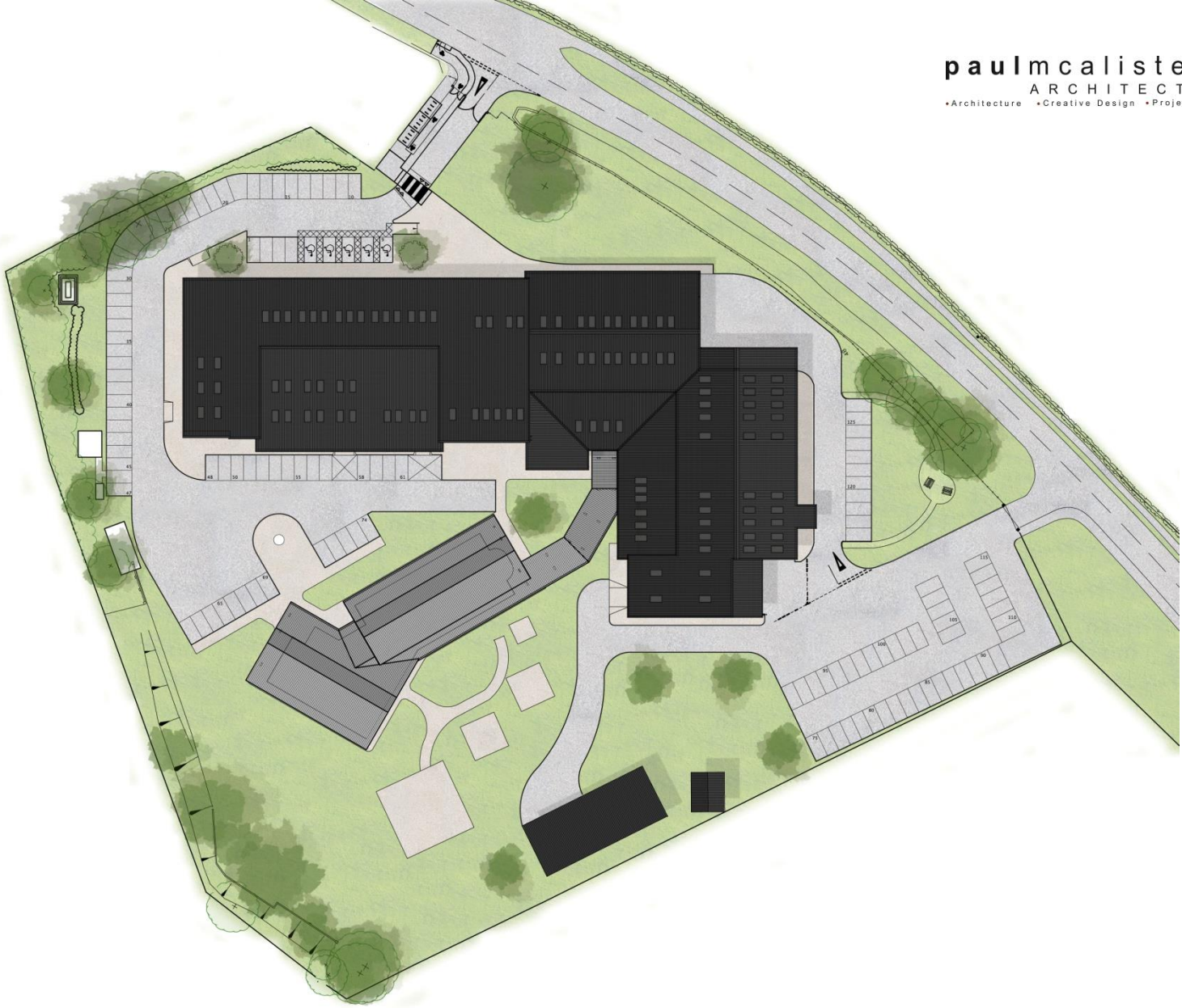


# CREST

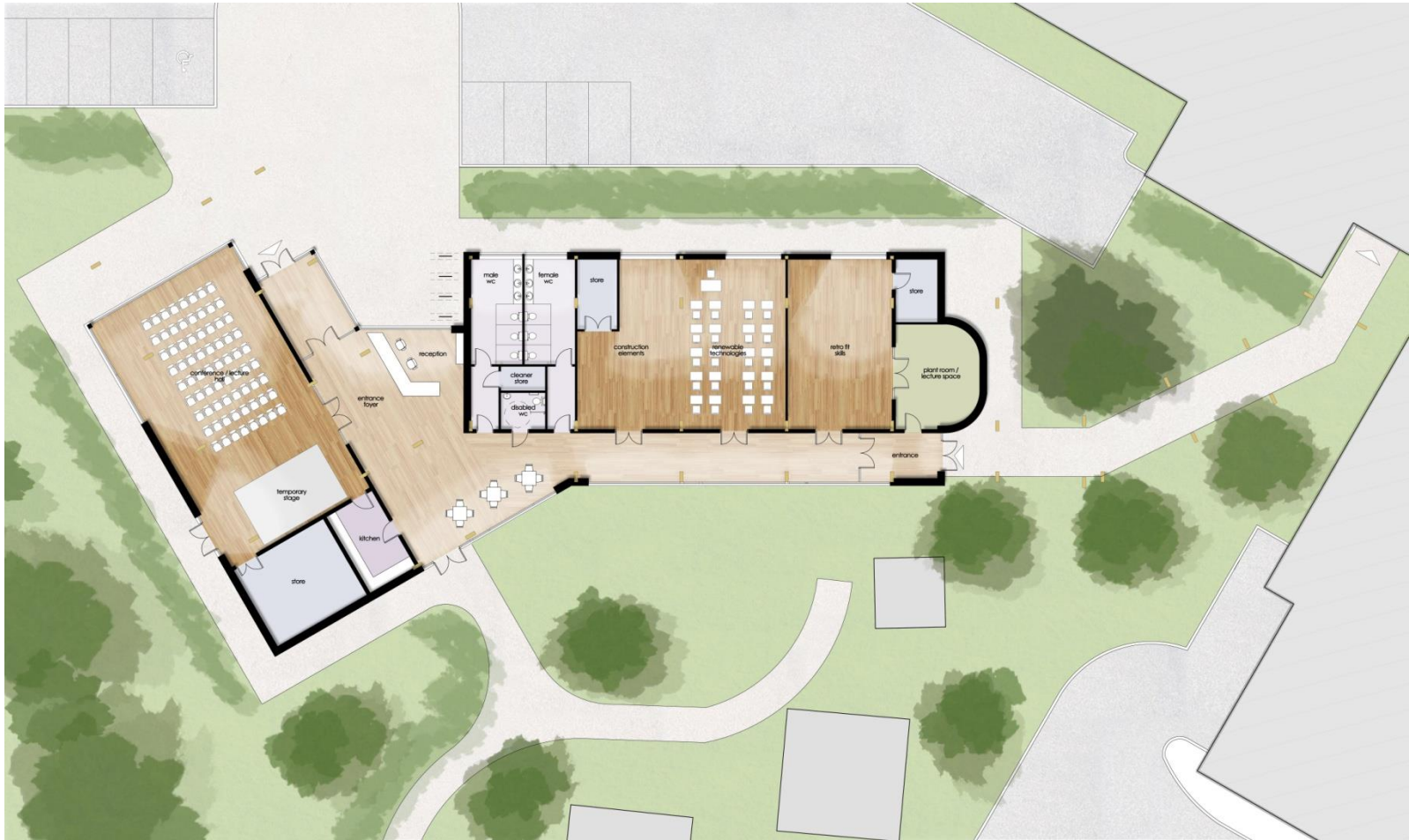
EU Funded Project

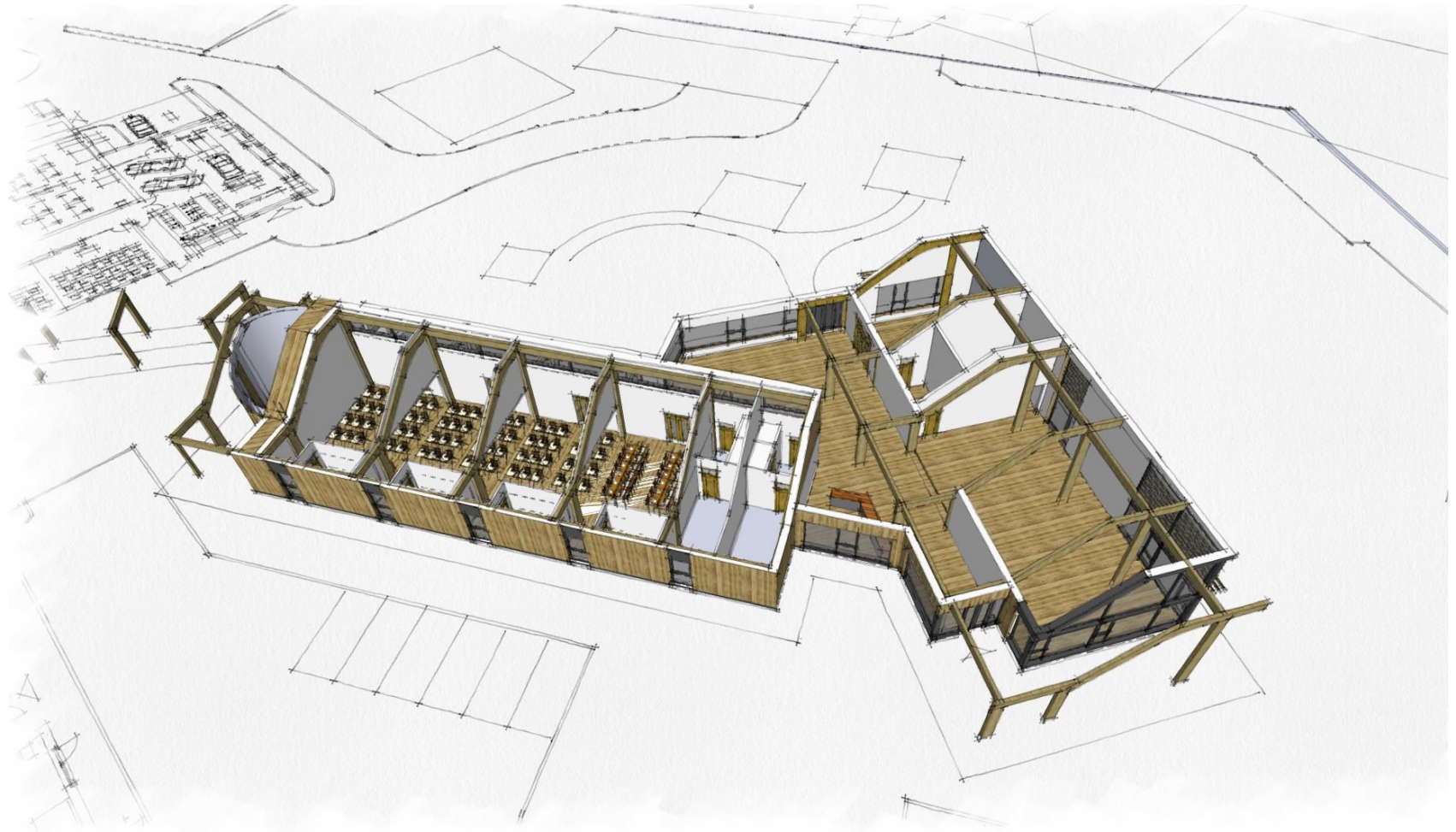
## Centre for Renewable Energy and Sustainable Technology











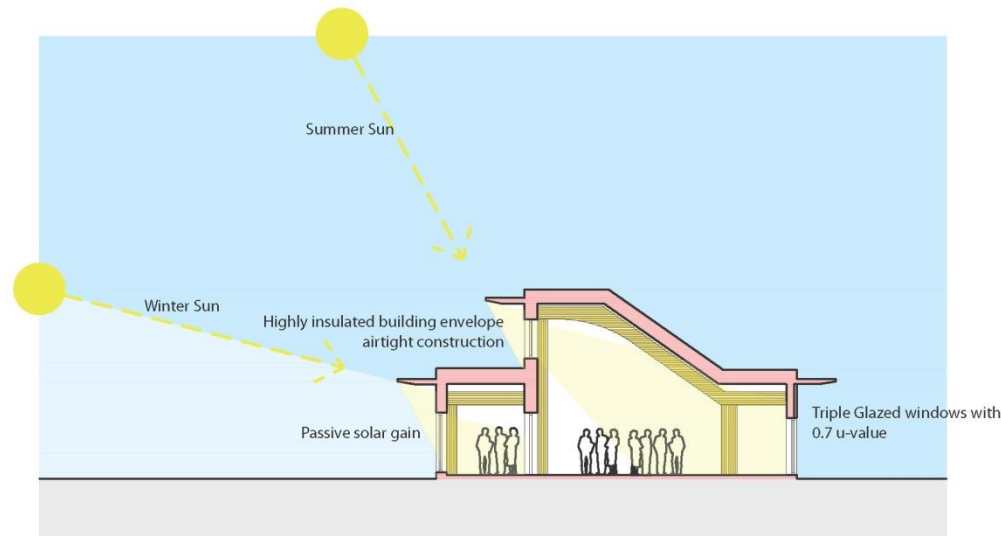








# ✓ Passivhaus specifications



- Total energy demand be less than 15 kWh/m<sup>2</sup>/yr.
- Air leakage 0.6
- Windows should have U-values not exceeding 0.80 W/m<sup>2</sup>K for both glazing and frames. This requires the window frame to incorporate insulation and the glazing to be triple.
- All components of the exterior shell of a PassivHaus are insulated to achieve a U-Value minimum 0.15 W/m<sup>2</sup>K

## Three major sustainable credentials

PASSIVHAUS

PassivHaus Plus Certified for Energy efficient envelope and ventilation system

BREEAM®

Breeam excellent in terms of the BRE sustainable benchmark for UK commercials buildings



The building will also be Zero Carbon, this means that the building can provide, by renewable energy, it own source of heat and lighting. ( regulated energy use provided )



First Educational building in Ireland to have PassivHaus certification and rated BREEAM excellent.



First building in the UK and Ireland to have PassivHaus certification, rated BREEAM excellent and carbon neutral.





# BREEAM codes for sustainability

BREEAM is the world's leading design and assessment method for sustainable buildings. Below outlines the weighting on crucial categories which need consideration when aiming for BREEAM excellence

**BREEAM® UK** Code for a Sustainable Built Environment [www.breem.org](http://www.breem.org)

---

**Final Certificate**  
This is to certify that:  
**CREST**  
South West College  
Technology Skills Centre  
Killyhevin Industrial Estate  
Lough Yoan Road, Fermanagh  
BT74 4EJ

has been assessed to:  
**BREEAM New Construction 2011: Education**  
(Fully Fitted)

by a licensed assessor for:  
South West College  
and has achieved a score of **76.6%**  
**Excellent**

Certificate Number: BREEAM-0059-6965 Issue: 01

19 April 2016  
*Richard Moore*  
Signed on behalf of BRE Global Ltd.

Gavin Dunn  
Director BREST

SWC, Cavan Innovation & Technology  
Centre, IT Sligo, Dumfries and Galloway  
College  
Developer

Paul McAllister  
Architect

Cullinn Group Ltd  
Building Services

Dimensions  
CIBS Consultant

Letter Acoustics  
Acoustician

Ecoteric SDS Limited  
Assessor Company

Richard Moore  
Licensed Assessor

RM56  
Assessor Number

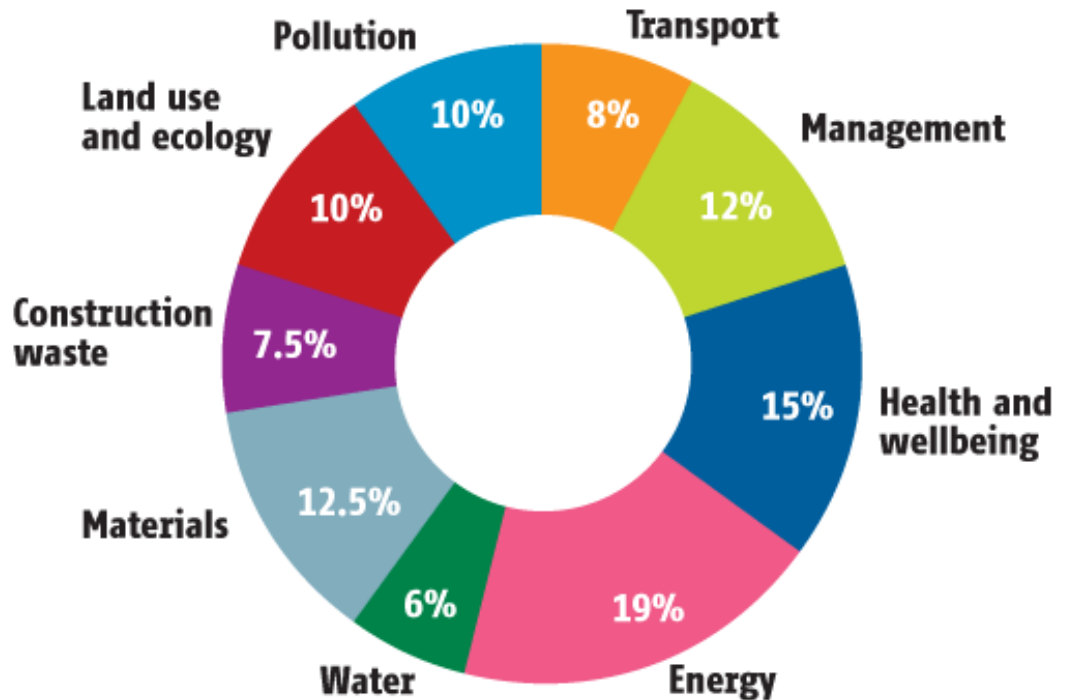
P.J Treacy & Sons Ltd  
Principal Contractor

Giffin Hughes  
Project Management

MosArt Ltd  
Plaster House Certified

George Dawson Ltd  
Structural Engineer

This certificate is issued by BRE Global Ltd to the Licensed Assessor named above based on their assessment of compliance by the Client and method of the Year of Assessment.  
This certificate is the property of BRE Global Ltd and is issued subject to terms and conditions - visit [www.breem.org/conditions](http://www.breem.org/conditions).  
To check the authenticity of this certificate visit [www.breem.org/certificate-check](http://www.breem.org/certificate-check), use the QR code or contact:  
BRE Customer Services, 10000 Lakeside, London E15 4RN  
BRE is a registered trademark of BRE the building research establishments Ltd. Company trademark.  
© BRE Global Ltd, 2014





# Carbon Neutral Building

Photovoltaic Panels 12kW needed 50kW generated







# Carbon neutral construction

**Energy Performance Certificate Northern Ireland**  
 Non-Domestic Building

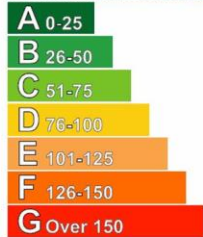
Southwest College  
 Technology & Skills Centre  
 Killybeggin Industrial Estate  
 Enniskillen  
 BT74 4EJ

Certificate Reference Number:  
 0670-0135-4529-8600-4096

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information on the Department's website [www.epb.dfpni.gov.uk](http://www.epb.dfpni.gov.uk).

**Energy Performance Asset Rating**

More energy efficient



Less energy efficient

**Technical Information**

Main heating fuel: Grid Supplied Electricity  
 Building environment: Heating and Natural Ventilation  
 Total useful floor area (m<sup>2</sup>): 554  
 Building complexity (NOS level): 4  
 Building emission rate (kgCO<sub>2</sub>/m<sup>2</sup>): -19.19

**Benchmarks**

Buildings similar to this one could have rating as follows:  
 31 If newly built  
 82 If typical of the existing stock

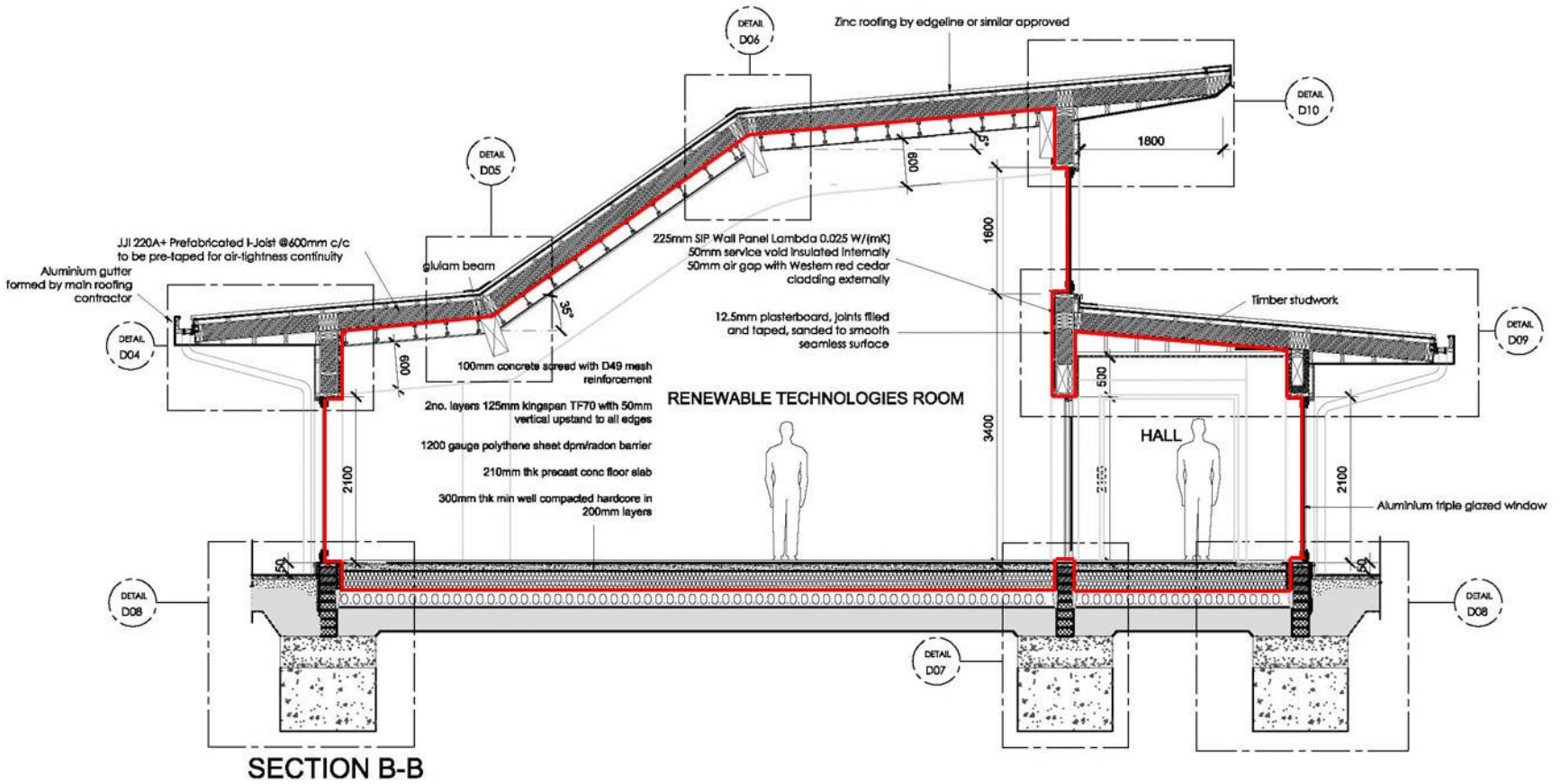


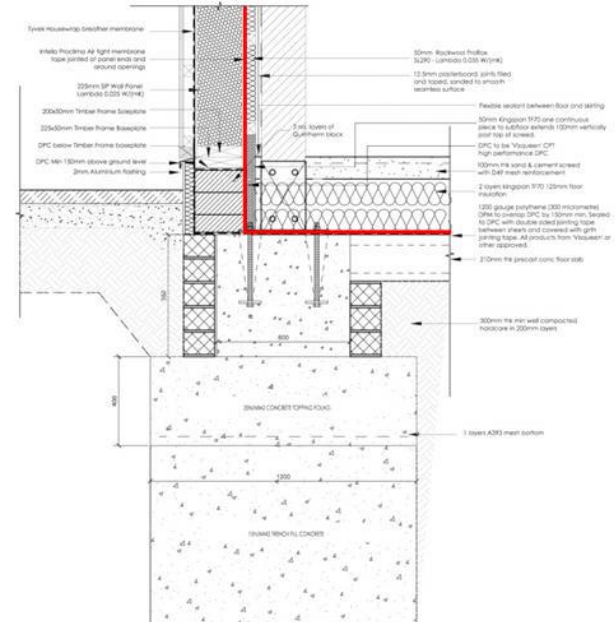
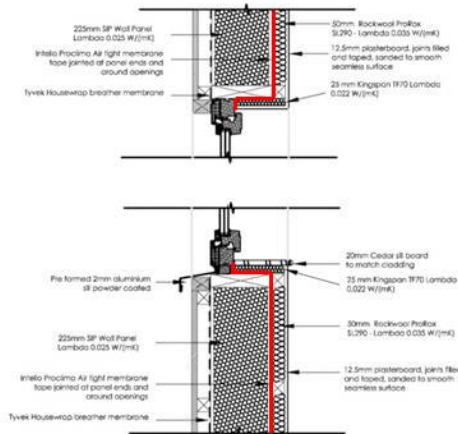
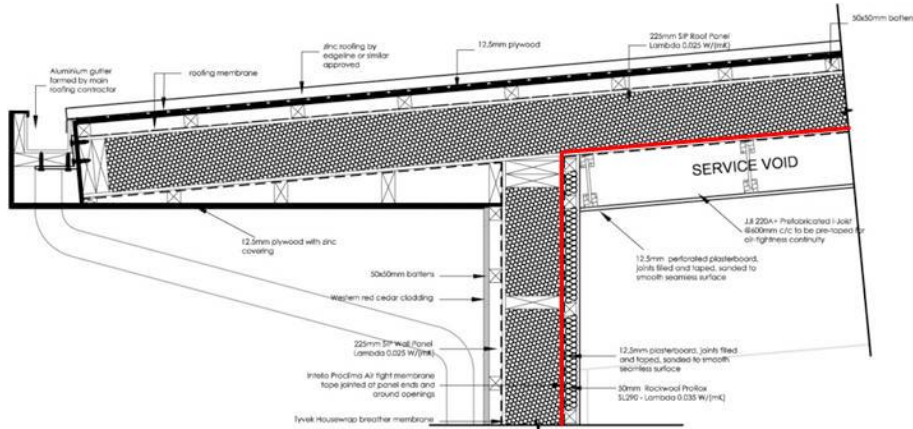
PASSIVHAUS

BREEAM®



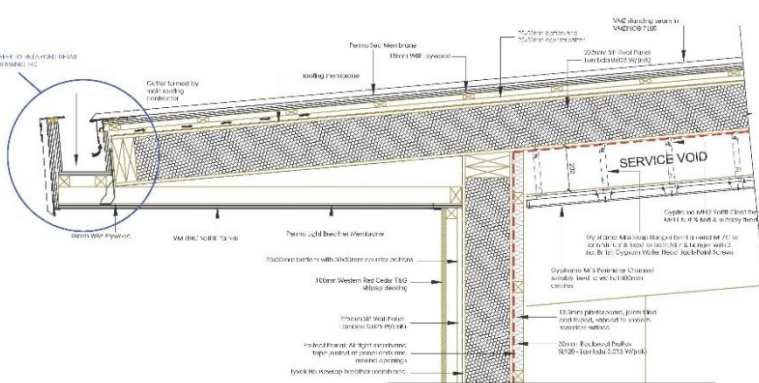
The CREST pavilion is one of few non domestic buildings in the UK and Ireland that is *carbon neutral* – the building will provide enough electricity to heat and illuminate itself throughout the year



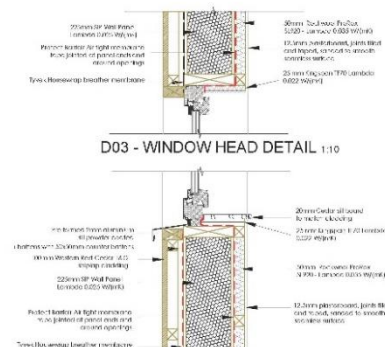




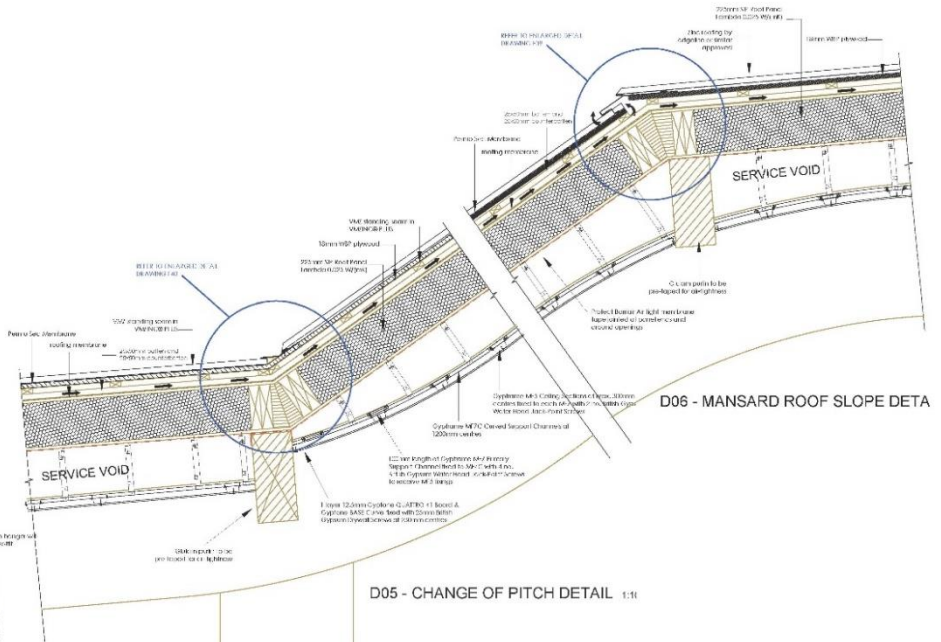
1. PRODUCT SPECIFICATIONS SHALL COMPLY WITH THE SPECIFICATIONS TO THE EUROPEAN STANDARD EN 12542 FOR DIMENSIONAL TOLERANCES AND ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
2. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
3. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
4. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
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7. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
8. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.
9. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION OF THE ELEMENT.



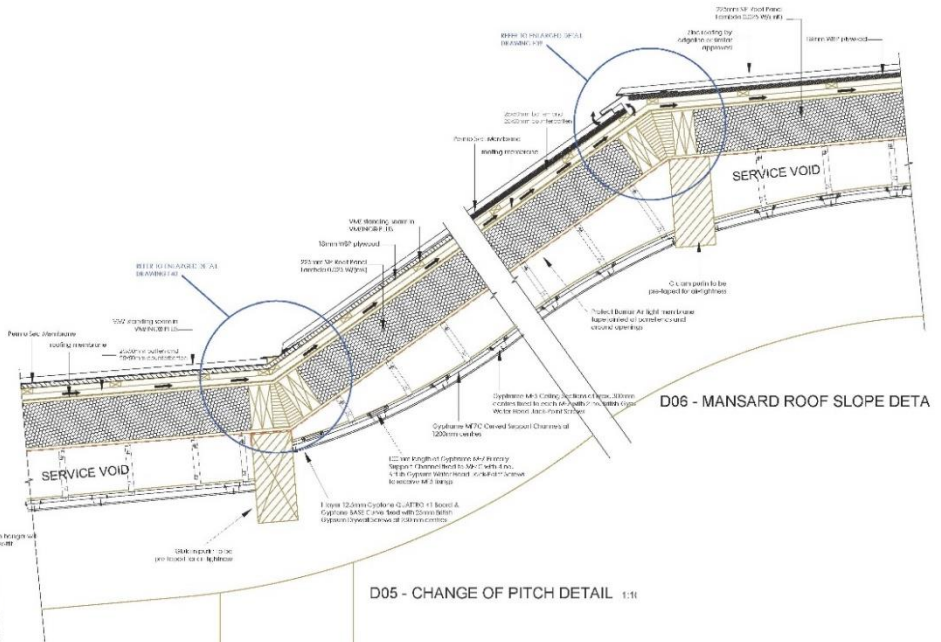
D02 - WINDOW CILL DETAIL 1:10



D03 - WINDOW HEAD DETAIL 1:10



D05 - CHANGE OF PITCH DETAIL 1:10



D06 - MANSARD ROOF SLOPE DETAIL

| REV | DESCRIPTION                                | DATE       | BY | CHKD |
|-----|--|------------|----|------|
| D   | ZINC DETAILS AMENDED                       | 05/08/2013 | SM |      |
| C   | ZINC DETAILS AMENDED                       | 20/07/2013 | SM |      |
| B   | CEILING DRIPS DETAIL ADDED, ISBANS REMOVED | 08/04/2013 | SM |      |
| A   | DETAIL MOVED TO NEW SHEET FOR CLARITY      | 11/03/2013 | SM |      |

| PROJECT NO. | DRG. NO. | REVISION |
|-------------|----------|----------|
| 13-16       | F13      | D        |

| SCALE     | DATE        | DRAWN BY |
|-----------|-------------|----------|
| 1:10 @ A1 | August 2013 | SM       |

| CLIENT             |
|--------------------|
| South West College |

| PROJECT TITLE   |
|---|
| Proposed Pavilion at Crest Centre, South West College, Enniskillen Campus |

| DRAWING TITLE                 |
|-------------------------------|
| Proposed Sections / Details 7 |

| PROJECT NO. | DRG. NO. | REVISION |
|-------------|----------|----------|
| 13-16       | F13      | D        |

| SCALE     | DATE        | DRAWN BY |
|-----------|-------------|----------|
| 1:10 @ A1 | August 2013 | SM       |

| CLIENT             |
|--------------------|
| South West College |

| PROJECT TITLE   |
|---|
| Proposed Pavilion at Crest Centre, South West College, Enniskillen Campus |

| DRAWING TITLE                 |
|-------------------------------|
| Proposed Sections / Details 7 |

| PROJECT NO. | DRG. NO. | REVISION |
|-------------|----------|----------|
| 13-16       | F13      | D        |

| SCALE     | DATE        | DRAWN BY |
|-----------|-------------|----------|
| 1:10 @ A1 | August 2013 | SM       |

| CLIENT             |
|--------------------|
| South West College |

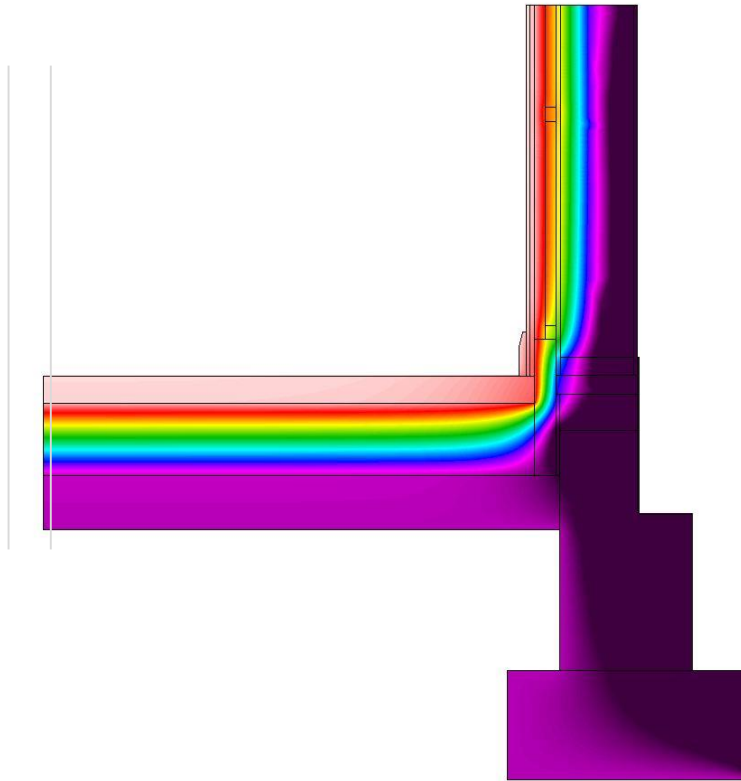
| PROJECT TITLE   |
|---|
| Proposed Pavilion at Crest Centre, South West College, Enniskillen Campus |

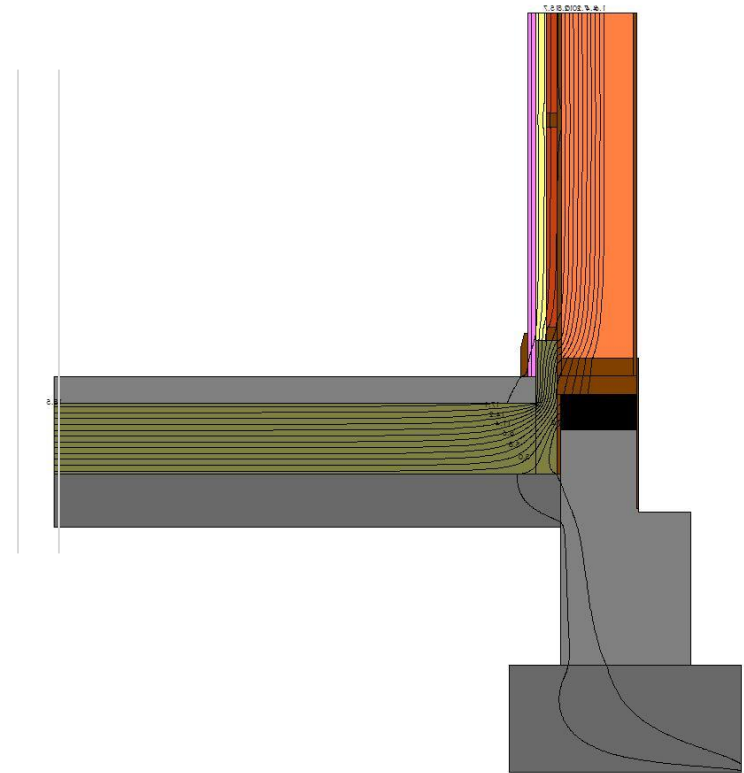
| DRAWING TITLE                 |
|-------------------------------|
| Proposed Sections / Details 7 |

**paul calister**  
ARCHITECTS  
The Barn Studio  
64a Drumacamy Road  
Portlaoine, Co. Armagh, BT23 5LY  
t: 028 3855 6111  
e: info@pcaarchitects.com  
w: www.pcaarchitects.com





Infrared View



Isotherm View

SIP (Structural Insulated Panels ) Panels can deliver Passive performance with its enhanced U Value ranges, negligible thermal bridging and superior air tightness.







# The Construction



Timber is the only truly renewable mainstream construction material





























































## Airtightness Test Report

Test Reference Number 692

Date 28/11/14

Carried out for P.J. Treacy & Sons Ltd

PREMISES: Pavillion at Crest Centre, Enniskillen

Carried out by: Gerard Poyntz [BINDT Registration Number 0020 ]  
 AIRSEAL  
 31 Creaghmore Rd  
 Drumquin  
 Omagh  
 Co. Tyrone  
 BT78 4SH

Design Air Permeability: 0.6 ACH@50Pa.

Test Result: 0.6 ACH@50Pa.

Note: The Design Air Permeability stated has been provided by the client and has not been verified.

AIRSEAL 31 CREAGHMORE ROAD DRUMQUIN OMAGH Co. TYRONE























ukpassivhaus  
conference 2016





