Sustainability/Energy Statement Addendum

2 New Flats and material change of use to 3nr Flats at 329 – 331 Kentish Town Rd Camden, NW5 2JU

ADDENDUM

Prepared for:

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Issue	Date	Details	Changes	Prepared by	Reviewed by	Approved by
0	4 Sep 20	First Issue	-	MA	DA	MA
1	4 Sep 20	Final Issue	Section 2.1 update the legend Section 7: updated the text	MA	DA	MA
2	22 Sep 20		Section 2.1: updated drawings			
	20 Jan 21	Addendum	Include the 3nr refurb flats into the SAP calculations	MA	MA	MA

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Content

1. EXECUTIVE SUMMARY

The planners requested to include the 3nr refurbished flats into the SAP calculations and to demonstrate that the 5nr flats (2nr new and 3nr existing) will achieve the following targets:

1. The 2nr new flats to achieve at least 19% reduction against the Building Regulations Approved Document Part L1A 2013 Conservation of fuel and power in new dwellings target. Achieved: the 2nr new flats can potentially achieve an overall reduction of approximately 33% (this includes potential 5% reduction due to Be Lean)
2. Assess the whole development (2nr new flats + 3nr refurbished flats) against the Part L 2013 target incorporating all potential energy savings measures into the 3nr refurbished flats including the addition of 8nr PV panels to potentially achieve the 20% reduction target. Achieved: the whole development can potentially achieve an overall reduction of approximately 19% (As agreed with the planners, it is not feasible to achieve the 20% target renewables in addition to the 19% reduction form the new flats due to site restrains and the difficulties to fit a larger number of PV panels to meet the target).
3. This addendum also corrects the typo within the results file presented in the original statement. Achieved: tables have been updated to reflect comments.

1.2 Reduction in Carbon Emissions Overview and Summary

1.2.1 New Flats

The energy strategy for the New-build flat (Flat 1&2) has been developed in line with the London Plan Energy Hierarchy principals to reduce the energy and associated CO_2 emissions using the "Be Lean, Be Clean, Be Green" approach:

- "Be Lean": Improvements to the building fabric and energy efficient services to minimize energy demand, including efficient building services such as high efficiency gas fired boiler and 100% low energy LED lightings.
- "Be Clean": The site is not suitable for a local CHP system or connection to a district network. Therefore, no carbon savings are possible using this measure.
- "Be Green": To meet the Camden Local Plan CC1 relevant CO2 emission reduction target of 19% over the Building Regulations Approved Document Part L1A 2013 Conservation of fuel and power in new dwellings target, 8nr of PV panels shall be proposed to be installed on the flat roof.

Please refer to the original Sustainability Statement and the appendices for design performance intent.

Please see table below, the percentages reduction in CO_2 emissions shown below are for the new flats only and the improvements are shown against the notional building CO_2 emissions as per the Building Regulations Approved Document Part L1A 2013 Conservation of fuel and power in new dwellings target:

	Tonnes CO_2 /annum	Regulated Carbon Dioxide Emissions Savings 2nr New Flats	
		Reduction Tonnes/annum	Reductions (%)
Part L 2013 Target Emission (TER)	3.39	-	-
Reductions from energy demand reduction (Be Lean)	3.21	0.18	5.2%
Reductions from Heat network/CHP (Be Clean) – No connection to CHP	3.21	-	No Reductions
Reductions from renewable energy (Be Green)	2.26	0.9	28%
Total cumulative on-site reductions against the Target		1.13	**33.23%**

Be Lean: the façade and the systems performances targets for the 2nr flats design exceed by large margin the minimum performances standards listed within the Part L1A and the Domestic Building services compliance document. Please refer to the original energy statement and appendix 2.3 within this document for more details on the design intent.

There is a potential for approximately 5% reduction against the target from the Be Lean option.

The 2nr new flats are in line with the Camden Planning Policy CC1 target of achieving at least a 19% reduction. The new flats are achieving a potential overall reduction of approximately **33%** (14% more than what the target is) against the Building Regulations Approved Document Part L1A 2013 Conservation of fuel and power in new dwellings target. This reduction can be potentially achieved from all energy savings measures combined for the Be Lean, Be Clean and Be green. The 2nr flats have achieved the reduction target from improving the façade performances, systems performances, and renewables. 4nr PV panels per flat shall be installed. Please refer to original sustainability statement.

1.2.2 Material change of use to 3nr flats (flats 3, 4 and 5)

To further reduce the energy and associated CO_2 emissions form the development as a whole, an improvement in the façade performance (including windows) is proposed for the retained part of the development within Flats 3, 4 and 5. These improvements shall be, where viable and technically feasible, in line with those performances listed within the Building Regulations Approved Document Part L 1B Conservation of fuel and power in existing dwellings and the domestic building services compliance guide. In general, the energy strategy for the refurbished flats (Flat 3,4&5) has been developed in line with the London Plan Energy Hierarchy principals to reduce the energy and associated CO_2 emissions using the "Be Lean, Be Clean, Be Green" approach:

- "Be Lean": Improvements to the building fabric and energy efficient services to minimize energy demand, including efficient building services such as high efficiency gas fired boiler and 100% low energy LED lightings.
- "Be Clean": The site is not suitable for a local CHP system or connection to a district network. Therefore, no carbon savings are possible using this measure.
- "Be Green": To meet the Camden Local Plan CC1 relevant CO2 emission reduction target and the updated planners request, 8nr number of PV panels shall be proposed to be installed on the flat roof.

Please refer to the original Sustainability Statement and the appendix 2.4 for design performance intent.

Please see table below, the percentages reduction in CO_2 emissions shown below are for the whole development (2nr new flats + 3nr refurb flats) shown against the notional building CO_2 emissions as per the Building Regulations Approved Document Part L1A 2013 Conservation of fuel and power in new dwellings target:

		Regulated Carbon Dioxide Emissions Savings 5nr flats	
	Tonnes CO_2 /annum	Reduction Tonnes/annum	Reductions (%)
Part L 2013 Target Emission (TER)	6.81	-	-
Reductions from energy demand reduction (Be Lean)	6.69	0.12	1.8%
Reductions from Heat network/CHP (Be Clean) – No connection to CHP	6.69	-	No Reductions
Reductions from renewable energy (Be Green)	5.51	1.2	17%
Total cumulative on-site reductions against the Target		1.3	**19.1%**

The whole development has the potential to achieve an overall reduction of approximately **19.1%** against the Part L 213 target.

Conclusion:

The SAP calculations demonstrates that the overall reduction in CO2 emissions against the Building Regulations Approved Document Part L1A 2013 *Conservation of fuel and power in new dwellings* target is in line with the planner's request.

1. The 2nr new flats achieving approximately 33% (including 5% reduction form the Be Lean option) reduction which is 14% more than what the target is.
2. The whole development will have the potential to achieve a total reduction of 19.1%. As discussed with the planners, the 20% target could not be achieved due to site restrains and the difficulties to fit a larger number of PV panels to meet the target.

2. APPENDICES

2.1 SAP Software Results for the 2nr flats only

Block Compliance WorkSheet: New flats

User Details

Assessor Name: **Stroma Number:**
Software Name: Stroma FSAP **Software Version:** Version: 1.0.5.12

Calculation Details

Dwelling	DER	TER	DFEE	TFEE	TFA
Flat 1	9.51	15.07	33.8	43	107
Flat 2	11.62	16.59	43.6	51.6	107

Calculation Summary

Total Floor Area	214.00
Average TER	15.83
Average DER	10.57
Average DFEE	38.70
Average TFEE	47.30
Compliance	Pass
% Improvement DER|TER	33.23
% Improvement DFEE|TFEE	18.18

2.2 SAP Software Results for the whole development (2nr new flats + 3nr refurbished flats)

Block Compliance WorkSheet: all 5

User Details

Assessor Name: **Stroma Number:**

Software Name: Stroma FSAP **Software Version:** Version: 1.0.5.12

Calculation Details

Dwelling	DER	TER	DFEE	TFEE	TFA
Flat 1	9.51	15.07	33.8	43	107
Flat 2	11.62	16.59	43.6	51.6	107
Flat 3 (Refurbushed)	13.98	15.37	51.1	35.7	71
Flat 4 (Refurbushed)	13.8	15.34	49.5	35.4	71
Flat 5 (Refurbushed)	17.93	17.48	68.2	46.4	71

Calculation Summary

Total Floor Area	427.00
Average TER	15.95
Average DER	12.90
Average DFEE	47.46
Average TFEE	43.24

2.3 Design Performance intent for the 2nr new flats

Parameter	Units	2nr new flats Design Intent	Part L 1A /Domestic building services compliance document minimum performances	Part L 2013 Notional Building (The Target)
Accredited Construction Details (ACDs)	-	Used (TBC at detailed design)	NA	used
Thermal Bridging y value	W/m^2K	0.05 (TBC at detailed design)	NA	0.08 – 0.05
Corridor Heated	-	Yes	NA	NA
Water use target	l/p/day	110	NA	NA
Air Permeability	$m^3/hr.m^2$	3	10	5
New Wall U-value	W/m^2K	0.12	0.30	0.18
New Roof U-value	W/m^2K	0.13	0.20	0.13
New Exposed Floor U-value (If applicable)	W/m^2K	0.13	0.25	0.13
New Window U-value	W/m^2K	0.8 (Triple glazing)	2.00	1.4
New Rooflight U – value	W/m^2K	1.2 (Double glazing)	2.00	1.4
New Glazed Door U-value	W/m^2K	0.8 (Triple glazing)	2.00	1.4
New Solid Door U-value	W/m^2K	1.0	2.00	
Weight of building (Thermal Mass TMP)	-	Medium TMP:250	NA	Medium TMP:250
Boiler	-	Condensing	NA	Condensing
Ventilation	-	Natural	NA	Natural
Seasonal Boiler Efficiency	%	91.0	89	89.5
Design Flow Temperature	-	<=35 (Underfloor heating and radiators)	NA	<=35 (Underfloor heating and radiators)
Hot water storage losses	kWh/l/day	1.66	NA	1.66
Tot Water Storage size	Litres	No less than 120 (TBC at detailed design)	NA	150
Percentage low energy light fittings	%	100	NA	100

2.4 Design Performance intent for the 3nr refurbished flats

Parameter	Units	3nr refurbished flats
Accredited Construction Details (ACDs)	-	Not used at this stage
Thermal Bridging y value	W/m^2K	0.15
Corridor Heated	-	Yes
Water use target	l/p/day	125
Air Permeability	$m^3/hr.m^2$	calculated
New Wall U-value	W/m^2K	0.3 (Internal Insulation)
New Roof U-value	W/m^2K	0.2 (Insulation at rafter level)
New Window U-value	W/m^2K	1.6 (New double-glazed windows)
New Solid Door U-value	W/m^2K	1.8
Weight of building (Thermal Mass TMP)	-	Assumption: Medium TMP:250
Boiler	-	Combi Condensing
Ventilation	-	Natural
Seasonal Boiler Efficiency	%	89
Design Flow Temperature	-	<=35 (Underfloor heating and radiators)
Percentage low energy light fittings	%	100

2.5 Council email correspondence

Email 1

The submitted Sustainability / Energy statement includes a number of errors in respect of Camden Policy and therefore does not meet the requirements of Policy CC1.

The Executive Summary of the Sustainability / Energy statement includes the following

> **The new build part of the development includes the creation of 2nr new flats over a total area of 214 sqm (Flats 1 and 2). While** material change of use from the existing Sainsbury ancillary space to 3nr flats (flats 3, 4 and 5) will be carried out on the existing building.
>
> **The number and the total area of the new flats (Flat 1 and 2) does not fall under the Camden Local Plan CC1 threshold for CO2 emissions reduction via on site renewables target. Camden Plan CC1 threshold is for a development with at least 5 new flats with 500 sqm of total area.**

This is incorrect. The supporting text to the policy states the following:

> The Council will expect developments of five or more dwellings and/or more than 500 sqm of any gross internal floorspace to achieve a 20% reduction in carbon dioxide emissions from on-site renewable energy generation (which can include sources of site related decentralised renewable energy), unless it can be demonstrated that such provision is not feasible.
>
> The 20% reduction should be calculated from the regulated CO2 emissions of the development after all proposed energy efficiency measures have been incorporated.
>
> All new residential development will also be required to demonstrate a 19% CO2 reduction below Part L 2013 Building Regulations (in addition to any requirements for renewable energy).

The development consists of the creation of 5 flats. Therefore the requirement is a 19% CO2 reduction below Part L 2013 Building Regulations in addition to a 20% reduction from renewable energy.

The development does not meet this requirement and this is shown in the table from the executive summary.

Please see table below, the percentages reduction in CO_2 emissions shown below are for the new flats only and the improvements are shown against the notional building CO_2 emissions as per the Approved Document 2013 Part L1A:

	Regulated Carbon Dioxide Emissions New Domestic	
	(Tonnes CO_2 per annum)	(%)
Part L 2013 Target Emission	3.79	-
Savings from energy demand reduction (Be Lean)	3.87	-2.0%
Savings from Heat network/CHP (Be Clean)	-	-
Savings from renewable energy (Be Green)	3.04	+19.80%
Total Cumulative Savings	0.70	19.80%

The energy report only provides a target for 2 flats in the mews part of the development and does not include any targets for the other 3 flats in the executive summary. There is not a 19% reduction under 'Be Lean' as required. As the table does not assess all the flats created, the baseline figure will also be incorrect. Therefore, it is likely that the savings from renewable energy may also fall short. The calculations shown in the table also appear to contain errors i.e. cumulative savings figures / +19.8%

Please respond to the issues raised.

Email 2

Since providing comments regarding the Sustainability / Energy statement, I have discussed this matter with the Sustainability officer. One of the issues raised was incorrect so I have corrected this in the email below with a strikethrough the incorrect text.

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Total Cumulative Savings	0.70	19.80%

~~The energy report only provides a target for 2 flats in the mews part of the development and does not include any targets for the other 3 flats in the executive summary.~~ There is not a 19% reduction under 'Be Lean' as required. ~~As the table does not assess all the flats created, the baseline figure will also be incorrect. Therefore, it is likely that the savings from renewable energy may also fall short.~~ The calculations shown in the table also appear to contain errors i.e. cumulative savings figures / +19.8%

Please respond to the issues raised.

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