2-Summary of proposals

Residential planning application submission checklist - energy (S6/7)

To be completed by all developments

Central Lincolnshire LOCAL PLAN

General development information

Q1	Development category	Residential
Q2	Number of units	1

		Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Q3	Gross Internal Area (GIA), m2	104									
Q4	Projected Footprint Area, m2	123									

Compliance route

Q5 Are you using the SAP or PHPP route to demonstrate compliance with policies S6, S7 and S8? SAP complete questions below and then go to tab 4

Executive Summary

Q6 The application is for a new build, single storey residential dwelling. A design stage SAP calculation has been completed and accompanies the application. The SAP rating calulated is 89 B. The Environmental rating is 98 A.

Exceptional basis clauses

Q7 Does your poropsal fall under Exceptional Basis clause 1, 2 or 3 of policy S7 No

Q8 If you have answered yes to the above please justify in the space below and complete Tabs 3 (if applicable) 4, 5, 6 and 7.

4-Resi - Site (SAP Route)

Checklist for RESIDENTIAL development applications.

This checklist is for applications that have used the Standard Assessment Procedure (SAP) methodology for calculating energy and CO2 emissions.
Applicants that have used PassivHaus Planning Package (PHPP) completed by a certified PassivHaus Designer can use the simplified checklist.

This checklists covers Policies S6 and S7 for residential development. For non-residential development please use checklist [insert link]

Policy S6: Design Principles for Efficient Buildings

S6.1 Orientation and form of buildings

Q19 **How has orientation and the incidence of sun and shading influenced the design of the site and the building/s?**

The house has been orientated in a northeast/ southwest orientation. The nature of its orientation means that the priciple glazing will not be subjected to direct southern light, nor by westerly light which can cause overheating.

Q20 **How has the potential for overheating been minimised through design?**

Overhanging eaves, through building orientation and solar control glass.

These narrative responses can be supplemented with design evidence.

Q21 Please complete the below for at each unit (or a sample of 5 units for propsoals with more than 5 units).

Unit 1

Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
Proposed Bungalow		Façade 1	N/E (Front)	30%	Porch over priciple entrance. Glazing size appropriate to internal accommodation.
		Façade 2	N (Side)	22%	Glazing size appropriate to internal accommodation.
		Façade 3	N/W (Rear)	50%	Principal rooms facing N/W.
		Façade 4	S (Side)	8%	Minimal glazing.

Unit 2

Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 3

Form factor		**Orientation**	**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys			

		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 4					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 5					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 6					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 7					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 8					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 9					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				

		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Unit 10					
Form factor		**Orientation**		**Glazing to solid wall ratio (%)**	**Explain how the balance between solar gain and solar shading has been managed.**
Houses/low-rise flats.	Flats four or more storeys				
		Façade 1			
		Façade 2			
		Façade 3			
		Façade 4			

Documentation required

Please confirm the following documentation has been provided as a minimum:

Plans and elevations of all building types	Yes
Site plan with building types and orientation marked	Yes

5-Resi - Fabric (SAP Route)

Residential planning application submission checklist - energy (S6/7)

Checklist for RESIDENTIAL development applications using SAP (Standard Assessment Procedure) to calculate energy consumption

Central Lincolnshire LOCAL PLAN

This checklists covers Policies S6 and S7 for residential development. For non-residential development please use checklist [insert link]

Please add additional plots to the right where applicable

FOR DEVELOPMENTS USING SAP (NOT PHPP)

Policy S6:	Design Principles for Efficient Buildings	Plot Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
S6.3	**Fabric of buildings**										
		The below cells have conditional formatting to indicate liklihood of compliance with policy S7									
Q22	**Air-tightness** target	5									
Q23	What **ventilation strategy** will be used in the building/s?	Extract ventilation (kitchens and bathrooms only)									
Q24	Efficiency of MVHR unit (if proposed)	N/A									
Q25	Complete the below table with the proposed **fabric u-values** of the different building elements.										
	External walls	0.17									
	Floor	0.1									
	Roof	0.1									
	Windows and doors	1.2									
Q26	Dwelling fabric energy efficiency (SAP), kWh/m2 *The dwelling fabric energy efficiency is a value automtically calculated in the SAP software which evaluates the performance of the building or unit before the performance of the heating system or any renewable energy generation are considered. This checks how good the intrinsic performance of the design of the building is.*	42.5									

6-Resi - Systems (SAP Route)

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Key	
ASHP <45	Air Source Heat Pump, flow temp <45°C
ASHP >45	Air Source Heat Pump, >45°C
GSHP >45	Ground Source Heat Pump, <45°C
GSHP <45	Ground Source Heat Pump, >45°C
DE	Direct electric systems
GB	Gas boiler
Other	Other

Please add additional plots to the right where applicable

Policy S6:	Design Principles for Efficient Buildings	Plot Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
S6.4	**Heat supply**										
Q27	Will units be served by individual, communal or district heating systems?	Individual									
Q28	What systems will provide **space heating** and **hot water** in the building/s?	ASHP <45									
Q29	Dwelling primary energy, kWhPE/m2	26.35									

Documentation required

Site plans and/or plot drawings showing location of heating systems	Yes

7-Resi - Renewables (SAP Route)

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Policy S6: Design Principles for Efficient Buildings

S6.5 **Renewable energy**

Q30 Please complete the table below for **renewable energy** provision:

Q31 Which technology/technologies will be installed on the site?

Air source heat pump; solar array

Q32 Total installed capacity on-site, kWp

2

Q33 Site wide annual renewable energy generation, kWh/yr

Q34 What program or calculation methodology has been used to calculate the above renewable energy outputs?

SAP

Please add additional plots to the right where applicable

Q35 Complete the below as applicable.

Solar photovoltaics	Communal	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Renewable energy generation intensity, kWh/m2/yr*		TBC									
PV panel efficiency rating, W		TBC									
Surface area of roof, m2		130									
Area of PV panel, m2		12									
No. storeys to building		1									

Indicators (for officer use)

Annual generation per m2 building footprint, kWh/m2(f.p.)*		#VALUE!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
% of surface area of roof covered by PV		9%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Wind turbine	Communal	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Number of turbines											
Capacity of individual turbine											
Annual generation, kWh/m2											

Solar thermal	Communal	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Installed capacity											
% annual hot water demand met											

Other	Communal	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Installed capacity											

* /m2 = per m2 GIA
/m2(f.p.) = per m2 building footprint

Documentation required - Please confirm the following documentation has been provided as a minimum:

Plans and elevations of all building types	Yes
Site plan with building types and orientation marked	Yes
Roof plans with indicative PV layouts	Yes
Site plan with location of renewable energy technologies	Yes
SAP / PHPP outputs	Yes
Renewable energy generation calculations	Yes