## LINDFIELD VILLAGE HUB OCTOBER 2019 PLANNING PROPOSAL

# HEIGHT MAP MODIFICATION

13 DECEMBER 2021







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## LVH 2019 PLANNING PROPOSAL | HEIGHT MAP MODIFICATION

This report has been prepared by request of Ku-ring-gai Council (KMC) Major Projects along with KMC Planning and their independent urban design advisor Michael Zanardo.

It details a revised height of building (HOB) LEP map to address a concern raised by Council staff that the exhibited HOB map could result in building heights beyond what is envisaged in the reference design. This could contradict a Council resolution that the Lindfield Village Hub have:

"a height control of no higher than the highest building in Lindfield being 23 – 41 Lindfield Avenue (known as the Aqualand building) which equates to no more than a 9 storey building on the Lindfield Village Hub site, including a provision at Clause 4.3 to allow for roof top plant, lift overruns and rooftop communal open space (and associated structures) to be located above the proposed maximum height limits, where appropriate."

#### (KMC Council Minutes)

This concern can not be completely ameliorated with a standard HOB map due to the nature of the steeply sloping site at this location. However, it can be well addressed through two changes to the control:

#### 1. Further Divide the HOB Map

By creating an additional zone in the centre of the site, the necessary HOB allowance along Woodford Lane can be reduced. While this does create a more complex height map and further locks in the envelopes of the Planning Proposal's indicative design, it reduces the likelihood of additional storeys along Woodford Lane.

The division of the HOB map is the subject of the majority of this report. The following pages include the updated height map with documentation requested by KMC planning to identify the effect of the height controls in isometric envelope views and a diagrammatic section.

2. Create a Secondary Height Control in the LEP

A separate site-specific written development standard is proposed to be added to Part 6 -Additional Local Provisions of the KMC LEP:

"Despite the provisions of Clause 4.3 (Height of buildings), the height of a building on land that this clause applies to, is not to exceed a maximum RL of 127.45."

This would set a secondary RL control for the maximum building height, in addition to the HOB map.

## 1.1 PROPOSED HEIGHT MAP



Figure 01: Proposed Height of Buildings Map

### 1.2 METHOD OF HEIGHT ZONE CALCULATION

The three height zones proposed are based on the finished roof level of the indicative design, with a minimal height allowance for a lift overrun, compared against the closest existing ground contour.

#### Note that building envelopes shown in the Planning Proposal and within this document are indicative only. They may not align with future DCP controls intended to be written by KMC Planning.

The critical level used to establish the roof height is the park level of RL 96.5. Building storeys are then added above or below the park depending on program, based on the following floor-to-floor heights:

Typical Parking Level	2.8m
Parking Level Under Retail	3.1m
Supermarket Retail Level	6.5m (± 0.5m)
Street Level Retail	4.5m (± 0.5m)*
Library/Community	5.0m
Child Care	3.6m
Typical Residential Level	3.1m
Roof & Overrun Allowance	min. 1.5m

This establishes the tallest point of the envelope as an RL. To then calculate the HOB control measured from existing ground that supports this envelope, the lowest crossing contour across each of the roofs is subtracted from the RL.

These are then rounded to the nearest 0.5m to be consistent with LEP HOB mapping.

\* For the purposes of these calculations, the street level retail floor-to-floor height has been selected according to the available area underneath the now-proposed secondary height datum control of 127.45. HOB Area '**T1**' (Community Building) 29.5m

Roof RL Calculation: Plaza RL + 3 x Community/Library Levels + Child Care Level + Lift Overrun 96.5 + (3 x 5.0) + 3.6 + 1.5 = 116.60

Height of Building Calculation: Roof RL - Lowest Contour, Rounded 116.60 - 87.0 = 29.6  $\approx$  29.5

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HOB Area '**U**' 31.5m (Drovers Way Residential)

Roof RL Calculation: Level 1 of Woodford Lane Residential + 6 x Residential Levels + Lift Overrun 101.15 + (6 x 3.1) + 1.5 = 121.25

Height of Building Calculation: Roof RL - Lowest Contour, Rounded 121.25 - 90.0 = 31.25 ≈ 31.5

HOB Area '**U2**' 34.5m (Woodford Lane Residential)

Roof RL Calculation: *Plaza RL + Street Retail Level* + 8 x Residential Levels + Lift Overrun 96.5 + 4.65 + (8 x 3.1) + 1.5 = 127.45

Height of Building Calculation: Roof RL - Lowest Contour, Rounded 127.45 - 93.0 = 34.45 ≈ 34.5

HOB Area '**V**' 36.5m (Woodford Lane Residential, Partial)

Roof RL Calculation: As per U2

Height of Building Calculation: Roof RL - Lowest Contour, Rounded  $127.45 - 91.0 = 36.45 \approx 36.5$ 



#### Figure 02: Basis of Proposed Height of Building Control

 $(\Gamma$ 1:1000 @ A4





## 1.3 SECTION DIAGRAMS OF HOB CONTROLS









## 1.4 VISUALISING POTENTIAL ENVELOPES WITHIN HOB CONTROLS

A digital model has been created to help visualise the how the proposed height zones will control future built form. To create this model:



Figure 06: Stage 1 - 3D contours representing the existing ground level were imported from a land survey.



Figure 07: Stage 2 - A digital 'ground mesh' was drawn that triangulates each point on the contours, giving a 3D approximation of the natural ground levels derived from the land survey.



Figure 08: Stage 3 - This digital 'ground mesh' is divided into segments corresponding to the proposed height map.



Figure 09: Stage 4 - Each of the segments of the digital 'height mesh' is raised above the original 'ground mesh' by distances that correspond to the proposed height map (that is, 29.5m, 31.5m, 34.5m and 36.5m)



Figure 10: Stage 5 - Separately, the local provision height control is drawn as a plane corresponding to the height datum of RL 127.45.



Figure 11: Stage 6 - A digital massing model of the indicative building footprints has been prepared to compare against both the HOB and RL Datum height controls.



Figure 12: The image above shows that all buildings are at or below the RL datum height control, based on the footprints in the indicative envelope and the height assumptions listed in this report.



Figure 13: This image shows that the majority of buildings are also at or below the HOB height controls. Some building edges are shown slightly exceeding the HOB controls, however given the ridge represents the lift overrun the final architectural design can be adjusted to accommodate this.



Figure 14: The above image identifies areas of the building footprints that could exceed the indicative envelopes while still fitting within the HOB controls.



Figure 15: As per Figure 14, viewed from a lower perspective.



Figure 16: When the RL control is also applied, the additional building height allowance of the eastern buildings is effectively prohibited.



Figure 17: As per Figure 16, viewed from a lower perspective.



Figure 18: As per Figure 14, viewed from the northeast.



Figure 19: As per Figure 18, viewed from a lower perspective.



Figure 20: As per Figure 16, viewed from the northeast.



Figure 21: As per Figure 20, viewed from a lower perspective.

