Site Specification Sheet V-2 – Design Issue – Redesign of site			18 January 2021
SAP Version	**2012**	**File Name**	**FSAP2012 – Boundary Lane**
REGULATIONS	**ADL1a 2013**		
Number of Plots.	**1 № New Dwelling/s**	**Architect / Client**	**Estuary Design – Mr P Revell**
Site Address	**Boundary Lane Cratfield Lane Cratfield Suffolk IP19 0DE.**		**Region (degree day)** East Anglia

Element	Full Description	KAPPA	U Value W/m²K
Ground Floor	75mm Screed finish on 150mm Kingspan / Celotex (or similar insulation – k= 0.022 W/mk) floor insulation on beam / block floor based upon P/A	**90**	**0.11**
External Wall – Cavity Brick Finish	103mm External Brick + 100mm Knauf Dritherm Ultimate 32 (0.032 W/mk) or similar cavity wall insulation + 100mm AAC Block (0.15 W/mk) Celcon Standard or similar + Plasterboard on Dabs + skim finish	**54**	**0.24**
External Wall – Cavity Brick PLINTH	215mm External Brick + 100mm Knauf Dritherm Ultimate 32 (0.032 W/mk) or similar cavity wall insulation + 100mm AAC Block (0.15 W/mk) Celcon Standard or similar + Plasterboard on Dabs + skim finish	**54**	**0.23**
External Wall – Cavity Render Finish	External render on 100mm Medium Density Concrete Block + 100mm Knauf Dritherm Ultimate 32 (0.032 W/mk) or similar cavity wall insulation + 100mm AAC Block (0.15 W/mk) Celcon Standard or similar + Plasterboard on Dabs + skim finish	**54**	**0.24**
External Wall – Cavity Clad Finish	External Cladding on Battens on 100mm Medium Density Concrete Block + 100mm Knauf Dritherm Ultimate 32 (0.032 W/mk) or similar cavity wall insulation + 100mm AAC Block (0.15 W/mk) Celcon Standard or similar + Plasterboard on Dabs + skim finish	**54**	**0.22**
Stud wall to Roof Void	100mm Kingspan / Celotex (or similar insulation – k= 0.022 W/mk) in vertical timber stud wall (12.5% timber) + Plasterboard + skim finish	**9**	**0.32 / 0.28 including shelter to roof void**
Internal Walls – Timber Stud	Timber stud walls with Plasterboard and skim to both sides	**9**	
Internal Walls – Block	100mm AAC Block (0.15 W/mk) Celcon standard or similar + plasterboard on dabs to both sides	**40**	

Roof 1 **Flat Celling**	400mm fibreglass/mineral wool insulation laid between and over rafters	**9**	**0.10**
Roof 2 **Slope**	Tiles on battens + 100mm Kingspan / Celotex (or similar insulation – k= 0.022 W/mk) in timber rafters @ 600mm Ctrs + 40mm Kingspan / Celotex (or similar insulation – k= 0.022 W/mk) to underside + Plasterboard + skim finish	**9**	**0.17**
Roof 3 **Flat Roof**	120mm Kingspan / Celotex (or similar insulation – k= 0.022 W/mk) Warm Deck Roof	**9**	**0.17**
Window Spec	Double glazed units with maximum overall U Value not exceeding		**1.40**
Bi-Fold / Sliding Doors	Double glazed units with maximum overall U Value not exceeding		**1.80**
Rooflights	Velux GGL – 50 or similar = g=0.66 / U= 1.30		**1.30**
Glazed roof – Jacuzzi area	Double glazed units with maximum overall U Value not exceeding		**1.60**
Door Spec	External Doors to be insulated – Maximum U Value		**1.80**
Air Permeability Rates	All units to be Tested to maximum – 7.00 m^3 ($h.m^2$) @ 50 pa. ~~An air test is not always required for every dwelling on a site; a pressure test is required on three units of each dwelling type or 50% of the instances of the dwelling type whichever is fewer.~~ ~~A confidence factor will apply to dwellings not pressure tested. Where a dwelling has been pressure tested, this value is used in the SAP DER calculation.~~ ~~Where the dwelling has not been pressure tested, the value used in the SAP DER calculation is the average of the measured values for this dwelling type, but with the addition of a confidence factor of 2m^3/ ($h.m^2$) at 50Pa.~~ ~~The related dwelling calculation must be able to pass with the average figure + confidence factor to allow this regime to take place.~~		

Heating System Heat Pump Version	**Air Source or ground source heat pump to be designed by specialist installer**
Heating Controls	Full zone control to underfloor and radiator heating
Hot Water System	Suitably sized hot water cylinder from main heat pump
Secondary Heating System	None to be specified or fitted: **Secondary Heating:** Where secondary heating has been specified as a Wood Log Burner then **ONLY** HETAS Approved Wood Log Burners must be used. https://www.hetas.co.uk/find-appliance/ multifuel burners will **NOT** comply with the building regulations due to the ability to use coal (high carbon). **If the secondary heating is omitted then the calculations could fail as the Wood Log Burners use a Carbon Neutral source and aid compliance – removing this aid could have a severe negative affect on the calculations.**
Ventilation system – System 1	Standard Extract Ventilation
Low / Zero Carbon Technologies	None Required
Construction Details	Completed Construction details to be completed and returned before an EPC can be issued
Internal Lighting	100% low energy lighting to be fitted to these properties with minimum 45 lumens per circuit watt to each bulb.

Heating System LPG Gas Version	**SEDBUK "A" Rated LPG Gas Condensing Boiler**
Heating Controls	Full zone control to underfloor and radiator heating
Hot Water System	Suitably sized hot water cylinder from main boiler
Secondary Heating System	None to be specified or fitted: **Secondary Heating:** Where secondary heating has been specified as a Wood Log Burner then **ONLY** HETAS Approved Wood Log Burners must be used. https://www.hetas.co.uk/find-appliance/ multifuel burners will **NOT** comply with the building regulations due to the ability to use coal (high carbon). **If the secondary heating is omitted then the calculations could fail as the Wood Log Burners use a Carbon Neutral source and aid compliance – removing this aid could have a severe negative affect on the calculations.**
Ventilation system – System 1	Standard Extract Ventilation
Low / Zero Carbon Technologies	3 Kwp PV Array to southern face roof Approximately 12 № panels @ 250 watt Alternative generation to achieve minimum 2600 kWh/year to comply with building regulations using the LPG boiler – this could be through wind turbine generation; this would again need a specialist installer.
Construction Details	Completed Construction details to be completed and returned before an EPC can be issued
Internal Lighting	100% low energy lighting to be fitted to these properties with minimum 45 lumens per circuit watt to each bulb.

Please note any Upgrades to Specification, as it may differ from that listed on plans to achieve building regulation approval, under Approved Document L1A.

FAILURE TO IMPLEMENT THESE UPGRADES MAY RESULT IN A BUILDING REGULATION FAILURE AT FINAL STAGE.

Please ensure any changes to the specification must be made through this office to ensure on going compliance with ADL1a

All Calculations assume that each dwelling conforms to Part G Calculation method following the Government's methodology for assessing water efficiency as set out in the document "The Water Efficiency Calculator for New Dwellings"

Notes:

~~**If underfloor heating is to be used instead of radiators then the calculations will require adjustment to suit. Generally underfloor heating has a negative effect on the SAP calculations and may cause a failure DER / TER at post construction stage.**~~

Radiator/underfloor heating system as per the minimum required by the Domestic Compliance Guide dwellings with TFA>=150m² or as required by SAP calculations.

(a). separate plumbing circuits, either with their own programmer, or separate channels in the same programmer, or

(b). programmable TRVs or communicating TRVs that are able to provide time and temperature zone control (conventional TRVs without a timing function provide only independent temperature control). In this case the device must be located in the database

A default solar factor of g=0.63 has been applied to the windows. Obtaining a full BFRC simulation from your window supplier showing the Wg (Window Solar Value) and the Wu (Window U Value) will help to enhance the calculations and aid relaxing the air permeability target.