RESPONSE TO ENERGY ASSESSMENT COMMENTS

PROJECT NUMBER:	**26128**		
PROJECT TITLE:	**ASHLEY PARK**		
REVISION:	**01**		
PREPARED BY:	R Denteh	Date:	05 November 2026

The comments from the Haringey on the Energy Assessment and Sustainability Strategy report submitted under planning application HGY/2026/2421are shown in blue, with Meinhardt's responses provided below each comment.

Energy Use Intensity (EUI) / Space Heating Demand (SHD)

Actions:

Applicant has proposed a target of peak heat loss not exceeding 10 W/ m2 during pre-app stage. Applicant should confirm if the current proposal has achieved this target.

The 10 W/m² peak heat loss target has not been achieved in the current proposal. However, the design team has improved the fabric performance as far as possible to minimise heat loss, through:

- High-performance fabric U-values: external walls 0.14 W/m²K, floor and roof 0.10 W/m²K, and glazing 0.80 W/m²K
- Enhanced airtightness of 3 m³/(h·m²), compared with the Part L maximum of 8 m³/(h·m²)
- MVHR with up to 90% heat recovery to all dwellings
- Thermal bridging minimised, with a target y-value of 0.08 W/m²K

The proposal follows a fabric-first approach in line with Policy SP4 and the GLA Energy Hierarchy, achieving a 12% carbon reduction at the Be Lean stage.

The assessment further demonstrates that the development achieves values ranging from 10.2 W/m^2 to 14.1 W/m^2

Energy – Lean

Actions:

Please identify on a plan where the MVHR units will be located within the dwellings. The units should be less than 2m away from external walls. This detail can also be conditioned.

Locations of utility cupboards to house the MVHR may not be located within 2m of the façade to coordinate with architectural layouts and flat types. The ambition is to reduce the ductwork lengths to the façade to reduce system pressure and therefore fan power and operational energy/running cost.

Applicant has been strongly encouraged to explore the use of Waste Water Heat Recovery (WWHR) as noted in the pre-app note due to the high domestic hot water use associated with the co-living units. Applicant should clarify if WWHR has been proposed in the development. If not, please consider the integration of WWHR and this will help to further improve the carbon reduction under Be Lean stage.

Due to modern methods of construction being executed on the project to benefit both construction time and carbon savings, the shared living bathrooms are made off-site with a lightweight GRP material. This is formed as a whole unit and as such a waste hot water recovery system has yet to be fabricated to suit this method of construction. To change this to onsite construction will incur additional construction cost, timeline and risk, not to mention due to the increase on weight of the onsite materials used the RC design will need to be thickened, which itself would have additional cost implications and carbon impacts. WWHR has been considered but is not feasible for implementation within the development.

The scheme already performs well without WWHR. It achieves a 12% carbon reduction at the Be Lean stage for both the residential and the whole development, exceeding the London Plan requirement of 10% for residential. Overall, the development achieves a 71% on-site carbon reduction (244.7 tCO_2/year) over the Part L 2021 baseline.

The introduction of WWHR would also complicate design standards of M4(3), as the WWHR units would result in a step up from the floor, which cannot be accommodated in accessible dwellings and in the context of the proposed off-site construction method.

Energy – Clean

Actions:

Please provide the percentage of carbon reduction achieved from the on-site renewable energy generation (i.e. PV panels only).

Policy SP4 requires a 20% reduction in CO_2 emissions from on-site renewable energy generation, where viable. The proposed heat pumps and PV together achieve a 60% reduction at the Be Green stage (heat pumps 58.7%, PV 1.1%), well above the 20% requirement.

Achieving 20% from PV alone would require approximately 1,190 panels (around 2,200 m² of panel area), far more than the roof area available across the development.

Please explore the possibility to increase the number of PV panels in order to align with the requirement of 20% carbon reduction achieved from on-site renewable energy generation. (E.g. PV panels on the 1st floor roof terrace? Can the mechanical plants to be more efficiently organised to free up roof space to accommodate PV panels?)

The potential for additional PV panels has been reviewed across the remaining roof areas:

Co-living shoulder: The future development to the south will overshadow this roof, significantly reducing PV output. PV is therefore not considered viable in this location.

1st floor roof terrace: This area will be provided as a green roof. It is not considered suitable for PV due to limited solar access: the sun path analysis below shows that the roof would be overshadowed for most of the day by the Ferry Island, Ashley Road West and The Hale developments. The proposed redevelopment of the Hale Road terraces is expected to reduce solar access further.

The terrace will not be accessible to residents, as this would create overlooking and privacy issues for the studios and the Hale Road terraces. If required, maintenance access could be provided at RIBA Stage 3 by converting the existing window in the tower block to a door (see GA below). However, given the overshadowing, PV is still not considered viable in this location.

Furthermore, the area of green roof is approximately 300sqm. If this were converted to PV, there would be a loss of urban greening which would reduce the UGF score below the planning policy requirement of 0.4.

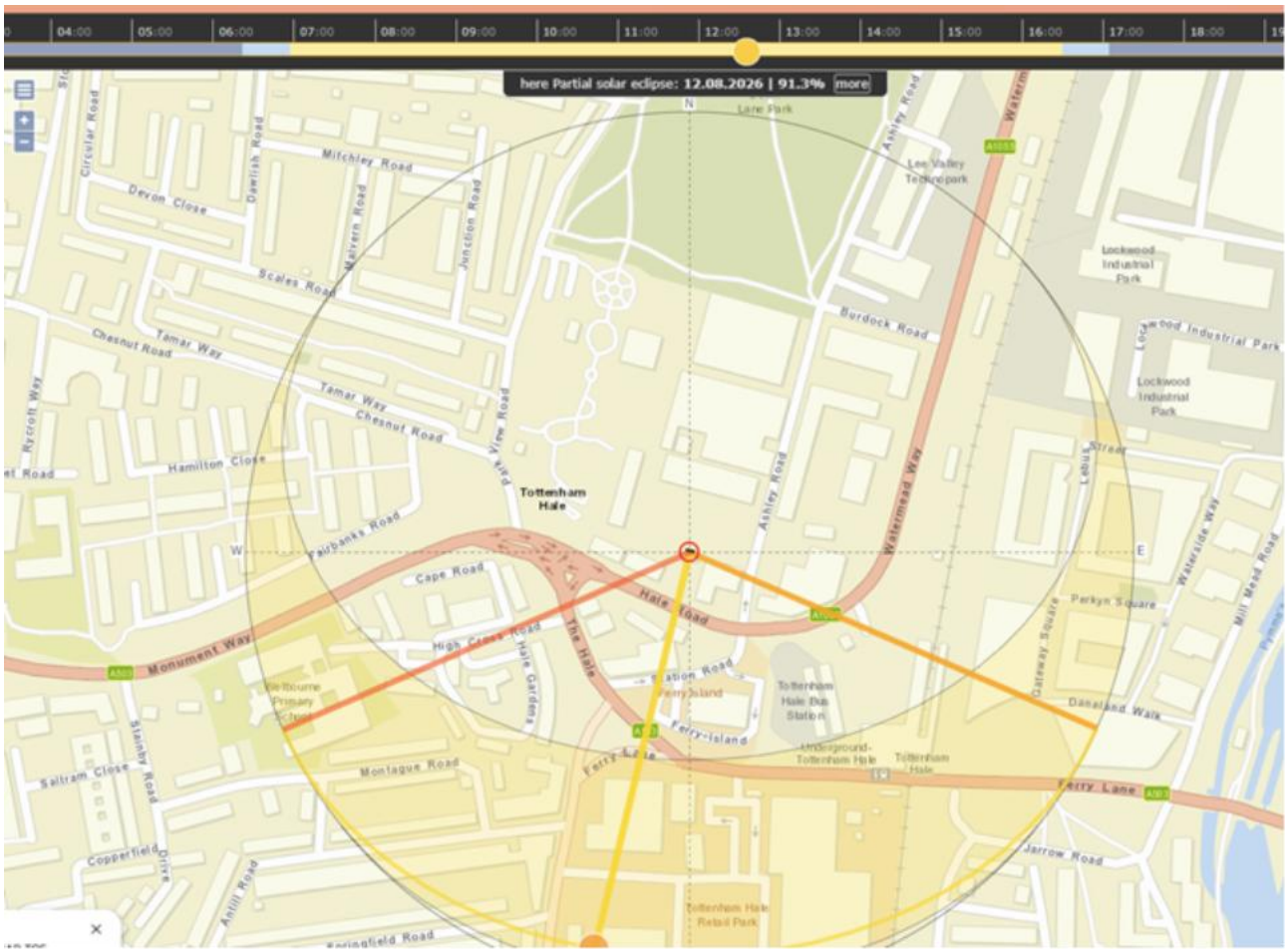
Mechanical plant: The plant layout has been reviewed with the MEP engineer. The plant is already arranged to minimise its roof footprint, and the remaining roof area is required for (e.g., ASHP clearance zones,

maintenance access, lift overruns). The plant layout will be reviewed at RIBA Stage 3 to identify opportunities to free up roof space for additional PV.

On-site renewables: The scheme currently achieves 60% carbon reduction from on-site renewable energy generation through PV and air source heat pumps.







How much of the heating/hot water demand will be met by the proposed types of heat pumps? If this cannot be met fully, how will this be supplemented?

100%

What is the Seasonal Coefficient of Performance (SCOP) of the proposed ASHP? SCOP = 3.5

An explanation of the fact we have contacted energetic and have futureproofed the buildings to enable DEN connection.

The Applicant team held a meeting with Energetik on 27 October and has exchanged emails (correspondence provided separately) to discuss the timelines for the DEN. It is anticipated that the DEN will be online in time for this development. The Applicant Team is gaining a quote from Energetik (expected to be provided in November) so that the connection can be agreed in advance. A dialogue remains open.

Should the DEN come forward as planned, the energy strategy will be amended and agreed with the Council at the relevant time. We are content to agree to relevant conditions/ obligations to require this, with a relevant trigger during construction. This is a standard approach where a DEN is anticipated but not yet existing. In the meantime, the development must ensure that it has a functional and compliant energy strategy in the absence of an existing DEN, to minimise risks should the DEN programme experience programme or funding delays outside the Applicant's control.

However, the development is future-proofed for connection to the DEN. The energy strategy and proposed development plans ensure that the building can be connected to the DEN once it comes forward. Meinhardt have confirmed, as shown in the planning submission drawings, that: we have allowed future space for district heating connection and equipment, with sufficient space, access and layout allowed for within plant areas, as well as allowing for future connections to the hydraulic system. There is sufficient space to run the future district heating pipework onto the site and into the allocated plantrooms. The district heating and the building heating

system are hydraulically separated, and controls are dedicated to the building load and requirements – it has no direct control connection to the district heating provider. The DEN connection is planned for in advance.

The site requires a connection point at each building, rather than proposing a combined energy centre, to ensure the deliverability of each phase of development is self-reliant and for ease of management and operation in due course, given the future buildings will be operated entirely independently of one another.

Energy – Be Seen

Actions:

Please confirm that sub-metering will be implemented for the commercial units.

Sub-metering will be provided for the commercial units. Each unit will have its own electricity meter, read via the Building Management System (BMS). Water use will be metered floor by floor via the BMS, so individual water meters are not required for each unit.

Please confirm if the sub-metering system will be provided for the co-living units.

Sub-metering will be provided for the co-living units. Each unit will have its own electricity meter, read via the Building Management System (BMS). Water use will be metered floor by floor via the BMS, so individual water meters are not required for each unit. The co-living operator will be responsible for the overall energy monitoring and reporting strategy. The C3 residential units will be fitted with smart meters. These will be monitored and reduced through smart meters in the C3 units, and electricity meters read via the BMS in the co-living and commercial units. The co-living operator will manage the overall energy reporting strategy. Battery storage is not proposed.

What are the unregulated emissions and proposed demand-side response to reducing energy: smart grids, smart meters, battery storage?

These will be monitored and reduced through smart meters in the C3 units, and electricity meters read via the BMS in the co-living and commercial units. The co-living operator will manage the overall energy reporting strategy. Battery storage is not proposed.

Demonstrate that the planning stage energy performance data has been submitted to the GLA webform for this development: (https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance/be-seen-energy-monitoring-guidance/be-seen-planning-stage-webform)

The planning stage energy performance data will be submitted to the GLA “Be Seen” webform shortly. A copy of the submission confirmation will be provided to the Council once received.

Overheating

Actions:

Please provide the TM52 overheating modelling assessment for the commercial units, the communal corridors and co-living’s amenities spaces.

TM52 assessments have been carried out for the co-living amenity spaces and the commercial units, using the 2020s DSY1, DSY2 and DSY3 weather files. The results are shown in the tables below.

We first tested each space with passive measures only, without assuming any cooling. None of the spaces passed, and the gyms and commercial units struggled most because of their occupancy, equipment and long hours of use. In line with the Cooling Hierarchy, active cooling was then added as the last step, and with it, all 12 amenity spaces and both commercial units pass under all three weather files.

The corridor results will follow shortly.

Passive measures only

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Community space	46.0	42	9	FAIL	46.6	52	11	FAIL	44.4	56	10	FAIL
Shared living amenity	30.0	29	7	FAIL	32.4	44	9	FAIL	33.5	34	7	FAIL
Amenity space 1	58.8	52	10	FAIL	58.9	63	12	FAIL	57.3	76	11	FAIL
Amenity space 2	55.1	41	8	FAIL	59.3	56	11	FAIL	54.2	56	10	FAIL
Amenity space 3	56.1	45	9	FAIL	60.5	56	11	FAIL	56.0	63	10	FAIL
Amenity space 4	71.9	62	10	FAIL	71.9	81	13	FAIL	65.8	85	12	FAIL
Gym 01	44.4	108	11	FAIL	47.3	149	15	FAIL	43.5	132	13	FAIL
Gym 02	46.4	110	11	FAIL	49.4	155	15	FAIL	45.9	131	12	FAIL
Amenity space 5	58.4	57	11	FAIL	58.8	77	15	FAIL	53.0	72	12	FAIL
Amenity space 6	47.3	46	9	FAIL	49.5	62	12	FAIL	45.3	67	11	FAIL
Amenity space 7	50.0	45	9	FAIL	53.0	63	12	FAIL	48.8	66	11	FAIL
Amenity space 8	68.8	67	12	FAIL	69.8	88	16	FAIL	63.1	80	13	FAIL
	0 of 12 spaces			0%	0 of 12 spaces			0%	0 of 12 spaces			0%

With active cooling

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Community space	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Shared living amenity	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 1	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 2	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 3	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 4	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Gym 01	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Gym 02	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 5	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 6	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 7	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Amenity space 8	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
	12 of 12 spaces			100%	12 of 12 spaces			100%	12 of 12 spaces			100%

Passive measures only

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Commercial unit 1	80.8	68	10	FAIL	80.4	87	12	FAIL	75.7	80	11	FAIL
Commercial unit 2	97.7	92	12	FAIL	97.7	112	14	FAIL	94.0	104	13	FAIL
Spaces passing TM52	0 of 2 spaces			0%	0 of 2 spaces			0%	0 of 2 spaces			0%

With active cooling

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Commercial unit 1	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Commercial unit 2	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Spaces passing TM52	2 of 2 spaces			100%	2 of 2 spaces			100%	2 of 2 spaces			100%

As noted in the pre-app comments, a Central London weather file should be used for modelling as it represents more accurately the urban heat island effect. Please redo the overheating modelling.

The overheating assessments have been carried out using the CIBSE TM49 Central London (London Weather Centre) Design Summer Year weather files, which account for the urban heat island effect. The following files were used:

- **DSY1:** 2020s, high emissions, 50th percentile (compliance assessment)
- **DSY2:** 2003, a short, intense warm spell

- **DSY3:** 1976, a long, less intense warm spell

Please provide a 3D diagram to indicate which sample dwellings are modelled and floorplans showing the modelled internal layout of dwellings.

Please refer to the screenshots below, taken from the IES VE thermal model. These include a 3D view of the full model showing the sample dwellings assessed, and floor plans of each modelled level showing the internal layout of the assessed dwellings.

Sample selection

Sample dwellings have been assessed across the Co-living Building and Building C3. In line with CIBSE TM59 and the GLA overheating guidance, the sample was selected to capture the dwellings at greatest risk of overheating, including:

- **Orientation:** dwellings with south- and west-facing façades, which receive the highest solar gains
- **Aspect:** single-aspect dwellings, which have limited cross-ventilation
- **Height:** dwellings on the upper floors, including the top two floors of the co-living tower with the highest glazing areas
- **Noise and air quality:** dwellings closest to the road / railway, where windows are modelled closed at night, as identified in the Noise and Air Quality Assessments
- **Glazing:** dwellings and corner units with the largest glazed areas
- **Typology:** a representative mix of studios, co-living rooms and 1, 2 and 3 bed units

The results for these worst-case dwellings are considered representative of the development as a whole: if they comply, the remaining, lower-risk dwellings would also be expected to comply.

Model set-up

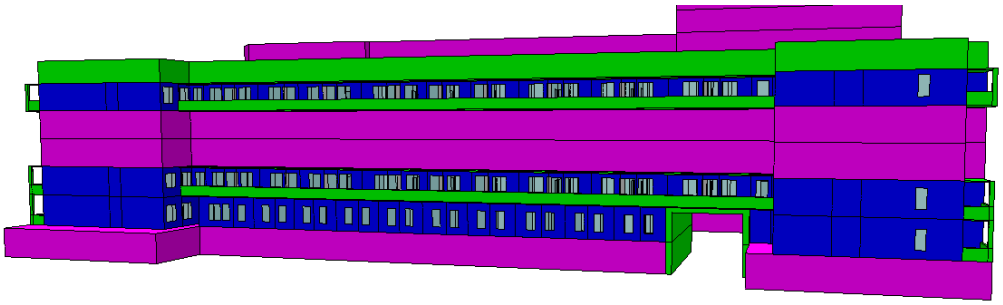
The internal layouts have been modelled in line with the architectural floor plans, with each bedroom, living room and kitchen/living/dining space modelled as a separate zone. Occupancy, internal gains and ventilation profiles follow CIBSE TM59. The model is colour-coded as follows:

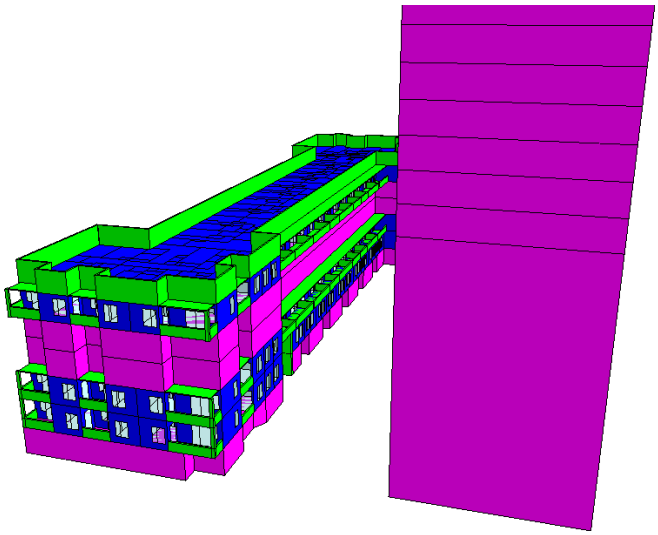
- **Pink:** adjacent buildings, modelled to account for overshadowing from the surrounding context
- **Blue:** the assessed rooms within the sample dwellings
- **Green:** local shading elements

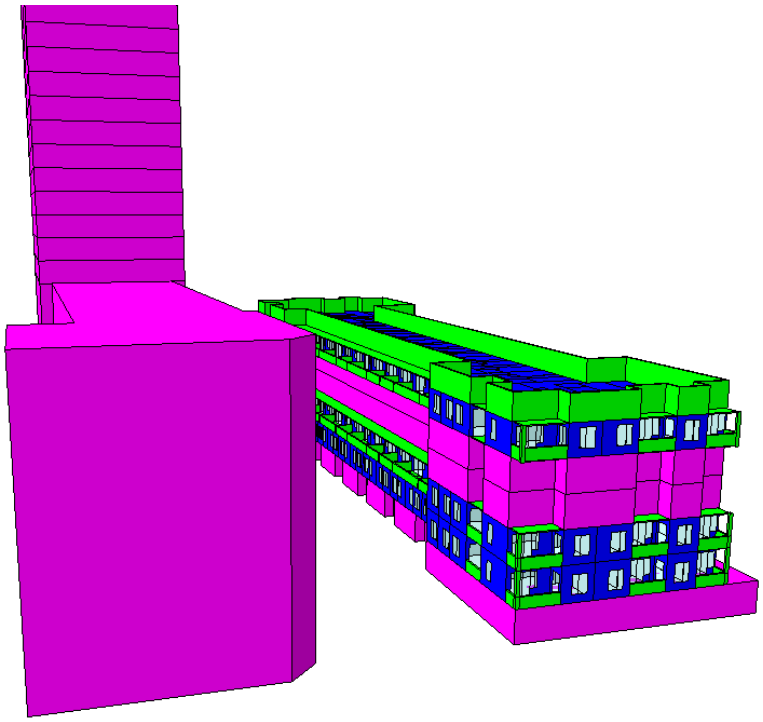
Solar shading

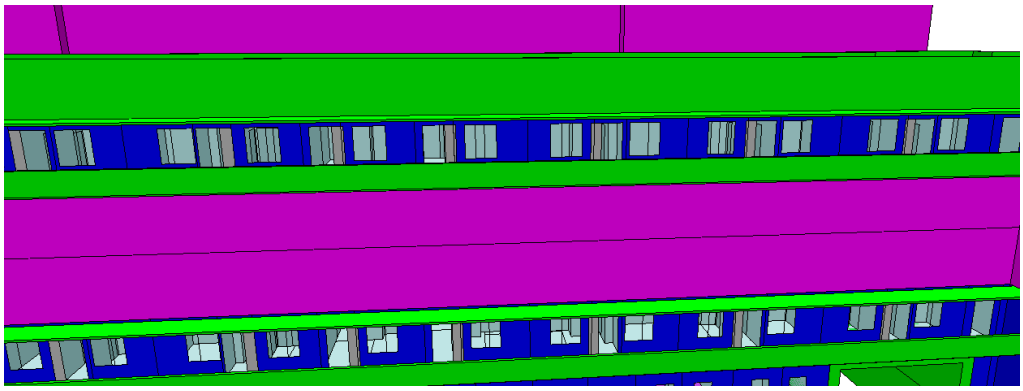
Screenshots are also provided showing how the model accounts for:

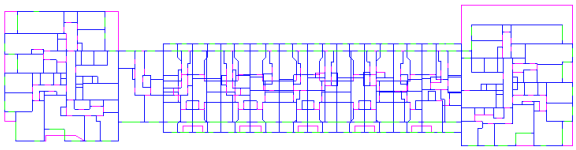
- **Perforated panels** on the Co-living Building and Building C3, modelled as external shading in front of the openable windows to reduce solar gains
- **Balconies on each floor of Building C3**, which provide overhead shading to the dwellings below and help reduce solar gains



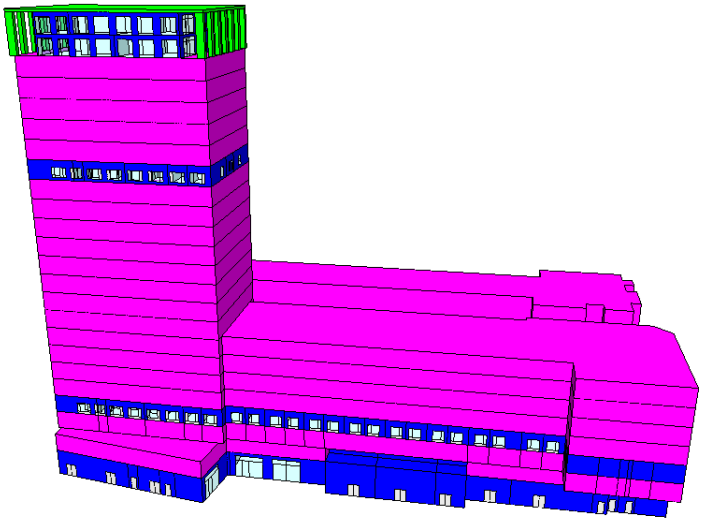


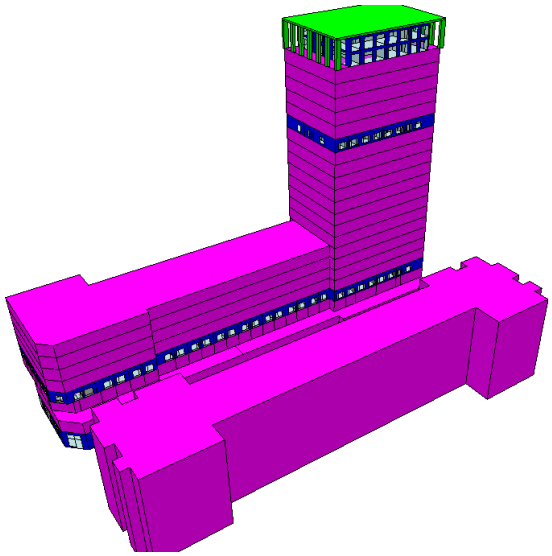


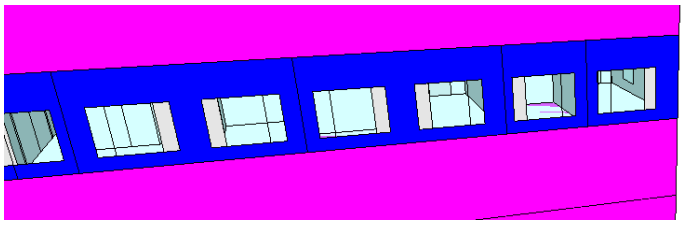


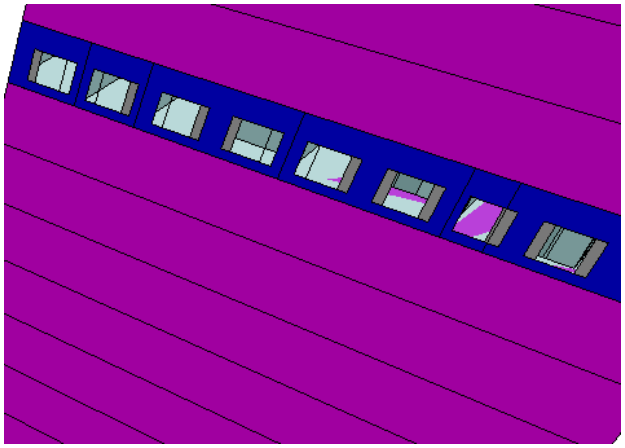


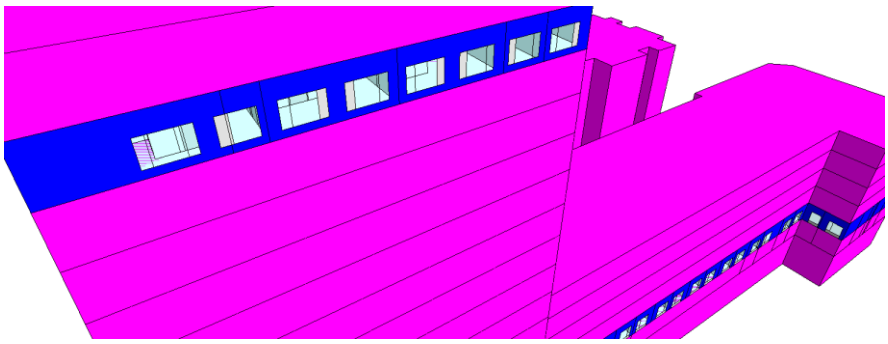


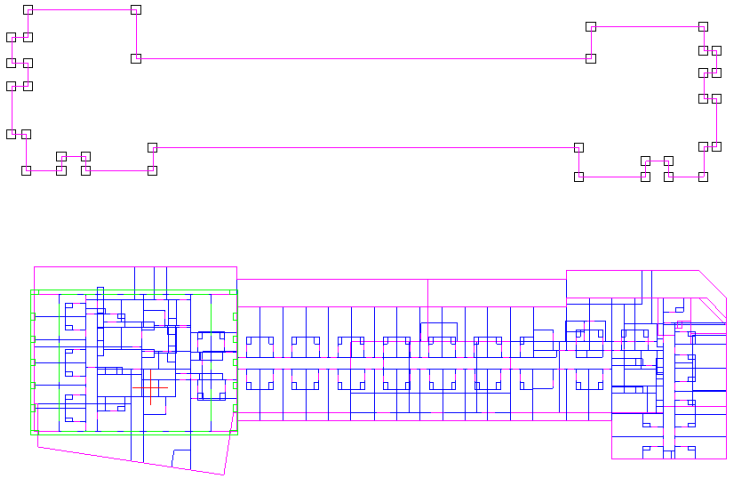












Please confirm if the scope has covered the following requirements:

A representative worst-case sample of single-aspect rooms facing south, east and west has been modelled, meeting Haringey's sampling requirements. Unmodelled rooms with the same orientation have similar or lower exposure, so they are expected to perform the same or better.

All single-aspect rooms facing west, east, and south;

Rather than modelling every single-aspect room, a worst-case sample of south, east and west-facing single-aspect rooms has been modelled across the Co-living Building and Building C3. The rooms were chosen deliberately to represent the highest overheating risk on each orientation, on the following basis:

- **Orientation and solar exposure:** West-facing rooms are the most at risk, because they receive low afternoon sun at the hottest time of day. At that angle the sun shines straight through the glazing, so balconies and overhangs do little to block it, and the heat built up during the afternoon is released back into the room overnight, when bedrooms need to be cool. East-facing rooms are affected in a similar way by morning sun. On the south façade, rooms without balconies above them were chosen, as they receive the most summer sun with no overhead shading. The modelled rooms therefore face the most severe solar exposure on each orientation.
- **Single-sided ventilation:** Single-aspect rooms can only be ventilated from one side, so they cannot benefit from cross-ventilation and achieve much lower air change rates. As single-sided ventilation becomes less effective with room depth (CIBSE AM10), the deepest rooms on each orientation were chosen as the hardest to cool.
- **Floor level and overshadowing:** Rooms on the upper floors are the least shaded by the surrounding buildings and receive sun for the longest part of the day. Lower floors on the same façade are more shaded and receive less solar gain.
- **Glazing ratio:** On each orientation, the rooms with the most glazing relative to their floor area were chosen, as more glass means more solar gain.
- **Internal gains:** Smaller bedrooms with higher occupancy were prioritised, as heat from people and equipment builds up faster in a smaller space. Bedrooms also have to meet the stricter TM59 night-time limit (no more than 1% of night-time hours above 26°C).
- **Noise and air quality:** Rooms where the Noise and Air Quality Assessments show windows must stay closed at night were included. These rooms cannot be cooled by opening windows overnight and rely on MVHR alone.

Every unmodelled single-aspect room has the same orientation, glazing and shading as one of the modelled rooms, but is less exposed in at least one of the ways described above, for example by being on a lower floor, having less glazing or being shallower. As the worst-case rooms comply, the remaining rooms can be expected to perform as well or better. Appendix 6 in the Energy Report includes a table matching each unmodelled room to the modelled room that represents it.

At least 50% of rooms on the top floor; The top floor was

A worst-case sample of rooms on the top floors of the development has been modelled. The top floors were given particular focus, as they are the most exposed part of each building, and the rooms were chosen on the following basis:

- **Roof heat gain:** Top-floor rooms are the only rooms exposed to heat gains through the roof, which absorbs solar radiation throughout the day. This makes them more at risk of overheating than rooms on the floors below.
- **Solar exposure:** Top-floor rooms receive the least shading from the surrounding buildings and get sun for the longest part of the day. South-, east- and west-facing rooms were prioritised, as they receive the highest solar gains.
- **Glazing:** The rooms with the most glazing relative to their floor area were included, as more glass means more solar gain.
- **Room type:** Bedrooms and smaller rooms with higher occupancy were prioritised, as heat builds up faster in a smaller space and bedrooms must meet the stricter TM59 night-time limit.

The unmodelled top-floor rooms are those with lower exposure, such as north-facing rooms, which receive little direct sun, or rooms with smaller glazed areas. As the worst-case rooms comply, the remaining top-floor rooms can be expected to perform as well or better.

75% of all modelled rooms facing South or South/West;

South- and south-west-facing rooms were given priority in the modelled sample, as these orientations present the highest overheating risk in the development:

- **South-facing rooms** receive the most solar radiation on a vertical façade during the summer months. Rooms without balconies above them were prioritised, as they have no overhead shading to reduce solar gains.
- **South-west-facing rooms** receive sun from midday through to the late afternoon, when external temperatures are at their peak. The low afternoon sun enters directly through the glazing and is difficult to control with balconies or overhangs, and the heat built up during the day is released into the room overnight, when bedrooms need to be cool.

The highest-risk rooms on these façades, including those on the upper floors, with the largest glazed areas and with the least shading from surrounding buildings, have been included in the sample. As these represent the worst-case conditions in the development, rooms on other orientations, which receive lower solar gains, can be expected to perform as well or better.

Rooms closest to any significant noise and / or air pollution source, with windows closed at all times (with cross reference to the Noise and the Air Quality Assessments to demonstrate the most sensitive receptors and the AVO Residential Design Guide);

Communal corridors, where pipework runs through;

The rooms nearest the main noise and air pollution sources were identified using the Noise and Air Quality Assessments and the AVO Residential Design Guide. These rooms were modelled with windows closed at all times, and the results are in Section 10 of the Energy Report.

The communal corridors, including heat from the pipework, will be assessed against the CIBSE TM59 corridor criterion, and we'll share the results shortly.

An overheating assessment of the communal corridors, including heat gains from the communal pipework, will be undertaken against the CIBSE TM59 corridor criterion. The results will be issued shortly.

Any commercial/office areas, particularly where they will be occupied for a longer period of time. Assuming that active cooling will be provided is not sufficient. If the proposed uses are not yet clear, this aspect can be conditioned to ensure that the modelling is based on the potential future occupiers.;

The commercial units have been assessed under CIBSE TM52 in free-running conditions, without assuming any active cooling. With passive measures only, neither unit met the TM52 criteria, and the exceedances were large because of the long hours of use and the heat from occupants and equipment. In line with the Cooling Hierarchy (London Plan Policy SI 4), active cooling was then added as the last step, and with it, both units pass under all three weather files. The results are shown in the tables below.

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Commercial unit 1	80.8	68	10	FAIL	80.4	87	12	FAIL	75.7	80	11	FAIL
Commercial unit 2	97.7	92	12	FAIL	97.7	112	14	FAIL	94.0	104	13	FAIL
Spaces passing TM52	0 of 2 spaces			0%	0 of 2 spaces			0%	0 of 2 spaces			0%

With active cooling

Space	DSY1 – 2020s (design summer year)				DSY2 – 2020s				DSY3 – 2020s			
	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result	Crit. 1 Hours exceed. (%)	Crit. 2 Daily weighted exceed.	Crit. 3 Upper limit ΔT (K)	TM52 result
Commercial unit 1	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Commercial unit 2	0.0	0	0	PASS	0.0	0	0	PASS	0.0	0	0	PASS
Spaces passing TM52	2 of 2 spaces			100%	2 of 2 spaces			100%	2 of 2 spaces			100%

Only one iteration (as-designed) has been modelled for both windows fully open and windows fully closed. Applicant should clarify what has been modelled under this iteration (e.g. does it include increased ventilation?) A step-by-step approach should be undertaken in line with the Cooling Hierarchy as set out in the Haringey Overheating guidance.

The as-designed scheme includes glazing with a g-value of 0.4, openable windows of 1.45 m² each, perforated panels on the Co-living Building and balconies on Building C3, internal blinds, and MVHR with summer bypass at 45 l/s and a boost rate of 2.5–3 ach.

Rather than being modelled as separate steps, the Cooling Hierarchy has been followed as the design developed, with each level built into the as-designed scheme:

- **Reducing internal heat gains:** efficient lighting and appliances, and insulated communal pipework
- **Reducing solar gains:** low g-value glazing, perforated panels on the co-living block and balconies on Building C3
- **Passive ventilation:** openable windows sized to provide natural ventilation wherever noise and air quality allow
- **Mechanical ventilation:** MVHR with summer bypass and boost rates
- **Active cooling:** only in rooms where windows have to stay closed

The scheme has been tested with windows open, partially open and closed, to reflect the noise and air quality conditions on each façade. Where windows can be opened, rooms meet CIBSE TM59 using passive measures and mechanical ventilation alone, with no need for active cooling.

Active cooling is only provided in rooms where the Noise and Air Quality Assessments show the windows must stay closed. In these rooms, opening the windows isn't an option, so natural ventilation can't be used. These rooms still benefit from all the other passive measures, including low g-value glazing, external shading and reduced internal gains, and cooling is added through modules on the MVHR system only as the last step. The results are set out in Section 10 and Appendix 6 of the Energy Report.

Applicant should prioritise the use of passive measures such as external shading and ensure all passive measures have been explored in accordance with cooling hierarchy. The OH report has stated external shading has been provided via projecting balconies. Projecting balconies are only proposed in the residential block but not the south facing co-living block.

External shading has been designed to suit each façade, based on its orientation and exposure, rather than using one approach for the whole development. In line with the Cooling Hierarchy, passive measures have been prioritised, and all exposed elevations have external shading.

Co-living block: The co-living block does not have projecting balconies. Instead, the south and west elevations are shaded by perforated panels, as shown in DLA drawing (AHCF-DLA-ZZ-XX-DR-A-SK050). The panels sit in front of the glazing as a continuous shading layer, blocking both the high midday sun and the low afternoon sun. Balconies alone wouldn't control the low afternoon sun.

The panels have been designed to strike a balance between shading the rooms and keeping good daylight, views and ventilation. They are proposed with around 50% open area and set about 30 mm in front of the glazing, subject to the manufacturer's specification at detailed design stage. This cuts down direct sun into the rooms while still letting in daylight and allowing the inward-opening windows behind the panels to be used for ventilation.

Residential (C3) block: Dwellings are shaded by the balconies above. On the top floor, where there's no balcony overhead, solar gain is controlled with low g-value glazing of 0.4.

Different external shading devices and solutions were considered to mitigate overheating risk throughout the design development. Other methods were dismissed on the grounds of overall effectiveness, buildability and maintenance. There is a balance to strike, particularly in relation to BREEAM, which have been carefully balanced in the design. Measures such as internal blinds may reduce solar gain but would also restrict daylight entering the homes (within the C3 building these would also be left to the tenant to select). Fixed Brise soleil above windows were considered but were dismissed as compromising daylight and sunlight levels into the internal accommodation spaces, particularly in winter months. Roller shutters have also been considered, but these would incur significant additional cost and impact the design of the elevations. Given the nature of the schemes and the tenants, roller shutters also require significant maintenance cost and operational challenges on the management team. Roller shutters can also create technical and buildability challenges in terms of thermal envelopes. Brise soleil and roller shutters were also all costed, to consider implications on the viability of the scheme with costs of up to £1,985,000 and £2,480,000 associated with brise solei and roller shutters, respectively, anticipated to be added to the construction costs of the scheme. The proposed perforated panels balanced all of these considerations and have been implemented in the necessary locations.

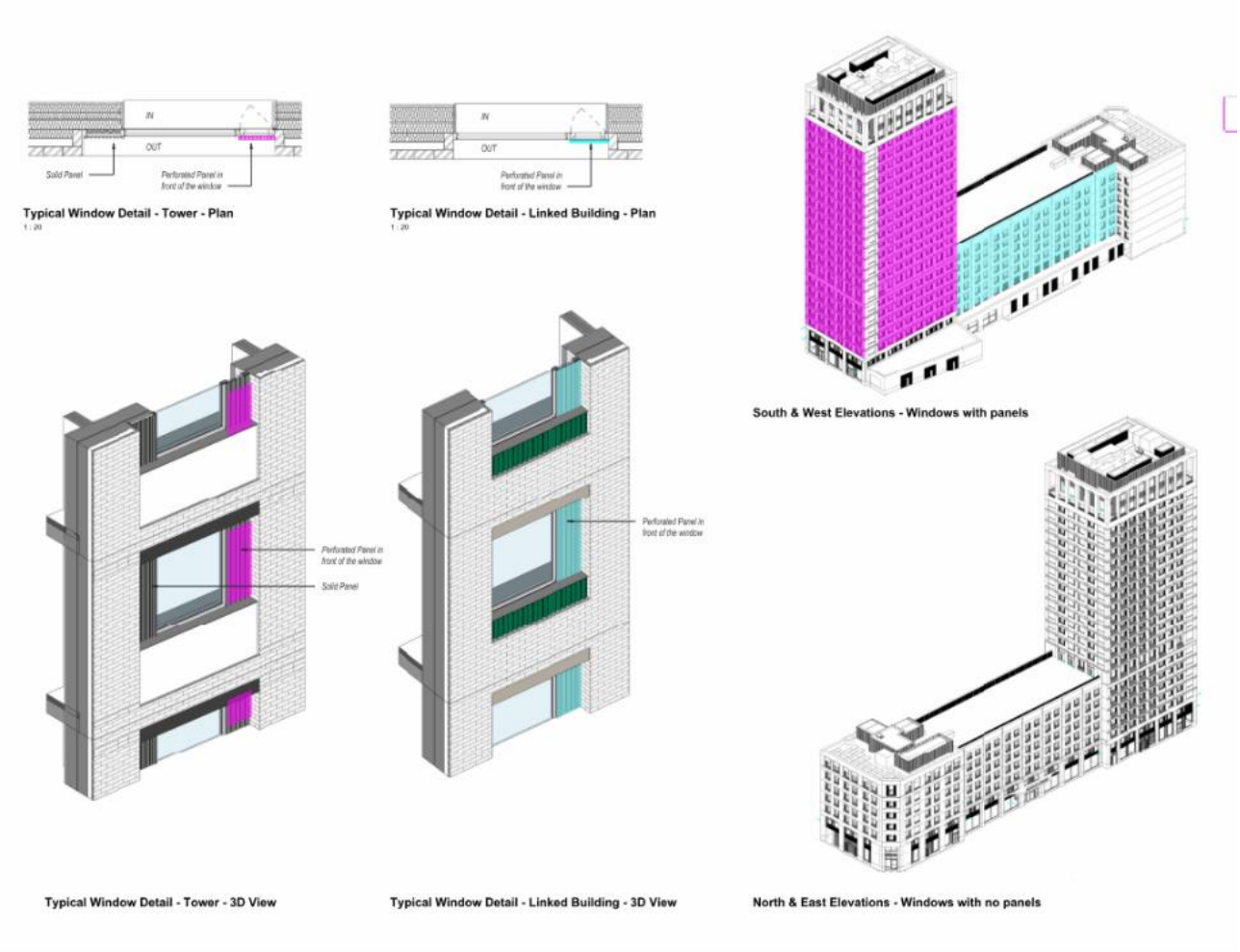
The incorporation of passive measures (e.g. external shading) is particularly important for the co-living block, as the units are predominantly single-aspect and the units in the south-west facing tower are very exposed without shade. Please explore the incorporation of external shading as highlighted twice in the pre-app comments.

External shading has been included on the co-living block, and the south-west-facing tower has been a particular focus. Perforated panels run across the south and west elevations, including the tower, as shown in DLA drawing AHCF-DLA-ZZ-XX-DR-A-SK050.

The panels sit just in front of the tilt-and-turn windows, forming a continuous layer of shade. This matters for the single-aspect units in the tower, because they only have one side for light and air, so the shading has to work all day. The panels block both the high midday sun and the low afternoon sun coming from the south-west, which balconies or overhangs alone wouldn't fully control. With around 50% open area, the rooms still get plenty of daylight and views, and because the tilt-and-turn windows open inwards, residents can still open them for fresh air.

Other external shading options were also considered during the design process. The perforated panels were chosen as the best fit for the co-living units, as they give effective shade throughout the day while keeping good daylight, views and natural ventilation, and work with the overall design of the building.

In Building C3, perforated panels are also fitted along the balconies on each floor of the southern elevation, adding to the shade from the balconies above.



The top two floors of the co-living tower have a high risk of OH due to high glazing areas being proposed. Please reduce and optimise the glazing area. Please confirm if these floors will be modelled under domestic or non-domestic.

The top two floors of the co-living block are a mix of private co-living rooms and shared amenity spaces. Following the Haringey overheating guidance, the co-living rooms will be assessed under CIBSE TM59, and the amenity spaces under CIBSE TM52.

We understand that the larger windows on these floors make them more likely to overheat. To help with this, the glazing is shaded by the perforated panels, which keep out much of the direct sun while still letting daylight in, and the glass itself has a low g-value of 0.4, so less heat comes through. We will also look at the glazing

on these floors again at RIBA Stage 3, to see where it can be reduced or better optimised without losing daylight and views.

Please openable window area of the co-living unit seems very small. Please maximum openable free area to provide purge ventilation.

Each co-living unit has 1.45 m² of openable window, and how the windows open depends on whether there's a perforated panel in front of them:

- **Windows behind a perforated panel** are tilt-and-turn and can be opened fully, as the panel stops anyone from falling out. Residents can tilt them for everyday fresh air or swing them right open to air the room quickly. When fully open, these windows meet the Approved Document F guidance for purge ventilation.
- **Windows without a perforated panel** can only be tilted, because the cill is 800 mm high, which is lower than the 1100 mm needed for a window to open fully and safely. In these rooms, ventilation is supplemented by the MVHR system on boost.

The window sizes have been set to work alongside the shading from the panels, the noise on some façades and the need to keep solar gain down. The overheating model uses the same window openings as this strategy, and the results are in Section 10 of the Energy Report.

Please provide the increased ventilation rate.

All dwellings will utilise a MVHR unit to provide fresh air and extract ventilation. During normal condition a boost rate is provided for bathrooms and kitchens when in use, during summer months an option for summer boost mode will be initiated which ramps the fan up to full speed to provide increased ventilation rates therefore increasing the air change rate within the dwellings – this will equate to 2.5-3 air changes per hour (i.e. 100% air volume of the flat is replaced 2.5-3 times per hour) to alleviate overheating within the dwellings. As the MVHRs are located within utility cupboard these will be provide attenuation for the increased fan speed and noise.

Please provide the cooling power of the MVHR cooling module.

0.88-1.72kW dependent of size of apartment and overheating internal conditions

Acoustic constraints: Please incorporate the zoning plans in the OH report and identify the windows with acoustic constraints on a 3D diagram. Applicant should clarify if the bedroom windows are modelled fully closed at night or open with reduced free area.

The noise risk zoning plans from the Noise Assessment have been incorporated into the energy report (see Section 10). In addition, each window on each elevation has been assessed against the Approved Document O (ADO) night-time noise criteria and colour-coded on a 3D diagram from the IES VE model (see page 4 to 8):

- **Green:** fully open windows are acceptable (approximately 8 dB reduction from outside to inside)
- **Orange:** partially open windows are acceptable (up to approximately 13 dB reduction)
- **Red:** windows must remain closed at night to meet the criteria

The bedroom windows have been modelled at night (23:00–07:00) as follows:

- **Bedrooms where the ADO criteria are met with windows open:** windows modelled fully open
- **Bedrooms where the ADO criteria are not met with windows open:** windows modelled fully closed, with ventilation provided by MVHR with summer bypass at 45 l/s

Colour	Sound Pressure Level ($L_{Aeq,16h}$ dB)	Additional Notes
	<50	Below guidance sound pressure levels
	50-55	Complies with guidance sound pressure level
	56-60	Marginally above guidance sound levels. However, noise levels are unlikely to significantly affect how private amenity is used by occupants.
	61-65	Above the guidance sound pressure levels. However, ability to understand speech over short distances should not be adversely affected, though other aspects of amenity may be compromised.
	>65	Exceeds guidance sound levels. Resident's ability to use these locations for amenity is compromised.

- Compliance with ADG noise criteria requires closed windows (Red in Figure 5 to Figure 8).

Figure 5 Overheating Control Strategy – West /North Elevations ($L_{Aeq,\ 8hr}$)

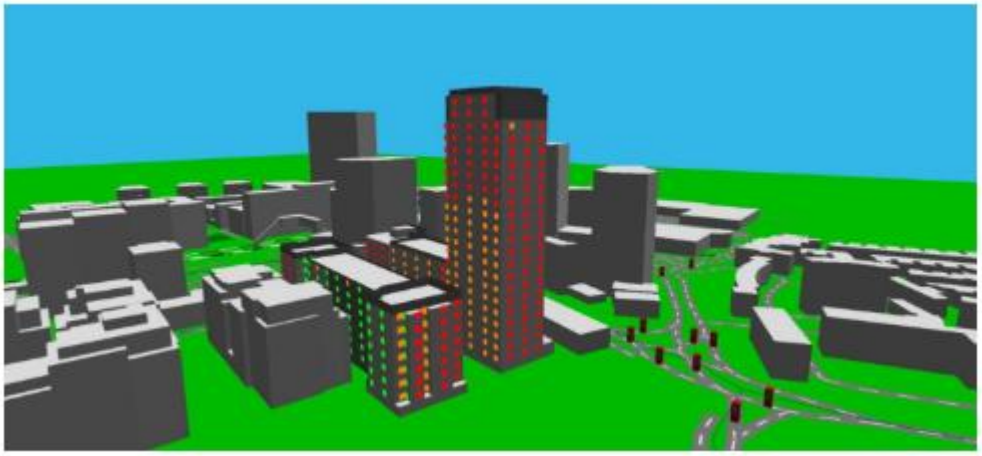


Figure 6 Overheating Control Strategy – South Elevations ($L_{Aeq,\ 8hr}$)

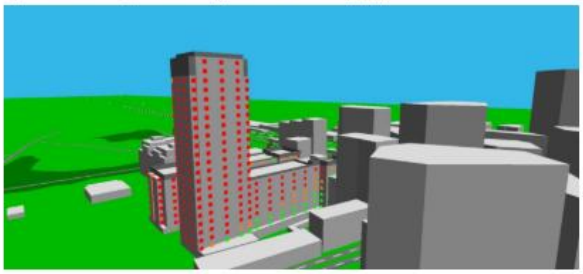


Figure 7 Overheating Control Strategy – West Elevations ($L_{Aeq,\ 8hr}$)

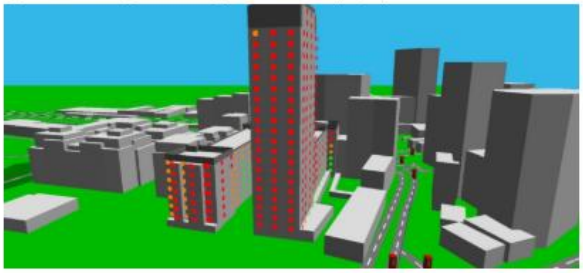


Figure 8 Overheating Control Strategy – North /East Elevations ($L_{Aeq,\ 8hr}$)



42 Figure 5 to Figure 8 show that there are limited areas where opening windows appears to be a viable solution for controlling overheating during the night time period.

43 The predictions indicate some potential for opening windows on to the following:

- Majority of north elevation of Block B (northern building);
- Limited parts at lower levels of south elevation of Block A (southern building) where existing building massing screens noise from Hale Road; and
- Limited parts of southern elevation of Block B (northern building), and northern elevation of Block A (southern building).

44 A more detailed review will be required once the opening sizes of the windows are confirmed.

Figure 10 Balconies on South Elevation - Daytime Ambient Sound Levels ($L_{Aeq,16h}$)

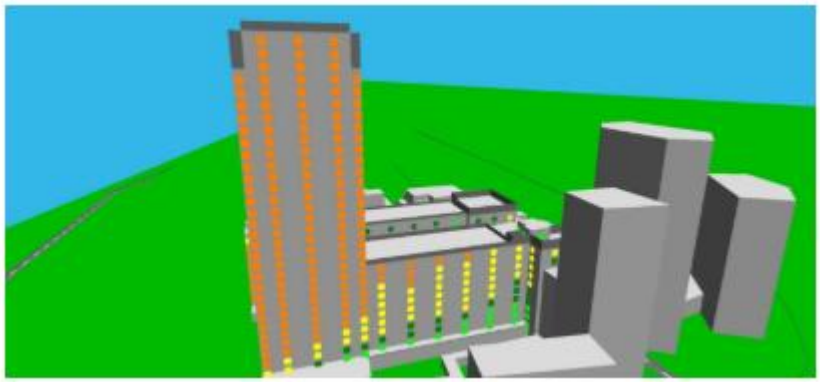


Figure 11 Balconies on North/East Elevation - Daytime Ambient Sound Levels ($L_{Aeq,16h}$)

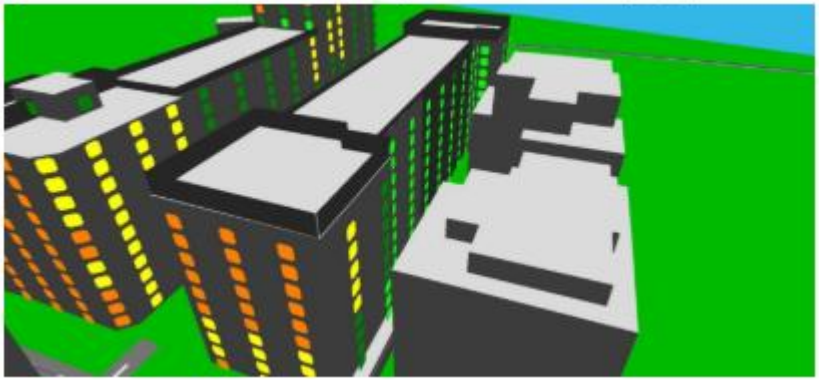


Figure 9 Balconies on East/North Elevation - Daytime Ambient Sound Levels ($L_{Aeq,16h}$)

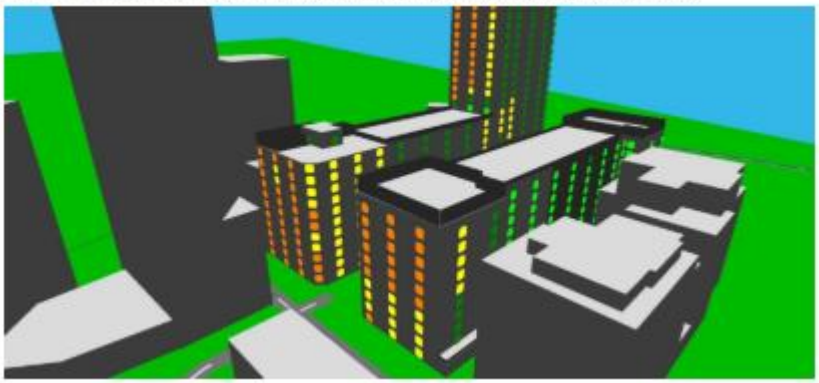
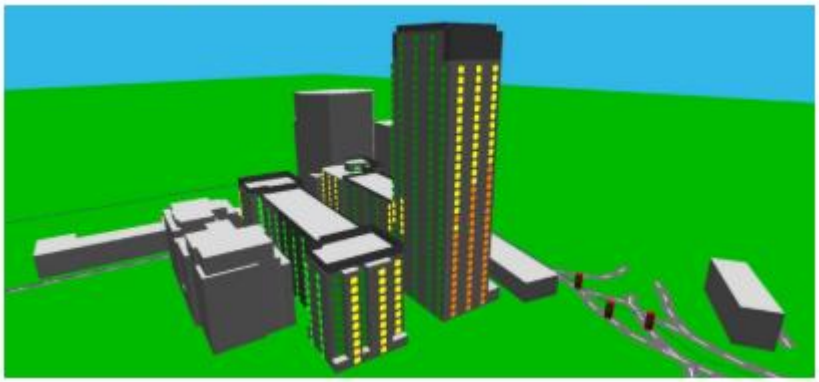


Figure 12 Balconies on West Elevation - Daytime Ambient Sound Levels ($L_{Aeq,16h}$)



Security constraints: Please confirm if any dwelling units have security constraints and have been modelled accordingly. The 10 ground-floor dwellings have been identified as having security constraints. Their windows will be fitted with security restrictors in line with Secured by Design, preventing them from being fully opened. In accordance with Approved Document O, their bedroom windows have been modelled as closed at night (23:00–07:00). Under these assumptions, all 10 dwellings meet the overheating criteria. Upper-floor dwellings have no security constraints.

Set out a retrofit plan for future and more extreme weather files, demonstrating how these measures can be installed, how they would reduce the overheating risk, what their lifecycle replacement will be, and who will be responsible for overheating risk.

A retrofit plan is set out in Section 10 of the Energy Report. It covers the 2050s and 2080s weather files and DSY2 and DSY3 and shows when each measure would be needed. Future measures include, solar control film, increased MVHR airflow, fans and, as a last resort, active cooling. Power supply and plant space are safeguarded now so these can be installed without major works. Lifecycle replacement periods are set out for each measure. The building management company / co-living operator will be responsible for managing overheating risk and for installing and maintaining these measures.

Confirm who will own the overheating risk when the building is occupied (not the residents).

Once the building is occupied, overheating risk will be owned by the building management company / freeholder for the residential block and by the co-living operator, for the co-living block. They will be responsible for monitoring, maintaining and replacing the overheating mitigation measures and for implementing the retrofit plan. Overheating risk will not be passed to residents.

This development should have a heatwave plan / building user guide to mitigate overheating risk for occupants.

A heatwave plan and building user guide will be prepared and given to all occupants before occupation. It will explain how to use the windows, shading, blinds and ventilation (including the MVHR summer bypass) to reduce overheating, and what to do during a heatwave. The building management company / co-living operator will be responsible for issuing and updating the guide, and for putting the heatwave plan into action, including checks on vulnerable occupants.



Meinhardt (UK) Ltd
10 Aldersgate Street
London
EC1A 4HJ
T: +44 (0) 20 7831 7969

www.meinhardt.co.uk