London Borough of Camden

Energy Efficiency and Renewable Energy and Sustainability Plan

S106 Pro-forma V.3 – Part A Pre-implementation

(To be submitted for approval : planningobligations@camden.gov.uk)

Scheme address:	52 – 53 Russel Square, London, WC1B 4HP
Planning Reference:	2017/2285/P
Related Planning References:	
Scheme Description:	Change of use from office (Class B1) to non-residential institution (Class D1)
Person/s undertaking review on behalf of applicant *(include organisation name and registration number)***:**	Mike Davis (Norman Bromley Partnership)

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 (add/ remove rows as applicable).

S106 clause no.	S106 clause wording	Summary of performance
2.7 "the Energy Efficiency and Renewable Energy Plan"	a strategy setting out a package of measures to be adopted by the Owner in the management of the Development with a view to reducing carbon energy emissions through (but not be limited to) the following:-	
(a)	the incorporation of the measures set out in the submission documents entitled "Energy & Sustainability Statement" by Norman Bromley Partnership LLP dated April 2017; "Energy & Sustainability Statement" by Norman Bromley Partnership LLP dated 11th September 2017; "Supplementary Statement: Sustainable Design" by Ellis Williams Architects dated 28th July 2017;	NBP Energy Efficiency and Renewable Energy Plan and Photovoltaic Feasibility study.

	"Energy Analysis BS1516"; "Supplementary Energy and Sustainability Information" by Norman Bromley Partnership, Peter Joel and Associates, Ellis Williams Architects and Gerald Eve LLP dated 16 August 2017	
(b)	to achieve a 44% reduction in CO2 emissions beyond the Part L 2013 baseline;	The building's change of use from an office to a school combined with the energy savings proposed is predicted to achieve reduced CO2 emissions of 44%. This is not beyond Part L 2013. Because the building is an existing listed building with limited proposed works to the structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated 'Baseline' calculation based on the existing building an office and compared this to the approximate energy demand reduction when the building becomes a school. A 44% reduction in CO2 emissions beyond Part L 2013 would not be achievable without significant changes to the building fabric.
(c)	further details (including detailed drawings, any necessary surveys and system specifications) of how the Owner will reduce the Development's carbon emissions from renewable energy technologies located on the Property ensuring the Owner will target a reduction of at least 44% in carbon emissions in relation to the Property using a combination of complementary low and zero carbon technologies;	No renewable systems proposed refer to Photovoltaic feasibility study. Refer to (b) above regarding reduction is carbon emissions.
(d)	separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings;	New digital check meters are specified for all distribution boards however separate metering of lighting and power services will not be possible as the strategy is to retain the existing distribution boards.
(e)	a building management system being an electronic system to monitor the Development's heating cooling and the hours of use of plant;	We are generally adapting and extending the existing heating plant, therefore providing a building management system to existing plant may not be possible and if it is very costly. The only building wide system is the VRF system which currently has local control therefore a BMS system would offer no advantage.
(f)	measures to enable future connection to a local energy network that has been designed in accordance with the "CIBSE heat networks; code of practice for the UK" at the boundary of the Property including: safeguarded space for a future heat exchanger; provisions made in the building fabric/ 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;	The potential for connecting onto an existing heat network has been investigated and the London Heat Map does not identify supply network close enough to the site to make this feasible.

	the provision of domestic hot water isolation valves to facilitate the connection of an interfacing heat exchanger; provision for external buried pipework routes to be safeguarded to a nearby road or similar where connection to the DHN would be made; provision of contact details of the person(s) responsible for the development's energy provision for the purpose of engagement over future connection to a network.	
(g)	include a pre-Implementation design-stage review by an appropriately qualified and recognised independent professional in respect of the Property including Full Design stage NCM (for non-residential) calculations certifying that the measures 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 the Council's statutory development plan;	Because the building is an existing listed building with limited proposed works to the structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated "Baseline" calculation and the Step 2 – Energy Demand Reduction, however due to reasons detailed further in the report it has not been possible to incorporate any measures for Step 3 (Low Carbon Energy Supplies) or Step 4 (Renewable Energy).
(h)	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 and full As-Built S NCM (for non-residential) calculations) 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	Because the building is an existing listed building with limited proposed works to the structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated "Baseline" calculation and the Step 2 – Energy Demand Reduction, however due to reasons detailed further in the report it has not been possible to incorporate any measures for Step 3 (Low Carbon Energy Supplies) or Step 4 (Renewable Energy).
(i)	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	

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.

	Approved Planning Documents: energy and sustainability statement targets	**Pre-Implementation (Detailed Design Stage): performance against targets**
Carbon reduction targets	44% reduction on CO2 emissions from baseline office to school. Refer to NBP Energy and Sustainability Statement.	The buildings change of use from an office to a school combined with the below proposals is predicted to achieve reduced CO2 emissions of 44%.
Building fabric u-values and air permeability	New insulation to roof with U value of 0.18 as NBP Energy and Sustainability Statement.	New insulation to roof with U value of 0.18
Low carbon technologies	New LED lighting and energy efficient controls as NBP Energy and Sustainability Statement.	Replacement of lighting with new LED lighting and automated controls.
Renewable energy targets	None provided	None provided
Decentralised energy network connection	None provided	None provided
Metering, monitoring and management	New check meters as NBP Energy and Sustainability Statement.	New digital check meters are specified for all distribution boards however separate metering of lighting and power services will not be possible as the strategy is to retain the existing distribution boards.
Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	N/A	N/A
BREEAM - **Overall % + Rating** - **% credits Energy** - **% credits Water** - **% credits Materials**		Overall Rating = Very Good (58.79% target) Energy = 62% target (13 out of 21 available credits) Water = 67% target (6 out of 9 available credits) Materials = 50% target (6 out of available 12 credits)
Materials, sourcing and waste		1. Sourced materials to have EMS certificates 2. Insulation products to have A/A+ Green Guide 3. Waste – Pre-fit out audit to be undertaken 4. Waste – At least 90% diversion from landfill
Green infrastructure	None provided	None provided.
Water efficiency and SuDS		Water Efficiency – 1 credit targeted Leak Detection to be installed Water Monitoring – BMS enabled water meter installed SUDs – No allowance for SUDs as this is not applicable
Other	N/A	

ENERGY HIERARCHY – not required as modification to existing building only.

Please enter in the tables below carbon reductions for each stage of the energy hierarchy (Baseline, Be Lean, Be Clean, Be Green) and for each development type, following the guidance outlined in the GLA's *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 provide details of their remedial proposals, either to:

1. Retrofit on-site carbon reduction measures with a view to meeting targets, or
2. Implement carbon reduction measures elsewhere in the borough (prior agreement with the Council will be sought)
3. Make a carbon offset payment, where appropriate.

Key targets from approved Energy Statement:

	Commercial New-build (includes major refurbishments assessed under Part L2A)			Residential New-build (includes major refurbishments assessed under Part L1A)			Commercial Refurbishment (assessed under Part L2B)			Residential Refurbishment (assessed under Part L1B)		
	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A
Be Lean												
Be Clean												
Be Green												
TOTAL												
Target							N/A	N/A	N/A	N/A	N/A	N/A
Shortfall							N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

Pre-implementation (Detailed Design Stage) proposals:

	Commercial New-build (includes major refurbishments assessed under Part L2A)			Residential New-build (includes major refurbishments assessed under Part L1A)			Commercial Refurbishment (assessed under Part L2B)			Residential Refurbishment (assessed under Part L1B)		
	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A
Be Lean												
Be Clean												
Be Green												
TOTAL												
Target							N/A	N/A	N/A	N/A	N/A	N/A
Shortfall							N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

EVIDENCE:

Pre-implementation (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, including baseline (TER), alongside this report. State which apartments have been sampled (if applicable). Results need to reflect the detailed design of the development.

Title of Submission	Date produced	Author's Name, Organisation & Client

Code for Sustainable Homes Design Stage Assessment	☐	☒	This will need to be a Design Stage Assessment. Although the Council is no longer able to condition new housing developments to achieve CfSH certification, applications already committed through S106 to achieving certification will be required to fulfil this obligation.

Title of Submission	Date produced	Author's Name, Organisation & Client

BREEAM Design Stage Assessment and Certificate	☐	☒ [Design Stage not completed]	Please note: this will need to be the Design Stage Assessment revie and not a copy of the "Pre-Assessment" review. Applicants should also submit Design Stage certificates, or evidence from BRE of submission of this review for certification.

Title of Submission	Date produced	Author's Name, Organisation & Client

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.

Title of Submission	Date produced	Author's Name, Organisation & Client

CHP Air Quality Assessment	☐	☒	Please follow the Council's guidance on completing air quality assessments outlined in *CPG6*.

Title of Submission	Date produced	Author's Name, Organisation & Client

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 .

Title of Submission	Date produced	Author's Name, Organisation & Client

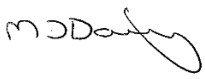
Remedial CO_2 and renewables proposals	☐	☒	Document containing full details of proposals to fulfil approved carbon reduction targets &/or renewable energy targets by: retrofitting on site, measures elsewhere in Borough, or additional offset contribution.

Title of Submission	Date produced	Author's Name, Organisation & Client

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

BREEAM – There is a commitment to undertake a BREEAM Refurbishment and Fit-Out assessment with targets set for Energy, Water and Materials. A pre-assessment was undertaken in April 2017 which serves as a template for a Design Stage assessment which is ongoing. It is expected that the targets set will be achieved at the end of the design stage.

I confirm that the information supplied in this Proforma (and supporting evidence) is accurate. I will notify the Council should any of the information contained change. The agreed contents of the Energy Efficiency and Renewable Energy and Sustainability Plan, the information contained in this Proforma and the terms of Section 106 agreement pursuant to the planning permission must be complied with, unless otherwise agreed in writing by the Council.

Signed:	
Print full name:	MIKE DAVIS AND PETER JOEL
Position:	NBP (M&E) AND PETER JOEL ASSOCIATES (BREEAM)
Date:	28/11/2018

Please submit to: planningobligations@camden.gov.uk

End of form A (Pre-Implementation)

London Borough of Camden

Energy Efficiency and Renewable Energy and Sustainability Plan

S106 Pro-forma – Part B Post Completion

(To be completed and submitted for approval prior to occupation)

S106 CLAUSE DETAILS

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

S106 clause no.	S106 clause wording	Summary of performance
2.7 "the Energy Efficiency and Renewable Energy Plan"	a strategy setting out a package of measures to be adopted by the Owner in the management of the Development with a view to reducing carbon energy emissions through (but not be limited to) the following:-	
(a)	the incorporation of the measures set out in the submission documents entitled "Energy & Sustainability Statement" by Norman Bromley Partnership LLP dated April 2017; "Energy & Sustainability Statement" by Norman Bromley Partnership LLP dated 11th September 2017; "Supplementary Statement: Sustainable Design" by Ellis Williams Architects dated 28th July 2017; "Energy Analysis BS1516"; "Supplementary Energy and Sustainability Information" by Norman Bromley Partnership, Peter Joel and Associates, Ellis Williams Architects and Gerald Eve LLP dated 16 August 2017	NBP Energy Efficiency and Renewable Energy Plan and Photovoltaic Feasibility study.
(b)	to achieve a 44% reduction in CO2 emissions beyond the Part L 2013 baseline;	The building's change of use from an office to a school combined with the energy savings proposed is predicted to achieve reduced CO2 emissions of 44%. This is not beyond Part L 2013. Because the building is an existing listed building with limited proposed works to the structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated 'Baseline' calculation based on the existing building an office and compared this to the approximate energy demand reduction when the building becomes a school. A 44% reduction in CO2 emissions beyond Part L 2013 would not be achievable without significant changes to the building fabric.

(c)	further details (including detailed drawings, any necessary surveys and system specifications) of how the Owner will reduce the Development's carbon emissions from renewable energy technologies located on the Property ensuring the Owner will target a reduction of at least 44% in carbon emissions in relation to the Property using a combination of complementary low and zero carbon technologies;	No renewable systems proposed refer to Photovoltaic feasibility study. Refer to (b) above regarding reduction is carbon emissions.
(d)	separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings;	New digital check meters are specified for all distribution boards however separate metering of lighting and power services will not be possible as the strategy is to retain the existing distribution boards.
(e)	a building management system being an electronic system to monitor the Development's heating cooling and the hours of use of plant;	We are generally adapting and extending the existing heating plant, therefore providing a building management system to existing plant may not be possible and if it is very costly. The only building wide system is the VRF system which currently has local control therefore a BMS system would offer no advantage.
(f)	measures to enable future connection to a local energy network that has been designed in accordance with the "CIBSE heat networks; code of practice for the UK" at the boundary of the Property including: safeguarded space for a future heat exchanger; provisions made in the building fabric/ 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; the provision of domestic hot water isolation valves to facilitate the connection of an interfacing heat exchanger; provision for external buried pipework routes to be safeguarded to a nearby road or similar where connection to the DHN would be made; provision of contact details of the person(s) responsible for the development's energy provision for the purpose of engagement over future connection to a network.	The potential for connecting onto an existing heat network has been investigated and the London Heat Map does not identify supply network close enough to the site.
(g)	include a pre-Implementation design-stage review by an appropriately qualified and recognised independent professional in respect of the Property including Full Design stage NCM (for non-residential) calculations certifying that the measures 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 the Council's statutory development plan;	Because the building is an existing listed building with limited proposed works to the structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated "Baseline" calculation and the Step 2 – Energy Demand Reduction, however due to reasons detailed further in the report it has not been possible to incorporate any measures for Step 3 (Low Carbon Energy Supplies) or Step 4 (Renewable Energy).
(h)	measures to secure a post-construction review of the	Because the building is an existing listed building with limited proposed works to the

	Development by an appropriately qualified and recognised independent professional in respect of the Property (including but not limited to photographs, installation contracts and full As-Built S NCM (for non-residential) calculations) 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	structure and fabric, it does not need to satisfy the London Plan Energy criteria which would be required for a major new build development or large extension. We have however set out the estimated "Baseline" calculation and the Step 2 – Energy Demand Reduction, however due to reasons detailed further in the report it has not been possible to incorporate any measures for Step 3 (Low Carbon Energy Supplies) or Step 4 (Renewable Energy).
(i)	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	

BUILDING SPECIFICATION TARGETS

Key targets from approved Energy and Sustainability Statements:

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

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

	Approved Planning Documents: energy and sustainability statement targets	**Post completion (Post Construction Stage): performance against targets**
Carbon reduction targets	44% reduction on CO2 emissions from baseline office to school. Refer to NBP Energy and Sustainability Statement.	Approximate reduction in CO2 emissions can be provided upon completion of the project based on the as installed light fittings and buildings change of use from an office to a school
Building fabric u-values and air permeability	New insulation to roof with U value of 0.18 as NBP Energy and Sustainability Statement.	Contractor to provide as installed information upon completion.
Low carbon technologies	New LED lighting and energy efficient controls as NBP Energy and Sustainability Statement.	As installed information for new lighting and controls can be provided upon completion
Renewable energy targets	None provided	None provided
Decentralised energy network connection	None provided	None provided
Metering, monitoring and management	New check meters as NBP Energy and Sustainability Statement.	As installed information for new check meters can be provided upon completion

Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	N/A	N/A
BREEAM rating - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**		The overall BREEAM rating of 'Very Good' with targets set for Energy, Water and Materials are being monitored closely by the BREEAM Assessor and will be evidenced by certification at the end of the design stage assessment
Materials, sourcing and waste		1. Sourced materials to have EMS certificates 2. Insulation products to have A/A+ Green Guide 3. Waste – Pre-fit out audit to be undertaken Waste – At least 90% diversion from landfill
Green infrastructure	None provided	None provided
Water efficiency and SuDS		Water Efficiency – 1 credit targeted Leak Detection to be installed Water Monitoring – BMS enabled water meter installed SUDs – No allowance for SUDs as this is not applicable
Other	N/A	N/A

Post-Completion (Post Construction Stage) results: Not required as modification to existing building only.

Please enter in the tables below the carbon reductions for each stage of the energy hierarchy (Baseline, Be Lean, Be Clean, Be Green) and for each development type, 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 provide details of their remedial proposals 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)
3. Make a carbon offset payment, where appropriate.

	Commercial New-build (includes major refurbishments assessed under Part L2A)	Residential New-build (includes major refurbishments assessed under Part L1A)	Commercial Refurbishment (assessed under Part L2B)	Residential Refurbishment (assessed under Part L1B)

	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A
Be Lean												
Be Clean												
Be Green												
TOTAL												
Target							N/A	N/A	N/A	N/A	N/A	N/A
Shortfall							N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

Post Completion (Post Construction Stage) Review

	Enclosed? Yes	Enclosed? No	Notes:
Copies of SAP/ SBEM worksheets	☐	☒	Please submit SAP/SBEM calculations evidencing the CO_2 savings for each stage of the energy hierarchy, including baseline (TER), alongside this report. Please provide details of which apartments have been sampled (if applicable). Results will need to reflect the actual constructed building.

Title of Submission	Date produced	Author's Name, Organisation & Client

Code for Sustainable Homes Post Construction Assessment and Certificate	☐	☒	This will need to be the final Post Construction Stage Assessment review and certificate. 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.

Title of Submission	Date produced	Author's Name, Organisation & Client

BREEAM Post Construction Assessment and Certificate	☐	☒	This will need to be the Post Construction Assessment review and not a copy of the "Pre-Assessment" or "Design Stage" review. Applicants should also submit Post Construction Stage certificates, or evidence from BRE of submission of this review

for certification

Title of Submission	Date produced	Author's Name, Organisation & Client

Technical details/ plans/ drawing of installed CHP and other low/ zero carbon technologies (where relevant) ☐ ☒ Please provide confirmation/ evidence that approved measures have been implemented.

Title of Submission	Date produced	Author's Name, Organisation & Client

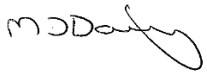
Decentralised Energy Network connection details. ☐ ☒ Please provide confirmation/ evidence that approved measures have been implemented.

Title of Submission	Date produced	Author's Name, Organisation & Client

Remedial CO_2 and renewables proposals ☐ ☒ Document containing full details of proposals to fulfil approved carbon reduction targets &/or renewable energy targets by: retrofitting on site, measures elsewhere in Borough, or additional offset contribution.

Title of Submission	Date produced	Author's Name, Organisation & Client

I confirm that the information supplied in this Proforma (and supporting evidence) is accurate. I will notify the Council should any of the information contained change. The agreed contents of the Energy Efficiency and Renewable Energy and Sustainability Plan, the information contained in this Proforma and the terms of Section 106 agreement pursuant to the planning permission must be complied with, unless otherwise agreed in writing by the Council.

Signed:	
Print full name:	MIKE DAVIS AND PETER JOEL
Position:	NBP (M&E) AND PETER JOEL ASSOCIATES (BREEAM)
Date:	28/11/2018

Please submit to: planningobligations@camden.gov.uk

End of form – B (Post Completion)