London Borough of Camden

Energy Efficiency and Renewable Energy and Sustainability Plan

S106 Pro-forma v.1 – Part A

(To be submitted prior to implementation: planningobligations@camden.gov.uk)

Scheme address:	1 Triton Square
Planning Reference:	2016/6069/P
Related Planning References:	2017/6573/P
Scheme Description:	Erection of 3 storey extension at roof (6th floor) level of 1 Triton Square to provide additional office floorspace (Class B1) with relocated plant above, creation of roof terraces at 6th floor level, reconfiguration of ground floor including infill of Triton Square Mall including flexible retail (A1, A3 and A4), affordable workspace (B1) and provision of gym (D2); erection of part 6, part 9 storeys residential building to provide 22 flats (10 x 3-bed, 11 x 2-bed and 1 x 1-bed) (Class C3) following demolition of St Anne's Church (Class D1); hard and soft landscaping including garden at junction of Longford Street and Triton Square; reconfigured vehicle and pedestrian accesses; and other ancillary works.
Person/s undertaking review on behalf of applicant *(include organisation name and registration number)***:**	Mel Allwood, Arup Sustainability Hans Chao, Arup Energy Team Ove Arup & Partners Ltd. Registration No: 1312453

This form must be completed by an appropriately qualified independent Energy and Sustainability Consultant, undertaking the review of the Energy Efficiency and Renewable Energy and Sustainability Plans, as required by the S106 Legal Agreement, on behalf of the applicant. Please complete the form in full. If you have any questions please contact planningobligations@camden.gov.uk

S106 CLAUSE DETAILS

Please summarise how the applicant is meeting their planning obligations relating to energy / sustainability as outlined within the S106 agreement (please add/ remove rows as applicable).

S106 clause no.	S106 clause wording	Summary of performance
4.7.1 & 4.7.2	On or prior to the Implementation Date to submit to the Council for approval the Energy Efficiency and Renewable Energy Plan. Not to Implement nor permit Implementation until such time as the Council has approved the Energy Efficiency and Renewable Energy Plan as demonstrated by written notice to that effect.	Refer to the requirements set out under S106 definition 2.31 '**The Energy Efficiency and Renewable Energy Plan**', as detailed below.
2.31 (i)	incorporation of the measures set out in the submission documents entitled "Energy Statement" dated October 2016 by Arup Associates, "Energy Strategy Response\RevA" by Stephen Kearney and David Pearce (Arup Associates) dated 10 January 2017 and "Energy and Sustainability Consultation Response_RevC" by Arup dated 21 April 2017 (together "the Energy Statement") to achieve reductions in CO2 emissions beyond the Part L 2013 baseline of 20.4% (to include 7.1% through renewables) in new-build parts of the Commercial Element, 19.6% in relation to refurbished parts of the Commercial Element and 51.9% (to include 41.6% through renewables) in relation to the Residential Element;	**Number 1 Triton Square Refurbishment** The refurbishment of 1 Triton Square, forming part of the development, achieves 16.2% better than Part L 2B 2013 and a saving of 143 tonnes of C02 per annum when compared against the notional building. In line with GLA guidance, the refurbishment part of the development seeks to meet and where possible exceed Part L 2B 2013, which has therefore been achieved. **Number 1 Triton Square New Extension** The new extension for 1 Triton Square, forming part of the development, achieves 33.8% better than Part L 2A 2013 and a saving of 84 tonnes of C02 per annum when compared against the notional building. **St. Anne's** The new residential element of works in St. Annes shall achieve an increase in performance of 55.1% over Part L2A 2013, with a saving of 15.9 tonnes of CO2 per annum. Please refer to the Energy Efficiency and Renewable Energy Plan issued for further information.
2.31 (ii)	details (including detailed drawings, any necessary surveys and system specifications) of how the Owner will reduce the Development's carbon emissions from a combination of complementary low and zero carbon renewable energy technologies located on the Property ensuring the Owner will target a reduction of at least 7.1% through renewable technologies in relation to the Commercial Element and a 41.6% reduction through renewable technologies in relation to the Residential Element in carbon emissions in relation to the Property;	**Solar Photovoltaic Panels** In order to maximise the potential PV installation for Triton square a raised metal PV deck has been incorporated which covers all equipment on the roof level. This metal deck shall accommodate the installation of 437m² of PV panels, with each panel tilted at an optimum energy generation angle of 15°. They have been spaced to prevent over shadowing from one row of PVs to the other and to allow safe access for maintenance personnel in order to aid cleaning. The east

		section of the roof has a protected viewing corridor and due to planning restrictions it is not possible to install any PV in this location. The roof of Triton square shall accommodate both Number 1 Triton Square and St. Anne's renewable energy requirement. It is anticipated that the total installation of these high efficiency PV cells shall generate an estimated 67.79 MWh/annum of electrical energy. This will result in a total contribution for the development (Number 1 Triton Square and St. Anne's) of 12.7%. Please refer to page 58 and Appendix C of the Energy Efficiency and Renewable Energy Plan issued for further information and PV split between the two projects. **Number 1 Triton Square Heating System** The Low Temperature Hot Water (LTHW) system shall be provided by multiple high efficiency low NOx condensing gas fired boilers, located in the basement boiler room. 4No. 673 kW vertically stacked boiler arrays, each consisting of 3no. independent boiler modules with local shunt pumps. This shall allow the greatest turn down in duty to 20% per module, which relates to an overall heating system turn down ratio of ~2%. The boiler plant shall operate in conjunction with the heat recovery chiller system for domestic hot water and LTHW production to improve building energy performance. The chiller with a heat recovery circuit shall generate condenser water at 65oC. This recovered waste heat shall be pumped from the chiller plant room to the boiler plant room via duty /standby pump set, where it will be circulated through the LTHW return pipework to the main LTHW header which in turn is connected to the boilers. Please refer to page 38 and Appendix C of the Energy Efficiency and Renewable Energy Plan issued for further information.
2.31 (iii)	separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings;	**Number 1 Triton Square** **Building Management System And Energy Monitoring** A high quality, site-wide automatic controls/building management system shall be used to increase operational efficiency of the building. Metering and sub-metering shall be provided within an Energy management System (EMS) in accordance with the targets set by the British Land Metering Specification, the BREEAM assessment, and in accordance with the CIBSE document TM39.

		Detailed information relating to Number 1 Triton Square BMS design can be viewed within Appendix C. A specialist EMS Contractor shall provide and install a comprehensive digital, network based EMS to provide all building energy metering to be carried out from a single system. This system shall be stand alone and is not part of the BMS system. The EMS system shall comprise everything necessary to fulfil the functions described in Arup specification, including; - all sub-meters, - current transformers, - temperature and flow sensors, - integrators and interfacing devices, - network components, - wiring and head-end hardware, - software and off-site processing arrangements. On completion the EMS shall be tested and validated, commissioned and set to work, and the Building Management staff trained in its use and full record information placed in the O&M manuals and logbook for the building. The EMS shall collect data from energy meters within the building. These shall include but not be limited to: · Fiscal utility (gas, water, electricity) meters (via customer access terminals[CAT]); · Fuel meters including diesel; · Electricity meters – energy and multi-function meters; · Thermal meters; · Water meters. The data collected by the EMS will be used to analyse consumption, provide information for use by the management staff controlling the building for energy performance, and to provide consumption data for the production of Occupier energy bills. It will also be used to inform the environmental working groups and to provide information for inclusion in British Land sustainability reports. Please refer to page 38 and Appendix C of the Energy Efficiency and Renewable Energy Plan issued for further information.
2.31 (iv)	a building management system being an electronic system to monitor the Development's heating cooling and the hours of use of plant;	See comment above for Number 1 Trtion Square. **St. Anne's** The Contractor shall employ a Controls Specialist to design, supply, install, connect, test, commission and set to work a Trend -based BMS system for control and monitor-ing of all normally running landlord's plant, and to collect alarm and status signals from all other plant capable of providing a signal.

		The BMS system shall comprise a remote central supervisor to be positioned in the Ground Floor Mechanical Plant room. The BMS shall include an intuitive graphic user interface to permit operatives to set performance parameters and monitor the status of plant. The BMS shall include provision for a facility for remotely interrogating the status of plant via the internet, for changing/overriding set points via the internet, and for re-viewing and downloading energy consumption data. Except where noted (in SAC MPH particular Specification Rev T1 contained within Appendix E of the Energy Efficiency and Renewable Energy Plan), mechanical plant shall normally run under the dictates of local control systems. The BMS shall interface as required with all packaged controls for enable, fault and energy monitoring and adjustment.
2.31 (v)	measures to enable future connection to a local energy network at the boundary of the Property including: (a) safeguarded space for a future heat exchanger; (b) provisions made in the building fabric and/or design (such as soft-points in the building plant room walls) to allow pipes to be routed through from the outside to a later date; (c) the provision of domestic hot water isolation valves to facilitate the connection of an interfacing heat exchanger; (d) provision for external buried pipework routes to be safeguarded to a nearby road or similar where connection to the district heating network would be made.	**Number 1 Triton Square** **District Heating Entry Point To Building** Page 54 and Appendix C of the Energy Efficiency and Renewable Energy Plan identifies the pipework distribution route which has been safe guarded in order to allow any possible future district heating pipework to connect from street level into Tritons main LTHW and CHW plant rooms located in the basement. No pipework shall be installed as part of the base build. As this is an existing structure, “soft spots” have not been provided. Future incoming pipework from the district heating network can be accommodated. Holes for pipes shall be core drilled through the external sheet piling and the concrete retaining wall as illustrated in figure 9.6 of the Energy Efficiency and Renewable Energy Plan. A corridor has been incorporated into the basement design in order to allow the installation and distribution of this pipework to the boiler plant room and chiller plant room (figure 9.7 of the Energy Efficiency and Renewable Energy Plan). **St. Anne’s** **District Heating Entry Point To Building** As illustrated on page 72 and Appendix E of the Energy Efficiency and Renewable Energy Plan issued for further information a capped pipework connection has been made available within the Ground Floor Mechanical Plant Room for future connection to the district heating network.
2.31 (vi)	include a pre-Implementation design-stage review by an appropriately qualified and recognised independent professional in respect of the Property including Full Design stage SAP (for the residential element of the Development) and NCM (for the non-residential element of the Development) calculations certifying that the measures	**Number 1 Triton Square** Letter included as part of Energy Plan submission **St. Anne’s** Letter included as part of Energy Plan submission

	incorporated in the Energy Efficiency and Renewable Energy Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on the reduction of carbon emissions contained within its Development Plan;	
2.31 (vii)	measures to secure a post-construction review of the Development by an appropriately qualified and recognised independent professional in respect of the Property (including but not limited to photographs, installation contracts SAP (for the residential element of the Development) and NCM (for the non-residential element of the Development) certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation; and	Letters of Intent have been prepared, signalling the intent to appoint Ove Arup and Eight Associates to carry out a post-construction review of 1 Triton Square and St Anne's respectively, to certify that the measures incorporated in the Energy Efficiency and Renewable Energy Plan have been achieved in the Development and will be maintained in the Development's future management and occupation.
2.31 (viii)	identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time	The communication of information to the Council will be through the appointed town planning consultant, DP9. This is as per all previous correspondence between the project team and the Council. DP9 will be the point of contact for the Council to request any further reviews or updates as required.
4.15.1 & 4.15.2	On or prior to the Implementation Date to submit to the Council for approval the Sustainability Plan. Not to Implement nor permit Implementation until the Sustainability Plan has been approved by the Council as demonstrated by written notice to that effect.	Refer to the requirements set out under S106 definition 2.72 '**The Sustainability Plan**', as detailed below.
2.72 (i)	in respect of the Residential Element, to achieve the targets set out in the submission document entitled "Sustainability Statement" dated October 2016 by Arup and Eight Associates and "Energy and Sustainability Consultation Response_RevC" by Arup dated 21 April 2017 and sustainable design measures and climate change adaptation measures in line with policies contained in the Council's Core Strategy policy CS13 (Tackling climate change through promoting higher environmental standards) and Development Policy DP22 (Sustainable design and construction);	St Anne's residential development targets best practice in regards sustainable design and construction principles. A Home Quality Mark assessment is being undertaken and targets a Level 3 rating at the interim design stage. In accordance with the targeted HQM criteria and in line with the planning submission document: 'Sustainability Statement 'dated October 2016 and 'Energy and sustainability consultation response_RevC' are addressed in Appendix C of the Sustainability Plan.
2.72 (ii)	achieve a maximum internal water use of 105 litres/person/day, allowing 5 litres/person/day for external water use;	Design specification does not exceed 105 litres per person per day as per Appendix C. **Number 1 Triton Square** Full credits are being targeted under the BREEAM Assessment water efficient fittings credits. **St. Anne's**

		Full credits (8) are being targeted under the Home Quality Mark Assessment water efficient fittings credit issue.
2.72 (iii)	in respect of the Commercial Element, achieve the targets set out in the submission document entitled "Sustainability Statement" dated October 2016 by Arup and Eight Associates and "Energy and Sustainability Consultation Response_RevC" by Arup dated 21 April 2017;	Targets set out for the Commercial Element are addressed in sections 4.3 and 4.4 of the Sustainability Plan.
2.72 (iv)	include a design stage Building Research Establishment Environmental Assessment Method (BREEAM) review report completed by a licensed BREEAM assessor in respect of the Property with a target of achieving at least a "Excellent" and attaining at least 71% of the credits in the "Energy" category and at least 78% in the "Water" category and at least 69% of the credits in the "Materials" category;	**Number 1 Triton Square** Design stage BREEAM review has been included in the Sustainability Plan Appendix A. The review confirms that the project is on track to achieving a rating of "Excellent" and attaining required credits as follows: ➢ 75% of Energy credits ➢ 88% of Water credits ➢ 69% of Materials credits
2.72 (v)	include a pre-Implementation review by an appropriately qualified recognised and independent professional in respect of the Property certifying that the measures incorporated in the Sustainability Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan;	Included as Appendix D of the Sustainability Plan.
2.72 (vi)	details of maintenance and management relative to sustainability measures included in the Sustainability Plan;	Included in Section 5.1 and Appendix C of the Sustainability Plan.
2.72 (vii)	measures to secure a post construction review of the Development by an appropriately qualified recognised and independent professional in respect of the Property (including a written report, photographs and installation contracts) certifying that the measures incorporated in the Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation; and	Letters of Intent have been prepared, signalling the intent to appoint Ove Arup and Eight Associates to carry out a post-construction review of 1 Triton Square and St Anne's respectively, to certify that the measures incorporated in the Sustainability Plan have been achieved in the Development and will be maintained in the Development's future management and occupation.
2.72 (viii)	identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time	The communication of information to the Council will be through the appointed town planning consultant, DP9. This is as per all previous correspondence between the project team and the Council. DP9 will be the point of contact for the Council to request any further reviews or updates as required.

BUILDING SPECIFICATION TARGETS

Energy and Sustainability Statement key targets:

Please outline in the table below the key targets from the Energy and Sustainability Statements submitted at Full Planning stage, and summarise how the detailed design specification compares. Add or delete rows as necessary.

Please clearly outline any reasons for changes to the approved building specification.

	Full Planning: energy and sustainability statement targets	**Detailed Design: performance against targets**
Carbon reduction targets	Please refer to Energy Hierarchy section below	Please refer to Energy Hierarchy section below
Building fabric u-values and air permeability	**Number 1 Triton Square Air Permeability** •Refurbished element of the building is targeting 5m³/(h.m²) @ 50Pa. •The new extension is targeting 3 m³/(h.m²) @ 50Pa **St. Anne's U-values** Please refer to page 70 of the Energy Efficiency and Renewable Energy Plan issued for further information. **St. Anne's Air Permeability** Targeting 3 m³/(h.m²) @ 50Pa	**Number 1 Triton Square U-values** Please refer to page 34 / 35 and Appendix D of the Energy Efficiency and Renewable Energy Plan issued for further information. **Number 1 Triton Square Air Permeability** •Refurbished element of the building is targeting 5m³/(h.m²) @ 50Pa. •The new extension is targeting 3 m³/(h.m²) @ 50Pa. **St. Anne's U-values** Please refer to page 70 of the Energy Efficiency and Renewable Energy Plan issued for further information. **St. Anne's Air Permeability** Targeting 3 m³/(h.m²) @ 50Pa
Low carbon technologies	**Number 1 Triton Square** Heat recovery chiller	**Number 1 Triton Square** Heat recovery chiller
Renewable energy	**Number 1 Triton Square** PV **St. Anne's** PV Combined total = ~11.4% carbon savings from clean technology. Please refer to Energy Hierarchy section below	**Number 1 Triton Square** PV **St. Anne's** PV Please refer to 2.31 (ii) of this pro-forma for further information Combined total = ~12.7% carbon savings from clean technology. Please refer to Energy Hierarchy section below
Decentralised energy network connection	Not available	Not available
Metering, monitoring and management	A high quality, site-wide automatic controls/building	**Number 1 Triton Square** Water and Energy sub-metering has been incorporated into specification in line with

	management system shall be used to increase operational efficiency of the building. Metering and sub-metering shall be provided in accordance with the targets set by British Land Energy Management Specification, the BREEAM assessment, and in accordance with the CIBSE document TM39.	BREEAM requirements as per Appendix A of the Sustainability Plan. **St. Anne's** High quality, site-wide automatic controls/building management system will be used to increase operational efficiency of the building. In accordance with British Land's management specification residential units will have metering for major consuming uses whilst communal areas will be metered for post construction monitoring. Residents will be provided with smart metering systems to monitor electricity and primary heating consumption as well as internal temperature levels. Information on the use and management of these systems will be provided within the residential home care information pack as part of the aftercare strategy. Seasonal commissioning of building services will be undertaken. A Post Occupancy Evaluation will be carried out by an independent party to collect occupant feedback between 12 and 18 months after building occupation as part of British Land's aftercare strategy and HQM assessment.
Code for Sustainable Homes Rating	N/A	N/A
BREEAM rating	BREEAM 'Excellent' rating	BREEAM NC 2014 requirements have been implemented into design specification in line with Section 4.2 the Sustainability Plan. Please see Appendix A of that report for detailed requirements of targeted credits
Materials, sourcing and waste	**Number 1 Triton Square** In respect to new materials, the proposed development will meet performance requirements in line with the targeted BREEAM credits and targets set out in the British Land Sustainability Brief. The materials specification and products considered for the proposed development will target, as appropriate, the following characteristics: • 100% of timber to be certified under FSC; • Timber marked as 'Grown in Britain'; • Materials to be certified to BES 6001 'Very Good' or 'Excellent; • the Principal Contractor will be required to adopt site waste management practices throughout the construction phase.	**Number 1 Triton Square** Material requirements specific to content and sourcing have been embedded into specifications. Procurement workshops have been held with Principle contractor to ensure compliance. Further information on Contractor approach to sustainable procurement is detailed in contractor Sustainability Plan provided in Appendix B of the Sustainability Plan. **St. Anne's** Credits for Responsible sourcing of construction materials (21/31) Environmental Impact of Construction Products (9/31), Life Cycle Costing of Construction Products (9/18) and Durability of Construction Products (7/10) are being targeted under the HQM assessment. As part of the HQM assessment the scheme will ensure 90% of construction waste (by tonnage) and 85% of demolition waste (by tonnage) will be diverted from landfill whilst 85% of excavation waste will be diverted from landfill. A

	St. Anne's Materials would be selected with a view of maximising the specifications rated A+ or A under the BRE Green Guide to Specification, wherever technically feasible. A site waste management plan will be implemented, targeting zero waste to landfill. A pre-demolition waste audit would be undertaken for St Anne's.	target of no more than <3.5m3 of generated construction waste has been agreed in principle with the design team and will be included within the contractor's tender documentation. 9 of a possible 15 credits are targeted under Site Waste credit section 31.
Green infrastructure	**Number 1 Triton Square** Reduce the local heat island effect and contribute to local biodiversity and green infrastructure through landscape planting at ground and terrace level, and provision of a brown roof. **St. Anne's** The residential building makes use of green roofs to reduce the urban heat island effect.	**Number 1 Triton Square** Provision of Brown Roof is on track in line with Ecologist recommendations as per sections 4.3 and 4.4 of the Sustainability Plan. **St. Anne's** A biodiverse green roof has been designed on the eighth floor which if implemented will have the potential to support foraging black redstart and provide habitat for invertebrates. An ecology report undertaken by Arup recommends the installation of bird boxes to be incorporated into the fabric of the building, aligning with Camden's Biodiversity Action Plan (BAP). Schweglar sparrow terrace 1SP and Swift boxes are suitable installations as outlined by Camden and suggested by the suitably qualified ecologist.
Water efficiency and SuDS	**Number 1 Triton Square** Demonstrate there is approximately a 50% reduction in the rainfall flow introduced into the local sewer system due to the proposed scheme. The proposed development will incorporate sustainable drainage systems (SuDS) in line with national standards and will comply with targeted BREEAM credits and the drainage hierarchy set out in CPG11. **St. Anne's** Sustainable Urban Drainage System (SuDS) would be implemented and the drainage system design hierarchy has been followed. The following SuDs measures are proposed: - Rainwater harvesting (to provide WC flushing and irrigation for 1 Triton Square and landscape irrigation for St Anne's Church)	**Number 1 Triton Square** Rainwater system has been allocated additional capacity storage capacity to exceed 50% reduction in rain flow into local sewers. Utilisation of greywater and rainwater systems on site has been maximised. Rainwater harvesting towards reduction of run-off is being pursued. In addition the development is seeking to achieve zero potable water use towards irrigation. Refer to sections 4.3 and 4.4 of the Sustainability Statement. **St. Anne's** A water specification has been provided which confirms that water consumption within each unit of St Anne's will not exceed 105 litres per person per day. Full credits (8) are being targeted under the HQM water efficient fittings credit issue.

ENERGY HIERARCHY

Please enter in the tables below carbon reductions for the development for each stage of the energy hierarchy (be lean, be clean, be green), following the guidance outlined in the GLAs *Guidance on Preparing Energy Assessments* and *Camden Planning Guidance CPG3*.

Please be aware that where carbon dioxide reduction targets are not met, the applicant will be required to either:

1. Retrofit on-site carbon reduction measures with a view to meeting targets
2. Implement carbon reduction measures elsewhere in the borough (prior agreement with the Council will be sought)

Key targets from Energy and Sustainability Statements:

	New build commercial (includes major refurbishments assessed under Part L2A)		New build residential (includes major refurbishments assessed under Part L1A)		Commercial Refurbishment (assessed under Part L2B)		Residential Refurbishment (assessed under Part L1B)		Overall area weighted reductions	
	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage
Baseline	227	N/A	32.24	N/A	858	N/A	N/A	N/A	260	N/A
Be Lean	197	13.4%	28.9	10.4%	691	19.6%	N/A	N/A	227	12.7%
Be Clean	197	0%	28.9	0%	691	0%	N/A	N/A	226	0.3%
Be Green	181	7.1%	15.5	41.6%	691	0%	N/A	N/A	196	11.4%
TOTAL	46	20.4%	16.7	51.9%	168	19.6%	N/A	N/A	63	24.3%
Shortfall	33.4	N/A	15.4	48.1%	N/A	N/A	N/A	N/A	N/A	N/A

Detailed design stage targets:

	New build commercial (includes major refurbishments assessed under Part L2A)		New build residential (includes major refurbishments assessed under Part L1A)		Commercial Refurbishment (assessed under Part L2B)		Residential Refurbishment (assessed under Part L1B)		Overall area weighted reductions	
	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage
Baseline	249	N/A	28.81	N/A	882	N/A	N/A	N/A	278	N/A
Be Lean	186	25.3%	27.02	6.2%	739	16.2%	N/A	N/A	213	23.3%
Be Clean	186	25.3%	27.02	0%	739	0%	N/A	N/A	213	0%
Be Green	165	8.5%	12.95	48.8%	739	0%	N/A	N/A	178	12.7%
TOTAL	84	33.8%	15.86	55.1%	143	16.2%	N/A	N/A	100	36%
Shortfall	3	N/A	12.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A

EVIDENCE:

Detailed Design Stage

	Enclosed? Yes	N/A	Notes:
Copies of SAP/ SBEM worksheets	☒		Please submit SAP/SBEM calculations evidencing the CO2 savings for each stage of the energy hierarchy, alongside this report. Pease provide details of which apartments have been sampled (if applicable). Results need to reflect the detailed design of the development.
Code for Sustainable Homes Pre-implementation assessment	☐	☒	This will need to be a "Pre-implementation" assessment. Although the Council is no longer able to condition new housing developments to achieve CfSH certification, any application which has already committed to achieving certification through S106 will be required to fulfil this obligation.
BREEAM In Design Review	☒	☐	Please note: this will need to be the "In Design" review and not a copy of the "Pre-Implementation" review. Applicants should also submit Design Stage certificates.
Technical details/ plans/ drawings of installed CHP and other low/ zero carbon technologies (where relevant)	☒	☐	Please submit details where relevant, as outlined in the S106.
CHP Air Quality Assessment	☐	☒	Please follow the Council's guidance on completing air quality assessments outlined in *CPG6*.
Decentralised Energy Network connection details.	☒	☐	Details should include: plans/drawings demonstrating: adequate plant room space provision; space for future heat exchanger; details of provisions made for connections (capped pipework, pipe routes, and provision of domestic hot water isolation valves); and any further details demonstrating that the connection has been designed in accordance with the CIBSE Heat Networks Code of Practice for the UK .

Please provide any further information relevant to this development – prior to implementation:

The agreed contents of this Energy Efficiency and Renewable Energy and Sustainability Plan must be complied with unless otherwise agreed in writing by the Council.

Signed:		
Print full name:	Mel Allwood	Hans Chao
Position:	Associate Director	Senior Engineer
Date:	12 Jan 2018	12 Jan 2018

Please submit to: planningobligations@camden.gov.uk

End of form - A