IMPORTANT – THIS COMMUNICATION AFFECTS YOUR PROPERTY

COUNCIL OF THE ISLES OF SCILLY

Town Hall, The Parade, St Mary's TR21 0LW
Telephone: 01720 424455 – Email: planning@scilly.gov.uk

Town and Country Planning Act 1990
Town and Country Planning (Development Management Procedure) Order 2010

PERMISSION FOR DEVELOPMENT

Application No:	P/19/080/FUL	**Date Application Registered:**	22nd November 2019
Applicant:	Mr Chris Jones Bell Rock Hotel Church Street St Mary's Isles of Scilly TR21 0JT	**Agent:**	Mr Paul Osborne Jus Limin Carn Thomas St Mary's Isles of Scilly TR21 0PT

Site Address: Bell Rock Hotel Church Street Hugh Town St Mary's Isles of Scilly
Proposal: Raise rear flat roof by 150mm and re-cover in GRP, addition of solar panels on rear flat roof, replace existing softwood casement windows with white UPVC. (Listed Building)

In pursuance of their powers under the above act, the Council hereby **PERMIT** the above development to be carried out in accordance with the following Conditions:

C1 **The development hereby permitted shall be begun before the expiration of three years from the date of this permission.**
Reason: In accordance with the requirements of Section 91 of the Town and Country Planning Act 1990 (as amended by Section 51 of the Planning and Compulsory Purchase Act 2004).

C2 **The development hereby permitted shall be carried out in accordance with the approved details only including:**

- **Proposed Roof Solar Panels and Windows, Drawing Number: BR-SP-2a, dated November 2019 and date stamped 19 November 2019**
- **Paradise Power Systems Ltd - Solar Specification document, Date Stamped 19 November 2019**
- **Location Plan, date Stamped 19 November 2019**
- **Site Plan, date stamped 19 November 2019**

These are stamped as APPROVED
Reason: For the clarity and avoidance of doubt and in the interests of the character and appearance of the [Listed Building and] Conservation Area, Area of Outstanding Natural Beauty and Heritage Coast in accordance with Policy 1 of the Isles of Scilly Local Plan 2005.

C3 **The solar photovoltaic panels hereby approved shall be permanently removed upon redundancy for their dedicated purpose and the building reinstated to its former condition within a period of six months unless otherwise agreed in writing by the**

Local Planning Authority.
Reason: The solar photovoltaic panels [and equipment] have been permitted for a dedicated purpose and, if no longer needed, should be removed from this part of the Islands in the interests of the visual amenities of the area.

C4 All works involving machinery required in connection with the implementation of this permission shall be restricted to between 0800 and 1800 hours Monday to Saturdays. There shall be no works involving machinery on a Sunday or Public or Bank Holiday.
Reason: In the interests of protecting the residential amenities of neighbouring properties.

Further Information

1. In dealing with this application, the Council of the Isles of Scilly has actively sought to work with the applicants in a positive and proactive manner, in accordance with paragraph 38 the National Planning Policy Framework 2019.

Signed  Senior Manager: Infrastructure and Planning

DATE OF ISSUE: 14/02/2020

COUNCIL OF THE ISLES OF SCILLY

Planning Department
Town Hall, The Parade, St Mary's, Isles of Scilly, TR21 0LW
01720 424455
planning@scilly.gov.uk

Dear Mr Chris Jones

Please sign and complete this certificate.

This is to certify that decision notice: P/19/080/FUL and the accompanying conditions have been read and understood by the applicant: Mr Chris Jones.

1. **Development of the approved plans:** Raise rear flat roof by 150mm and re-cover in GRP, addition of solar panels on rear flat roof, replace existing softwood casement windows with white UPVC (Listed Building) at: Bell Rock Hotel Church Street Hugh Town St Mary's Isles of Scilly will commence **on**: (insert date) ……..

~~2. **I am/we are** aware of any conditions that need to be discharged before works commence.~~

~~3. **I/we will** notify the Planning Department in advance of commencement in order that any pre-commencement conditions can be discharged.~~

Print Name:

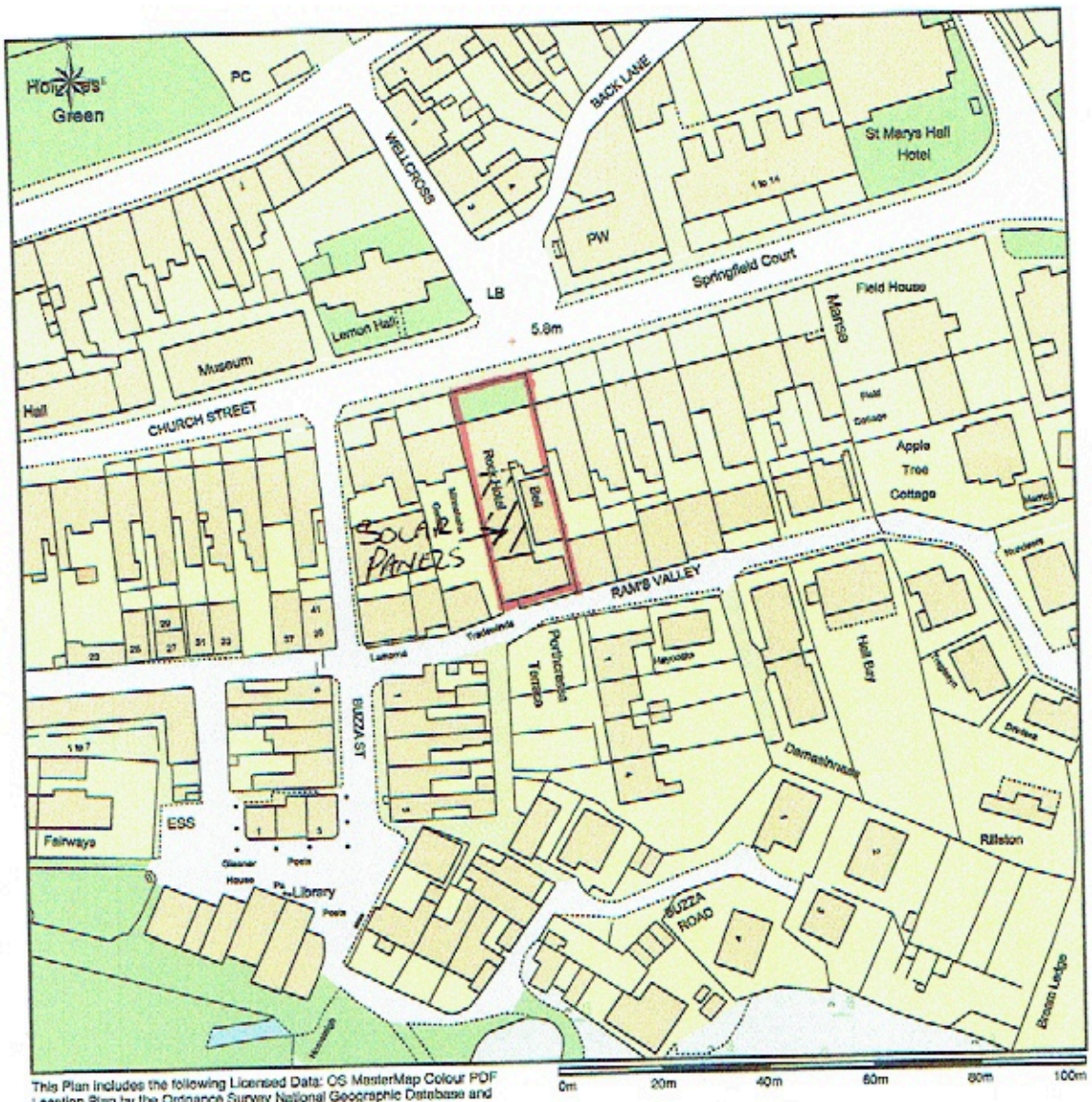
Signed:

Date:

Please sign and return to the **above address** as soon as possible.

APPROVED
By Craig Dryden at 8:55 am, Jan 15, 2020

Location Plan for Bell Rock Hotel



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Scale: 1:1250, paper size: A4

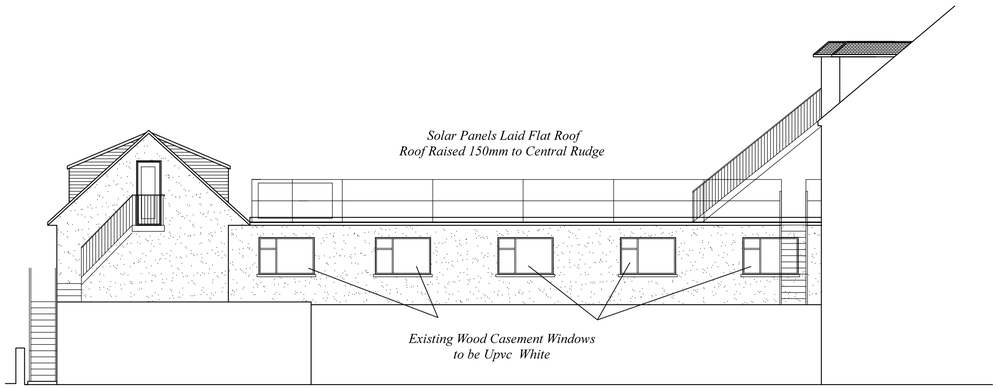
Location Plan

Bell Rock Hotel

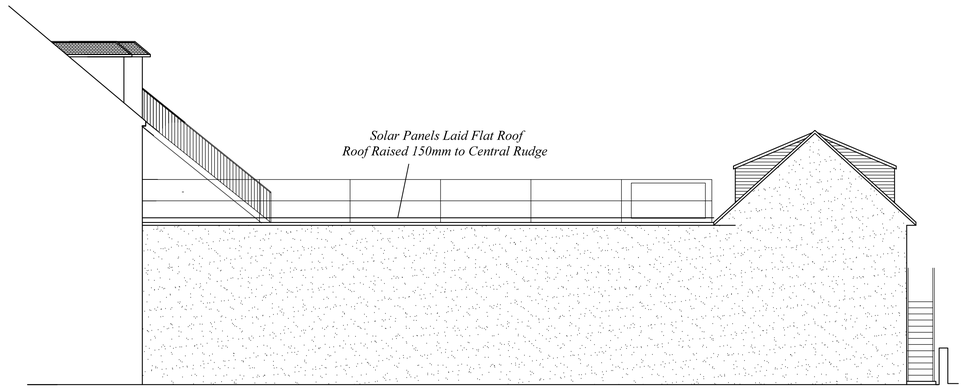
Church St
St. Mary's
Isles of Scilly
TR210JS

plans ahead by emapsite™

Prepared by: Paul Osborne, 01-08-2016



East Elevation



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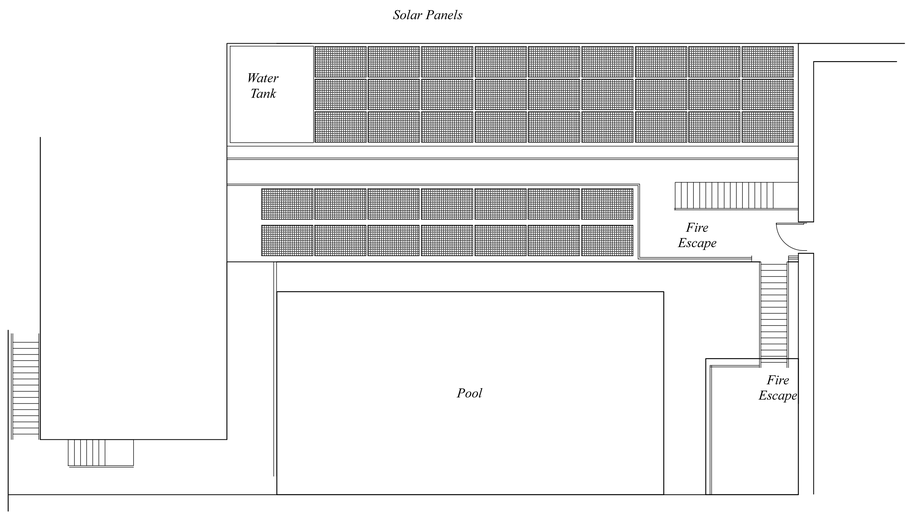


Roof Plan

APPROVED
By Craig Dryden at 8:53 am, Jan 15, 2020

Bell Rock Hotel
Church St
St. Mary's
Isles of Scilly

Proposed Roof Solar Panels & Windows

Mr Mrs C Jones

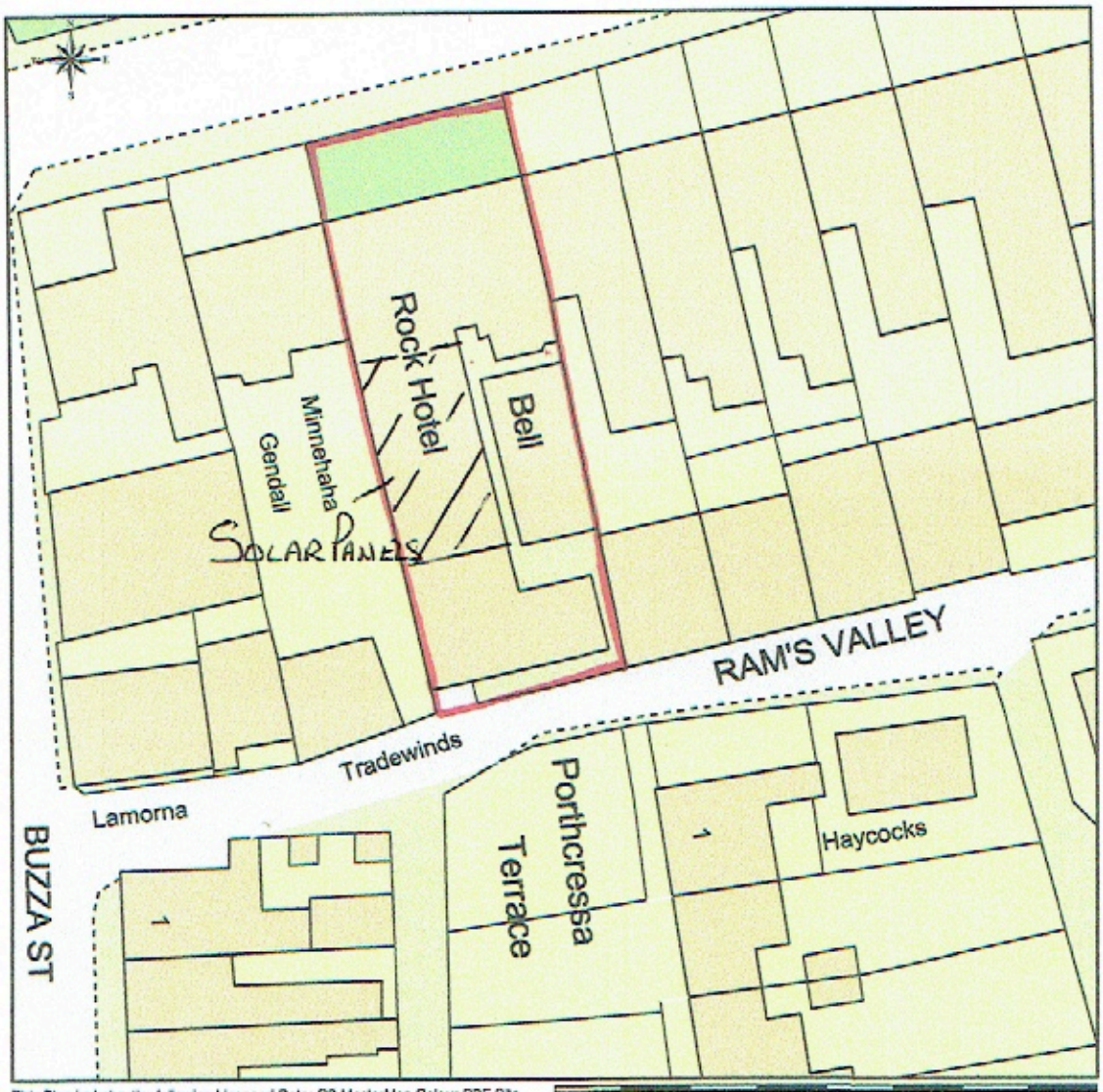
Date - November 2019
Amended -
Scale - 1 : 100 @ A1

PAUL OSBORNE
CARN THOMAS
ST. MARY'S, ISLES of SCILLY.
TR21 0PT Tel (01720) 423377
Email: paul@sailscilly.com

BR-SP-2a

APPROVED
By Craig Dryden at 8:55 am, Jan 15, 2020

Site Plan for Bell Rock Hotel



0m 5m 10m 15m 20m 25m 30m 35m 40m

Scale: 1:500, paper size: A4

Bell Rock Hotek

Site Plan

Church St
St. Mary's
Isles of Scilly
TR210JS

plans ahead by emapsite™

Prepared by: Paul Osborne, 01-06-2016

APPROVED
By Craig Dryden at 8:54 am, Jan 15, 2020

Paradise Power Systems Ltd

Project Name: 9th September 2019Bellrock

Client: Bell rock hotel

Address: Church road, st marys, Tr21 0jr

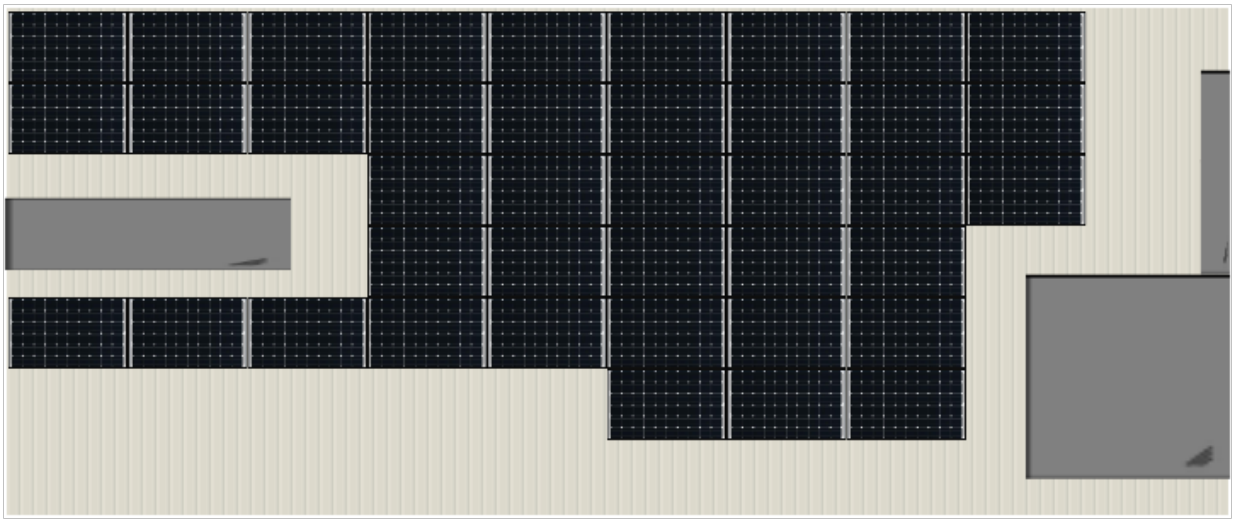
Date Created: 9th September 2019

Designer: Jason Hicks Jason Hicks

paradisepower

Roof Layout

Roof 1



Component list

Item	Quantity
Q Cells 345W Black Framed Split Cell Mono solar panel	40
SolarEdge 15,000 3 phase inverter	1
AEL TF.32-1 MID 3ph kWh Meter	1
Label sheet	1
Rail bolt for grasol rails	40
SolarEdge Wattnode Modbus Meter with 100A CT Clamp	1
SolarEdge Wifi Antenna for SETAPP inverters	1
KN 25A 4-pole AC isolator	2
SolarEdge Optimiser P370	40
Pair of MC4 connectors	4
50m reel of 4mm2 solar cable	1
Metasole flat channel (landscape)	104
Renusol end clamp (black)	48
Renusol mid clamp (black)	56

Inverter Compatibility

SolarEdge 15,000 3 phase

Panels		**Inverter**	
PV power:	**13800 W**	Rated AC output	**15000 W**

String 1: 20 Q Cells 345W Black Framed Split Cell Mono solar panels with P370 optimisers

Panels		**Optimiser**	
PV power:	**345 W**	Rated input power	**370 W**
Open circuit voltage at -10° C	**44 V**	Max DC voltage	**60 V**
V_{mpp} at 40° C:	**32 V**	V_{mpp} lower limit	**8.00 V**
V_{mpp} at -10° C:	**37 V**	V_{mpp} upper limit	**60 V**
I_{mpp} at 25° C:	**10.22 A**	Max DC input current	**11 A**

String			
Total string power	**6900 W**	Max string power	**11250 W**
String length	**20**	Permitted string lengths	**16/50**

- The current this panel can deliver is suitable for this optimiser.
- The power output of this panel is suitable for this optimiser
- The open circuit voltage of the panel should never be too high for this optimiser
- The maximum power point voltage of the panel is within the correct range for this optimiser
- The string power output is less than the maximum input for this inverter.
- This string contains 20 optimisers.

String 2: 20 Q Cells 345W Black Framed Split Cell Mono solar panels with P370 optimisers

Panels		**Optimiser**	
PV power:	**345 W**	Rated input power	**370 W**
Open circuit voltage at -10° C	**44 V**	Max DC voltage	**60 V**
V_{mpp} at 40° C:	**32 V**	V_{mpp} lower limit	**8.00 V**
V_{mpp} at -10° C:	**37 V**	V_{mpp} upper limit	**60 V**
I_{mpp} at 25° C:	**10.22 A**	Max DC input current	**11 A**

String			
Total string power	**6900 W**	Max string power	**11250 W**
String length	**20**	Permitted string lengths	**16/50**

- The current this panel can deliver is suitable for this optimiser.
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- The open circuit voltage of the panel should never be too high for this optimiser
- The maximum power point voltage of the panel is within the correct range for this optimiser
- The string power output is less than the maximum input for this inverter.
- This string contains 20 optimisers.

Electrical

SolarEdge 15,000 3 phase

AC isolator

A KN 25A 4-pole AC isolator has been specified for this inverter

- The rated isolator current (25A) is greater than the rated inverter current (23A)
- The isolator is suitable for use on a three phase inverter.

Input 1

DC isolator

- This inverter contains an integrated DC Isolator.

Cable

10m of 4mm2 solar cable has been specified

- Voltage drop at maximum power point at 40°C will be around **0.85 V (0.11** percent)

Input 2

DC isolator

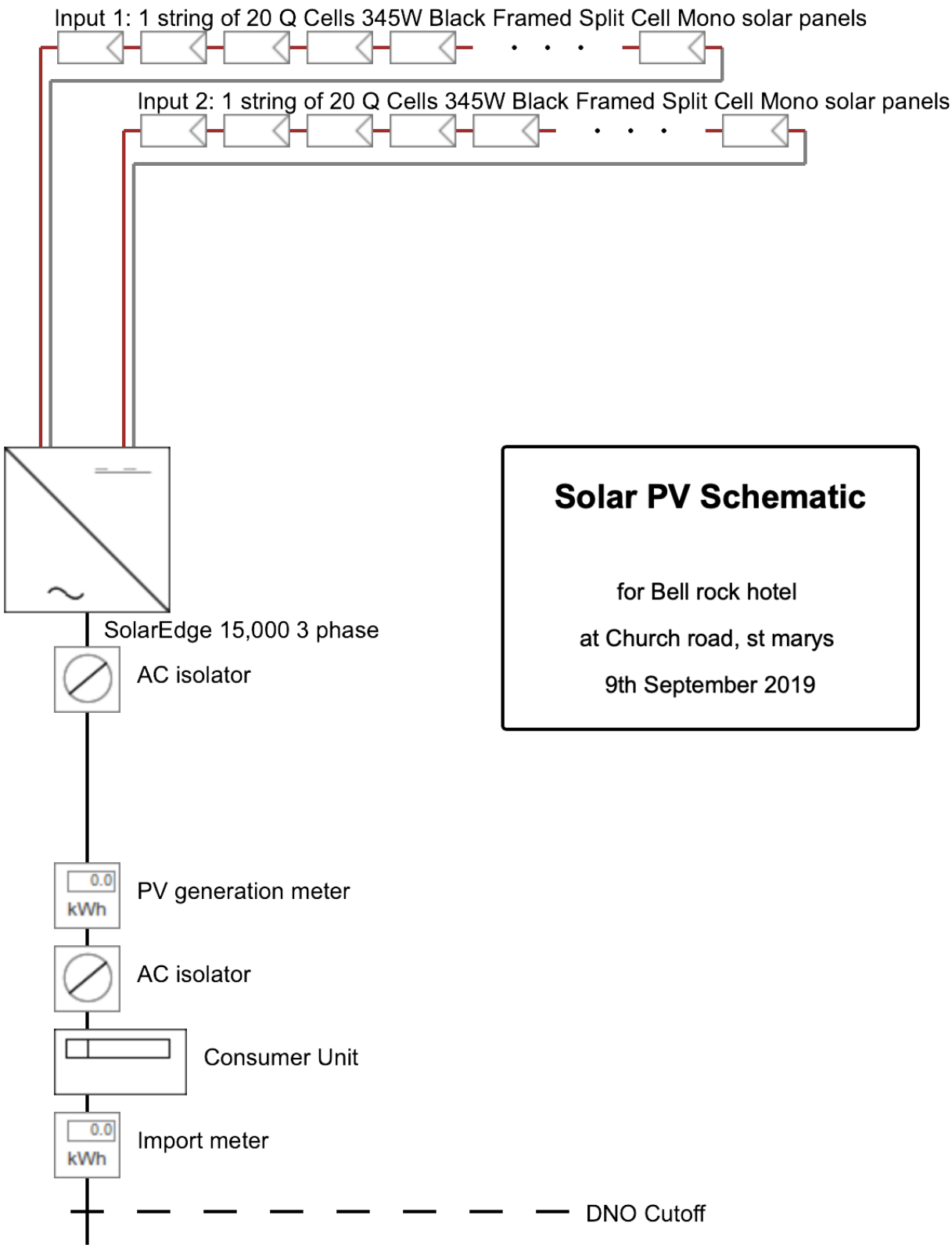
- This inverter contains an integrated DC Isolator.

Cable

10m of 4mm2 solar cable has been specified

- Voltage drop at maximum power point at 40°C will be around **0.85 V (0.11** percent)

Schematic diagram



Annual Output Performance Estimate

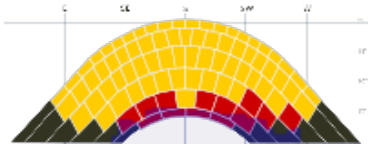
Site Details	
Client	Bell rock hotel
Address	Church road, st marys
	TR21 0JR
Postcode zone	Zone 4

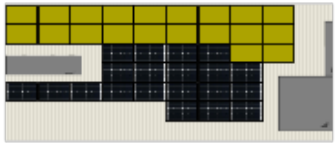
The sunpath diagram shows the arcs of the sky that the sun passes through at different times of the day and year as yellow blocks. The shaded area indicates the horizon as seen from the location of the solar array. Where objects on the horizon are within 10m of the array, an added semi-circle is drawn to represent the increased shading. Blocks of the sky that are shaded by objects on the horizon are coloured red, and a shading factor is calculated from the number of red blocks.

The performance of the solar array is calculated by multiplying the size of the array (kWp) by the shading factor (sf) and a site correction factor (kk), taken from tables which take account of the geographical location, orientation and inclination of the array.

Inverter 1: SolarEdge 15,000 3 phase

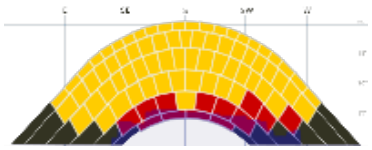
String 1 - shading group 1

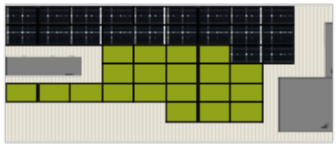




A: Installation data	
Installed capacity	6.900 kWp
Orientation	90°
Inclination	10°
B: Calculations	
kWh/kWp (kk)	902
Shade factor (sf)	0.87
Estimated output	5415 kWh

String 2 - shading group 1





A: Installation data	
Installed capacity	6.900 kWp
Orientation	90°
Inclination	10°
B: Calculations	
kWh/kWp (kk)	902
Shade factor (sf)	0.87
Estimated output	5415 kWh

Total output over all inverter inputs: 10830 kWh

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 and is given as guidance only. It should not be considered a guarantee of performance.

The shade assessment has been undertaken using the standard MCS procedure. It is estimated that this method will yield results within 10% of the actual annual energy yield for most systems.

Structural calculations

Roof 1

Weight loading calculation

The total weight of the solar panels and mounting components is **802.24 kg**. Assuming this is spread evenly over the area that the solar panels cover (**71.69 m^2**), the loading imposed by the solar PV array is **11.2 kg/m^2**, or **0.11** kN/m^2.

The existing dead load on the roof from the roof covering is **12 kg /m^2**, or **0.12 kN/m**.

If we factor in an imposed load of 0.75 kN/m^2 instead of snow loading, then the percentage increase in loading due to the installation of the solar array becomes

100 x ((0.11 + 0.12 + 0.75) / (0.12 + 0.75) - 1) = **12.6%**

You should note that this method does not actually check the load capacity of the roof - it merely checks that you are not increasing the loading significantly. Calculating roof strength of trussed rafter roofs is a complicated task, and if you are unsure of the strength of the roof then it would be wise to take the advice of a structural engineer.

An increase of less than 15% in the load imposed on a roof is not considered to be a significant change (The Building Regulations 2000, Approved Document A).

Please note that this method does not calculate the strength of the roof, and if a roof was badly constructed, does not meet existing building regulations, or is in poor condition then it may still not be appropriate to install an array.