



RIBBLE VALLEY
BOROUGH COUNCIL

23 JUN 2011	
FOR THE	ATTENTION OF

For office use only

Application No

320110502P

Date received

Fee paid £

Receipt No:

Council Offices, Church Walk, Clitheroe, Lancashire. BB7 2RA Tel: 01200 425111 www.ribblevalley.gov.uk

Application for Planning Permission and listed building consent for alterations,
extension or demolition of a listed building.

Town and Country Planning Act 1990

Planning (Listed Buildings and Conservation Areas) Act 1990

Publication of applications on planning authority websites.

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website.

If you require any further clarification, please contact the Authority's planning department.

1. Applicant Name, Address and Contact Details

Title:	Mr	First name:	Lawrence	Surname:	Crouch
Company name:					
Street address:	St. Mary's Hall		Telephone number:	Country Code	National Number
	Stoneyhurst				Extension Number
Town/City:	Clitheroe		Mobile number:		
County:	Lancs		Fax number:		
Country:			Email address:		
Postcode:	BB7 9PU				
Are you an agent acting on behalf of the applicant? ☒ Yes ☐ No					

2. Agent Name, Address and Contact Details

Title:	Mr	First Name:	Nicholas	Surname:	Prinse
Company name:	Freetricity Plc				
Street address:	Argyll House		Telephone number:	Country Code	National Number
				0203	189 4503
Town/City:	Wandsworth		Mobile number:		
County:	London		Fax number:		
Country:			Email address:		
Postcode:	SW18 1EP		nick.prinse@freetricityplc.com		

3. Description of Proposed Works

Please describe details of the proposed development or works including details of proposals to alter, extend or demolish the listed building(s):

The roof will be used as a means to support solar PV panels which will generate electricity. There will only be altering of the building and will as such not include any extension or demolition.

Has the development or work(s) already started? ☐ Yes ☒ No

1531121

4. Site Address Details

Full postal address of the site (including full postcode where available)

Description:

House:		Suffix:	
House name:	ST MARYS HALL		
Street address:			
	STONYHURST		
Town/City:	CLITHEROE		
County:			
Postcode:	BB7 9PU		

Description of location or a grid reference
(must be completed if postcode is not known):

Easting:	369340
Northing:	439203

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?

☒ Yes ☐ No

If Yes, please complete the following information about the advice you were given (this will help the authority to deal with this application more efficiently):

Officer name:

Title: First name: Surname:

Reference:

Unknown

Date (DD/MM/YYYY):

22/06/2011

(Must be pre-application submission)

Details of the pre-application advice received:

Ribble Valley Borough Council advised that although the relevant school building is Listed they are encouraging of solar panels and requested for Full Planning permission with Listed Building consent to be applied for.

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway?

☐ Yes ☒ No

Is a new or altered pedestrian access proposed to or from the public highway?

☐ Yes ☒ No

Are there any new public roads to be provided within the site?

☐ Yes ☒ No

Are there any new public rights of way to be provided within or adjacent to the site?

☐ Yes ☒ No

Do the proposals require any diversions/extinguishments and/or creation of rights of way?

☐ Yes ☒ No

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste?

☐ Yes ☒ No

Have arrangements been made for the separate storage and collection of recyclable waste?

☐ Yes ☒ No

8. Authority Employee/Member

With respect to the Authority, I am:

- (a) a member of staff
- (b) an elected member
- (c) related to a member of staff
- (d) related to an elected member

Do any of these statements apply to you?

☐ Yes ☒ No

9. Demolition

Does the proposal include total or partial demolition of a listed building?

☐ Yes ☒ No

10. Listed building alterations

320110502P

Do the proposed works include alterations to a listed building? ☒ Yes ☐ No

If Yes, will there be works to the interior of the building? ☐ Yes ☒ No

Will there be works to the exterior of the building? ☒ Yes ☐ No

Will there be works to any structure or object fixed to the property (or buildings within its curtilage) internally or externally? ☒ Yes ☐ No

Will there be stripping out of any internal wall, ceiling or floor finishes (e.g. plaster, floorboards)? ☐ Yes ☒ No

If the answer to any of these questions is Yes, please provide plans, drawings and photographs sufficient to identify the location, extent and character of the items to be removed, and the proposal for their replacement, including any new means of structural support, and state references for the plan(s)/drawing(s)

State references for these plan(s)/drawing(s):

Please refer to the Desktop Survey Site Plan (to be sent via post), the Planning Statement, the Design & Access Statement and the Model Specifications.

11. Listed Building Grading

If known, what is the grading of the listed building (as stated in the list of Buildings of Special Architectural or Historical Interest)? ☐ Don't know ☐ Grade I ☐ Grade II* ☒ Grade II

Is it an ecclesiastical building? ☐ Don't know ☐ Yes ☒ No

12. Immunity from Listing

Has a Certificate of Immunity from listing been sought in respect of this building? ☐ Yes ☒ No

13. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of vehicle	Existing number of spaces	Total proposed (including spaces retained)	Difference in spaces
Cars	0	0	0
Light goods vehicles/public carrier vehicles	0	0	0
Motorcycles	0	0	0
Disability spaces	0	0	0
Cycle spaces	0	0	0
Other (e.g. Bus)	0	0	0
Short description of Other	N/A: No proposed number of vehicle parking spaces.		

14. Materials

Please provide a description of existing and proposed materials and finishes to be used in the build (demolition excluded):

Roof covering- add description

Description of *existing* materials and finishes:

N/A: There is no change in the structural integrity of the building by way of demolition or damage in fixing the panels to the roof, as the panels are held in place by brackets, which are either supported by the roof surface or non-penetrating through the breathable roofing membrane. Therefore, no roof materials and finishes will change.

Description of *proposed* materials and finishes:

N/A: There is no change in the structural integrity of the building by way of demolition or damage in fixing the panels to the roof, as the panels are held in place by brackets, which are either supported by the roof surface or non-penetrating through the breathable roofing membrane. Therefore, no roof materials and finishes will change.

Are you supplying additional information on submitted drawings or plans? ☒ Yes ☐ No

If Yes, please state plan(s)/drawing(s) references:

Please refer to the Desktop Survey Site Plan (to be sent via post), the Planning Statement, the Design & Access Statement and the Model Specifications.

15. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer ☐ Package treatment plant ☐ Unknown ☐

Septic tank ☐ Cess pit ☐

Other

N/A: No new drainage systems are to be installed and no waste is to be created.

Are you proposing to connect to the existing drainage system? ☐ Yes ☒ No ☐ Unknown

16. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.)

☐ Yes ☒ No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)?

☐ Yes ☒ No

Will the proposal increase the flood risk elsewhere?

☐ Yes ☒ No

How will surface water be disposed of?

☐ Sustainable drainage system

☒ Main sewer

☐ Pond/lake

☐ Soakaway

☐ Existing watercourse

17. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes for further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals.

Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

b) Designated sites, important habitats or other biodiversity features

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

c) Features of geological conservation importance

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

18. Existing Use

Please describe the current use of the site:

School.

Is the site currently vacant? ☐ Yes ☒ No

Does the proposal involve any of the following?

If yes, you will need to submit an appropriate contamination assessment with your application.

Land which is known to be contaminated? ☐ Yes ☒ No

Land where contamination is suspected for all or part of the site? ☐ Yes ☒ No

A proposed use that would be particularly vulnerable to the presence of contamination? ☐ Yes ☒ No

19. Trees and Hedges

Are there trees or hedges on the proposed development site? ☐ Yes ☒ No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character?

☐ Yes ☒ No

If Yes to either or both of the above, you may need to provide a full Tree Survey, at the discretion of your local planning authority. If a Tree Survey is required, this and the accompanying plan should be submitted alongside your application. Your local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'.

20. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste?

☐ Yes ☒ No

21. Residential Units

Does your proposal include the gain or loss of residential units?

☐ Yes ☒ No

22. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace?

☐ Yes ☒ No

23. Employment

If known, please complete the following information regarding employees:

	Full-time	Part-time	Equivalent number of full-time
Existing employees	0	0	0
Proposed employees	0	0	0

24. Hours of Opening

If known, please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday		Saturday		Sunday and Bank Holidays		Not Known
	Start Time	End Time	Start Time	End Time	Start Time	End Time	
A1							☒
A2							☒
A3							☒
A4							☒
A5							☒
B1A							☒
B1B							☒
B1C							☒
B2							☒
B8							☒
C1							☒
C2							☒
D1							☒
D2							☒
Other							☒

25. Site Area

What is the site area?

343

sq.metres

26. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

The type of machinery, if it can be classed as such, is a solar photovoltaic installation and this will rest on the roof upon completion of the works.

Is the proposal for a waste management development?

☐ Yes ☒ No

27. Hazardous Substances

Is any hazardous waste involved in the proposal?

☐ Yes ☒ No

28. Site Visit

Can the site be seen from a public road public footpath bridleway or other public land?

☒ Yes ☐ No

If the planning authority needs to make an appointment to carry out a site visit whom should they contact? (Please select only one)

☒ The agent ☐ The applicant ☐ Other person

29. Certificates (Certificate A)**Certificate Of Ownership - Certificate A**

Certificate under Article 12 - Town and Country Planning (Development Management Procedure) (England)
Order 2010 & Regulation 6 - Planning (Listed Buildings and Conservation Areas) Regulations 1990

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Title: Mr First name: Nicholas Surname: Prinse

Person role: Agent

Declaration date: 22/06/2011

☒ Declaration made

29. Certificates (Agricultural Land Declaration)

Agricultural Land Declaration

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of an agricultural holding.

(B) I have/The applicant has given the requisite notice to every person other than myself/the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

If any part of the land is an agricultural holding, of which the applicant is the sole tenant, the applicant should complete part (B) of the form by writing 'sole tenant - not applicable' in the first column of the table below

Title: First Name: Surname:
Person role: Declaration date: ☒ Declaration Made

30. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

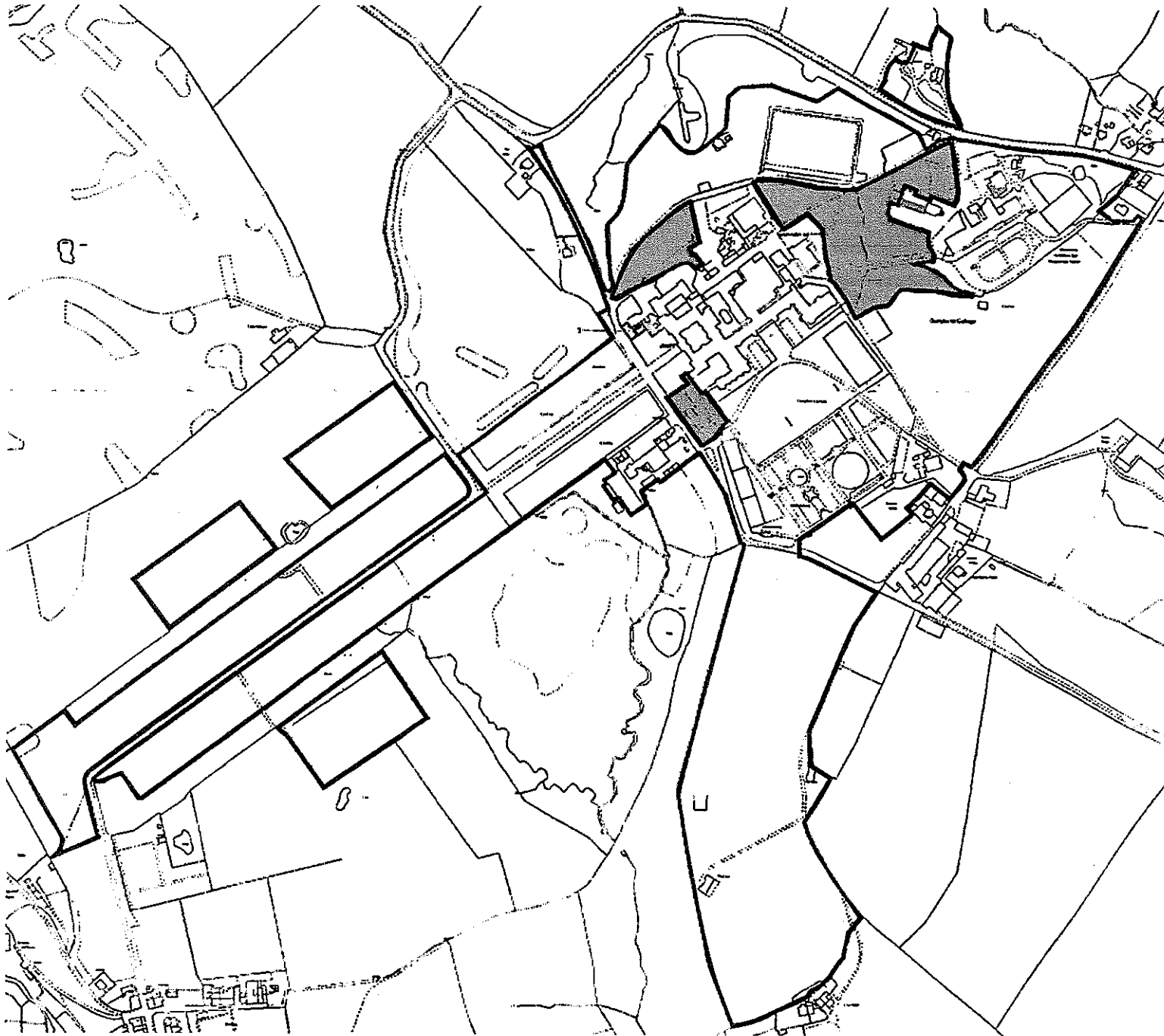


Date

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0m 50m 100m 150m
Scale 1:1250, paper size A2



This Plan includes the following Licensed Data: OS MasterMap, Black and White Site Plan by the Ordnance Survey National Geographic Database and incorporating surveyed revision available at the date of production. Reproduction in whole or in part is prohibited without the prior permission of Ordnance Survey. The representation of a road, track or path is no evidence of a right of way. The representation of features as lines is no evidence of a property boundary. © Crown copyright, All rights reserved 2011. Licence number 0100031673

HERITAGE STATEMENT

This Heritage Statement explains the considerations by the applicant and agent made in regard to the Listed Building St Mary's Hall in Stonyhurst, Clitheroe, Lancashire.

Under the governing "Planning Policy Statement, PPS5 *Policy HE6: Information requirements for applications for consent affecting heritage assets*", the amount and categories of information provided should be proportionate to the extent of the works being proposed, the significance of the asset, and the potential impact the proposed works may have on that significance

For an application for minor alteration to part of the asset, solar PV only requires detailed information on the affected part of the asset, along with a brief explanation of how the impacts relate to the significance of the asset as a whole.

Under the governing "Planning Policy Statement, PPS5 *Policy HE6: Information requirements for applications for consent affecting heritage assets*"¹ the amount and categories of information provided should be proportionate to the extent of the works being proposed, the significance of the asset, and the potential impact the proposed works may have on that significance.

An application for a minor alteration to part of the asset such as this is likely only to require detailed information on the affected part of the asset, along with a brief explanation of how the impacts relate to the significance of the asset as a whole.

The agent acting in this application is Freetricity Commercial Ltd which has substantial experience of installing these solar panels, in particular on Listed Buildings, a subsidiary of Freetricity plc.

ASSESSMENT

1. Name & Address of the Site
Outbuildings at St Mary's Hall, Stonyhurst, Clitheroe
Lancashire
BB7 9PU

¹ <http://www.english-heritage.org.uk/publications/pps-practice-guide/pps5practiceguide.pdf>

2. List Description²**Name:** ST MARYS HALL**List entry Number:** 1362219**Location**

ST MARYS HALL, STONYHURST

County	District	Parish
Lancashire	Ribble Valley	Aughton, Bailey and Chaigley

National Park: Not applicable to this List entry.

Grade: II**Date first listed:** 22-Nov-1983**Date of most recent amendment:** Not applicable to this List entry**Legacy System Information**

The contents of this record have been generated from a legacy data system.

Legacy System: LBS**UID:** 182921**Asset Groupings**

This list entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List entry Description**Details**

SD 63 NE AUGHTON, BAILEY & STONYHURST CHAIGLEY

8/34 St. Mary's Hall

II

Preparatory school, built as seminary in 1830 and extended in 1880. Sandstone ashlar with slate roof. 3 storeys with attics. The central 11 bays, their middle 3 bays projecting, form the earliest part of the building. They have chamfered quoins, sill bands and a hipped roof with moulded cornice. The windows are sashed with glazing bars and plain stone surrounds. The door has a plain stone surround with semi-circular head, attached Tuscan columns, plain frieze and moulded cornice. The additions of 1880 comprise 7 bays on each side of the central block, detailed to match the original building. At the rear is a chapel with semi-circular apse. Inside it has a barrel-vaulted ceiling, Diocletian windows, paired Corinthian pilasters flanking the apse, and mosaic decoration.

² Reproduction of the entire listing of the School building, published by English Heritage

Listing NGR: SD6935239181

Selected Sources

1. **Article Reference - Title:** Part 25 Lancashire - *Journal Title:* Register of Parks and Gardens of Special Historic Interest in England

National Grid Reference: SD 69352 39181

3. Proposed development

Installation of Solar PV panels onto the roof of the building.

Area: 170m²**HERITAGE STATEMENT****4. Setting**

The site is two modern outbuildings (East and West) at St Mary's Hall, a large Grade II* building in the rural hamlet of Stonyhurst

All buildings at the property are on private estate roads. The north-east side of the two sided roof of the West building is just visible from a public B-road, Knowle Brow, with an entrance adjacent to the gatehouse of Stonyhurst College. The sites are not part of a conservation area.

The site consists of outlying buildings to the rear of the Listed School Building. St Mary's Hall forms part of the rich heritage of the Ribble Valley north of Clitheroe, however is in turn of lesser architectural merit than (in the same property) Stonyhurst College founded in 1593 - the gatehouse just north of the outbuildings and southern half of the facade of the College were begun in 1592 by Sir Richard Shireburn, hence its Grade I listing. Due to the ancient walls between the College and the School and construction of the Preparatory School in 1830, case law suggests that they would not share a common curtilage, if they do then the sites form a remote location within the curtilage of both schools.

Stonyhurst Park (the grounds of Stonyhurst College) lies 100m to the West of the western site and hosts 15 listed buildings or structures in its Grade II* listed grounds (in the category park/garden). All of the above siting considerations have been taken into account in deciding which roofs would be appropriate for Solar PV panels and would enhance the character and attractiveness of the school.

5. Significance

The site, the outbuildings are not listed themselves. See Figure A

The School building at the property which is not part of the site, see Figure B below, is a school building of educational significance being grade II* with a continuing role as an important Jesuit preparatory school. The School building is listed on the basis of its architecture. Within the listing description, the commentator has adumbrated Tuscan columns on either side of the doorway, large and tall ground floor bays housing sash windows

Also of note are the modern outbuildings equipped with state of the art sports and educational equipment which it is hoped one day may in turn be listed for their modern vision

St Mary's Hall is one of the earliest examples of this type of schools extant in the same function. It forms the preparatory school to Stonyhurst College for the vast majority of pupils and it educates boys and girls aged between 7 and 13 years. Taken as a whole, the school forms one of the most amenable, fit for purpose Catholic education locations in the country

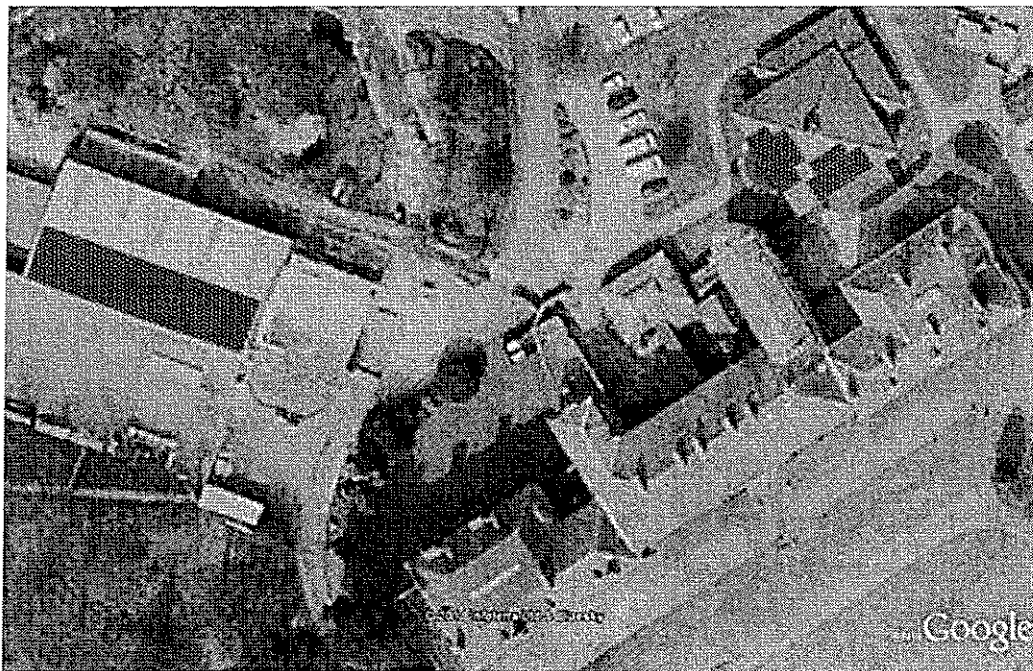


Figure A: The outbuilding sites



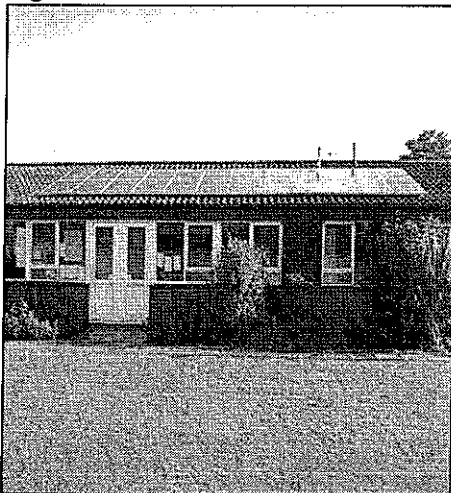
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Figure B: The School building as aerially photographed from the entrance side, i.e. the south-east

6. Development

The applicant attaches Figure C below showing panels to the same specification fitted by the same installer on another roof:

Figure C:



7. Features

Details of the panels are included in the planning document submitted in the application titled Enfinity 235P6 Model Specification. The advantage of this choice is that less than 9% of total incident visible light is reflected by these PV panels, whereas normal glass reflects about 17%

With regard to mitigation, no damage will be caused to the existing roofs (as in the Freetricity Construction Methodology pdf document submitted) such tiles will not be damaged throughout the lifetime of these panels which is at least 25 years though such panels are not expected to be in place beyond 50 years. Emphatically the installation is designed so as not to be intrusive to any passer-by, neighbour or visitor.

8. Impact

There will be no adverse impacts to the proposal. The following justifications for its siting in a Listing Building's curtilage are made under national planning policy:

- The proposed alteration makes a positive contribution to economic vitality and sustainable communities.
- The proposed alteration is an appropriate design for its context and makes a positive contribution to the appearance, character, quality and local distinctiveness of the historic environment.

INVOLVEMENT**9. Consultation**

All people will have the opportunity to comment on this application via Ribble Valley District Council's online planning applications facility. Due to the scale and enhancement of facilities and education in the proposal no consultation with English Heritage, other heritage protection bodies or neighbours has been undertaken. The applicant welcomes comments from the public.

The buildings in this instance were built after the cut off date of 1 July 1948 therefore are not listed within the meaning of the 1990 Act.

The applicant has consulted decision makers relevant to this application within its organisation. The organisation wishes to see the site benefit from solar PV panels. In this instance the panels can be close-fitted. They will be therefore fitted in this way flush with the roof, which is pitched.

10. Amount of Development

Being an installation with no increases in maximum roof height to any buildings and no further such installations planned, this is a minor alteration.

The size of the roofspace, 170 metres square, which it proposed to be covered the panels is a negligible portion of the total site area.

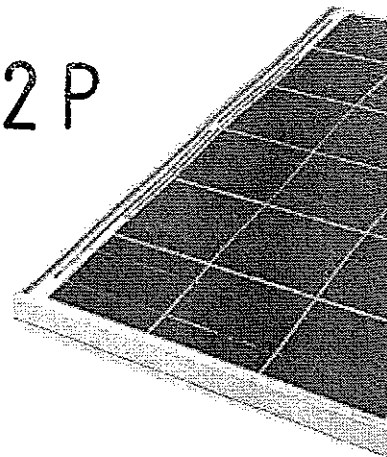
11. Landscaping

As with all minor improvements or changes to a roof, landscaping is usually neither practicable and nor appropriate

In schools it can be desirable to ensure the visibility of an array of this type of rooftop solar PV panels in order to stimulate an interest in green technology and in energy conversion from sunlight. The visibility from the courtyard will enhance the character of the school. Here, a qualitative assessment is made based on the Supporting Documentation and exhibits above that such panels will not lessen the visual amenity of the site; they will enhance the character and amenity of the school

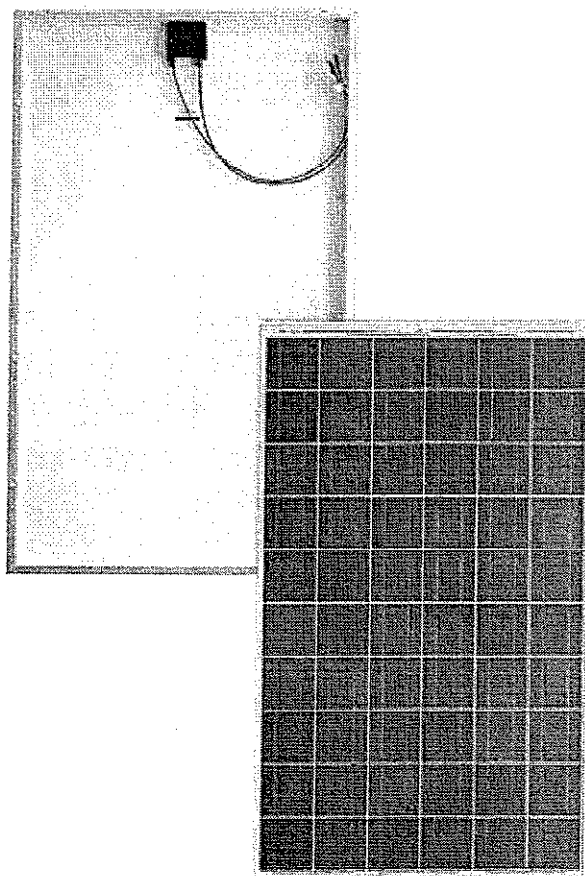
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Enfinity-235P6 Crystalline Solar Modules



Technology

Enfinity-235P6 crystalline solar module provides excellent value and performance for operation of both DC loads and in an inverter equipped system for AC Loads. The rated output and the efficient design of the module with their large surface area are ideally suited for high power applications including telecommunications and grid supplemental systems. Enfinity-235P6 module is designed for easy interconnection to achieve voltage and current configurations for grid-connected systems as well as stand-alone systems.



Module design

High-efficiency 6 inch (156mm) poly-crystalline solar cells form the crux of the Enfinity-235P6 module. These 156 mm square cells offer a homogeneous appearance, optimal use of the area and are known for high energy yields. Due to its construction of Glass/ EVA/TPT, the module is light in weight in addition to protecting the module/cells against harsh environmental conditions. A torsion resistant module frame made of electrophoresis aluminum guarantees high mechanical strength, making the module resistant to extreme wind, hail and snow.

Features

- 1 Module assembled using high quality and performance components sourced from leading international suppliers.
- 2 State-of-art, automated manufacturing facilities guarantee consistent high quality & electrical performance.
- 3 Narrow power tolerance range of $\pm 3\%$ ensures the module maximum rated power output.
- 4 Certified as per international standards (IEC 61215:2005, IEC 61730-1/2:2007 and safety class II for 1000VDC) for high performance and safety.
- 5 Robust and lightweight anodized aluminum frames with lock pin for better strength, quick and easy installation.

Warranty

Manufacturing:	10 years
Power production:	90% = 10 years
	80% = 25 years



Enfinity-235P6 module type

Electrical characteristics

Max-power	Pm(W)	235
Power tolerance	(%)	± 3
Max-power Voltage	Vm(V)	35.5
Max-power current Im	Im(A)	7.04
Open-circuit voltage	Voc(V)	43.21
Short-circuit current	Isc(A)	7.63
Max-system voltage	(VDC)	1000
Cell efficiency	η_c (%)	16.1
Module efficiency	η_m (%)	14
No. type & arrangement of cells		60 pcs poly-crystalline silicon (6x10)
Cell size	(mm)	156x156
No. of bypass diodes	(pcs)	6
Pm temperature coefficient	(%/°C)	-0.51
Isc temperature coefficient	(%/°C)	0.035
Voc temperature coefficient	(%/°C)	-0.36
NOCT - Nominal Operating Cell Temperature	(°C)	46 ± 2

Mechanical characteristics

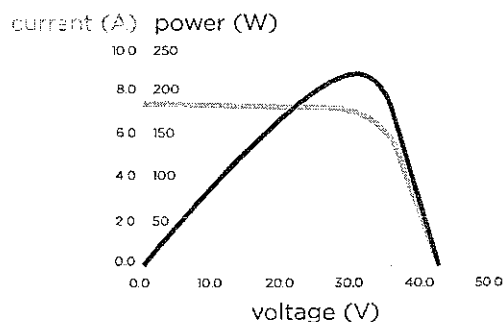
Cable type, diameter and length	4 mm ² , TÜV certified, 1250 mm
Type of connector	MC4 compatible
Dimension L x W x H (mm)	1650 x 990 x 50
Weight	23 kg
No. of draining holes in frame	4
Glass type and thickness	High transmission, low iron, tempered glass 0.12"(3.2mm)

Absolute ratings

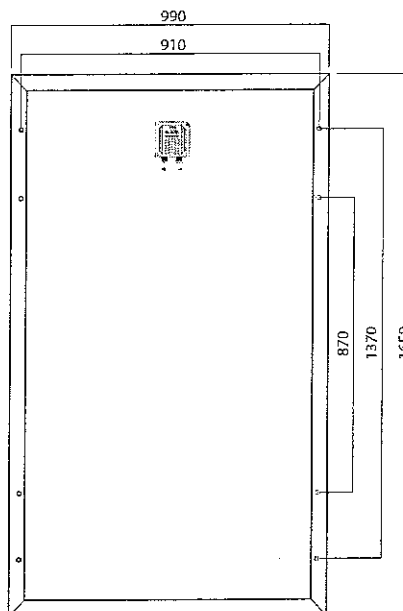
Dielectric Insulation Voltage	(VDC)	3000 max
Operating Temperature	(°C)	-40 - +90
Storage Temperature	(°C)	-40 - +90

Strengths

- Tolerance ± 3%
- Plug & Play Connectors
- High transmission, low iron tempered glass
- Can bear static loads up to 5400Pa



Current / voltage dependence on irradiance and module temperature.
This is only indicative showing effect of temperature and intensity on power

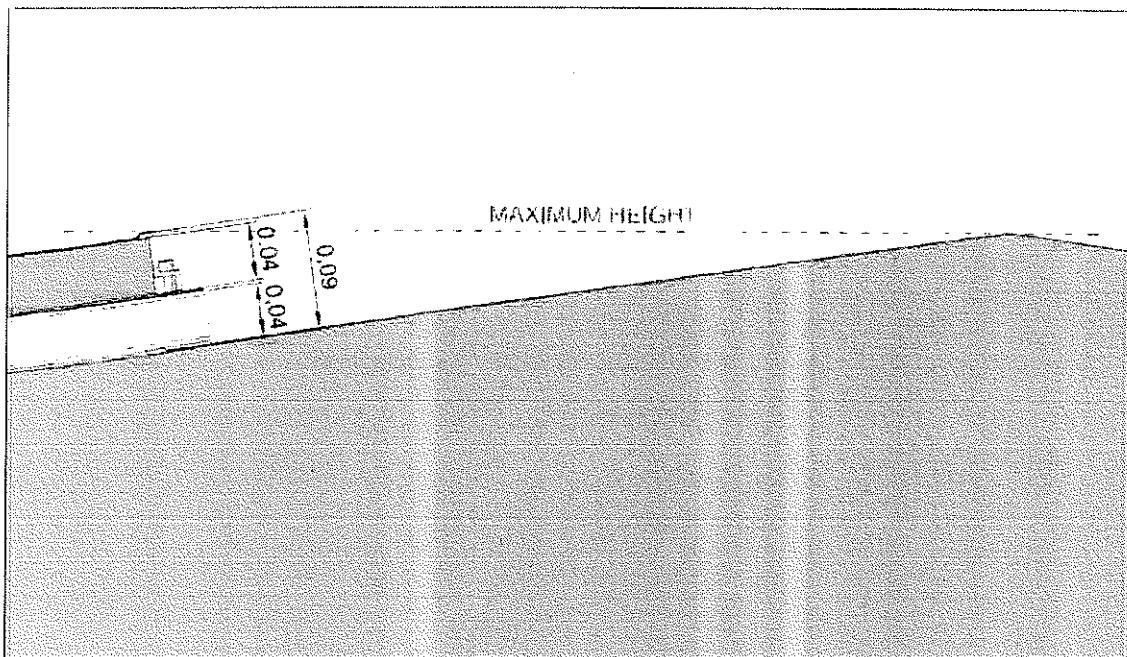
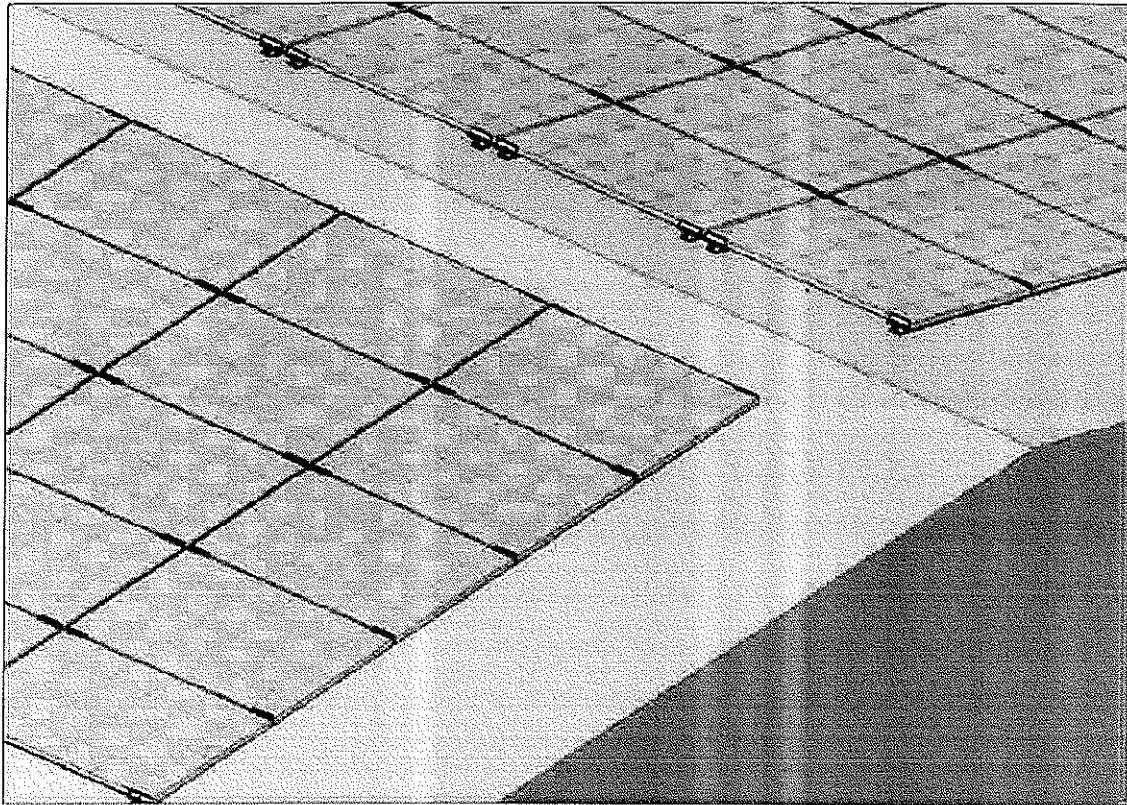


320110502P

freetricity
The power of green

Argyll House
All Saints Passage
London
SW18 1EP
t 0203 189 4502
www.freetricity.net

FREETRICITY ELEVATION DIAGRAM





320110502P

Commercially Confidential AVC Energy Ltd

Proposal, Solar Photovoltaic System

AVC Energy Ltd Proposal

Solar Photovoltaic System



Commercially Confidential AVC Energy Ltd

Proposal, Solar Photovoltaic System

For the Attention of Laurence Crouch
St Marys Hall
Stoneyhurst
Clitheroe, Lancs
BB7 9PU

22-Jun-11

Reference: J00244/1017/PV Issue 2

Contact

All enquiries in connection with this document should be directed to AM Byrne, whose contact details are as shown.

Contact Name	AM Byrne
Address	AVC Energy Ltd Unit 4, Silkwood Park, Fryers Way, Ossett, Wakefield, West Yorkshire, WF5 9TJ
Mobile Number	07919 83 55 22
Email Address	anna-marie byrne@avcgroup.co.uk

Document Control

Reference Number	J00244/1017/PV
Client	Laurence Crouch St Marys Hall Stoneyhurst Clitheroe, Lancs
Version Number	Issue 2
Author	AM Byrne
Number of Pages	9
Security Classification	Commercial in Confidence

Revision History

Version	Issue Date	Status	Reason for Issue
Issue 2	22-Jun-11	Issued	First Issue

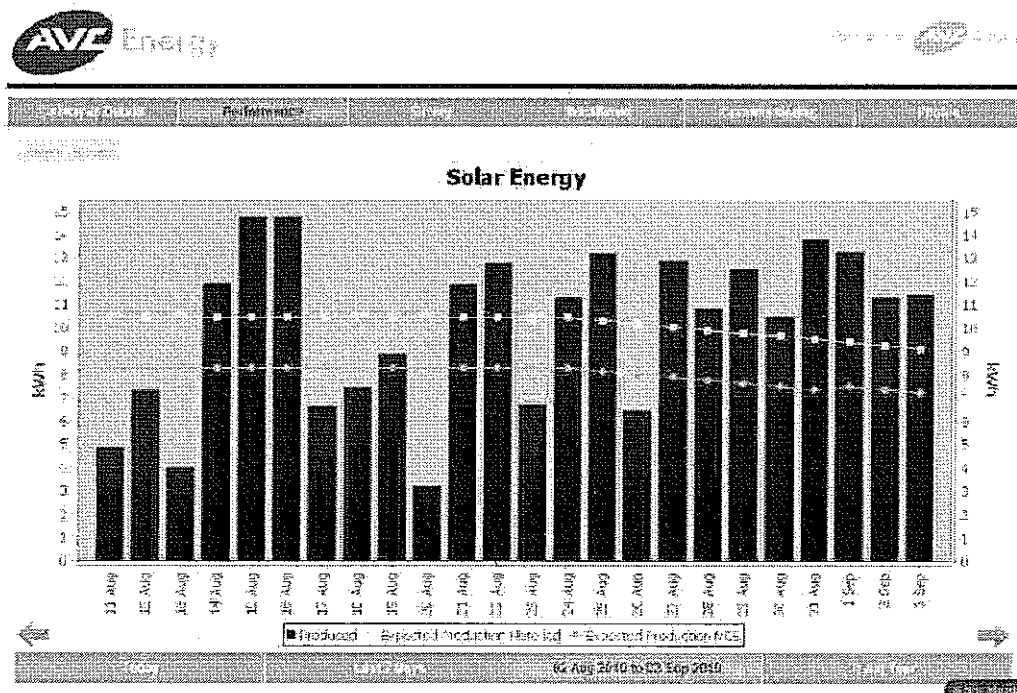
Proposal, Solar Photovoltaic System

4.5 Energy Eye System Monitoring

The AVC Energy Monitoring system proactively monitors the performance of solar PV, and other renewable energy systems, to ensure that systems are achieving their expected level of performance and therefore financial return. Alerts are automatically raised if a system's performance is lower than it should be. The system operates by attaching a GPRS or Broadband logger to the total generation meter of a PV system. The logger reports readings regularly to the AVC server, which performs a detailed analysis of the systems performance. Other facets such as exported electricity can also be measured if these are also metered.

The system output can be analysed against the MCS criteria, which are generic and generally pessimistic. The output is also analysed against a calculation which is specific to the actual installation - this calculation includes all the relevant factors about the equipment installed, the geographic location and the actual installation, i.e. roof slope, orientation, shading etc. This calculation provides an accurate profile for the expected output of a PV system and when based on historical meteorological data will provide the expected output of the system over its life time.

The Monitoring system also provides a range of reports and analysis which will provide useful information - power generated, carbon saved etc. All information and reports are available via a web browser. An example of this is shown below:





Commercially Confidential AVC Energy Ltd

Proposal, Solar Photovoltaic System

5 Feed in Tariff ~ Financial Benefits

The Government introduced the feed in tariff (FIT) in April 2010. This is a scheme whereby the energy companies will buy all the energy (total generation) produced by a solar PV system. The term of the tariff is **25 years**. Your system will qualify for the Feed in Tariff as AVC Energy is an accredited MCS (Microgeneration Certification Scheme) company.

The estimated financial benefits using the accredited SAP calculations and the PV GIS (Photovoltaic Geographical Information System) from the Joint Research Centre European Commission are shown below:

Method Used	SAP method	PV GIS
Size of System (kWp)	49.35	49.35
Estimated energy generated (kWh) per annum	39362	41900
Feed in Tariff Rate (p/kWh)	32.9	32.9
Estimated Annual income from FiT (£/yr)	£12,950	£13,785
Export income (£/yr) - Assume 25% exported (@3.1p per kWh)	£305	£325
Avoided Electricity (£/yr) - Assume 75% used in the property @13p per kWh	£3,838	£4,085
Total Estimated Financial Benefit Per Annum (£/yr) (for 25 years)	£17,093	£18,195
Simple Payback Time (years)	9.7	9.1
Return on Investment	10%	11%

Simple payback and ROI calculated including VAT at 5%

Both estimates based on:

- Orientation: SE / SW
- Roof Pitch: 30 degrees

PV GIS estimate based on:

- Location: Clitheroe, Lancs

The SAP calculations are based on a fixed figure of 800kWh/yr per kW peak of PV system in Britain. However, this figure varies with location and the PV GIS estimate takes this into account.

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Proposal, Solar Photovoltaic System

1 Introduction

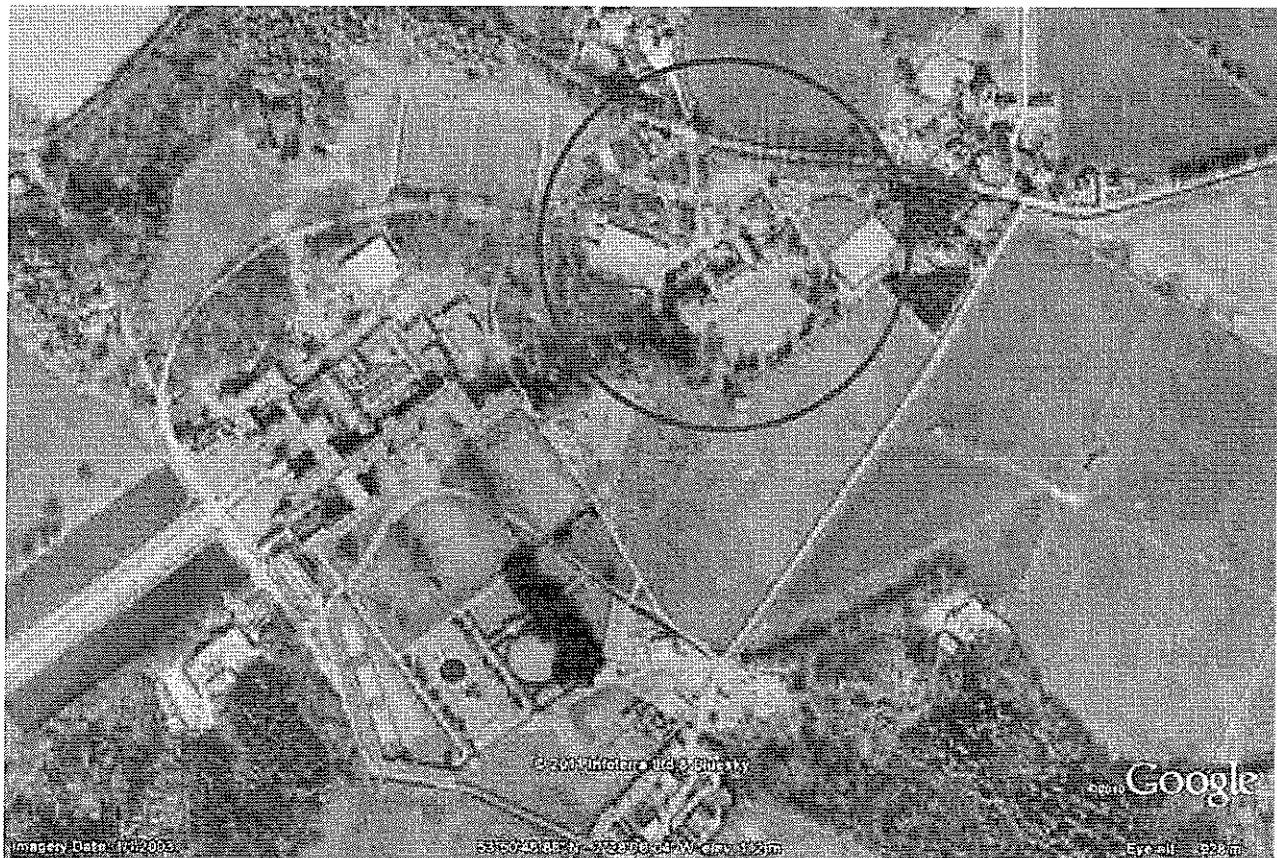
AVC Energy has been invited to provide a proposal for the supply and installation of Solar Photovoltaic (PV) technology at St Marys Hall. This document provides a costed proposal detailing how this may be achieved.

2 Requirements

The requirement is for a grid linked PV system to contribute to the electricity demands of the building.

3 Location of Building

The property is a Catholic co-educational boarding school. The buildings are shown in the photograph below.



Location of Buildings



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Proposal, Solar Photovoltaic System

4 Solar PV System

4.1 Size of system

Using Ying li 235W modules and the available roof space the following size of system is proposed:

Energy Generated by 1kW peak installation in UK	800	kWh
No of Panels	210	
Output of Panel	235	W
Area of Panels	343	m ²
Peak Output	49.4	kW
Slope & Orientation Factor	997	SE / SW
Shading Factor	1	
Energy Generated per Annum (MW hrs)	39.4	MWh/yr
Annual Saving in CO2 emissions (tonnes)	16.9	Tonnes CO ₂ /yr

The performance of solar PV systems is impossible to predict with total 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 Government's standard assessment procedure for energy rating of buildings (SAP) and is given as guidance only. It should not be considered as a guarantee of performance.

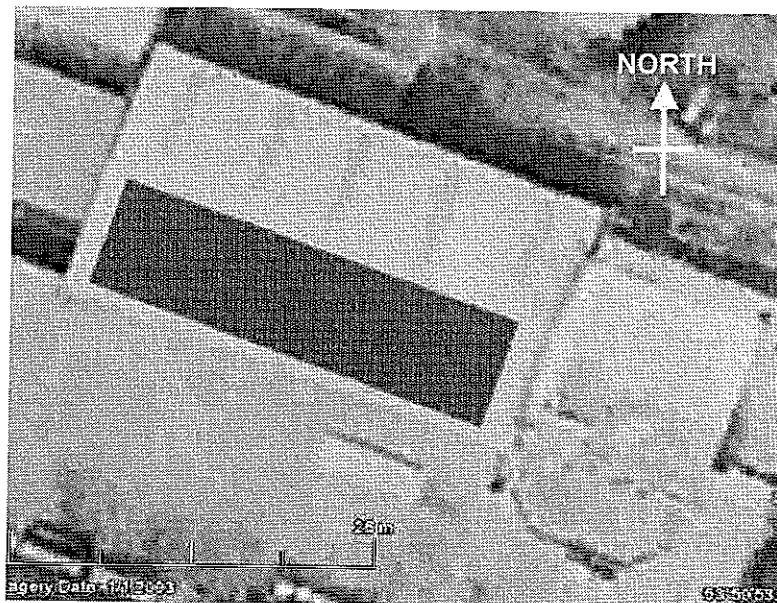
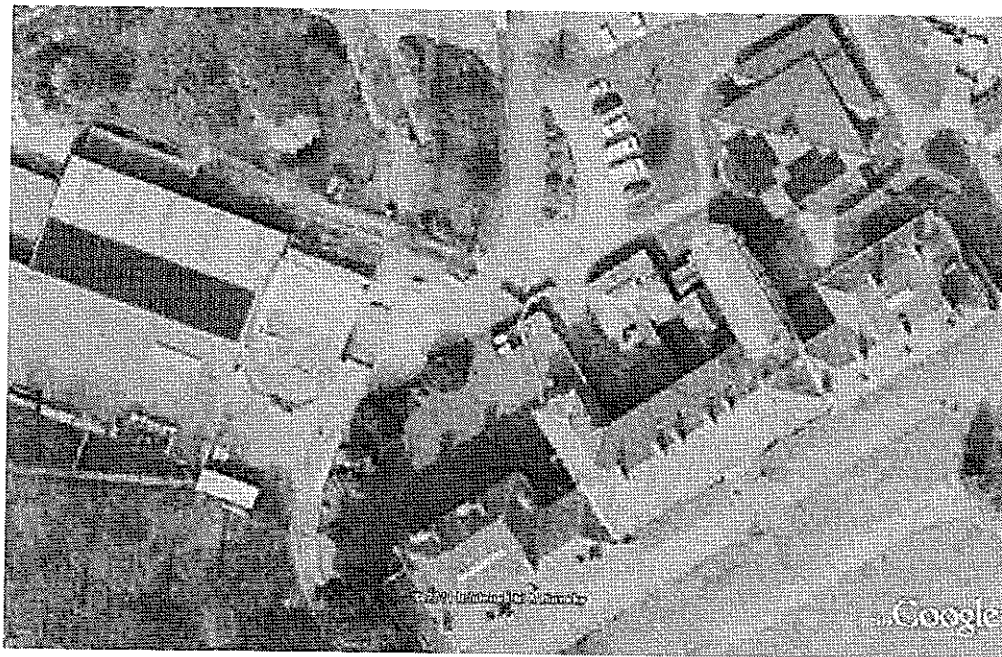
4.2 Carbon Dioxide Emission Savings

From the above figures a total of 16.9 Tonnes of CO₂ savings per year are estimated. These figures can be used to reduce your carbon footprint.

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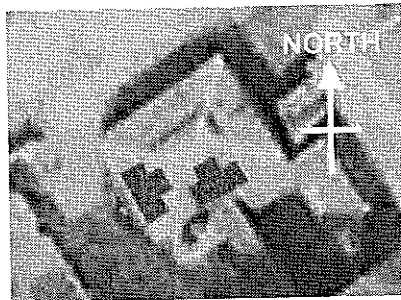
Proposal, Solar Photovoltaic System

4.3 Proposed Array



Layout of panels on roof – Scale 1:500 approx

Proposal, Solar Photovoltaic System

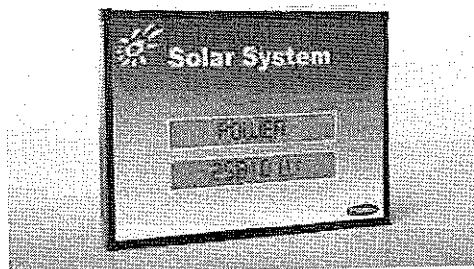


Layout of panels on roof – Scale 1:500 approx

The layout of the panels is subject to a site survey by an installation engineer. It may be possible to utilise more of the buildings for installation of PV panels. This is dependant on the number of MPANs on site and planning constraints.

4.4 Public Display

The display unit is a wireless display that can be situated anywhere in the building and shows the performance of the PV system at any given time.



Fronius Public Display

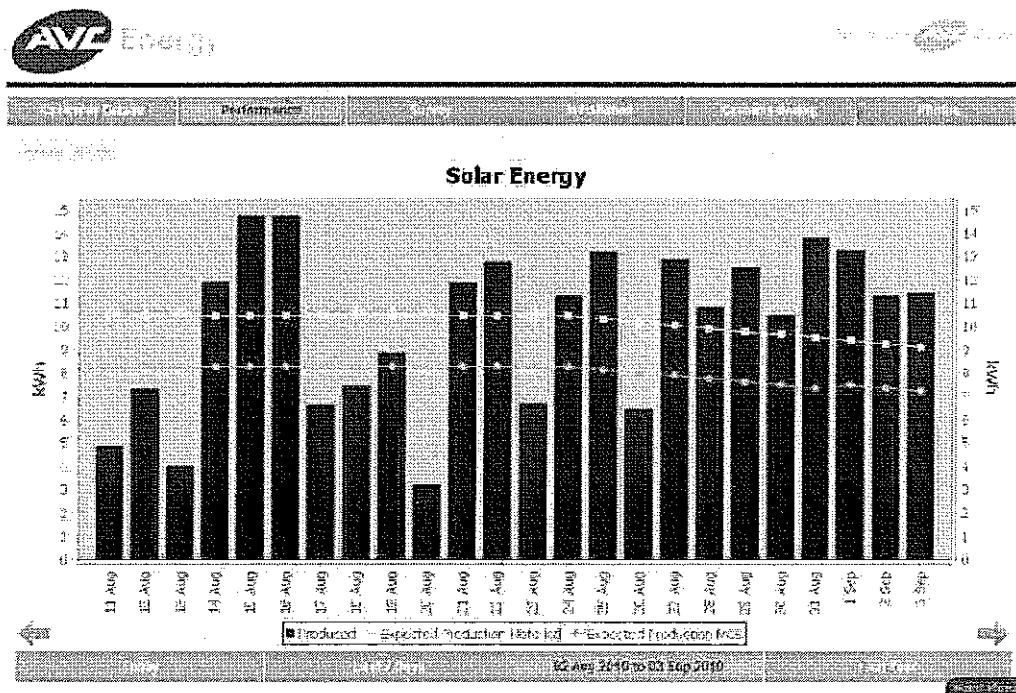
Proposal, Solar Photovoltaic System

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Commercially Confidential AVC Energy Ltd

Proposal, Solar Photovoltaic System

6 Costs

6.1 Assumptions

- This quotation is subject to a detailed site survey by an installation engineer

6.2 Quote

210 Panel 49.4 kW peak PV System	Cost
Total System Cost (exc VAT)	£157,920

Optional Extras (exc VAT)	Cost
Public Display	£2500
Service and Maintenance	£250 / service

This quotation is valid for 30-days

Please Note:

Should you decide to accept this proposal as a business transaction, the standard business VAT rate will apply. However, should you decide to accept as a domestic transaction then the lower VAT rate of 5% will apply.

DESIGN & ACCESS STATEMENT

320110502P

1 INTRODUCTION

1.1 General

Freetricity Commercial Ltd. is intending to install solar PV panels on the roof of the relevant building with a maximum energy output of just under 50 kW, which is the approximate energy usage of 12-15 dwelling houses in the United Kingdom.

1.2 Site Address

Site Address: *St. Mary's Hall, Stoneyhurst, Clitheroe, Lancs, BB7 9PU*

2 POLICY CONTEXT

2.1 LISTED BUILDINGS

Freetricity Commercial Ltd. refers you to Planning Policy Statement 5 (Planning for the Historic Environment):

"HE1.1 Local planning authorities should identify opportunities to mitigate, and adapt to, the effects of climate change when devising policies and making decisions relating to heritage assets by seeking the reuse and, where appropriate, the modification of heritage assets so as to reduce carbon emissions and secure sustainable development. Opportunities to adapt heritage assets include enhancing energy efficiency, improving resilience to the effects of a changing climate, allowing greater use of renewable energy and allowing for the sustainable use of water. Keeping heritage assets in use avoids the consumption of building materials and energy and the generation of waste from the construction of replacement buildings.

HE1.2 Where proposals that are promoted for their contribution to mitigating climate change have a potentially negative effect on heritage assets, local planning authorities should, prior to determination, and ideally during pre-application discussions, help the applicant to identify feasible solutions that deliver similar climate change mitigation but with less or no harm to the significance of the heritage asset and its setting."

There is no change in the structural integrity of the building by way of demolition or damage in fixing the panels to the roof, as the panels are held in place by brackets which are either supported by the roof surface or non-penetrating through the breathable roofing membrane.

DESIGN & ACCESS STATEMENT

2.2 NON-LISTED BUILDINGS

Freetricity Commercial Ltd refers you to Planning Policy Statement 18 (Renewable Energy):

F12. "The technology will be familiar to most and from the planning point of view, whilst there are clearly implications for listed buildings and the sensitive front elevations of some conservation areas, in general 'solar panels' are to be encouraged. In many cases involving dwelling houses, provided the building is not a listed building, or in a conservation area and the installation complies with the relevant constraints, PV will be 'permitted development' and is thus deemed not to require a planning application."

2.3 ALL BUILDING TYPES

Planning Policy Statement 22 (Renewable Energy):

"Increased development of renewable energy resources is vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy. Positive planning which facilitates renewable energy developments can contribute to all four elements of the Government's sustainable development strategy:

- social progress which recognises the needs of everyone – by contributing to the nation's energy needs, ensuring all homes are adequately and affordably heated, and providing new sources of energy in remote areas;*
- effective protection of the environment – by reductions in emissions of greenhouse gases and thereby reducing the potential for the environment to be affected by climate change,*
- prudent use of natural resources – by reducing the nation's reliance on everdiminishing supplies of fossil fuels; and,*
- maintenance of high and stable levels of economic growth and employment – through the creation of jobs directly related to renewable energy developments, but also in the development of new technologies. In rural areas, renewable energy projects have the potential to play an increasingly important role in the diversification of rural economies." (Government Objectives, p.6)*

Planning Policy Statement 21 (Policy CTY1 [Development in the Countryside – Non-Residential Development]):

"Planning permission will be granted for non-residential development in the countryside in the following cases. ...renewable energy projects in accordance with PPS18"

DESIGN & ACCESS STATEMENT

320110502P

(p.12)

Planning Policy Statement 1 (Delivering Sustainable Development):

Local planning authorities should "seek to promote and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy)".

(s. 22, p.9)

3 SITE APPRAISAL

3.1 SITE DESCRIPTION

- Building use/type: *School*
- Type of roof: *Pitched (Array 1 & 2)*
- Visibility of roof from surrounding sites and public spaces: *Limited*

3.2 LOCAL CONTEXT

Brief description of surrounding environment including:

- Adjoining land uses: *Residential*
- Close Proximity to any Area of Outstanding Natural Beauty: *None*
- Close Proximity to Listed Buildings: *Yes (Site is Listed [Grade II])*
- Any other notable features in the surrounds: *None*

4 PROPOSED DEVELOPMENT

4.1 PROPOSED USE

The roof will be used as a means to support solar panels which will generate electricity.

4.2 SCALE AND AMOUNT

- Total number of panels: *210*
- Mounting system to be used: If flat, mounting frames angled at 10 degrees; if pitched, flush with roof at identical roof angle.
- Other installations: *Inverter(s)*

4.2.1 CONSTRUCTION

The installation will take approximately 1 week to complete, with approximately 1 truckload to deliver 60 panels maximum per day.

DESIGN & ACCESS STATEMENT

4.2.2 OPERATION

Maintenance requirements involve 2 yearly visits for cleaning and repair, aside from that the development will be passive in operation, with low impacts. These include low/ negligible noise levels and no emissions.

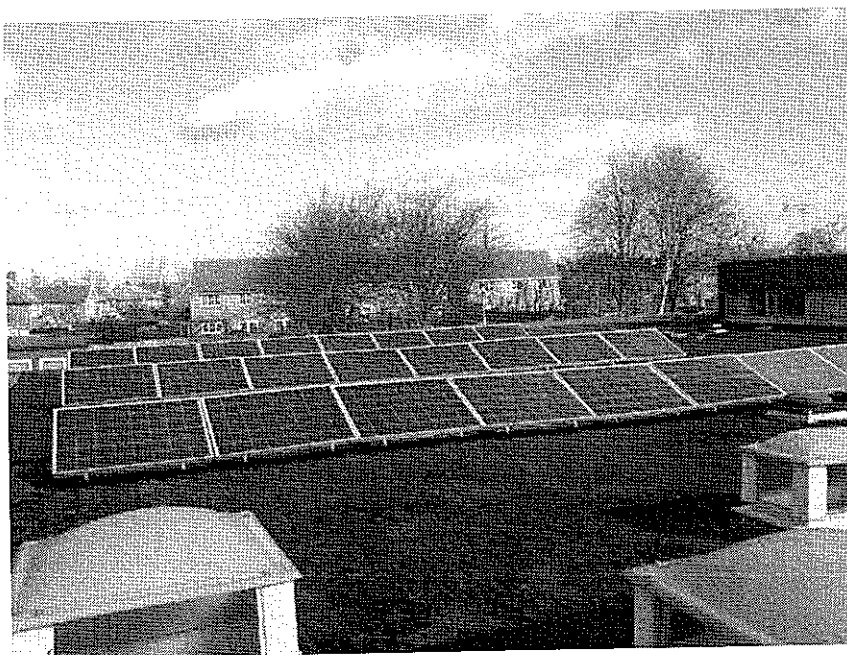
4.3 LAYOUT

Please refer to the attached layout plan and proposed array images contained within the desktop survey. Area of each panel is $0.99\text{m} \times 1.65\text{m} = 1.6335\text{sqm}$.

4.4 APPEARANCE

Sample photos of pitched/ flat arrays are included as examples of the final appearance.

Figure A: Flat Roof Installation



DESIGN & ACCESS STATEMENT

Figure B: Pitched Roof Installation

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4.5 LANDSCAPING

Unlikely to need landscaping with a roof installation, note that the impacts will be minor and therefore no landscaping is considered necessary.

4.6 ACCESS

Please refer to the enclosed location plan. The solar photovoltaic system will be positioned on the roof and will therefore not require any access to the general public.

There will be no impact on the local highway and the construction traffic will be unnoticeable such that there will be no increase in volume of traffic on the local network.

5 CONCLUSIONS

With above criteria recognised and fulfilled to accommodate the installation, renewable energy development rights should be acknowledged upon our reasonable request.

320140502P



Argyll House
All Saints Passage
London
SW18 1EP
t: 0203 189 4502
www.freetricity.net

PLANNING STATEMENT: **FOLLOWING THE PROVISIONAL ACCEPTANCE** **OF A SCHOOL PROPERTY FOR FREE SOLAR PV PANELS**

PERMITTED DEVELOPMENT (LAWFUL USE CERTIFICATE)

The roof will be used as a means to support solar panels which will generate electricity. In accordance with General Permitted Development Order 2010 Amendment [Part 32, Class A: "Alterations"], there will only be development to a property that does not involve the creation of additional floor space and this will be the installation of solar panels on the roof space of the property for the use of generating electricity.

By consensus and definition, development is considered to be any active strategy to create value in a property or specific area and since construction/ building is not taking place in the sense of assembling infrastructure, the installation of solar PV falls under development and would therefore be classed as an "alteration". The alteration of school, college, university and hospital buildings is a Permitted Development, so long as:

- The PV is not installed within 5m of the property boundary.
- The PV is not installed within 10m of the boundary if the building height is greater than 5m.
- The height of the building does not increase.
- The building is not within the curtilage of a listed building.
- The development must be within the curtilage of an existing school, college, university or hospital (i.e. not a new one being developed).
- If the building is located on article 1(5) land (a National Park, AONB, conservation area, areas specified for enhancement and protection of natural beauty and amenity of the countryside, and the Broads) materials must have a similar external appearance to the original building.

It should be noted that this school application for solar PV should not be confused with Part 40, which is only relevant to dwelling houses or buildings within the curtilage of a dwelling house. In support of our application for planning, Freetricity Commercial Ltd. also refers you to the following example piece of legislation in the provision of Permitted Development by the government for the installation of solar panels to schools in the country:

Planning Policy Statement 18 (Renewable Energy)

F12 "The technology will be familiar to most and from the planning point of view, whilst there are clearly implications for listed buildings and the sensitive front elevations of some conservation areas, in general 'solar panels' are to be encouraged. In many cases involving dwelling houses, provided the building is not a listed building, or in a conservation area and the installation complies with the relevant constraints, PV will be 'permitted development' and is thus deemed not to require a planning application."

For the application of Permitted Development, Freetricity Commercial Ltd. recognises that the relevant school building(s) must be of no particular architectural note to the extent of being Listed and there should be no significant impact on its appearance or the amenities of neighbours. If the premises are in a Conservation Area, Freetricity Commercial Ltd. will attempt to conceal the panels as much as is reasonably possible from a public highway view.

NON-PERMITTED DEVELOPMENT (FULL PLANNING)

In the case of development which may fall short of the above criteria, an application for full planning may be preferred by the Local Planning Authority, in which case the following legislation would be adhered to by Freetricity Commercial Ltd. and the Local Planning Authority:

Planning Policy Statement 5: Planning for the Historic Environment

"HE1.1 Local planning authorities should identify opportunities to mitigate, and adapt to, the effects of climate change when devising policies and making decisions relating to heritage assets by seeking the reuse and, where appropriate, the modification of heritage assets so as to reduce carbon emissions and secure sustainable development. Opportunities to adapt heritage assets include enhancing energy efficiency, improving resilience to the effects of a changing climate, allowing greater use of renewable energy and allowing for the sustainable use of water. Keeping heritage assets in use avoids the consumption of building materials and energy and the generation of waste from the construction of replacement buildings.

HE1.2 Where proposals that are promoted for their contribution to mitigating climate change have a potentially negative effect on heritage assets, local planning authorities should, prior to determination, and ideally during pre-application discussions, help the applicant to identify feasible solutions that deliver similar climate change mitigation but with less or no harm to the significance of the heritage asset and its setting."

There is no change in the structural integrity of the building by way of demolition or damage in fixing the panels to the roof, as the panels are held in place by brackets which are either supported by the roof surface or non-penetrating through the breathable roofing membrane. Therefore, no roof materials and finishes will change. As a result, planning should be in favour of solar photovoltaic panels.

ADDITIONAL SUPPORTING LEGISLATION (BOTH PLANNING TYPES)

Planning Policy Statement 22: Renewable Energy – Government Objectives

"Increased development of renewable energy resources is vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy. Positive planning which facilitates renewable energy developments can contribute to all four elements of the Government's sustainable development strategy:

- social progress which recognises the needs of everyone – by contributing to the nation's energy needs, ensuring all homes are adequately and affordably heated; and providing new sources of energy in remote areas;*
- effective protection of the environment – by reductions in emissions of greenhouse gases and thereby reducing the potential for the environment to be affected by climate change;*

– prudent use of natural resources – by reducing the nation's reliance on everdiminishing supplies of fossil fuels; and,

– maintenance of high and stable levels of economic growth and employment – through the creation of jobs directly related to renewable energy developments, but also in the development of new technologies. In rural areas, renewable energy projects have the potential to play an increasingly important role in the diversification of rural economies ”

(p.6)

Planning Policy Statement 21 (Policy CTY1 [Development in the Countryside – Non-Residential Development])

“Planning permission will be granted for non-residential development in the countryside in the following cases: ...renewable energy projects in accordance with PPS18”.

(p.12)

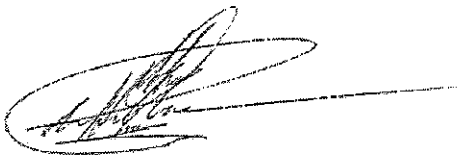
The works are not intended to be permanent, due to the fact that the installation has a guaranteed lifespan of 25 years, after which period of time the installation is likely to be removed shortly thereafter.

Planning Policy Statement 1: Delivering Sustainable Development

Local planning authorities should “seek to promote and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy)”.

(s. 22, p.9)

The relevant Local Planning Authority will be supplied with regular supporting documentation, primarily the location plan with legal boundary, and any other plans available to Freetricity Commercial Ltd., such as desktop survey site plans with proposed arrays, model specifications, and design and access statement with sample photos, which may be submitted in due course in order to assist planning officers in deciding the proposal. However, it is understood that the Planning Portal tends to only set out “Mandatory Documentation” as Evidence to Verify Application and the Location Plan for Lawful Use Certificate, and the additional inclusion of a Site Plan for Full Planning. With these criteria fulfilled, renewable energy development rights should be acknowledged upon our reasonable request.



Nick Prinse
Management Surveyor

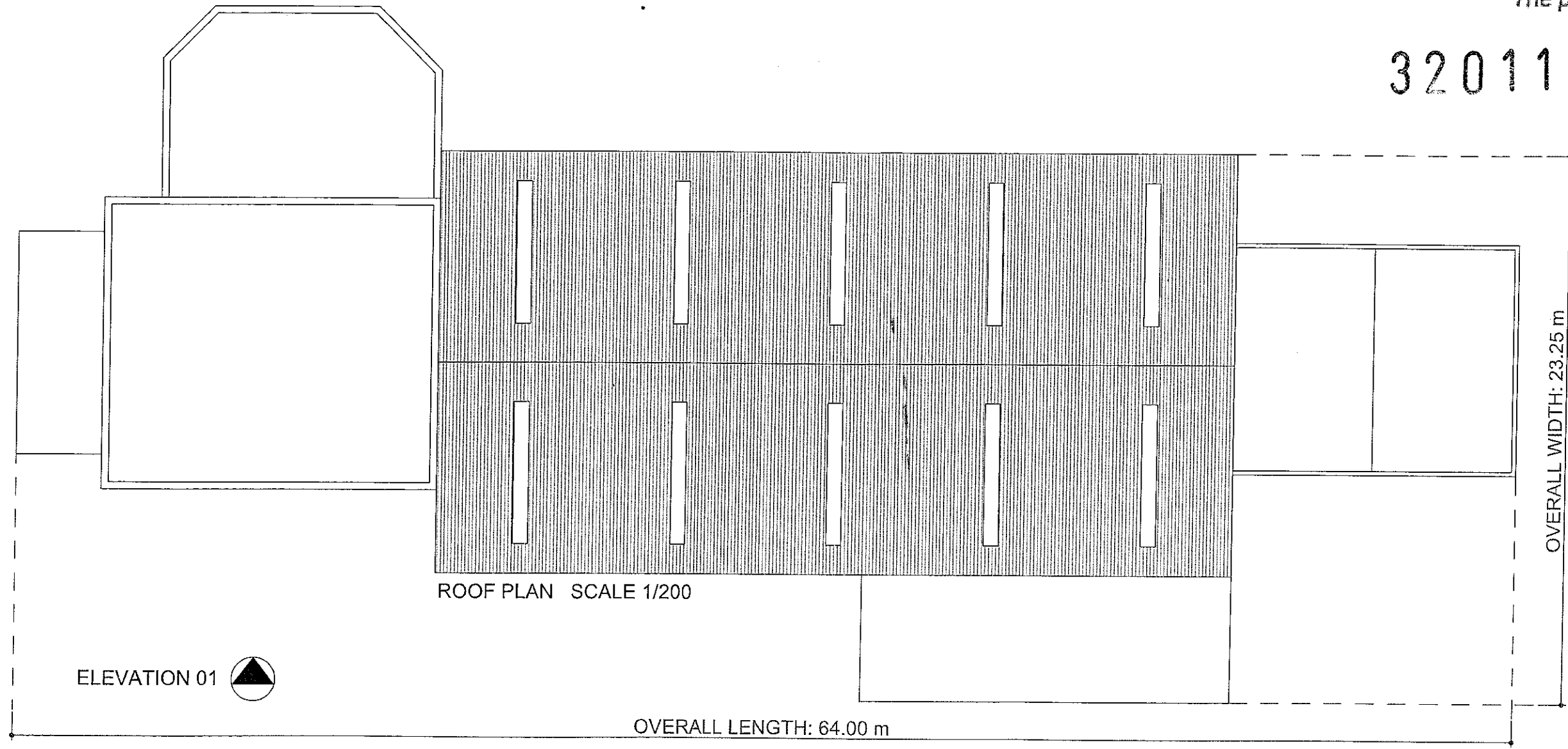
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e: nick.prinse@freetricityplc.com
www.freetricityplc.com



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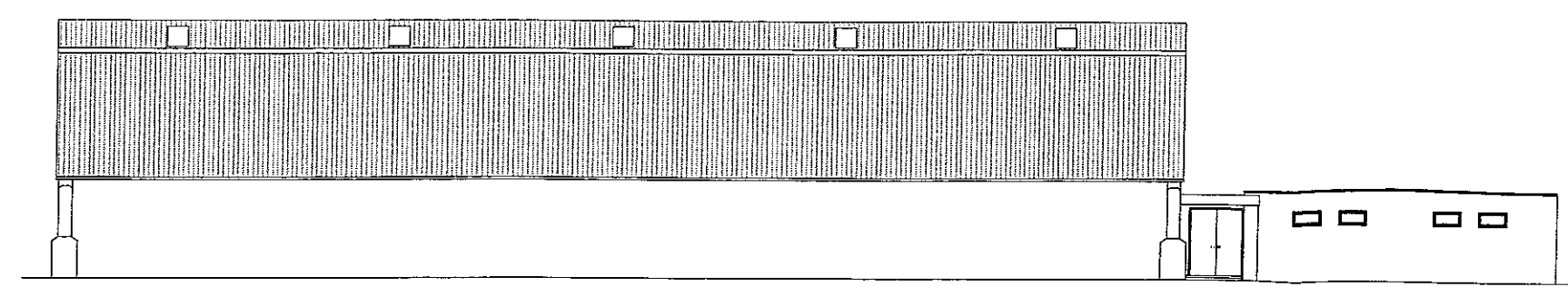
ROOF PLAN SCALE 1/200

ELEVATION 01

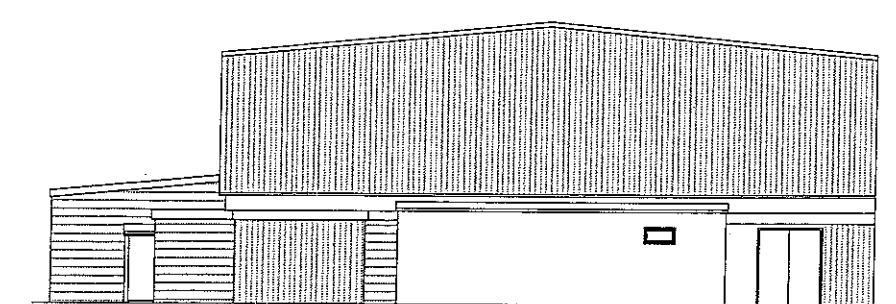
ELEVATION 02

OVERALL LENGTH: 64.00 m

OVERALL WIDTH: 23.25 m



ELEVATION 01 (EAST) SCALE 1/200



ELEVATION 02 (NORTH) SCALE 1/200

ST MARY'S HALL

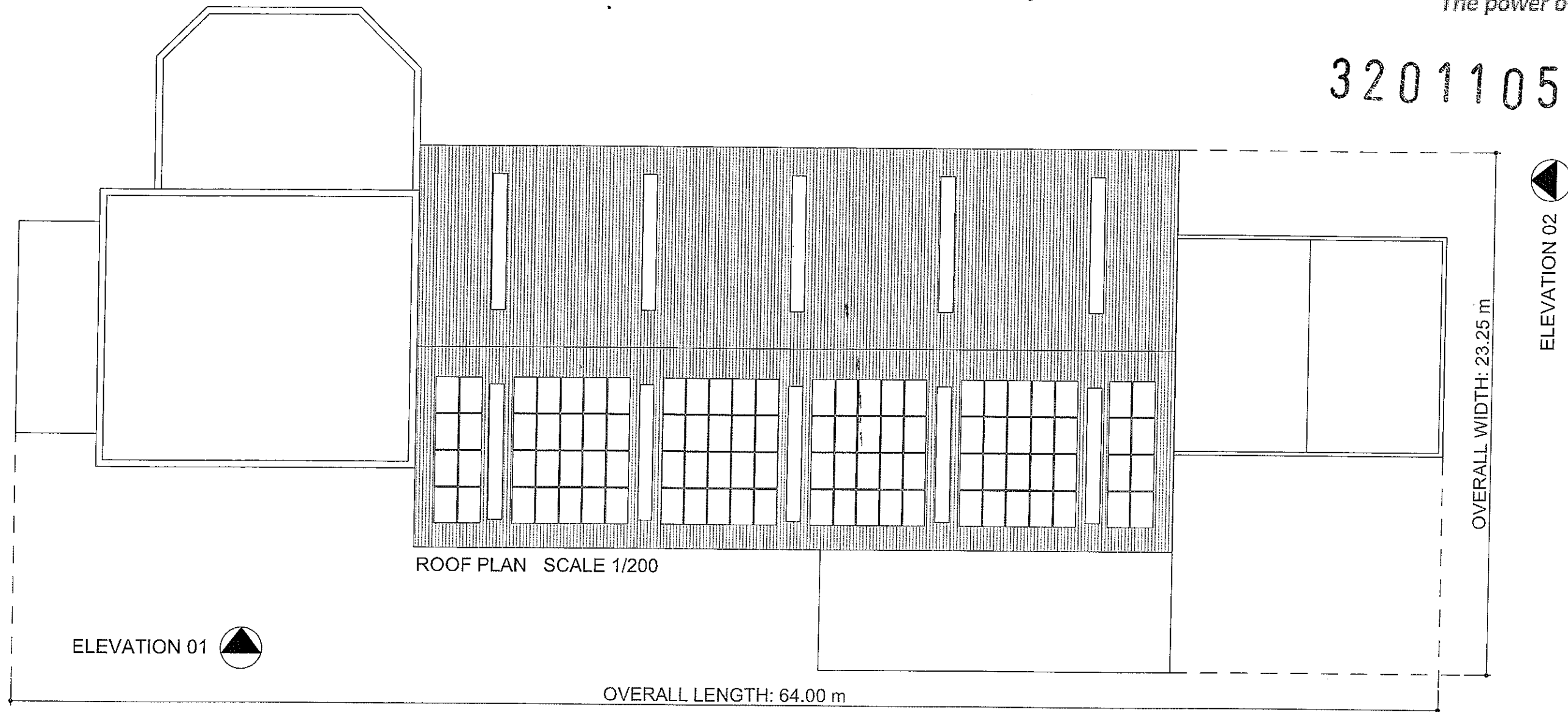
ROOF PLAN AND ELEVATIONS (EXISTING) A3 SCALE 1/100



0 2 4 6 8 10m



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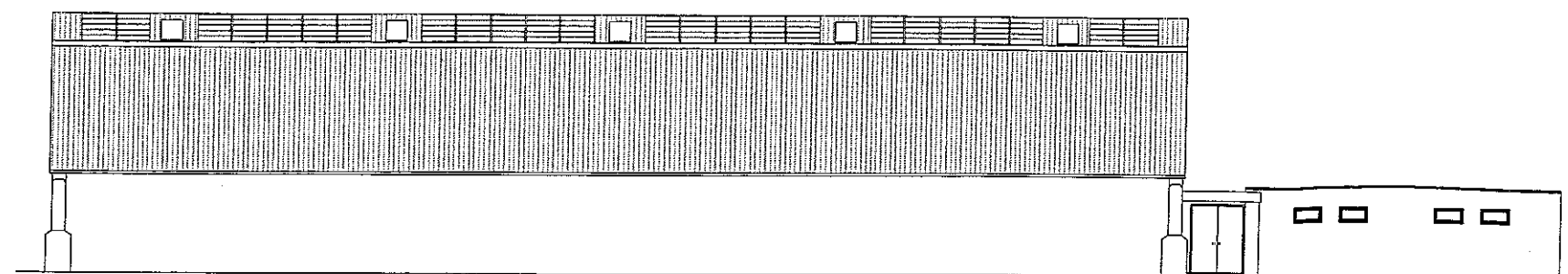
ROOF PLAN SCALE 1/200

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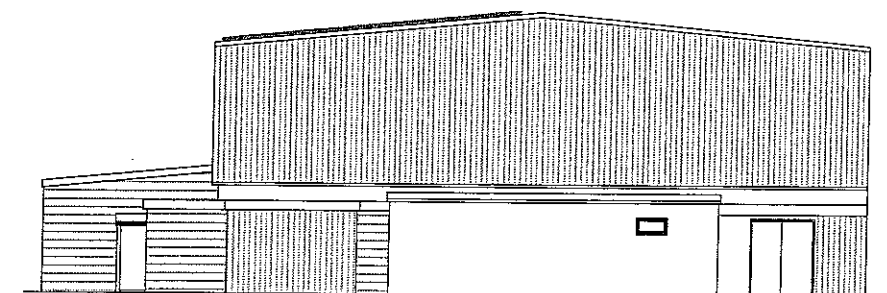
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ELEVATION 01 (EAST) SCALE 1/200



ELEVATION 02 (NORTH) SCALE 1/200

ST MARY'S HALL

ROOF PLAN AND ELEVATIONS (PROPOSED) A3 SCALE 1/200