Energy and Carbon Proforma
Residential

Major development *(+10 homes)*

Version 2.0

GMCA GREATER MANCHESTER COMBINED AUTHORITY

Project Name: 1 Castlefield

Application ref:

Date: 02-Jul

Summary sitewide reporting table				
Affordable dwellings?	No. of resi buildings on site	Total resi building footprint area (m^2)	Total on-site PV area for resi (m^2)	Sitewide PV footprint area (%fp)
No	2			

	Building ref. name		Block A	Block B		
	Area (m^2 GIA)		37509	16220		
	No. dwellings (per building)		436	156		
	No. affordable dwellings (per building)					
		Target values	**Building 1**	**Building 2**	**Building 3**	**Building 4**
Minimise energy demand	**Space heating demand (kWh/m^2 GIA/yr)**	***≤ 15 (flats) ≤ 20 (houses)***	**19.06**	**9.11**		
	Calculation methodology used to calculate space heating demand and confirmation that this covers all homes/blocks	*Predictive energy model*	Predictive energy model	Predictive energy model		
	Form factor per building	*≤ 2*	0.48	0.74		
	Average external wall U-value (W/m^2K)	*≤ 0.15*	0.12	0.12		
	Average window U-value (W/m^2K)	*≤ 1 (triple)*	1.2	1.2		
	Air permeability rate (m^3/h/m^2 @ 50 Pa)	*≤ 1*	3	3		
Maximise energy efficiency	**Energy use intensity (kWh/m^2 GIA/yr)** *renewables should not be accounted for in the EUI calculation*	***≤ 35***	**57**	**56**		
	Calculation methodology used to calculate energy use intensity and confirmation that this covers all homes/blocks	*Predictive energy model*	Predictive energy model	Predictive energy model		
Use renewable energy	**PV footprint area (% of ground floor space)**	***≥ 40***	**0**	**4.97**		
	Annual renewable energy generation (kWh/m^2 building footprint/yr)	-	0	1.16		
	Renewable energy balance (%)	-	0	2.26		
	Total energy used (kWh/yr)	-	0	832000		
	Total energy generated on-site (kWh/yr)	-	0	18770		
Use low carbon energy	**Fossil fuel free (yes/no)**	***Yes***				
	Heating heat source	*Electric*	Electric	Electric		
	Domestic Hot Water heat source	*Electric*	Electric	Electric		
	Low Carbon Heat Appraisal completed	*Yes*	Electric	Electric		
	Heat network suitability	-				
	Exemption requested	-				
	Efficiency of heating system (SCOP)	*≥ 3.5*	1	1		
	Efficiency of domestic hot water system (SCOP)	*≥ 3.5*	3.3	3.3		
	Carbon content of heat (gCO_2/kWh)	*≤ 100*	70	70		
Reduce overheating risk	**Have Part O overheating requirements been met without the use of mechanical cooling?**	***Yes***	**Yes**	**Yes**		
	If no, how many homes are cooled?	-				
	Has a CIBSE TM59 assessment been carried out using DSY2 and DSY3 weather files? Have any additional passive measures been included as a result?	*Yes*	Yes No	Yes No		
Minimise embodied carbon	**Upfront embodied carbon ($kgCO_2e/m^2$GIA)**	***≤ 500-600***	**382.1**	**392.1**		
	List top three materials with the highest upfront embodied carbon emissions ($kgCO_2e/m^2$GIA): Material 1	-	eady mix concr	eady mix concrete		
	Material 2	-	einforcement st	einforcement steel		
	Material 3		aluminium framed curtain v	aced precast cladding		
	Lifecycle embodied carbon ($kgCO_2e/m^2$GIA) - *for large major developments only*	-	538.4	562.89		
Offsets	**Offset contribution (£)**	**-**				