





Location Plan - Rosebank High Brae

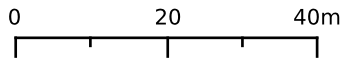
LEGEND

-  Land relating to this application
-  Adjoining land that we own

Produced: 04/10/2023

Reference: 23-A201F084-1

Scale: 1:1,000 (at A4)

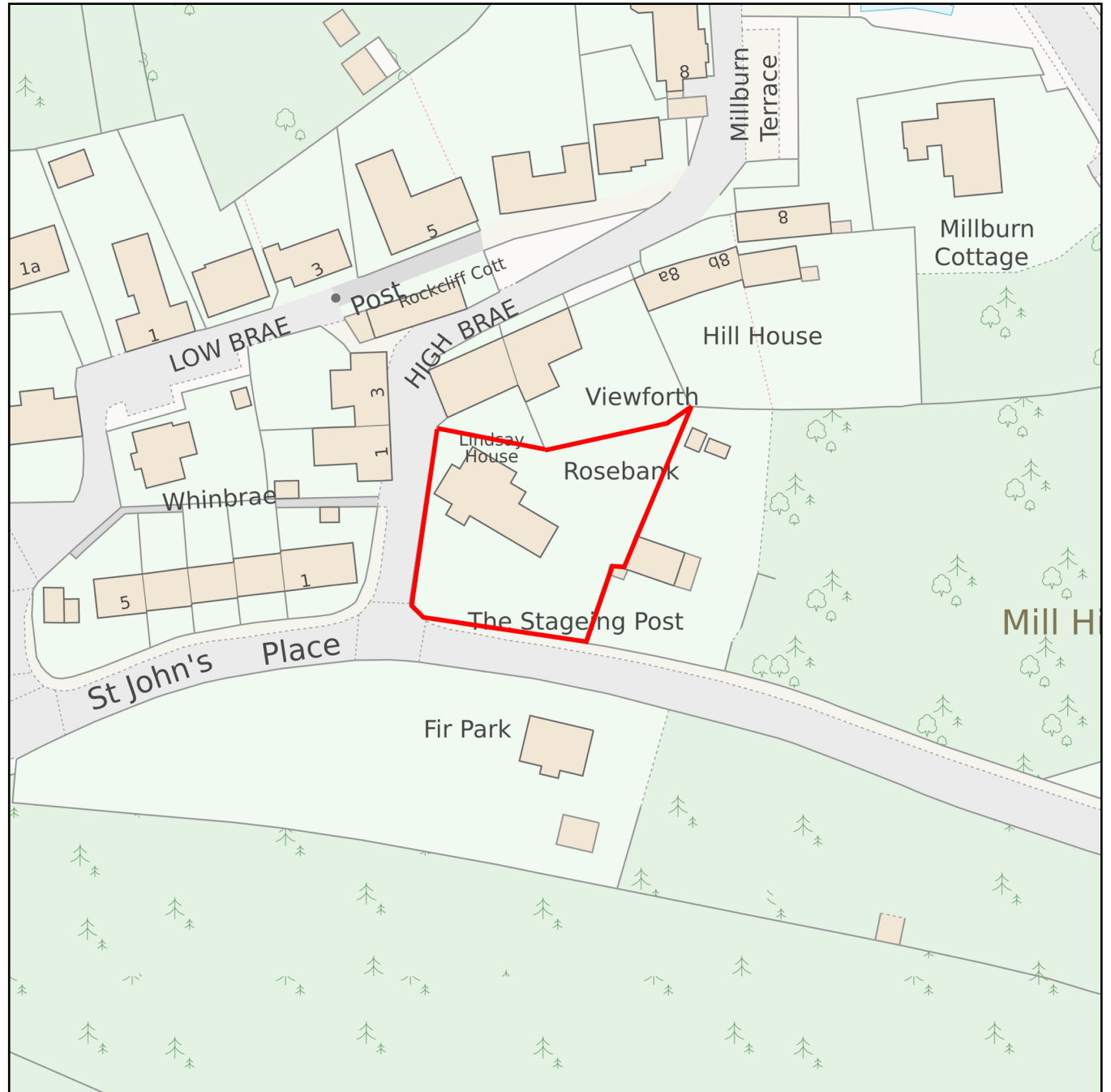


Centre Coordinates: 296720.652847 E,
672255.155261 N

This map contains Ordnance Survey data.

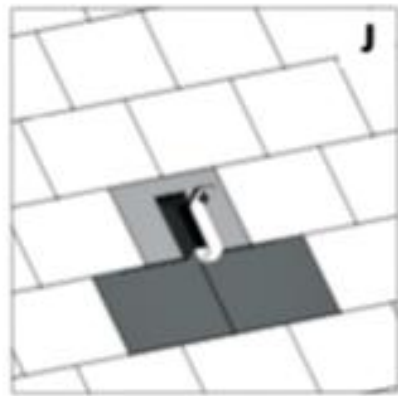
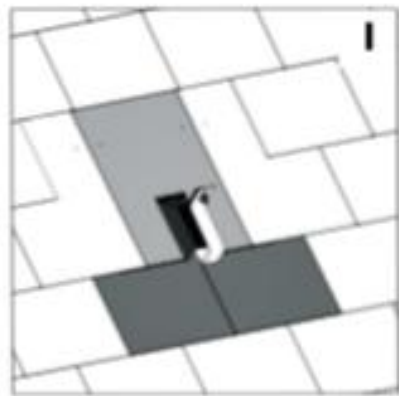
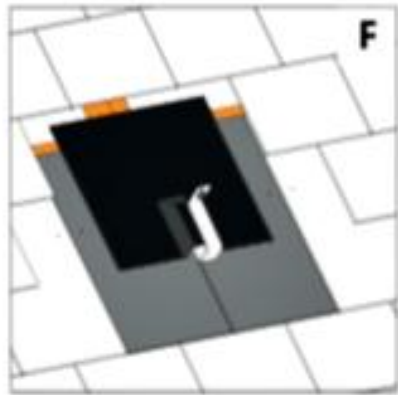
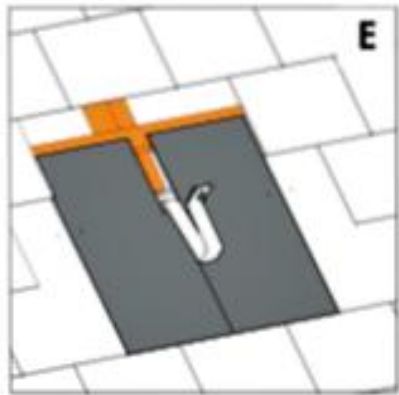
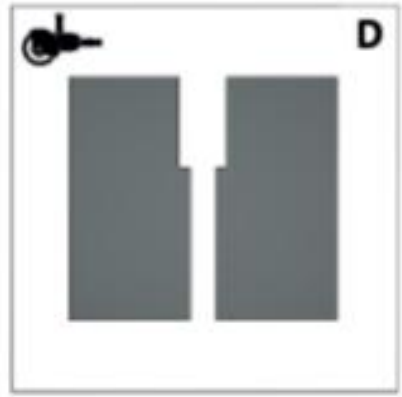
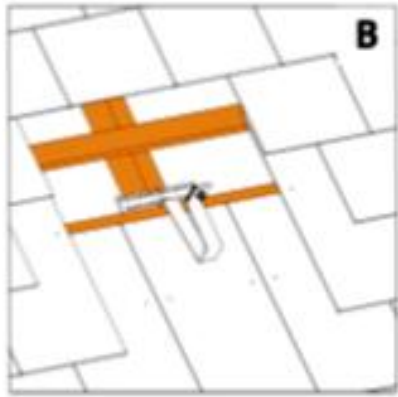
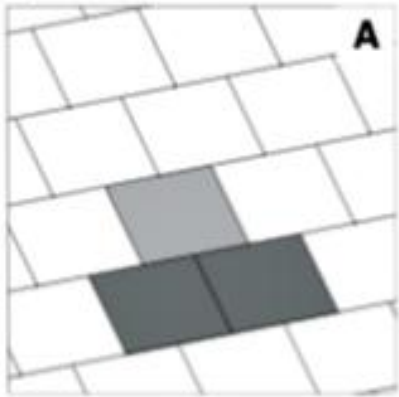
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The representation of road, track or path is no evidence of a boundary or right of way. The representation of features as lines is no evidence of a property boundary.



Annex - flat tile with genius roof solution

A



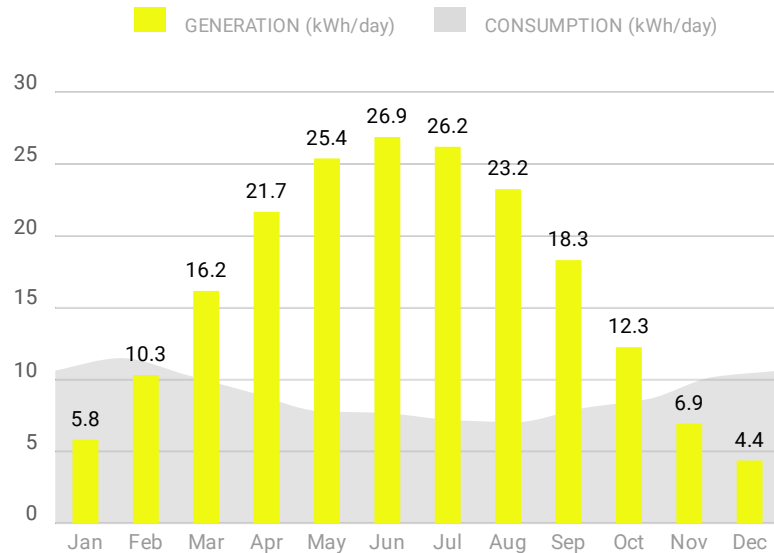




30

System Performance

182%
Energy From Solar



System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 0%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 12 panels with Azimuth 209 and Slope 35.

The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. This estimate is based upon the standard MCS procedure is given as guidance only. It should not be considered as a guarantee of performance. The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

This system performance calculation has been undertaken using estimated values for array orientation, inclination, or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

Important Note: The energy performance and benefits of EESS is impossible to predict with certainty due to the numerous functions a system can be programmed to perform. This estimate is based upon the standard MCS procedure and is given as guidance only. It should not be considered as a guarantee of performance.

A. Installation data		
Installed capacity of PV system - kWp (stc)	6.60	kWp
Orientation of the PV system - degrees from South	Group 1: 12 panels with Orientation: 30 °	°
Inclination of system - degrees from horizontal	Group 1: 12 panels with Tilt: 35°	°
Postcode region	15	
B. Performance calculations		
kWh/kWp (Kk) from table	Group 1: 912	kWh/kWp

Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	6,019	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	3,300.00	kWh
Assumed annual electricity generation from solar PV system, kWh	6,019	kWh
Expected solar PV self-consumption (PV Only)	1,404.38	kWh
Grid electricity independence / Self-sufficiency (PV Only)	42.56	%
D. Estimated PV self-consumption - with EESS		
Assumed usable capacity of electricity energy storage device, which is used for self-consumption, kWh	13.50	kWh
Expected solar PV self-consumption (with EESS)	2,935.76	kWh
Grid electricity independence / Self-sufficiency (with EESS)	89.0%	%

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.



Each Year

182%
Of CO₂, SO_x & NO_x

2 tons
Avoided CO₂ per year

Over System Lifetime

44,927
Car km avoided

289
Trees planted

32
Long haul flights avoided

Datasheet

Model Name	RHI-3K-48ES-5G	RHI-3.6K-48ES-5G	RHI-4.6K-48ES-5G	RHI-5K-48ES-5G	RHI-6K-48ES-5G
Input DC (PV side)					
Max. input power	7kW	7kW	8kW	8kW	8kW
Max. input voltage			600V		
Rated voltage			330V		
Start-up voltage			120V		
MPPT voltage range			90-520V		
Max. input current			11A/11A		
Max. short circuit current			17.2A/17.2A		
MPPT number/Max. input strings number			2/2		
Battery					
Battery type			Li-ion/Lead-acid		
Battery voltage range			42 - 58V		
Battery capacity			50 - 2000Ah		
Max. charging power	3kW		5kW		
Max. charge/discharge current	62.5A/62.5A		100A/100A		
Communication			CAN/RS485		
Output AC (Back-up)					
Rated output power	3kW		5kW		
Max. apparent output power	4kVA		6kVA		
Back-up switch time			<20ms		
Rated output voltage			1/N/PE, 220/230V		
Rated frequency			50/60Hz		
Rated output current	13A		22A		
THDv			2% (linear load)		
Output AC (Grid side)					
Rated output power	3kW	3.6kW	4.6kW	5kW	6kW
Max. apparent output power	3.3kVA	4kVA	4.6kVA	5.5kVA	6kVA
Rated grid voltage			1/N/PE, 220/230V		
Rated grid frequency			50/60Hz		
Rated grid output current	13A	15.7A	20.9A	21.7A	26.1A
Max. output current	15.7A	17.3A	23A	23.9A	26.1A
Power Factor			>0.99 (0.8 leading - 0.8 lagging)		
THDi			<2%		
Efficiency					
Max. efficiency			>97.5%		
EU efficiency			>96.8%		
Protection					
Ground fault monitoring			Yes		
Integrated AFCI (DC arc-fault circuit protection)			Optional		
DC reverse-polarity protection			Yes		
Protection class/Over voltage category			I/II		
General Data					
Dimensions (W*H*D)			333*505*249 mm		
Weight			17kg		
Topology			High frequency isolation (for battery)		
Operating ambient temperature range			-25 ~ +60°C		
Ingress protecton/ Pollution degree			IP65/PD3		
Cooling concept			Natural convection		
Max. operation altitude			2000m		
Grid connection standard			EN50438, G98, G99, AS4777.2:2015, VDE0126-1-1, IEC 61727, VDE N4105, CEI 0-21,CE		
Safety/EMC standard			IEC62040-1, IEC62109-1/-2, AS3100, NB/T 32004, EN61000-6-2, EN61000-6-3		
Features					
DC connection			MC4 connector		
AC connection			Quick connection plug		
Display			7.0"LCD color screen display		
Communication			RS485, Optional: Wi-Fi, GPRS		