

		Our ref: HGY/2024/0701 Contact: Gareth Prosser Date: 28/11/2024
Town and Country Act 1990 (As amended)		
Location:	Frederick Morfil House, Firemens Flats, Bounds Green Road, Wood Green, London, N22 8DG	
Proposal:	Erection of two new residential dwellings in place of the existing, dilapidated Frederick Morfill House building. Houses are 2-storey with dormered roof spaces and are both 3-bedroom, 6 person homes; including associated landscaping works to rear gardens and new dedicated bin storage to the front (included bin storage for adjacent properties).	

Carbon Management Response 17/06/2023

In preparing this consultation response, we have reviewed:

- Energy Statement prepared by JAW Sustainability (dated 05/09/2023)
- Overheating Assessment / TM59 thermal comfort prepared by JAW Sustainability (dated 31/07/2023)
- Sustainability Statement prepared by JAW Sustainability (dated 04/09/2023)
- Relevant supporting documents.

Required missing information:

- SAP worksheet for all scenarios

1. Summary

The development achieves a reduction of 65% carbon dioxide emissions on site, which is supported in principle with reference to Policy SI2 and SP4. Overheating mitigation measures should be further implemented to eliminate the need for active cooling.

Some clarifications must be provided with regard to the Energy Strategy and Sustainability Strategy. SAP worksheets have not been submitted as part of the application for all scenarios and they must be provided. Planning conditions have been recommended, but the requests should be dealt with below prior to the determination of the application.

The development has been modelled with PHPP software (Passive House Planning Package), alongside the modelling with SAP (as reported in the sections above). PHPP software can model a more realistic prediction of the operational energy use on site than SAP.

The London Borough of Haringey require their buildings to be designed to be Passivhaus “Classic” standard. Haringey will decide at the end of RIBA stage 4 whether to proceed to formal certification on a project-by-project basis. Should technical feasibility or financial viability prevent Passivhaus ‘Classic’ being achieved, design teams will need to demonstrate why and, subject to Haringey’s approval, seek agreement on a relaxed set of key performance indicators, using the same methodology. The quality assurance process in this situation will be the self-certified AECB Standard which uses a similar methodology to Passivhaus.

The Preliminary PHPP assessments demonstrate that:

- The development requires a space heating demand of 26kWh/m²year, this fails to meet the PH requirement of maximum 15kWh/m²year. The proposed heat load is 13 W/m² which also exceeds the maximum allowance of 10 W/m² as required to achieve PH standard.
- The proposed total heating and cooling usage is 30 kWh/m²yr.

The Energy Statement has explained this is difficult for a terraced house to incorporate the passive measures which would generally allow a Passivhaus to operate, as such in line with Haringey's Energy and Carbon employer requirements, the development will be designed to meet AECB targets with a delivered heat and cooling energy target of 40 kWh/m²yr. This will be conditioned.

2. Energy – Overall

Policy SP4 of the Local Plan Strategic Policies, requires all new development to be zero carbon (i.e. a 100% improvement beyond Part L (2021)). The London Plan (2021) further confirms this in Policy SI2.

The overall predicted reduction in CO₂ emissions for the development shows an improvement of approximately 65% in carbon emissions, from the Baseline development model (which is Part L 2021 compliant). This represents an annual saving of approximately 1.8 tonnes of CO₂ from a baseline of 2.8 tCO₂/year. No information on carbon emissions reduction from Be Lean scenario has been provided.

<i>Residential / Non-residential</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	2.80		
Be Lean	TBC	TBC	TBC%
Be Clean	TBC	TBC	TBC%
Be Green	1.00	1.80	65%
Cumulative savings		1.80	%
Carbon shortfall to offset (tCO ₂)	1		
Carbon offset contribution	£95 x 30 years x 1 tCO ₂ /year = £2,850		

Action:

- Please submit the GLA's Carbon Emission Reporting Spreadsheet.
- Please submit SAP worksheets for the development for the Baseline, Be Lean and Be Green scenarios.

Energy Use Intensity / Space Heating Demand

Applications are required to report on the total Energy Use Intensity and Space Heating Demand, in line with the GLA Energy Assessment Guidance (June 2022). The Energy Strategy should follow the reporting template set out in Table 5 of the guidance, including what methodology has been used. EUI is a measure of the total energy consumed annually, but should exclude on-site renewable energy generation and energy use from electric vehicle charging.

	Proposed Development	GLA Benchmark
Building type	Residential	Residential
EUI	TBC kWh/m ² /year	Meets/Does not meet GLA benchmark of 35kWh/m ² /year
SHD	26 kWh/m ² /year (see comments below)	Meets/Does not meet GLA benchmark of 15 kWh/m ² /year
Methodology used	PHPP	

Actions:

- What is the calculated Energy Use Intensity (excluding renewable energy)? How does this perform against GLA benchmarks, i.e. at 35kWh/m²/year? Please submit the information in line with the GLA's reporting template.
- The Energy Statement has noted the heating demand is 26 kWh/m²/year calculated using PHPP methodology, but this information cannot be compared against the GLA benchmark. The EUI from GLA benchmark is expressed using gross internal area (GIA) and PHPP is

using treated floor area (TFA), the calculation methods for the floor area are different. For example, TFA does not include the area occupied by internal walls.

- Applicant to provide SHD in line with GLA Energy Assessment Guidance and reporting template.

Energy – Lean

There is no information given on the proposed saving of carbon emissions through improved energy efficiency standards in the key elements of the build. The development needs to achieve the minimum 10% reduction set in London Plan Policy SI2.

The following u-values, g-values and air tightness are proposed:

Floor u-value	0.10 W/m ² K (0.16 W/m ² K exposed floor to bike store)
External wall u-value	EWS 01 - 0.14 W/m ² K EWS 02 - 0.19 W/m ² K
Roof u-value	RFS 01 – 0.12 W/m ² K RFS 02 – 0.09 W/m ² K RFS 03 – 0.10 W/m ² K
Door u-value	1.0 W/m ² K
Window u-value	0.67 W/m ² K
G-value	0.52
Air permeability rate	0.6 m ³ /hm ² @ 50Pa
Ventilation strategy	Mechanical ventilation with heat recovery (86% efficiency; SFP of 0.99)
Thermal bridging	0.01 W/mK
Low energy lighting	LED lighting
Heating system Be Lean only	TBC
Thermal mass	Low/Medium/High (TBC)
Space heating requirement	TBC kWh/m ² /year
Fabric energy efficiency improvement	49.39%

London Plan Policy SI4 requires developments to minimise adverse impacts on the urban heat island, reduce the potential for overheating and reduce reliance on air conditioning systems. Through careful design, layout, orientation, materials and incorporation of green infrastructure, designs must reduce overheating in line with the Cooling Hierarchy.

Actions:

- Applicant to confirm proposed saving of carbon emissions through improved energy efficiency standards in the key elements of the build against the 10% Be Lean requirement.
- The glazing area on the west elevation of the ground floor is large, presumably to bring natural light into the deep floor plan. Applicant can consider reducing its size but potentially introducing a small rooflight to the ground floor roof above kitchen, there might be opportunities to reduce heat loss and to reduce overheating risks.
- The U-value for wall type EWS 02 is 0.19 W/m²K is high. Applicant to consider improving the thermal efficiency to achieve a lower U-value.
- 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.
- Applicant to confirm the use of low/medium/high thermal mass; higher thermal mass is better in regulating temperatures inside.
- Proposed thermal bridging is 0.01 W/mK is a very ambitious target and applicant needs to consider practically how to achieve this value. Applicant can try to model with a higher value at this stage but aim to achieve this target at detailing stage.

Energy – Clean

The applicant is not proposing any Be Clean measures. The site is not within reasonable distance of a proposed Decentralised Energy Network (DEN). A Combined Heat and Power (CHP) plant would not be appropriate for size of development.

Energy – Green

As part of the Be Green carbon reductions, all new developments must achieve a minimum reduction of 20% from on-site renewable energy generation to comply with Policy SP4.

The application has reviewed the installation of various renewable technologies. The report concludes that air source heat pumps (ASHPs) and solar photovoltaic (PV) panels are the most viable options to deliver the Be Green requirement. A total reduction of emissions in tCO₂ proposed under Be Green measures has not been provided.

The solar panels peak output would be 1.6 kWp. 8 panels would be mounted on the pitched roofs, at a 30° angle, facing North-east and another 8 panels mounted on flat roofs.

The individual air-to-water ASHP system(s) (min. SCOP@35 of 4.99; min. SCOP@55 of 3.45) will provide hot water and heating to the dwellings through underfloor heating for 100% of demand.

Actions:

- The Energy Statement has noted the output for PV panels is 1.6 kWp. This does not match the output if calculated using 16 PV panels based on a 400W specification as noted in the Energy statement. Applicant to clarify the amount of the solar panels peak output.
- Please provide the amount of renewable electricity per year generated from PV panels in kWh/year, reduction of carbon emissions in tCO₂/year, and the assumed inverter capacity.
- Please consider adding further PV panels on the front elevation.
- A living roof should be installed under the solar PV in the flat roof area, or if this is not feasible, the roof should be light coloured to reduce solar heat gains and to improve efficiency of the solar panels.
- Application should demonstrate how they might take a demand-side response to reducing energy use. Has battery storage for the solar PV system been considered, or justify why this is not proposed.

3. Carbon Offset Contribution

A carbon shortfall of 1 tCO₂/year remains. The remaining carbon emissions will need to be offset at £95/tCO₂ over 30 years.

4. Overheating

London Plan Policy SI4 requires developments to minimise adverse impacts on the urban heat island, reduce the potential for overheating and reduce reliance on air conditioning systems. Through careful design, layout, orientation, materials and incorporation of green infrastructure, designs must reduce overheating in line with the Cooling Hierarchy.

In accordance with the Energy Assessment Guidance, the applicant has undertaken a dynamic thermal modelling assessment in line with CIBSE TM59 with the London Weather Centre files. Whilst Design Summer Year (DSY) 1-3 under 2020s have been modelled, only the results of DSY1 have been presented. The scenarios in 2050 and 2080 have not been modelled. All 8 occupied rooms of the two residential units have been assessed for their overheating potential, which includes 6 bedrooms and 2 LKDs.

The applicant cannot ascertain if the opening of windows is restricted at night when the report was prepared, as the External Noise Assessment and Air Quality Assessment have not been completed. Only the criterion for homes predominantly mechanically ventilated has been used for assessment, but with two scenarios – windows open and closed during sleeping hours examined.

Results are listed in the table below, for A) windows opened and B) close during sleeping hours:

Domestic: CIBSE TM59	Predominantly naturally ventilated		Predominantly mechanically ventilated
	Criterion A (<3% hours)	Criterion B for bedrooms (<33 hours)	Number of habitable rooms pass (<3% hours)

DSY1 2020s Passive measures only	Not modelled	Not modelled	A) 2 out of 8 B) 0 out of 8
DSY1-3 2020s with mechanical cooling	Not modelled	Not modelled	A) 8 out of 8 B) 8 out of 8
DSY1 2050s	Not modelled		
DSY1 2080s	Not modelled		

The following measures have been proposed:

- Brise soleil on ground and first floor windows
- G-values of 0.52
- Openable windows, but constraints on openings are unknown
- MVHR
- Active cooling, if the windows need to remain closed at night

Results show that all rooms fail if windows are closed, so the applicant has proposed mechanical cooling. The cooling hierarchy has been followed in the design, though further measures should be implemented to eliminate the need of active cooling. The submitted overheating strategy is not considered acceptable.

Actions:

- The applicant should model the natural ventilation scenario using the predominantly naturally ventilated criteria, for DSY1, DSY2 and DSY3.
- Mitigation measures should be integrated to reduce the overheating risk for current and future weather files. Applicant should implement further measures as much as possible to eliminate the need of active cooling following the cooling hierarchy:
 - Applicant to confirm the opening areas for the windows.
 - The proposed g-value for the glazing is 0.52. It can be lowered particularly for the large glazing to the rear elevation on the ground floor.
 - Some external walls have a U-value of 0.19 W/m²K. Applicant can consider enhancing the insulation of external wall to achieve a lower U-value.
 - Increase the size of brise soleil to provide further shading.
 - Internal blinds cannot be used for modelling, but they can form part of the delivered strategy to reduce overheating risk for occupants (as long as it does not compromise any ventilation requirements).
 - Applicant to explore opportunities to provide cross ventilation.
 - Consider adding an openable rooflight above staircase to create stack effect, or ceiling fans, or acoustic/air pollution mitigation.
 - The MVHR system should have summer bypass function, please confirm.
- Please specify the external shading design.
- 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.
- This development should have a heatwave plan / building user guide to mitigate overheating risk for occupants.
- If active cooling is unavoidable, specify the active cooling demand (space cooling, not energy used) on an area-weighted average in MJ/m² and MY/year? Please also confirm the efficiency of the equipment, whether the air is sourced from the coolest point / any renewable sources.

5. Overall Sustainability

Policy DM21 of the Development Management Document requires developments to demonstrate sustainable design, layout and construction techniques. The Sustainability section in the report sets out the proposed measures to improve the sustainability of the scheme, including transport, materials and waste, water consumption, flood risk and drainage, climate resilience, energy and CO₂ emissions and landscape design.

Action:

- The existing house is derelict and is proposed to be demolished. The Sustainability Report has highlighted the construction site waste will be managed following the waste hierarchy; and at least 85% waste will be recycled using an external waste contractor. But prior to this, applicant should prioritise reuse any demolition materials and to set out how any demolition materials can be reused.
- A target (%) for responsible sourced, low-impact materials used during construction.
- Set out how water demand will be reduced, e.g. rainwater harvesting. Please incorporate water butt where possible.
- Set out how surface water runoff will be reduced, that it will be separated from wastewater and not discharged into the sewer.

Sustainability – Urban Greening and Biodiversity

All development sites must incorporate urban greening within their fundamental design, in line with London Plan Policy G5. London Plan Policy G6 and Local Plan Policy DM21 require proposals to manage impacts on biodiversity and aim to secure a biodiversity net gain. Additional greening should be provided through high-quality, durable measures that contribute to London's biodiversity and mitigate the urban heat island impact. This should include tree planting, shrubs, hedges, living roofs, and urban food growing. Specifically, living roofs and walls are encouraged in the London Plan. Amongst other benefits, these will increase biodiversity and reduce surface water runoff.

Action:

- The development has proposed biodiverse planting to borders in rear garden, the applicant is encouraged to consider further enhancement measures (e.g. green infrastructure, bird boxes, bat boxes etc to connect to the green spaces around the site, living roofs, living walls, etc.)

6. Conclusion

Overall, it is considered that the application **could be supported** in principle from a carbon management and sustainability point of view subject to the required demonstration of implementation of further overheating heating measures to eliminate the need of active cooling.

Planning Obligations Heads of Terms

- Payment of carbon offset contribution prior to the above ground construction works at £2,850, based on £2,850 per tonne of carbon emissions.

Planning Conditions

To be secured with amendments expected to the wording below once the revised information has been submitted.

Energy Strategy

The development hereby approved shall be constructed in accordance with the Energy Statement by JAW Sustainability (dated 05/09/2023) delivering a minimum 65% improvement on carbon emissions over 2021 Building Regulations Part L, with high fabric efficiencies, air source heat pumps (ASHPs) and a minimum 1.6 kWp solar photovoltaic (PV) array.

(a) Prior to above ground construction, details of the Energy Strategy shall be submitted to and approved by the Local Planning Authority. This must include:

- *Confirmation of how this development will meet the zero-carbon policy requirement in line with the Energy Hierarchy;*
- *Confirmation of the necessary fabric efficiencies to achieve a minimum 10% reduction, including details to reduce thermal bridging, low air permeability and details of triple glazing;*
- *Location, specification and efficiency of the proposed ASHPs (Coefficient of Performance, Seasonal Coefficient of Performance, and the Seasonal Performance Factor), with plans showing the ASHP pipework and noise and visual mitigation measures;*
- *Specification and efficiency of the proposed Mechanical Ventilation and Heat Recovery (MVHR), with plans showing the rigid MVHR ducting and location of the unit;*

- Details of the PV, demonstrating the roof area has been maximised, with the following details: a roof plan; the number, angle, orientation, type, and efficiency level of the PVs; how overheating of the panels will be minimised; their peak output (kWp)
- Specification of any additional equipment installed to reduce carbon emissions.

The development shall be carried out strictly in accordance with the details so approved prior to first operation and shall be maintained and retained for the lifetime of the development. The solar PV array shall be installed with monitoring equipment prior to completion and shall be maintained at least annually thereafter.

(b) The solar PV arrays and air source heat pump must be installed and brought into use prior to first occupation of the relevant block. Six months following the first occupation of that block, evidence that the solar PV arrays have been installed correctly and are operational shall be submitted to and approved by the Local Planning Authority, including photographs of the solar array, installer confirmation, an energy generation statement for the period that the solar PV array has been installed, and a Microgeneration Certification Scheme certificate.

Reason: To ensure the development reduces its impact on climate change by reducing carbon emissions on site in compliance with the Energy Hierarchy, and in line with London Plan (2021) Policy SI2, and Local Plan (2017) Policies SP4 and DM22.

Overheating

Prior to above ground construction, a statement shall be submitted to and approved by the Local Planning Authority to demonstrate how the overheating risk has been minimised and mitigated on site in line with the London Plan Cooling Hierarchy to avoid the need for active cooling. Details and specification of the mitigation measures shall be provided in support of this statement.

Reason: In the interest of reducing the impacts of climate change and mitigation of overheating risk, in accordance with London Plan (2021) Policy SI4, and Local Plan (2017) Policies SP4 and DM21.

Water butts

No dwelling shall be occupied until details of the location of a water butt of at least 120L internal capacity to be installed to intercept rainwater draining from the roof of each dwelling has been submitted to and approved in writing by the Local Planning Authority and subsequently provided at each dwelling. The approved facilities shall be retained.

Reason: To reduce the risk of flooding and demand for water, increase the level of sustainability of the development and in line with Haringey Local Plan Policy SP5, DM21, DM24 and DM25.

Sustainability

Prior to above ground commencement of development, details of the sustainability strategy shall be submitted to and approved by the Local Planning Authority. This shall include specifications, plans and sections that demonstrate sustainable design, layout, construction techniques and proposed measures to improve the sustainability of the scheme including but not limited to sustainable transport, health and wellbeing, reduction of material use and waste, water consumption, and flood risk, drainage improvements, and biodiversity enhancement.

The report shall include:

- Urban greening and biodiversity enhancement measures;
- A target percentage for responsibly sourced, low-impact materials used during construction;
- Justification for the demolition of the existing buildings in terms of its impact on the whole life carbon of the development and the circular economy principles;
- Details on how any demolition materials can be reused;
- Details on how surface water runoff will be reduced and overall sustainable drainage strategy;

Reason: To ensure the development provides the maximum provision towards increasing the level of sustainability in line with London Plan (2021) policies G6, S17 and Haringey Local Plan Policy SP4, DM21, DM25, and DM29.

Passivhaus / AECB

Detailed wording to be confirmed.

Carbon Management Response 28/11/2023

In preparing this consultation response, we have reviewed:

- Energy Statement rev 2 prepared by JAW Sustainability (dated 01/08/2024)
- Sustainability Statement prepared by JAW Sustainability (dated 01/08/2024)
- GLA Carbon Emissions Reporting Spreadsheet
- SAP worksheets for Be Lean and Be Green stages for both units

1. Summary

The development achieves a reduction of 71% carbon dioxide emissions on site, which is supported in principle with reference to Policy SI2 and SP4. SAP worksheets for all scenarios and GLA carbon emissions reporting spreadsheet have been provided. However no further information has been submitted to address our comments with regard to overheating, the required response will be conditioned. Planning conditions have been recommended to secure the benefits of the scheme.

2. Energy – Overall

The overall predicted reduction in CO₂ emissions for the development shows an improvement of approximately 71% in carbon emissions, from the Baseline development model (which is Part L 2021 compliant). This represents an annual saving of approximately 2.0 tonnes of CO₂ from a baseline of 2.8 tCO₂/year. The overall percentage saving has improved slightly from the previous Energy Statement which indicated an overall saving of 65%.

<i>Residential</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	2.80		
Be Lean	0.7	2.1	76%
Be Clean	0.7	0.0	0%
Be Green	0.8	-0.1	-5%
Cumulative savings		2.0	71%
Carbon shortfall to offset (tCO₂)	1		
Carbon offset contribution	£95 x 30 years x 1 tCO ₂ /year = £2,850		

Actions:

- The heating system under Be Lean scenario has not been modelled correctly, it should be modelled with gas boiler following the GLA energy assessment guidance 2022. This will result in lower percentage saving under Be Lean scenario but higher saving under Be Green scenario, but the overall percentage saving should not be affected in principle. Applicant to remodel accordingly, this will be conditioned.
- Be Green reduction should achieve a minimum 20% from on-site renewable energy generation. Currently the proposed development at Be Green stage has shown an increase in emission and therefore it fails to achieve this requirement. However, assuming the Be Green saving will increase once the applicant has corrected their model (see point above), and applicant needs to demonstrate the minimum 20% has been achieved. This will be conditioned.

Energy Use Intensity / Space Heating Demand

No further information on EUI has been provided. And there is no change to the proposed SHD value.

Energy – Lean

There is no change to the proposed building fabric.

Energy – Green

Applicant has clarified the solar panels peak output would be 3.2 kWp, instead of 1.6 kWp as previously noted.

Actions:

- There are 16 PV panels in total (8 panels on each unit) and each has an output of 400W. The total solar panels peak output should be 6.4kWp, applicant to confirm.

3. Carbon Offset Contribution

A carbon shortfall of 1 tCO₂/year remains. The remaining carbon emissions will need to be offset at £95/tCO₂ over 30 years.

4. Overheating

The applicant has not provided further information to address our comments. The revised overheating strategy will be conditioned to demonstrate the cooling demand has been reduced or removed totally through the integration of further passive measures.

5. Overall Sustainability

A revised Sustainability Statement has been provided, but it is unclear if there are any proposed changes to the sustainability measures.

6. Conclusion

Overall, it is considered that the application **could be supported** in principle from a carbon management and sustainability point of view subject to the recommended planning conditions.

Planning Obligations Heads of Terms

- Payment of carbon offset contribution prior to the above ground construction works at £2,850, based on £2,850 per tonne of carbon emissions.

Planning Conditions

To be secured with amendments expected to the wording below once the revised information has been submitted.

Energy Strategy

The development hereby approved shall be constructed in accordance with the Energy Statement rev 2 by JAW Sustainability (dated 01/08/2024) delivering a minimum 71% improvement on carbon emissions over 2021 Building Regulations Part L, with high fabric efficiencies, air source heat pumps (ASHPs) and a minimum 6.4 kWp solar photovoltaic (PV) array.

(a) Prior to above ground construction, details of the Energy Strategy shall be submitted to and approved by the Local Planning Authority. This must include:

- *Confirmation of how this development will meet the zero-carbon policy requirement in line with the Energy Hierarchy;*
- *Confirmation of the necessary fabric efficiencies to achieve a minimum 10% reduction, including details to reduce thermal bridging, low air permeability and details of triple glazing;*
- *Location, specification and efficiency of the proposed ASHPs (Coefficient of Performance, Seasonal Coefficient of Performance, and the Seasonal Performance Factor), with plans showing the ASHP pipework and noise and visual mitigation measures;*
- *Specification and efficiency of the proposed Mechanical Ventilation and Heat Recovery (MVHR), with plans showing the rigid MVHR ducting and location of the unit;*

- Details of the PV, demonstrating the roof area has been maximised, with the following details: a roof plan; the number, angle, orientation, type, and efficiency level of the PVs; how overheating of the panels will be minimised; their peak output (kWp)
- Specification of any additional equipment installed to reduce carbon emissions.

The development shall be carried out strictly in accordance with the details so approved prior to first operation and shall be maintained and retained for the lifetime of the development. The solar PV array shall be installed with monitoring equipment prior to completion and shall be maintained at least annually thereafter.

(b) The solar PV arrays and air source heat pump must be installed and brought into use prior to first occupation of the relevant block. Six months following the first occupation of that block, evidence that the solar PV arrays have been installed correctly and are operational shall be submitted to and approved by the Local Planning Authority, including photographs of the solar array, installer confirmation, an energy generation statement for the period that the solar PV array has been installed, and a Microgeneration Certification Scheme certificate.

Reason: To ensure the development reduces its impact on climate change by reducing carbon emissions on site in compliance with the Energy Hierarchy, and in line with London Plan (2021) Policy SI2, and Local Plan (2017) Policies SP4 and DM22.

Overheating

Prior to above ground construction, a statement shall be submitted to and approved by the Local Planning Authority to demonstrate the active cooling demand has been reduced or removed totally, how the overheating risk has been minimised and mitigated on site in line with the London Plan Cooling Hierarchy. Details and specification of the mitigation measures, confirmation if there are acoustic and air quality constraints to window opening shall be provided in support of this statement.

Reason: In the interest of reducing the impacts of climate change and mitigation of overheating risk, in accordance with London Plan (2021) Policy SI4, and Local Plan (2017) Policies SP4 and DM21.

Water butts

No dwelling shall be occupied until details of the location of a water butt of at least 120L internal capacity to be installed to intercept rainwater draining from the roof of each dwelling has been submitted to and approved in writing by the Local Planning Authority and subsequently provided at each dwelling. The approved facilities shall be retained.

Reason: To reduce the risk of flooding and demand for water, increase the level of sustainability of the development and in line with Haringey Local Plan Policy SP5, DM21, DM24 and DM25.

Sustainability

Prior to above ground commencement of development, details of the sustainability strategy shall be submitted to and approved by the Local Planning Authority. This shall include specifications, plans and sections that demonstrate sustainable design, layout, construction techniques and proposed measures to improve the sustainability of the scheme including but not limited to sustainable transport, health and wellbeing, reduction of material use and waste, water consumption, and flood risk, drainage improvements, and biodiversity enhancement.

The report shall include:

- Urban greening and biodiversity enhancement measures;
- A target percentage for responsibly sourced, low-impact materials used during construction;
- Justification for the demolition of the existing buildings in terms of its impact on the whole life carbon of the development and the circular economy principles;
- Details on how any demolition materials can be reused;
- Details on how surface water runoff will be reduced and overall sustainable drainage strategy;

Reason: To ensure the development provides the maximum provision towards increasing the level of sustainability in line with London Plan (2021) policies G6, SI7 and Haringey Local Plan Policy SP4, DM21, DM25, and DM29.

Passivhaus / AECB

The development hereby approved shall be constructed in accordance with Energy Statement rev 2 by JAW Sustainability (dated 01/08/2024). The development will adhere to the passive house principles aiming to achieve a space heating demand below 15kWh/m²year and also below a heat load of 10 W/m². The development should demonstrate it has achieved to meet AECB targets with a delivered heat and cooling energy target of 40 kWh/m²yr.

(a) Prior to above ground construction, an Updated Energy Strategy shall be submitted to and approved by the Local Planning Authority. This must include:

- Design Stage calculations of carbon reduction in line with the Energy Hierarchy and the shortfall in emissions with the calculation of the carbon offset contribution due and a copy of the Passive House Planning Package spreadsheet;*
- Confirmation of the proposed u-values and g-value of building elements, and air tightness levels (0.6 ACH) in line with passive house principles;*
- Calculation of thermal bridges in PHPP and show how thermal bridging has been reduced for a set of typical junction details;*

(b) Prior to the occupation of development, confirmation that the development has been built in accordance with the details as approved shall be submitted and approved by the LPA:

- Evidence to demonstrate the approved air tightness levels have been achieved with an air tightness test;*
- Confirmation of the achieved Energy Use Intensity and space heating/cooling demand;*

(d) Within one year of first occupation, evidence shall be submitted to and approved by the Local Planning Authority to demonstrate how the development has performed against the approved Energy Strategy and to demonstrate how occupants have been taken through training on how to use their homes and the technology correctly and in the most energy efficient way and that issues have been dealt with. This should include energy use data for the first year and a brief statement of occupant involvement to evidence this training and engagement.

The final agreed energy strategy shall be installed and operation prior to the first occupation of the development. The development shall be carried out strictly in accordance with the details so approved and shall be operated and maintained as such thereafter.

Reason: To ensure the development reduces its impact on climate change by reducing carbon emissions on site in compliance with the Energy Hierarchy, and in line with London Plan (2021) Policy SI2, and Local Plan (2017) Policies SP4 and DM22.