

TO: Amy Hodgen
cc:
FROM: Gavin Ashley, ESD Advisor
DATE: 26.11.2020
SUBJECT: 626 Heidelberg Rd, Alphington VIC 3078

Dear Amy,

I have reviewed both the amended SMP (Rev K – 09.07.20 by Norman, Disney & young) and plans (Rev 7 – 18.08.20 by NH Architecture) against planning permit PLN17/0703 and considered any adverse ESD impacts due to proposed changes, with an assessment below:

Condition 1 of planning permit PLN17/0703 requests updated plans to show (ESD):

(d) Additional external shading systems applied to all east, west and north facing facades of the Urban Anchor and Living Matrix as required by the additional heat load testing pursuant to Condition 10(a)

- **Satisfactory** – The amended plans have reduced the amount of glazing on the exposed facades, while relying on overhanging balconies and balcony screens for shade. NatHERS modelling indicates no apartment exceeds a maximum cooling load of 21 MJ/m² (SMP, p. 74).

(e) Location and size of water tank

- **Satisfactory** – A 100,000-litre rainwater tank is shown in the basement (TP-200).

(f) roof plan showing location of all solar panels

- **Satisfactory** – While no consolidated roof plan is provided, a 24kWp system is indicated on the roof of the Civic building (TP-208), and 61kWp system indicated on rooftop of apartment buildings (TP-216).

(g) Provision and location of a minimum of 40 electric vehicle charging points

- **Satisfactory** – 28x EV charging points are indicated on the lower ground (TP-201), with another 12x EV charging points located on level 01 (TP-203) reserved for staff.

Condition 10 of planning permit PLN17/0703 requests updated SMP to show:

(a) Heat load testing to demonstrate the effectiveness of shading at the summer solstice for north-facing glazing at noon, east-facing glazing at 10am and west-facing glazing at 2pm to affected habitable rooms

- **Satisfactory** – A preliminary NatHERS assessment has been provided for a selection of apartments indicating a maximum cooling load of 18.9 MJ/m² – and committing to no maximum cooling loads of 21 MJ/m² (SMP, p. 74).

(b) The following improvements in relation to the community facilities:

- i. Thermal envelope with a minimum 20% improvement on NCC insulation requirements and double-glazing windows
 - **Unsatisfactory** – No commitment to a 20% improvement is included within the SMP. In addition, while the BESS report indicates a 10% improvement in thermal performance above NCC 2019, the SMP includes (in Appendix D) an energy assessment for the non-residential component of the

building, which indicates an 11% reduction over NCC 2016. Clarify NCC commitment (2016 or 2019) and update BESS/SMP accordingly.

- ii. Provision for effective external shading to sun-exposed glazing
 - **Satisfactory** – The SMP claims that the energy modelling provided supports the shading strategy proposed, with a cross-section provided (TP-652).
- iii. Operable windows to all areas, including remote window operation for highlight windows (e.g. to the multi-purpose court)
 - **Unsatisfactory** - Operable windows ('OW') is not indicated on plans for Civic building. The SMP claims remote window operation for highlight windows has been confirmed. Update plans with 'OW' marked, or elevations to illustrate operable windows.
- iv. Provision for ceiling fans including high-volume, low-speed fans (HVLS) within the multi-purpose court
 - **Satisfactory** – the SMP claims ceiling fans will be provided and have been included in services energy usage (SMP, p. 3 & 83).
- v. Confirmation that captured rainwater will be utilised for toilet flushing in the community facilities
 - **Satisfactory** – The SMP indicates collected rainwater will be used for toilet flushing in common areas throughout the development (SMP, p. 11).
- vi. Hot water to be solar-boosted gas, with minimum 60% boost
 - **Satisfactory** – This initiative has been supported, however the SMP indicates the percentage boost will be confirmed during 'design development' (SMP, p. 3).
- vii. Photovoltaic array associated with the community facility within the unused roof area of the school building
 - **Satisfactory** – A 24kWp rooftop solar PV system has been indicated on the roof of the Civic building (TP-208).

(c) Bicycle numbers updated to reflect Condition 1 endorsed plans

- **Unsatisfactory** – The SMP indicates 747 bicycle parking spaces provided, however the development summary on the plans indicates a total of 751. Clarify provision.

(d) Evidence to demonstrate that SPEL proprietary products are effective in local Victorian conditions or provide a different approach for managing stormwater

- **Unsatisfactory** – While the SMP identifies that SPEL proprietary products are no longer proposed (SMP, p. 3) – reference is made to Arup's Stormwater Report for MUSIC modelling. However, the existing 'Overland Flow and Stormwater Management' report by Arup (dated 25.08.17) includes reference to SPEL products, which are included in the MUSIC model. Update this report (and MUSIC model) to remove SPEL products and clarify an alternative approach to managing stormwater.

(e) Use of recycled materials (e.g. insulation)

- **Satisfactory** – The SMP has been updated to include recycled materials (SMP, p. 23).

(f) Recycled content of concrete and steel

- **Satisfactory** – The SMP has been updated to include recycled concrete aggregate and supplementary cementitious materials (SMP, p. 23).

(g) Greater details of stormwater retention systems within open space areas, including cross sections (as relevant)

- **Satisfactory** – Refer to Arup's report for full MUSIC modelling (SMP, p. 3).

(h) FSC certified sustainable or recycled timber for all timber uses wherever possible on site

- **Satisfactory** – The SMP has been updated to include certified timber products/materials (SMP, p. 23).

(i) BESS Report as 'published' (i.e. not draft)

- **Satisfactory** – The submitted BESS report has been 'published' (SMP, p. 28).

(j) All 'items to be marked on floor plans' within the BESS Report to be clearly shown

- The SMP notes where these items have been marked up, with adequate cross referencing.

(k) Preliminary Section J / NABERS energy modelling as referenced in the BESS report Lighting power density provided to minimum 2019 NCC standards

- **Unsatisfactory** – The commitment to improvements on the NCC for lighting are unclear. The SMP claims improvement on NCC 2016 by 20% (SMP, p.11 & 16), however BESS credit 3.6 indicates a 20% improvement

on NCC 2019 for the residential apartments, and compliance with NCC 2019 for the non-residential component (SMP, p. 45). The provided preliminary energy modelling does not clearly articulate improvements in IPD (SMP, p. 70 & 80). Please review lighting strategy clearly referencing the applicable NCC requirements.

(l) testing of the heat loads to a sample of affected habitable rooms to demonstrate the effectiveness of shading devices at the summer solstice for north-facing glazing at noon, east-facing glazing at 10am and west-facing glazing at 2pm

- **Satisfactory** – Please response to 10(a) above.

In regards to the changes to built form – from an ESD perspective these are largely minimal in nature, and/or responding to another consultants advice and as such pose no significant concerns.

Having reviewed the documentation for the above property, several items still require clarification before the development is considered appropriate from an ESD perspective.

Cheers,
Gavin

Gavin Ashley

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