

Part L Design Note

To: Edge Lane Design Team

From: Complete Sustainability Solutions Ltd

Date: 04/03/2022

Subject: Discharge of Condition 14, Part L calculations

Overview

Complete Sustainability Solutions has been appointed to provide a Part L assessment at a residential development for 168 dwellings and 48 apartments at Edge Lane, Manchester (post code M11 1DG).

The planning permission for the development (reference: 126674/FO/2020) includes Planning Conditions. This design note aims to provide information pursuant of Condition 14. Condition 14 is repeated below for ease of reference:

“The development hereby approved shall be carried out in accordance with the energy statement stamped as received by the City Council, as Local Planning Authority, on the 5 June 2020. For the avoidance of doubt the development shall achieve a minimum of 15.9 % reduction in carbon on Part L 2010 Building Regulations.

A post construction review certificate/statement shall be submitted for approval in writing by the City Council, as Local Planning Authority, within a 3 months of first occupation of the development hereby approved.”

Development details:

The proposed development is for a mix of 216 dwellings split as 168 houses and 48 apartments.

The apartments will be split into three blocks: Block 1 has 18 apartments, Block 2 also has 18 apartments, and Block 3 has 12 apartments.

The houses will be a mix of house types:

- HT71/HT71C is a 2 bed 3 person 2 storey semi-detached house and will have 67 units on site.
- HT87/HT87C is a 3 bed 4 person 2 storey semi-detached house and will have 49 units on site.
- HT102/HT102C is a 3 bed 5 person 2.5 storey semi-detached/ terraced house and will have 22 units on site.
- HT113 is a 4 bed 6 person 3 storey semi-detached/ terraced house with 12 units on site.
- HT130/HT130C is a 4 bed 8 person 3 storey semi-detached/ detached house and will have 18 units on site.

Proposed Site Plan:

Part L SAP Calculations:

Full design stage SAP calculations on each dwelling have been carried out in Elmhurst SAP 2012 software using the current Part L 2016 regulations.

What is a SAP calculation?

SAP stands for 'Standard Assessment Procedure' and is the government's method for calculating the energy performance of dwellings. These calculations are only necessary for residential properties.

In England, your SAP calculations measure two elements: the Dwelling Emission Rate (DER) and Dwelling Fabric Energy Efficiency (DFEE). The calculations determine a Target Emissions Rate (TER) and a Target Fabric Energy Efficiency (TFEE) rate. The DER and DFEE must be lower than the TER and TFEE.

For new builds, your SAP calculations will be divided into two reports: 'design stage' and 'as built'. For design stage assessments, these will be carried out before building work begins on site. For as-built assessments, these will be carried out once the air test has been completed and the building is ready to be handed over.

How are SAP calculations carried out?

A SAP calculation is carried out by a qualified On Construction Domestic Energy Assessor (OCDEA). The assessor will measure details from the floor plans, sections and elevations and obtain construction details /U-value along with information on the heating and ventilation details from the client. The assessor will then input the details into Government approved SAP software. The software will create a model and produce a notional building that the proposed dwelling needs to be better than. If the building is better than the notional, compliance has been achieved. If the building is worse than the notional the assessor will make some recommendations to help achieve compliance.

SAP results for Edge Lane:

We have assessed each individual plot and grouped all plots together to show the overall improvement over the site. The site achieves an 11.80% improvement over 2016 Regs. Under 2010 regs, the site achieves a 17.80% improvement which is slightly more than condition 14.

Average DER = 15.84 kgCO ₂ /m ²	% DER/TER	PASS
Average TER = 17.96 kgCO ₂ /m ²	11.80 %	

Average DFEE = 42.44 kWh/m ² /yr	% DFEE/TFEE	PASS
Average TFEE = 51.75 kWh/m ² /yr	17.99 %	

SAP Part L specification used in the calculations:

Item	Description	Notes
	The following information is required for the design submission (as per requirements of Approved Doc L1A).	Please note submission is in two stages. A) Design, B) As installed
1. Dwelling Type		
1.1	Building Regulations Part L1A 2016 Software used.	Elmhurst Design SAP 2012
1.2	Thermal mass parameter has been assumed based on the construction specification.	Medium Thermal Mass
2. Floor Construction Details		
2.1	Ground Floors will be insulated with 150mm PIR insulation to achieve the U-value stated opposite.	U-Value = 0.12 W/m ² K. λ of insulation = 0.022 W/mK.
2.2	Upper heat loss floors are present. These will be insulated to achieve the U-value opposite.	U-Value = 0.18 W/m ² K.
3. Wall Construction Details		
3.1	External Wall construction is to be masonry construction to achieve the U-value stated opposite. A typical build up would be 102.5mm brickwork, 50mm cavity, 75mm PIR insulation, 100mm block with 12.5mm plasterboard.	U-Value = 0.21 W/m ² K. λ of insulation = 0.022 W/mK.
3.2	Dormer walls (if applicable) are insulated to achieve the U-value opposite.	U-Value = 0.25 W/m ² K.
3.3	Garage walls (if applicable) are insulated to achieve the U-value opposite.	U-Value = 0.25 W/m ² K.
3.4	Party walls are to be fully filled and sealed to achieve the U-value opposite.	U-Value = 0.00 W/m ² K.
4. Roof Construction Details		
4.1	Conventional roof construction is to be Insulated with 500mm mineral wool to achieve the U-value stated opposite.	U-Value = 0.09 W/m ² K.
4.2	Sloping roof are insulated to achieve the U-value opposite.	U-Value = 0.16 W/m ² K.
4.3	Flat roof construction is insulated to achieve the U-value opposite.	U-Value = 0.15 W/m ² K.
5. Openings		
5.1	Front doors are installed to achieve the U-value opposite.	U-Value = 1.1 W/m ² K.
5.2	All windows / fully glazed patio doors are double glazed windows with a hard coating to achieve the U-value and G-value opposite.	U-Value = 1.4 W/m ² K. G-value = 0.72 (average glass and frame U-value)
5.3	To satisfy Summer Overheating criteria, openings across all dwellings set to 'Windows half open'	Ground floor windows have to be set slightly open. Therefore, will identify an overheating risk.
6. Thermal Bridging		
6.1	Accredited Construction Details (ACD) and Concrete Block Association (CBA) details for limiting thermal bridging are installed.	Sign off required at As-Built stage.
7. Air Pressure Test		
7.1	An air permeability test will be undertaken on each dwelling. This will achieve a rating of 5.1 or below.	Air test to achieve 5.1 or less. All plots to be tested.
8. Ventilation		
8.1	Decentralised Mechanical Ventilation will be installed to each dwelling. To be installed by an Approved Installer.	Greenwood Unity CV3GIP (or equivalent)
8.2	Heat is emitted via radiators.	
9. Lighting & Tariff		
9.1	All light fittings are to be low energy.	100% low energy light fittings.
9.2	Electricity is supplied by standard tariff rather than economy 7, 10 or 24.	Assumed Standard tariff
10. Space Heating		
10.1	Main Heating is provided via a combi boiler.	Promax Ultra Combi 28 ExR (or equivalent)
10.1a	A system boiler will be installed to the larger house types. It is assumed the 4 bed houses will include a system boiler- HT116, HT128 and HT128C.	Promax 32 System ExR (or equivalent)
10.2	Heating controls are via Time and Temperature zone controls	
10.3	No Flue Gas Heat Recovery unit has been installed.	N/A
11. Water Heating		
11.1	Water usage per person per day is less than 125 Litres per person per day.	
11.2	No Waste Water Heat Recovery (WWHR) to be installed.	N/A
11.3	No hot water storage is to be installed to the plots that have a combi boiler.	N/A to plots with a combi boiler.
11.4	It is assumed a 250 litre store will be included to the 4 bed house types. HT116, HT128 and HT128C.	Cylinder will be insulated with 100mm spray foam. The cylinder will include a thermostat and have independent time controls.
12. Renewables		
12.1	No renewable technology has been installed to any of the dwellings.	N/A
13. Other		
13.1	The following drawing numbers have been used for the preliminary SAP calculations.	0723-EA-A-S001J Proposed Site Layout 0723-EA-A-SK21A- HT87 0723-EA-A-SK20A-HT71 0723-EA-A-SK18- Apartment elevations 0723-EA-A-SK11E-HT108 0723-EA-A-SK12A-HT115 0723-EA-A-SK13A-HT116 0723-EA-A-SK14A-HT128 0723-EA-A-SK15- Apartment Ground Floor 0723-EA-A-SK16- Apartment First Floor 0723-EA-A-SK17- Apartment Second Floor

SAP Worksheets/ Compliance Reports:

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Block Reference	000008	Issued on Date	07/10/2021
Block Name	All		
Assessor Details	Mr. Adam Lindley, Complete Sustainability Solutions, Tel: 01617060298, adam@completesustainability.co.uk	Assessor ID	m004-0001
Client			

Block Compliance Report - DER

Block Reference: 000008		Block Name: All			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
Plot 20 EL-Plot 20	1	71.3	17.21	19.41	11.35 %
Plot 23 EL-Plot 23	1	71.3	16.87	19.12	11.75 %
Plot 25 EL-Plot 25	1	71.3	16.87	19.12	11.75 %
Plot 27 EL-Plot 27	1	71.3	16.87	19.12	11.75 %
Plot 29 EL-Plot 29	1	71.3	16.87	19.12	11.75 %
Plot 37 EL-Plot 37	1	71.3	13.45	27.74	51.51 %
Plot 39 EL-Plot 39	1	71.3	16.87	19.12	11.75 %
Plot 41 EL-Plot 41	1	71.3	16.87	19.12	11.75 %
Plot 43 EL-Plot 43	1	71.3	16.87	19.12	11.75 %
Plot 44 EL-Plot 44	1	71.3	17.08	19.30	11.51 %
Plot 42 EL-Plot 42	1	71.3	17.08	19.30	11.51 %
Plot 40 EL-Plot 40	1	71.3	17.08	19.30	11.51 %
Plot 38 EL-Plot 38	1	71.3	13.45	28.01	51.99 %
Plot 30 EL-Plot 30	1	71.3	17.08	19.30	11.51 %
Plot 28 EL-Plot 28	1	71.3	17.08	19.30	11.51 %
Plot 26 EL-Plot 26	1	71.3	17.08	19.30	11.51 %
Plot 24 EL-Plot 24	1	71.3	17.08	19.30	11.51 %
Plot 115 EL-Plot 115	1	71.3	17.00	19.22	11.56 %
Plot 113 EL-Plot 113	1	71.3	17.00	19.22	11.56 %
Plot 109 EL-Plot 109	1	71.3	17.00	19.22	11.56 %
Plot 107 EL-Plot 107	1	71.3	17.00	19.22	11.56 %
Plot 106 EL-Plot 106	1	71.3	17.30	19.49	11.22 %
Plot 108 EL-Plot 108	1	71.3	17.30	19.49	11.22 %
Plot 112 EL-Plot 112	1	71.3	17.30	19.49	11.22 %
Plot 114 EL-Plot 114	1	71.3	17.30	19.49	11.22 %
Plot 48 EL-Plot 48	1	71.3	16.99	19.23	11.63 %
Plot 47 EL-Plot 47	1	71.3	17.21	19.41	11.35 %
Plot 31 EL-Plot 31	1	87.56	15.62	17.75	12.01 %
Plot 32 EL-Plot 32	1	87.56	15.62	17.75	12.01 %
Plot 35 EL-Plot 35	1	87.56	-1.24	25.61	104.84 %
Plot 36 EL-Plot 36	1	87.56	12.14	25.45	52.30 %
Plot 45 EL-Plot 45	1	87.56	15.62	17.75	12.01 %
Plot 46 EL-Plot 45	1	87.56	15.62	17.75	12.01 %
Plot 49 EL-Plot 49	1	87.56	15.97	18.06	11.56 %
Plot 50 EL-Plot 50	1	87.56	15.97	18.06	11.56 %
Plot 51 EL-Plot 51	1	87.56	15.97	18.06	11.56 %
Plot 52 EL-Plot 52	1	87.56	15.97	18.06	11.56 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 53 EL-Plot 53	1	87.56	15.62	17.75	12.01 %
Plot 54 EL-Plot 54	1	87.56	15.53	17.72	12.37 %
Plot 89 EL-Plot 89	1	87.56	15.62	17.75	12.01 %
Plot 90 EL-Plot 90	1	87.56	15.62	17.75	12.01 %
Plot 92 EL-Plot 92	1	87.56	15.62	17.75	12.01 %
Plot 93 EL-Plot 93	1	87.56	15.62	17.75	12.01 %
Plot 94 EL-Plot 94	1	87.56	15.62	17.75	12.01 %
Plot 95 EL-Plot 95	1	87.56	15.62	17.75	12.01 %
Plot 98 EL-Plot 98	1	87.56	15.62	17.75	12.01 %
Plot 99 EL-Plot 99	1	87.56	15.62	17.75	12.01 %
Plot 100 EL-Plot 100	1	87.56	15.62	17.75	12.01 %
Plot 101 EL-Plot 101	1	87.56	15.62	17.75	12.01 %
Plot 102 EL-Plot 102	1	87.56	15.62	17.75	12.01 %
Plot 103 EL-Plot 103	1	87.56	15.62	17.75	12.01 %
Plot 104 EL-Plot 104	1	87.56	15.95	18.02	11.48 %
Plot 105 EL-Plot 105	1	87.56	15.95	18.02	11.48 %
Plot 110 EL-Plot 110	1	87.56	15.95	18.02	11.48 %
Plot 111 EL-Plot 111	1	87.56	15.95	18.02	11.48 %
Plot 116 EL-Plot 116	1	87.56	15.95	18.02	11.48 %
Plot 117 EL-Plot 117	1	87.56	15.95	18.02	11.48 %
Plot 118 EL-Plot 118	1	87.56	15.95	18.02	11.48 %
Plot 119 EL-Plot 119	1	87.56	15.95	18.02	11.48 %
Plot 145 EL-Plot 145	1	87.56	15.95	18.02	11.48 %
Plot 144 EL-Plot 144	1	87.56	15.95	18.02	11.48 %
Plot 152 EL-Plot 152	1	87.56	15.97	18.06	11.56 %
Plot 153 EL-Plot 153	1	87.56	15.97	18.06	11.56 %
Plot 185 EL-Plot 185	1	87.56	15.95	18.02	11.48 %
Plot 184 EL-Plot 184	1	87.56	15.95	18.02	11.48 %
Plot 208 EL-Plot 208	1	87.56	15.97	18.06	11.56 %
Plot 209 EL-Plot 209	1	87.56	15.97	18.06	11.56 %
Plot 210 EL-Plot 210	1	87.56	15.97	18.06	11.56 %
Plot 213 EL-Plot 213	1	87.56	15.97	18.06	11.56 %
Plot 214 EL-Plot 214	1	87.56	15.97	18.06	11.56 %
Plot 215 EL-Plot 215	1	87.56	15.97	18.06	11.56 %
Plot 216 EL-Plot 216	1	87.56	15.87	18.02	11.94 %
Plot 207 EL-Plot 207	1	87.56	16.06	18.19	11.72 %
Plot 82 EL-Plot 82	1	104.04	15.06	16.88	10.77 %
Plot 182 EL-Plot 182	1	71.3	16.99	19.09	11.01 %
Plot 183 EL-Plot 183	1	71.3	17.31	19.42	10.89 %
Plot 181 EL-Plot 181	1	129.83	16.41	16.55	0.87 %
Plot 56 EL-Plot 56	1	71.3	17.21	19.41	11.35 %
Plot 55 EL-Plot 55	1	71.3	16.90	19.20	11.98 %
Plot 57 EL-Plot 57	1	71.3	16.99	19.23	11.63 %
Plot 58 EL-Plot 58	1	71.3	17.21	19.41	11.35 %
Plot 60 EL-Plot 60	1	71.3	17.21	19.41	11.35 %
Plot 59 EL-Plot 59	1	71.3	16.99	19.23	11.63 %
Plot 77 EL-Plot 77	1	71.3	16.78	19.06	11.95 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 78 EL-Plot 78	1	71.3	16.78	19.06	11.95 %
Plot 79 EL-Plot 79	1	71.3	16.96	19.22	11.74 %
Plot 80 EL-Plot 80	1	71.3	16.96	19.22	11.74 %
Plot 81 EL-Plot 81	1	129.83	16.47	16.80	1.97 %
Plot 88 EL-Plot 181	1	129.83	16.59	16.90	1.86 %
Plot 91 EL-Plot 91	1	129.83	16.59	16.90	1.86 %
Plot 96 EL-Plot 96	1	71.3	17.21	19.41	11.35 %
Plot 97 EL-Plot 97	1	71.3	16.99	19.23	11.63 %
Plot 140 EL-Plot 140	1	71.3	17.00	19.22	11.56 %
Plot 141 EL-Plot 141	1	71.3	17.30	19.49	11.22 %
Plot 142 EL-Plot 142	1	71.3	17.00	19.22	11.56 %
Plot 143 EL-Plot 143	1	71.3	17.30	19.49	11.22 %
Plot 146 EL-Plot 146	1	71.3	17.00	19.22	11.56 %
Plot 147 EL-Plot 147	1	71.3	17.30	19.49	11.22 %
Plot 148 EL-Plot 148	1	71.3	17.00	19.22	11.56 %
Plot 149 EL-Plot 149	1	71.3	17.30	19.49	11.22 %
Plot 150 EL-Plot 150	1	71.3	17.00	19.22	11.56 %
Plot 151 EL-Plot 151	1	71.3	17.30	19.49	11.22 %
Plot 154 EL-Plot 154	1	71.3	16.99	19.23	11.63 %
Plot 155 EL-Plot 155	1	71.3	17.21	19.41	11.35 %
Plot 156 EL-Plot 154	1	71.3	16.99	19.23	11.63 %
Plot 157 EL-Plot 157	1	71.3	17.21	19.41	11.35 %
Plot 158 EL-Plot 158	1	71.3	16.99	19.23	11.63 %
Plot 159 EL-Plot 159	1	71.3	17.21	19.41	11.35 %
Plot 164 EL-Plot 164	1	129.83	16.73	17.01	1.66 %
Plot 186 EL-Plot 186	1	71.3	16.81	19.14	12.15 %
Plot 187 EL-Plot 146	1	71.3	16.78	19.06	11.95 %
Plot 189 EL-Plot 189	1	87.56	15.36	17.54	12.42 %
Plot 188 EL-Plot 188	1	87.56	15.36	17.54	12.42 %
Plot 190 EL-Plot 190	1	71.3	17.00	19.22	11.56 %
Plot 191 EL-Plot 191	1	71.3	17.30	19.49	11.22 %
Plot 192 EL-Plot 192	1	71.3	16.87	19.12	11.75 %
Plot 193 EL-Plot 193	1	71.3	17.08	19.30	11.51 %
Plot 194 EL-Plot 194	1	71.3	16.87	19.12	11.75 %
Plot 195 EL-Plot 195	1	71.3	17.08	19.30	11.51 %
Plot 196 EL-Plot 196	1	129.83	16.69	16.98	1.71 %
Plot 211 EL-Plot 211	1	71.3	17.21	19.41	11.35 %
Plot 212 EL-Plot 212	1	71.3	16.99	19.23	11.63 %
Plot 33 EL-Plot 33	1	129.83	15.15	15.64	3.13 %
Plot 34 EL-Plot 34	1	129.83	7.12	15.76	54.82 %
Plot 205 EL-Plot 205	1	129.83	15.15	15.53	2.42 %
Plot 206 EL-Plot 206	1	129.83	15.28	15.65	2.34 %
Plot 61 EL-Plot 61	1	129.83	15.07	15.46	2.49 %
Plot 62 EL-Plot 62	1	129.83	15.20	15.57	2.40 %
Plot 76 EL-Plot 76	1	129.83	15.36	15.70	2.16 %
Plot 75 EL-Plot 75	1	129.83	15.16	15.53	2.39 %
Plot 139 EL-Plot 139	1	129.83	15.20	15.57	2.40 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 138 EL-Plot 138	1	129.83	15.07	15.46	2.49 %
Plot 83 EL-Plot 83	1	104.04	15.06	16.88	10.77 %
Plot 86 EL-Plot 86	1	104.04	15.06	16.88	10.77 %
Plot 87 EL-Plot 87	1	104.04	15.06	16.88	10.77 %
Plot 163 EL-Plot 163	1	104.04	15.08	16.88	10.68 %
Plot 160 EL-Plot 160	1	104.04	14.99	16.82	10.86 %
Plot 203 EL-Plot 203	1	104.04	14.94	16.77	10.93 %
Plot 204 EL-Plot 204	1	104.04	14.94	16.77	10.93 %
Plot 167 EL-Plot 167	1	104.04	15.08	16.88	10.68 %
Plot 170 EL-Plot 170	1	104.04	15.08	16.88	10.68 %
Plot 177 EL-Plot 177	1	104.04	14.90	16.76	11.10 %
Plot 175 EL-Plot 175	1	104.04	14.90	16.76	11.10 %
Plot 178 EL-Plot 178	1	104.04	14.90	16.76	11.10 %
Plot 180 EL-Plot 180	1	104.04	14.90	16.76	11.10 %
Plot 197 EL-Plot 197	1	104.04	15.01	16.82	10.79 %
Plot 198 EL-Plot 198	1	104.04	15.01	16.82	10.79 %
Plot 84 EL-Plot 84	1	113.37	15.47	16.16	4.27 %
Plot 85 EL-Plot 85	1	113.37	15.61	16.29	4.18 %
Plot 165 EL-Plot 165	1	113.37	15.61	16.29	4.18 %
Plot 166 EL-Plot 166	1	113.37	15.47	16.16	4.27 %
Plot 171 EL-Plot 171	1	113.37	15.61	16.29	4.18 %
Plot 174 EL-Plot 174	1	113.37	15.47	16.16	4.27 %
Plot 201 EL-Plot 201	1	113.37	15.37	16.09	4.47 %
Plot 199 EL-Plot 199	1	113.37	15.37	16.09	4.47 %
Plot 200 EL-Plot 200	1	113.37	15.47	16.18	4.40 %
Plot 202 EL-Plot 202	1	113.37	15.47	16.18	4.40 %
Plot 162 EL-Plot 162	1	104.04	15.11	16.80	10.07 %
Plot 161 EL-Plot 161	1	104.04	15.11	16.80	10.07 %
Plot 168 EL-Plot 168	1	104.04	15.11	16.80	10.07 %
Plot 169 EL-Plot 169	1	104.04	15.11	16.80	10.07 %
Plot 176 EL-Plot 176	1	104.04	14.93	16.68	10.48 %
Plot 179 EL-Plot 179	1	104.04	14.93	16.68	10.48 %
Plot 172 EL-Plot 172	1	113.37	14.00	14.92	6.16 %
Plot 173 EL-Plot 173	1	113.37	14.00	14.92	6.16 %
Plot 22 EL-Plot 22	1	129.83	16.69	16.98	1.71 %
Plot 21 EL-Plot 21	1	129.83	16.60	16.91	1.82 %
Plot 19 EL-Plot 19	1	87.56	15.97	18.06	11.56 %
Apartment 301-Apt 301	1	53.27	17.78	20.23	12.10 %
Apartment 302-Apt 302	1	67.04	15.13	17.42	13.14 %
Apartment 303-Apt 303	1	67.04	15.62	17.84	12.43 %
Apartment 304-Apt 304	1	53.27	18.25	20.63	11.52 %
Apartment 312-Apt 312	1	67.04	13.33	15.23	12.47 %
Apartment 313-Apt 313	1	67.04	13.80	15.64	11.74 %
Apartment 322-Apt 322	1	67.04	15.44	18.56	16.83 %
Apartment 323-Apt 323	1	67.04	16.63	18.98	12.40 %
Apartment 311-Apt 311	1	61.88	15.52	17.30	10.28 %
Apartment 321-Apt 321	1	61.88	18.67	21.50	13.15 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Apartment 314-Apt 314	1	53.27	16.76	18.62	9.97 %
Apartment 324-Apt 324	1	53.27	20.07	23.20	13.49 %
Apartment 101-Apt 101	1	60.96	17.61	19.94	11.70 %
Apartment 106-Apt 106	1	60.96	17.61	19.94	11.70 %
Apartment 102-Apt 102	1	51.14	16.16	18.56	12.91 %
Apartment 103-Apt 103	1	51.14	16.16	18.56	12.91 %
Apartment 105-Apt 105	1	51.14	16.16	18.56	12.91 %
Apartment 104-Apt 104	1	73.69	14.67	16.95	13.48 %
Apartment 111-Apt 111	1	60.96	15.91	17.69	10.06 %
Apartment 114-Apt 114	1	73.69	12.91	14.76	12.52 %
Apartment 116-Apt 116	1	60.96	15.91	17.69	10.06 %
Apartment 112-Apt 112	1	62.18	13.80	15.64	11.76 %
Apartment 115-Apt 115	1	62.18	13.80	15.64	11.76 %
Apartment 113-Apt 113	1	67.58	13.13	14.93	12.06 %
Apartment 121-Apt 121	1	60.96	19.07	21.89	12.89 %
Apartment 122-Apt 122	1	62.18	16.80	19.19	12.46 %
Apartment 123-Apt 123	1	67.58	16.07	18.30	12.20 %
Apartment 124-Apt 124	1	73.69	15.81	18.31	13.66 %
Apartment 125-Apt 125	1	62.18	16.80	19.19	12.46 %
Apartment 126-Apt 126	1	60.96	19.07	21.89	12.89 %
Apartment 201-Apt 201	1	60.96	17.61	19.94	11.70 %
Apartment 202-Apt 202	1	51.14	16.16	18.56	12.91 %
Apartment 203-Apt 203	1	51.14	16.16	18.56	12.91 %
Apartment 204-Apt 204	1	73.69	14.67	16.95	13.48 %
Apartment 205-Apt 205	1	51.14	16.16	18.56	12.91 %
Apartment 206-Apt 206	1	60.96	17.61	19.94	11.70 %
Apartment 211-Apt 211	1	60.96	15.91	17.69	10.06 %
Apartment 212-Apt 212	1	62.18	13.80	15.64	11.76 %
Apartment 213-Apt 213	1	67.58	13.13	14.93	12.06 %
Apartment 214-Apt 214	1	73.69	12.91	14.76	12.52 %
Apartment 215-Apt 115	1	62.18	13.80	15.64	11.76 %
Apartment 216-Apt 216	1	60.96	15.91	17.69	10.06 %
Apartment 221-Apt 221	1	60.96	19.07	21.89	12.89 %
Apartment 222-Apt 222	1	62.18	16.80	19.19	12.46 %
Apartment 223-Apt 223	1	67.58	16.07	18.30	12.20 %
Apartment 224-Apt 224	1	73.69	15.81	18.31	13.66 %
Apartment 225-Apt 225	1	62.18	16.80	19.19	12.46 %
Apartment 226-Apt 226	1	60.96	19.07	21.89	12.89 %
Totals:	216	18041.14	3,450.99	3,934.63	
Average DER = 15.84 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 17.96 kgCO ₂ /m ²		11.80 %			

Block Compliance Report - DFEE

Block Reference: 000008		Block Name: All			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DFEE (kWh/m ² /yr)	TTEE (kWh/m ² /yr)	% DFEE/TTEE
Plot 20 EL-Plot 20	1	71.3	45.51	55.43	17.89 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 23 EL-Plot 23	1	71.3	44.10	53.94	18.24 %
Plot 25 EL-Plot 25	1	71.3	44.10	53.94	18.24 %
Plot 27 EL-Plot 27	1	71.3	44.10	53.94	18.24 %
Plot 29 EL-Plot 29	1	71.3	44.10	53.94	18.24 %
Plot 37 EL-Plot 37	1	71.3	48.92	53.94	9.30 %
Plot 39 EL-Plot 39	1	71.3	44.10	53.94	18.24 %
Plot 41 EL-Plot 41	1	71.3	44.10	53.94	18.24 %
Plot 43 EL-Plot 43	1	71.3	44.10	53.94	18.24 %
Plot 44 EL-Plot 44	1	71.3	44.98	54.87	18.02 %
Plot 42 EL-Plot 42	1	71.3	44.98	54.87	18.02 %
Plot 40 EL-Plot 40	1	71.3	44.98	54.87	18.02 %
Plot 38 EL-Plot 38	1	71.3	43.00	54.87	21.64 %
Plot 30 EL-Plot 30	1	71.3	44.98	54.87	18.02 %
Plot 28 EL-Plot 28	1	71.3	44.98	54.87	18.02 %
Plot 26 EL-Plot 26	1	71.3	44.98	54.87	18.02 %
Plot 24 EL-Plot 24	1	71.3	44.98	54.87	18.02 %
Plot 115 EL-Plot 115	1	71.3	44.90	54.70	17.91 %
Plot 113 EL-Plot 113	1	71.3	44.90	54.70	17.91 %
Plot 109 EL-Plot 109	1	71.3	44.90	54.70	17.91 %
Plot 107 EL-Plot 107	1	71.3	44.90	54.70	17.91 %
Plot 106 EL-Plot 106	1	71.3	46.15	56.02	17.62 %
Plot 108 EL-Plot 108	1	71.3	46.15	56.02	17.62 %
Plot 112 EL-Plot 112	1	71.3	46.15	56.02	17.62 %
Plot 114 EL-Plot 114	1	71.3	46.15	56.02	17.62 %
Plot 48 EL-Plot 48	1	71.3	44.62	54.49	18.11 %
Plot 47 EL-Plot 47	1	71.3	45.51	55.43	17.89 %
Plot 31 EL-Plot 31	1	87.56	41.81	51.67	19.07 %
Plot 32 EL-Plot 32	1	87.56	41.81	51.67	19.07 %
Plot 35 EL-Plot 35	1	87.56	46.16	51.67	10.66 %
Plot 36 EL-Plot 36	1	87.56	40.06	51.67	22.46 %
Plot 45 EL-Plot 45	1	87.56	41.81	51.67	19.07 %
Plot 46 EL-Plot 45	1	87.56	41.81	51.67	19.07 %
Plot 49 EL-Plot 49	1	87.56	43.25	53.19	18.69 %
Plot 50 EL-Plot 50	1	87.56	43.25	53.19	18.69 %
Plot 51 EL-Plot 51	1	87.56	43.25	53.19	18.69 %
Plot 52 EL-Plot 52	1	87.56	43.25	53.19	18.69 %
Plot 53 EL-Plot 53	1	87.56	41.81	51.67	19.07 %
Plot 54 EL-Plot 54	1	87.56	41.75	51.86	19.50 %
Plot 89 EL-Plot 89	1	87.56	41.81	51.67	19.07 %
Plot 90 EL-Plot 90	1	87.56	41.81	51.67	19.07 %
Plot 92 EL-Plot 92	1	87.56	41.81	51.67	19.07 %
Plot 93 EL-Plot 93	1	87.56	41.81	51.67	19.07 %
Plot 94 EL-Plot 94	1	87.56	41.81	51.67	19.07 %
Plot 95 EL-Plot 95	1	87.56	41.81	51.67	19.07 %
Plot 98 EL-Plot 98	1	87.56	41.81	51.67	19.07 %
Plot 99 EL-Plot 99	1	87.56	41.81	51.67	19.07 %
Plot 100 EL-Plot 100	1	87.56	41.81	51.67	19.07 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 101 EL-Plot 101	1	87.56	41.81	51.67	19.07 %
Plot 102 EL-Plot 102	1	87.56	41.81	51.67	19.07 %
Plot 103 EL-Plot 103	1	87.56	41.81	51.67	19.07 %
Plot 104 EL-Plot 104	1	87.56	43.44	53.28	18.46 %
Plot 105 EL-Plot 105	1	87.56	43.44	53.28	18.46 %
Plot 110 EL-Plot 110	1	87.56	43.44	53.28	18.46 %
Plot 111 EL-Plot 111	1	87.56	43.44	53.28	18.46 %
Plot 116 EL-Plot 116	1	87.56	43.44	53.28	18.46 %
Plot 117 EL-Plot 117	1	87.56	43.44	53.28	18.46 %
Plot 118 EL-Plot 118	1	87.56	43.44	53.28	18.46 %
Plot 119 EL-Plot 119	1	87.56	43.44	53.28	18.46 %
Plot 145 EL-Plot 145	1	87.56	43.44	53.28	18.46 %
Plot 144 EL-Plot 144	1	87.56	43.44	53.28	18.46 %
Plot 152 EL-Plot 152	1	87.56	43.25	53.19	18.69 %
Plot 153 EL-Plot 153	1	87.56	43.25	53.19	18.69 %
Plot 185 EL-Plot 185	1	87.56	43.44	53.28	18.46 %
Plot 184 EL-Plot 184	1	87.56	43.44	53.28	18.46 %
Plot 208 EL-Plot 208	1	87.56	43.25	53.19	18.69 %
Plot 209 EL-Plot 209	1	87.56	43.25	53.19	18.69 %
Plot 210 EL-Plot 210	1	87.56	43.25	53.19	18.69 %
Plot 213 EL-Plot 213	1	87.56	43.25	53.19	18.69 %
Plot 214 EL-Plot 214	1	87.56	43.25	53.19	18.69 %
Plot 215 EL-Plot 215	1	87.56	43.25	53.19	18.69 %
Plot 216 EL-Plot 216	1	87.56	43.14	53.34	19.13 %
Plot 207 EL-Plot 207	1	87.56	43.95	54.20	18.92 %
Plot 82 EL-Plot 82	1	104.04	42.36	51.64	17.97 %
Plot 182 EL-Plot 182	1	71.3	43.99	53.78	18.19 %
Plot 183 EL-Plot 183	1	71.3	45.65	55.69	18.03 %
Plot 181 EL-Plot 181	1	129.83	48.14	55.48	13.24 %
Plot 56 EL-Plot 56	1	71.3	45.51	55.43	17.89 %
Plot 55 EL-Plot 55	1	71.3	44.54	54.60	18.42 %
Plot 57 EL-Plot 57	1	71.3	44.62	54.49	18.11 %
Plot 58 EL-Plot 58	1	71.3	45.51	55.43	17.89 %
Plot 60 EL-Plot 60	1	71.3	45.51	55.43	17.89 %
Plot 59 EL-Plot 59	1	71.3	44.62	54.49	18.11 %
Plot 77 EL-Plot 77	1	71.3	43.41	53.32	18.59 %
Plot 78 EL-Plot 78	1	71.3	43.41	53.32	18.59 %
Plot 79 EL-Plot 79	1	71.3	44.16	54.12	18.40 %
Plot 80 EL-Plot 80	1	71.3	44.16	54.12	18.40 %
Plot 81 EL-Plot 81	1	129.83	48.24	56.65	14.84 %
Plot 88 EL-Plot 181	1	129.83	48.75	57.18	14.74 %
Plot 91 EL-Plot 91	1	129.83	48.75	57.18	14.74 %
Plot 96 EL-Plot 96	1	71.3	45.51	55.43	17.89 %
Plot 97 EL-Plot 97	1	71.3	44.62	54.49	18.11 %
Plot 140 EL-Plot 140	1	71.3	44.90	54.70	17.91 %
Plot 141 EL-Plot 141	1	71.3	46.15	56.02	17.62 %
Plot 142 EL-Plot 142	1	71.3	44.90	54.70	17.91 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 143 EL-Plot 143	1	71.3	46.15	56.02	17.62 %
Plot 146 EL-Plot 146	1	71.3	44.90	54.70	17.91 %
Plot 147 EL-Plot 147	1	71.3	46.15	56.02	17.62 %
Plot 148 EL-Plot 148	1	71.3	44.90	54.70	17.91 %
Plot 149 EL-Plot 149	1	71.3	46.15	56.02	17.62 %
Plot 150 EL-Plot 150	1	71.3	44.90	54.70	17.91 %
Plot 151 EL-Plot 151	1	71.3	46.15	56.02	17.62 %
Plot 154 EL-Plot 154	1	71.3	44.62	54.49	18.11 %
Plot 155 EL-Plot 155	1	71.3	45.51	55.43	17.89 %
Plot 156 EL-Plot 154	1	71.3	44.62	54.49	18.11 %
Plot 157 EL-Plot 157	1	71.3	45.51	55.43	17.89 %
Plot 158 EL-Plot 158	1	71.3	44.62	54.49	18.11 %
Plot 159 EL-Plot 159	1	71.3	45.51	55.43	17.89 %
Plot 164 EL-Plot 164	1	129.83	49.64	57.99	14.39 %
Plot 186 EL-Plot 186	1	71.3	43.83	53.97	18.79 %
Plot 187 EL-Plot 146	1	71.3	43.41	53.32	18.59 %
Plot 189 EL-Plot 189	1	87.56	40.32	50.23	19.72 %
Plot 188 EL-Plot 188	1	87.56	40.32	50.23	19.72 %
Plot 190 EL-Plot 190	1	71.3	44.90	54.70	17.91 %
Plot 191 EL-Plot 191	1	71.3	46.15	56.02	17.62 %
Plot 192 EL-Plot 192	1	71.3	44.10	53.94	18.24 %
Plot 193 EL-Plot 193	1	71.3	44.98	54.87	18.02 %
Plot 194 EL-Plot 194	1	71.3	44.10	53.94	18.24 %
Plot 195 EL-Plot 195	1	71.3	44.98	54.87	18.02 %
Plot 196 EL-Plot 196	1	129.83	49.33	57.72	14.53 %
Plot 211 EL-Plot 211	1	71.3	45.51	55.43	17.89 %
Plot 212 EL-Plot 212	1	71.3	44.62	54.49	18.11 %
Plot 33 EL-Plot 33	1	129.83	43.33	50.97	15.00 %
Plot 34 EL-Plot 34	1	129.83	46.56	51.58	9.73 %
Plot 205 EL-Plot 205	1	129.83	42.79	50.37	15.04 %
Plot 206 EL-Plot 206	1	129.83	43.38	50.98	14.91 %
Plot 61 EL-Plot 61	1	129.83	42.45	50.01	15.12 %
Plot 62 EL-Plot 62	1	129.83	43.03	50.62	14.99 %
Plot 76 EL-Plot 76	1	129.83	43.81	51.37	14.72 %
Plot 75 EL-Plot 75	1	129.83	42.99	50.52	14.91 %
Plot 139 EL-Plot 139	1	129.83	43.03	50.62	14.99 %
Plot 138 EL-Plot 138	1	129.83	42.45	50.01	15.12 %
Plot 83 EL-Plot 83	1	104.04	42.36	51.64	17.97 %
Plot 86 EL-Plot 86	1	104.04	42.36	51.64	17.97 %
Plot 87 EL-Plot 87	1	104.04	42.36	51.64	17.97 %
Plot 163 EL-Plot 163	1	104.04	42.25	51.47	17.92 %
Plot 160 EL-Plot 160	1	104.04	42.01	51.30	18.10 %
Plot 203 EL-Plot 203	1	104.04	41.58	50.90	18.31 %
Plot 204 EL-Plot 204	1	104.04	41.58	50.90	18.31 %
Plot 167 EL-Plot 167	1	104.04	42.25	51.47	17.92 %
Plot 170 EL-Plot 170	1	104.04	42.25	51.47	17.92 %
Plot 177 EL-Plot 177	1	104.04	41.24	50.64	18.56 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Plot 175 EL-Plot 175	1	104.04	41.24	50.64	18.56 %
Plot 178 EL-Plot 178	1	104.04	41.24	50.64	18.56 %
Plot 180 EL-Plot 180	1	104.04	41.24	50.64	18.56 %
Plot 197 EL-Plot 197	1	104.04	41.71	50.96	18.16 %
Plot 198 EL-Plot 198	1	104.04	41.71	50.96	18.16 %
Plot 84 EL-Plot 84	1	113.37	42.26	51.21	17.48 %
Plot 85 EL-Plot 85	1	113.37	42.90	51.88	17.32 %
Plot 165 EL-Plot 165	1	113.37	42.90	51.88	17.32 %
Plot 166 EL-Plot 166	1	113.37	42.26	51.21	17.48 %
Plot 171 EL-Plot 171	1	113.37	42.90	51.88	17.32 %
Plot 174 EL-Plot 174	1	113.37	42.26	51.21	17.48 %
Plot 201 EL-Plot 201	1	113.37	41.67	50.67	17.77 %
Plot 199 EL-Plot 199	1	113.37	41.67	50.67	17.77 %
Plot 200 EL-Plot 200	1	113.37	42.12	51.15	17.65 %
Plot 202 EL-Plot 202	1	113.37	42.12	51.15	17.65 %
Plot 162 EL-Plot 162	1	104.04	42.37	51.04	16.99 %
Plot 161 EL-Plot 161	1	104.04	42.37	51.04	16.99 %
Plot 168 EL-Plot 168	1	104.04	42.37	51.04	16.99 %
Plot 169 EL-Plot 169	1	104.04	42.37	51.04	16.99 %
Plot 176 EL-Plot 176	1	104.04	41.37	50.21	17.61 %
Plot 179 EL-Plot 179	1	104.04	41.37	50.21	17.61 %
Plot 172 EL-Plot 172	1	113.37	35.62	44.51	19.98 %
Plot 173 EL-Plot 173	1	113.37	35.62	44.51	19.98 %
Plot 22 EL-Plot 22	1	129.83	49.33	57.72	14.53 %
Plot 21 EL-Plot 21	1	129.83	48.97	57.35	14.60 %
Plot 19 EL-Plot 19	1	87.56	43.25	53.19	18.69 %
Apartment 301-Apt 301	1	53.27	41.80	52.60	20.53 %
Apartment 302-Apt 302	1	67.04	34.13	43.31	21.19 %
Apartment 303-Apt 303	1	67.04	36.47	45.69	20.19 %
Apartment 304-Apt 304	1	53.27	44.01	54.85	19.75 %
Apartment 312-Apt 312	1	67.04	26.55	32.27	17.71 %
Apartment 313-Apt 313	1	67.04	28.85	34.64	16.72 %
Apartment 322-Apt 322	1	67.04	35.44	49.11	27.83 %
Apartment 323-Apt 323	1	67.04	40.72	51.47	20.88 %
Apartment 311-Apt 311	1	61.88	34.80	41.26	15.66 %
Apartment 321-Apt 321	1	61.88	48.20	62.76	23.21 %
Apartment 314-Apt 314	1	53.27	38.31	45.12	15.09 %
Apartment 324-Apt 324	1	53.27	52.29	68.44	23.60 %
Apartment 101-Apt 101	1	60.96	43.56	54.53	20.12 %
Apartment 106-Apt 106	1	60.96	43.56	54.53	20.12 %
Apartment 102-Apt 102	1	51.14	32.99	41.76	20.99 %
Apartment 103-Apt 103	1	51.14	32.99	41.76	20.99 %
Apartment 105-Apt 105	1	51.14	32.99	41.76	20.99 %
Apartment 104-Apt 104	1	73.69	33.19	41.86	20.73 %
Apartment 111-Apt 111	1	60.96	36.37	43.08	15.56 %
Apartment 114-Apt 114	1	73.69	25.69	30.70	16.33 %
Apartment 116-Apt 116	1	60.96	36.37	43.08	15.56 %

BLOCK COMPLIANCE

Calculation Type: New Build (As Designed)

Apartment 112-Apt 112	1	62.18	26.47	31.74	16.60 %
Apartment 115-Apt 115	1	62.18	26.47	31.74	16.60 %
Apartment 113-Apt 113	1	67.58	24.64	29.66	16.93 %
Apartment 121-Apt 121	1	60.96	49.77	64.53	22.87 %
Apartment 122-Apt 122	1	62.18	39.17	49.82	21.38 %
Apartment 123-Apt 123	1	67.58	37.11	46.82	20.75 %
Apartment 124-Apt 124	1	73.69	38.04	48.80	22.04 %
Apartment 125-Apt 125	1	62.18	39.16	49.81	21.38 %
Apartment 126-Apt 126	1	60.96	49.77	64.53	22.87 %
Apartment 201-Apt 201	1	60.96	43.56	54.53	20.12 %
Apartment 202-Apt 202	1	51.14	32.99	41.76	20.99 %
Apartment 203-Apt 203	1	51.14	32.99	41.76	20.99 %
Apartment 204-Apt 204	1	73.69	33.19	41.86	20.73 %
Apartment 205-Apt 205	1	51.14	32.99	41.76	20.99 %
Apartment 206-Apt 206	1	60.96	43.56	54.53	20.12 %
Apartment 211-Apt 211	1	60.96	36.37	43.08	15.56 %
Apartment 212-Apt 212	1	62.18	26.47	31.74	16.60 %
Apartment 213-Apt 213	1	67.58	24.64	29.66	16.93 %
Apartment 214-Apt 214	1	73.69	25.69	30.70	16.33 %
Apartment 215-Apt 115	1	62.18	26.47	31.74	16.60 %
Apartment 216-Apt 216	1	60.96	36.37	43.08	15.56 %
Apartment 221-Apt 221	1	60.96	49.77	64.53	22.87 %
Apartment 222-Apt 222	1	62.18	39.17	49.82	21.38 %
Apartment 223-Apt 223	1	67.58	37.11	46.82	20.75 %
Apartment 224-Apt 224	1	73.69	38.04	48.80	22.04 %
Apartment 225-Apt 225	1	62.18	39.16	49.81	21.38 %
Apartment 226-Apt 226	1	60.96	49.77	64.53	22.87 %
Totals:	216	18041.14	9,102.37	11,136.01	
Average DFEE = 42.44 kWh/m ² /yr		% DFEE/TFEE	PASS		
Average TFEE = 51.75 kWh/m ² /yr		17.99 %			