throughout the podium and tower level have 'snorkel' windows.

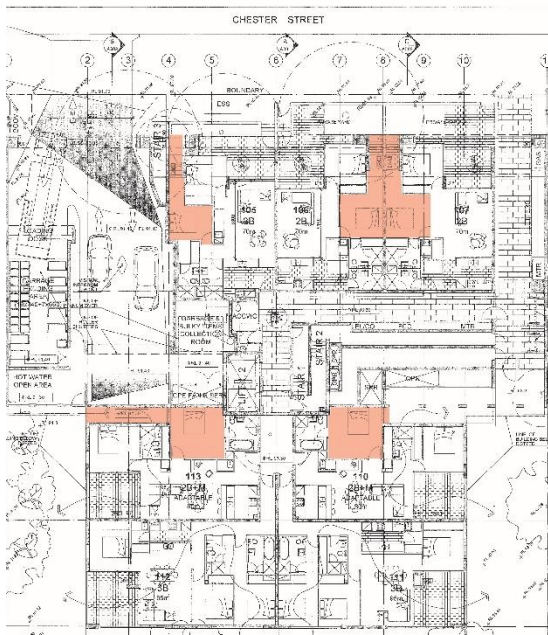


Figure 3 Snorkel windows in Level 1

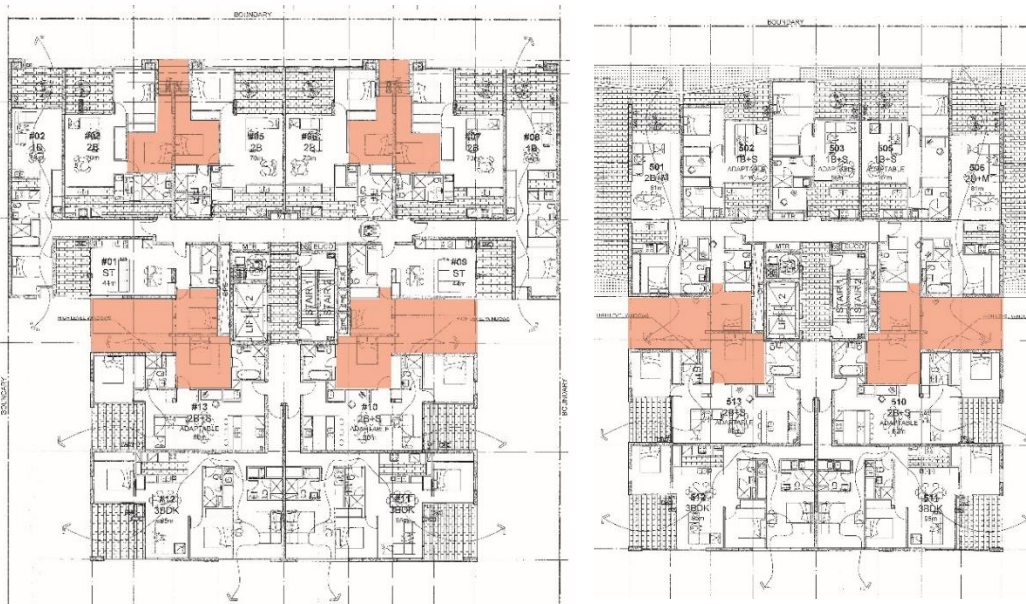


Figure 4: 'Snorkel' or deeply inset windows in Podium Levels and level 5-9

- Amenity for south facing units 1 and 9 on levels 2 and 3 are especially limited. All windows of the living areas of these units only look onto blank walls.

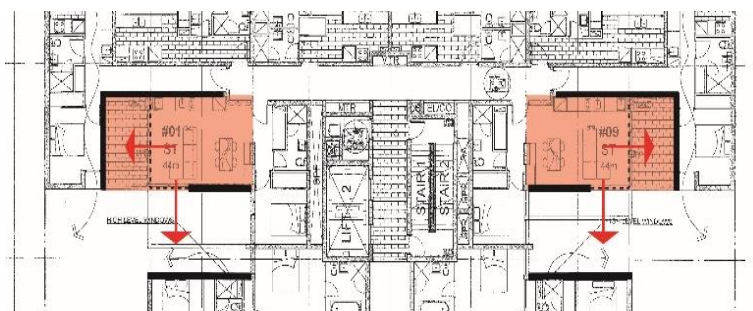


Figure 5 - Unit 1 and 9 on Level 2-3 near lifts (central junction)

Recommendations:

- Explore split level apartments for podium levels and to be access at alternate levels. This can increase opportunities for cross ventilation, privacy, access to larger private open spaces and shorter building depths. Cross over apartment configuration can also be combined to create apartment mix and accessibility.
- Provide opportunity to access apartments from common landscape areas to create passive surveillance
- The width of the recessed portion of a window (in a snorkel window) should proportionally be equal or less than the recessed depth. To achieve that we consider that the unit layout and mix needs to be adjusted especially at the turn of the building (central junction – See Figure 1).

Storage

Based on Area Schedules, only 47% of the units have enough storage provision. Applicant should revise apartment layouts design to provide sufficient storage and amend the area schedule to reflect additional storage in car park levels.

2.3.2 Building Amenity

Daylight Access

The RFDC requires that 70% of the apartments receives a minimum of 3 hours direct sunlight between 9am and 3pm in mid-winter.

The submitted SEPP 65 statement suggest that this proposed development is in a dense urban area, as neighbouring sites are permitted up to 22 storeys and a suggestion is made for consideration of 2 hours solar access as an appropriate standard for this area instead of 3 hours. Provided schedule demonstrates 71% of the apartments receive 2 hours of solar access. This aligns with HDCP Key Development Principles for this Oxford Street Precinct.

However, GMU do not support using 2 hours of solar access as a standard, although adjoining B2 sites are permitted up to 22 storeys, the developments can position the towers in a 'co-ordinated network of open spaces' to enhance solar access to all towers. As there aren't yet many approved developments to this height and density in this area, GMU recommends the applicant to maximise solar access to 3 hours, as this is the first development of this scale in the area and it will not be impacted by overshadowing from other buildings.

Natural Ventilation

The RFDC requires 60% of residential units to be naturally cross ventilated. The proposed development claims to achieve 62% of naturally ventilated units.

However, noted in the submitted SEPP 65 Design Statement, only 12% (14 out of 119) of the apartments' kitchens are naturally ventilated. Reduce building depth and reconfigured apartment is suggested to improve this non-compliance.

2.3.3 Building Form

Awning and Signage

The floorplans seem to suggest that the proposed awning does not extend over site boundaries. GMU suggests an awning to be provide a building entry up to the edge of the footpath for the provision of all-weather protection for residents.

Façade

There is a clear podium element with clear articulation of 3 distinct levels of base, middle and top, as suggested in the HDCP.

The proposed façade includes articulation of a clear podium element and tower form. The podium is characterised by a continuous horizontal masonry base with bays at intervals to break up the volume. However, as units on this façade are restricted to the north aspect, apartment widths are narrowed. These bays and blade wall features impact on apartment solar access.

The tower façade, facing Chester St is expressed in a single tall bay through levels 5-16, with recessed, solid masonry massing on either sides to accentuate the vertical form of the tower. These masonry mass on the two sides are blade walls with a series of vertical shutters. This forms the middle element and the top two levels are set back to articulate the top. As the railway corridor is to the west of the development, this solid masonry provides good acoustic buffer on the west. However, to the east facing R4, it has the opportunity for greater openness to provide occupants at higher levels distant views to Terrys Creek on the north east.

As mentioned in 2.1.5, due the zone and height transitions in this area, GMU suggest the tower to be further set back in respect to future residents' amenity in accordance to HDCP and RFDC. Façades to be setback 9m from eastern boundary and 12m from the western boundary, throughout levels 5-15 to both front and rear portions of the tower. These recommendations are made to promote better internal amenity and amenity for future tower developments in surrounding area, by creating a slender tower with lower facades to respond to scale and zone transitions (from the B2 zone 72m to 17.5m R2 zone) to better pedestrian friendly environment. The eastern setback allows balconies to north-eastern aspect. Further, the podium 2m setback on the side, if considered in conjunction with the pre-DA 37-41 Oxford St, it has the potential to open up this corner to address the future public domain space and allow podium residents more solar access and ventilation. See Figure 7.

Located on the Epping Town Core Centre, it is therefore prudent that this subject development's façades respond to the transitions occurring at the Centre's edges to set good principles for future neighbouring developments to minimise a 'cliff edge' impact towering over R4 developments across Chester Street. The visual impact of these heights above lower scale developments should also be taken into consideration.

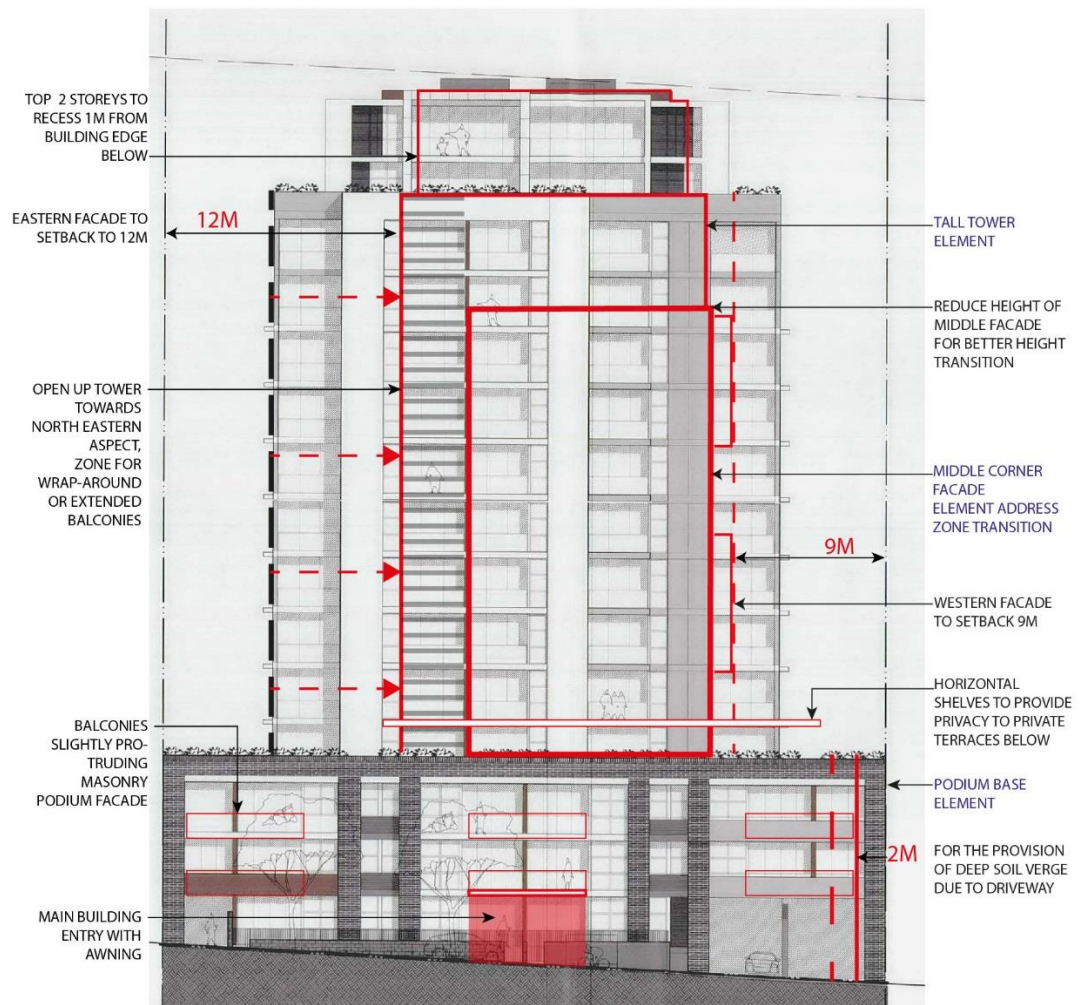


Figure 6: Facade to respond to height and zone transitions at the edge of Epping Town Centre

Roof Design

The roof exceeds the height control. It is understood that the lift overrun is incorporated into the private open space and the entire roof level is allocated as the terraces for the units immediately below. Access to the roof can be obtained from fire staircase below. Council's building manager should comment on the maintenance accessibility/ BCA compliance of this arrangement.

While the roof form is considered acceptable, the need to provide maintenance access to the roof would potentially increase the height of the building and reconfigure the roof design. This should be further addressed by the applicant.

2.3.4 Building Performance

Waste Management

The proposed garbage collection area is accessed via Chester St. The ground floor car park is concealed and the façade articulated. The loading area is located 0.3m below street level and it is visible from Chester St, especially through the 8.5m wide driveway, differing from existing and future desire street character. From an urban design point of view, the applicant should consider concealing the loading dock with shutters and landscaping to prevent any amenity impacts to the public domain.

3.0 Responses to LEP, DCP

The following is a summary of the proposal's performance against the LEP and DCP.

3.1 Responses to the LEP

The relevant objectives of the R4 High Density Residential zone under Hornsby LEP 2013 are as follows:

- To provide for the housing needs of the community within a high density residential environment.
- To provide a variety of housing types within a high density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

Clause 4.3 of the LEP also dictates a height limit of 48m and Clause 4.4 no FSR limit is nominated. The development complies with the objectives of the zone and the FSR control. However, it does not comply with height limits. The maximum height of the building at the lift overrun is 48.9m. The applicant to amend lift overrun to be within the 48m height control, as the HDCP has allowed 1.5m of roof articulation. This allowance is sufficient to accommodate for necessary building services required.

Based on the assessments on the amenity, architectural presentation and environmental impacts of the proposed development as detailed above, it is considered that the variation to height based on the current scheme is not supported for the following reasons:

- The proposal presents an overwhelming bulk and scale.
- The proposed height increase will result in a non-accessible roof, which could cause maintenance issues.
- The current massing is the result of poor internal planning and it does not address site characteristics such as in the zone interface and the transition area of the Epping Town Core Centre.

Any height variation in the roof form in the northern part of the building can only be supported if the proposal achieves satisfactory built form and streetscape presentation responding to Epping Town transition zone and it does not result in significant environmental impacts.

3.2 Responses to the DCP

GMU has undertaken a review of the proposed development against the Hornsby DCP, in particular the area specific controls under Clause 3.5 of the DCP. Our assessment is summarised below:

Setbacks

- The proposed development complies with the podium 3m setback from primary street front setback.
- Proposed development conforms to zero setback to front half of side boundaries, to provide for a continuous podium. However, the private terraces encroaches up to 3.5m into the 4m primary setback. Reducing the encroachment to 2.5m will provide a 1.5-2 m feature landscape area, creating better transition from the adjoining B2 3m landscape setback.
- Setback 2m from east boundary to provide deep soil verge should the amended driveway remains on the east of the street frontage.
- The tower element is setback 4m, around one third of the building width with balconies encroaching into the 6m setback zone. This form a continuous façade treatment that is only set back 4m. .

Building Separation

- This is significant issue for this proposed development. It does not comply with the HDCP building separations, to take into account amenities of future developments in the surrounding area.
- The front portion of the proposed tower is not compliant above 25m to meet the 18m building separation. GMU recommends a 9m setback to the entire western tower (except the top 2 levels) to provide better transition to B2 zone and a 12m setback to the entire eastern tower (except the top 2 levels).
- The rear portion of the proposed development is compliant overall. However, GMU recommends reducing the building depth for better internal apartment amenity.

Open Space

- The proposed communal open space is less than 25% of site area and provides limited amenity to the residents. Low level of facilities are proposed in the communal open space area and would not encourage residents to use this space. The proposed space is hard to reach and not visible from lift lobby or building entry, either more circulation access to ground units should be provided via this area. In addition, communal open space can be provide on level 6 terrace for better solar access.
- Unit 510 & 513 private open space area provide does not comply with HDCP.

Storage

- The provision of storage is under the DCP requirement. Applicant to amend design to provide sufficient storage and adjust area schedule to include storage in car park.

Driveway

- The proposed driveway is 8.5m wide and it is not setback 2m away from east boundary. The design should be amended to satisfy HDCP requirement for driveways to be less than 6m widen Clause 1C.2.1 and provide appropriate landscape treatment and streetscape presentation to reduce visibility into loading dock.

4.0 Conclusions and Recommendations

GMU's analysis of the site context suggests that the site has sufficient area to allow it to be developed to high architectural quality with good amenity to the residents. A review of the applicant's proposed built form and internal layout has identified a number of issues that would need to be resolved to comply with the RFDC and DCP requirements and to provide adequate amenity to the future residents. These include:

- The proposal presents an overwhelming bulk and scale.
- FSR results in density that is too great for the subject site, resulting in poor internal amenity. Though there is no FSR limits, GMU does not support the proposed FSR of 4.804:1 and considers that a more sympathetic response should have less than the B2 zone FSR. B2- local centre in the strategic context for the Epping Town Centre is the second densest area (FSR 4.5:1) in the Epping Town Centre, all other areas on the Centre's perimeter should gradually reduce in density including this subject site.
- Provide amended plans highlighting GFA, deep soil zone and communal open space area along with calculations.
- Adjust private terrace to set back 2m from the primary boundary and provide landscape feature, as an appropriate transition from the B2 zoned "Cambridge St Precinct" to the west, current R4 zone "Oxford St Precinct".
- Podium apartments with possibility to access from ground and alternate levels, to reconfigure to split level or cross-over apartment for better amenity, especially to eliminate the undesirable snorkel windows and artificial ventilated kitchens.
- Corridors should not have more than 8 units. Additional core should be provided if more units per level are proposed.
- Rear portion of the podium and tower should be reduced in width to 18m, to provide better amenity to the units.
- Increase communal open space area at location with better solar access, visibility and accessibility to encourage passive surveillance and usage.
- Maximise solar access to have a minimum of 3 hours direct sunlight in mid-winter and provide additional information in schedule form.
- Increase setback above podium to better respond to the street and the lower scale zones.
- 12m setback to tower's eastern façade and 9m setback to tower's western façade to comply with RFDC to provide for amenity for future tower developments in the surrounding area.
- 2m setback of the driveway from the east boundary and create deep soil verge to comply with HDCP.
- Reduce driveway to 6m wide and refine street facade treatment to articulate the building entry, conceal the loading dock and provide a landscape feature to soften the masonry podium wall.
- Provide direct access from building entry to lift lobby and ensure direct visibility from street to improve passive surveillance.

- Reconfigure apartments to provide for sufficient storage and amend area schedule to account for storage area in apartment and in basement area.
- Provide further shadow diagram analysis showing the potential overshadowing impact on the adjoining existing properties and future development.

In general, the overriding issue with this application is the extent of proposed development which in essence results in an overwhelming bulk and scale. A significant amount of re-design will be required in order to address this issue.

GMU recommends Council to request amended plans addressing the above issues before any further consideration of approval of the proposed development.