**Porthmeor Studios and Cellars**

# PUBLICATION OF BUILDING INFORMATION: BREEAM Man 9

## 1. DESCRIPTION OF THE PROJECT

The Grade II* Porthmeor Studios and Cellars was built in phases throughout the 19th century as lofts and cellars for the pilchard fishing industry. Artists arriving in St Ives in the 1880s then moved into the net lofts and converted them into studios. Artists and fishermen have shared the building ever since, and the building has been owned and managed by the Borlase Smart John Wells Trust (the Trust) since 1949.

Porthmeor is probably the oldest and most important artists' studio complex in the country. However decades of exposure to Atlantic gales had left the building in a very fragile state, and it was placed on the English Heritage 'Buildings at Risk' Register.

This project was concerned with the sympathetic renovation and restoration of this important building, and there were two main threads:

1. Repair and restoration of the fabric to ensure its integrity and improve fire separation and thermal insulation without changing its character
2. Local remodelling to improve access, provide for public enjoyment of the building and increased revenue to ensure that future maintenance will be sustainable.

The key aims of the project were to continue to provide workspace for fishermen, artists and St Ives School of Painting, and to offer spaces for the public and local community to use the facilities and learn more about the cultural heritage of St Ives.

## 2. BREEAM RATING AND SCORE

The building is being assessed under the BREEAM Bespoke 2008 Scheme, with a "Very Good" rating predicted, and a targeted score of ≥55%.

## 3. KEY INNOVATIVE AND LOW IMPACT DESIGN FEATURES

The embodied energy represented by the retention of this building is a significant fact in its sustainable credentials. Without this project, the building would almost certainly have been demolished and replaced with holiday flats.

This is a building in which the consumption of energy has been extremely low. The studios are designed to be used primarily in daylight, with very good quality of working daylight from large windows and skylights. The design scheme has repaired the windows and skylights and guarantees very good daylight quality. All new spaces use natural ventilation with mechanical systems being employed only where natural ventilation is not practically possible or as required under the regulations.

The design team have taken a whole life costing approach to construction. Except where they were actually rotten, materials in the building have been kept. Windows were repaired wherever possible rather than replaced. The roofs had perished, but have been replaced with wet laid slate from local Cornish quarries. New timber was all locally grown, using Larch for the internal boarding

and Douglas Fir for structural timbers. As in the original building, aggregate and sand were locally sourced.

The efficiency of the building fabric is maximised where possible, in order to conserve resources in operation. Where it could be achieved without upsetting the historic context, the building fabric was upgraded to include sheep's wool insulation to provide more stable environmental conditions enabling the new heating and ventilation systems to operate efficiently.

Every opportunity was taken to explore alternative energy systems to reduce the carbon impact of the building. Options are limited given the sensitive nature of the site and its surroundings, and a photovoltaic range was designed for the building using two existing Pilchard tanks as thermal stores, but this was rejected by the conservation officer.

The refurbishment addressed the current shortcomings to the services installation across the buildings, such as poor energy efficiency, and provided simplified operational and maintenance requirements.

The tenants used to have wood burning stoves, but these were removed some years ago in response to an insurance request. These were reintroduced to provide the main source of heat for the tenants. There are also two conventional gas boilers whose function is to keep the fabric above $10^0$C in order to avoid damp and condensation. These are connected to a stand-alone Building Management System (BMS) to control the heating in each space in order to ensure that they are used to a minimum.

Light sources have been chosen for their efficiency, and the use of electric light is very low in the building. The studios are wired with multiple circuits to allow a reduced level of lighting to be maintained for safety without having to incur the cost of operating the full lighting installation. The choice of external light sources was also carefully controlled since any light pollution would be inappropriate. Lighting is used to signal entrances and escape routes, and have been confined to downward directed fittings.

This is a building well served by bus and train routes, which are described prominently in the building entrance. The project also introduced space for members of the public to enjoy this unique survival of a St. Ives building type with improved access. The number of studios has been increased to achieve a sustainable income, to help generate the funds necessary to maintain the building.

## 4. FUNCTION AREAS AND SIZES

The building is mainly private workspace for fishermen and artists, although occasional access to all areas is arranged for guided tours and Open Studios events. However the public does have regular public access to five spaces as part of the programmes run by the Trust and St Ives School of Painting.

### 4.1. Public areas (304 sq m)

The main reception area of the building (The Moffat Lindner Room; 45 sq m) is designed to be open, accessible and welcoming to all, and holds interpretation displays and event and travel information. The Borlase Smart Room (49 sq m) includes audio-visual equipment, and is used for a range of talks, workshops, learning activities and community events. The Leonard Fuller Studio (76 sq m) and Roy Ray Studio (37 sq m) are used by St Ives School of Painting to deliver a

range of arts-related courses and workshops, and Cellar 4 (88 sq m) has a permanent installation by the American artist, Mark Dion. The Public areas also include ambulant and accessible WCs (6 sq m) and a teapoint (1 sq m).

### 4.2. Artists' Studios (680 sq m)

There are fifteen artists' studios, ranging in size from 13 sq m to 84 sq m. The studios all have good natural light, and tenants are able to configure their workspace to suit their practice by means of a track-based lighting system, painting walls and storage racks. Twelve of the studios are on long-term leases to allow artists time to develop their practice, with three on short leases to provide opportunities for project work and residencies.

### 4.3. Fishermen's Cellars (525 sq m)

The three fishermen's cellars are used mainly for storing and drying fishing gear, and setting nets. Cellar 1 (381 sq m) clearly shows its heritage as a C19th pilchard palace and is a particularly impressive space.

### 4.4. Offices and Plant Room (18 sq m)

There are two small offices for the Trust and School of Painting, and a plant room for the boilers and control systems.

### 4.5. Circulation Areas (129 sq m)

The main internal circulation areas include the staircase, landings and lift which connect levels 2, 3 and 4, and four corridors serving the studios.

### 4.6. Building Storage Areas (28 sq m)

Each of the studios has its own storage provision, and much of the cellars is used for gear storage. These are not included in the above figure, which refers to space used by the Trust for building maintenance and furniture storage.

## 5. COSTS AND PREDICTED ENERGY AND WATER USAGE

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| **5.1.** | **Basic Building Cost:** | £2,871,971; £1671/sq m |
| **5.2.** | **Services Costs:** | £784,991; £457/sq m |
| **5.3.** | **External Works:** | £79,577; £46/sq m |
| **5.4.** | **Gross Internal Floor Area:** | 1719 sq m |
| **5.5.** | **Total Area of Site:** | 0.0862 hectares |
| **5.6.** | **Percent of Grounds used by Community:** | N/A |
| **5.7.** | **Percent of Building used by Community:** | 18% (95% on open days) |
| **5.8.** | **Predicted Electricity Consumption:** | 16.0 kWh/sq m |
| **5.9.** | **Predicted Fossil Fuel Consumption:** | 33.8 kWh/sq m |
| **5.10.** | **Predicted Renewable Energy Generation:** | 39.7 kWh/sq m |
| **5.11.** | **Predicted Water Use:** | 6 cu m/person/year |
| **5.12.** | **Percent provided by Rainwater or Greywater:** | 0% |

## 6. STEPS TAKEN DURING THE CONSTRUCTION PROCESS TO REDUCE ENVIRONMENTAL IMPACTS

The project consisted of renovating, altering and extending a Grade II* listed building. The existing structure consisted of local stone walls at the Cellars up to the Studios level and from Studio level up a mixture of in-situ concrete and timber frame. The roof was clad with scantle type slating.

The aim was to re-use as much as possible of the existing materials:

- Existing windows were removed, refurbished and re-fixed.
- Existing doors were removed, refurbished and re-fixed.
- Existing structural / carcassing timbers, where removed, were kept for re-use if the condition allowed.
- Existing timber boarding to partitions were photographed, recorded and re-fixed in the same locations or used in other locations.
- Existing roof slating and ridge tiles were removed, cleared, sorted and stored for possible re-use.
- Where removed, existing T & G flooring were kept for re-use on the site.

The contractors also devoted significant resources in segregating the waste produced. The waste target for the project was to generate less than 8.5 tonnes/100 sq m floor area, and to minimise the amount going to landfill by recycling as much as possible. The actual waste produced was less than 69 tonnes, just 47% of the target figure of 146 tonnes, and over 79% of this amount was recycled. Less than 14 tonnes of waste was actually sent to landfill.

## 7. SOCIAL OR ECONOMICALLY SUSTAINABLE MEASURES ACHIEVED

### 7.1. Open Days and Consultations

Porthmeor Studios and Cellars is the last remaining part of old working St Ives. It holds a very special place in the local community, and there were significant concerns that the building would be redeveloped as holiday accommodation as had already happened to its neighbours. It was therefore crucial that the Trust worked closely with all concerned parties to keep everyone informed and allow opportunities for consultations at all stages of the project.

The key parts of this process included:

- Setting up a steering group at the outset comprising the Trust, tenants, local councillors and other interested parties. This met regularly throughout the project, and also helped co-ordinate the local fundraising appeal.
- Appointment of a Design Team who completely understood the design brief and sensitive nature of the project and secured the confidence of the Trust and tenants. They spent a week on site at the outset of the project talking with tenants to learn how the building was used, developed design options to meet the brief which were fully discussed and agreed, and then consulting throughout the project to ensure that the completed workspaces met with users' expectations.

- Following approval of the design scheme by the Trust, the architect gave a very well attended public talk on the design process and the plans were displayed on site for a week. Comments forms were provided for visitors, and 145 out of 146 responses fully supported the scheme.
- The appointment of a local contractor was a fundamental part of the project's success. The contractor fully understood the sensitive nature of the site, and this helped to retain confidence in the local community. A further important benefit was that all the heritage building skills that will be required to maintain the building can be found in the local workforce.
- An architectural photographer recorded works in progress every month, and these were posted on a dedicated website. These provided an invaluable record of progress for any interested followers of the project, and were an important source of information for the project funders.
- Open Days and architect-led Guided Tours were also arranged at various stages of the project to allow members of the public to see works in progress.

### 7.2. Training opportunities

Several training and skills development opportunities were provided, particularly in heritage building techniques, and four apprentices were employed on the project. Those benefitting included architects, carpenters, joiners, masons, the site foreman and Trust staff.

### 7.3. Considerate Contractors Scheme Silver Award

The site foreman was awarded the Considerate Contractors Scheme Silver Award. The scheme monitor noted:
"The site has many 'non construction' visitors and open days due to its nature – it has housed many well-known prominent St Ives School painters, and the interest of the nearby Tate St Ives. The Manager seems to cater and cope admirably with these matters and still produce the required works on schedule. A remarkable scheme eg removing areas of wall with famous artists notes on them and returning it unharmed. This together with coping with intellectual visitors in confined spaces, maintaining the contract, and observing the CCS Code is worthy of merit."

### 7.4. Minimise running costs to maintain low rents

The Trust was established in 1949 to manage Porthmeor Studios in order to provide affordable studios for artists. This is an expensive building to maintain, and rents provide the only income, so the design brief sought ways to increase the workspace and number of tenants in order to keep individual studios affordable. In addition, the Trust also seeks every opportunity to reduce the running costs of the building and minimise its administration expenses.

### 7.5. Community involvement – Civic Trust Community Recognition

Introducing community involvement into the building was a key element of the project, so the Community Recognition award from the Civic Trust is an independent acknowledgement of the project success.

The citation noted: "For the first time, this project gives the studios a public presence in the town, and a location of lectures and seminars supporting the programme at the Tate. The community was consulted in various ways throughout and during the construction period, there were several opportunities

for local residents to visit the site and watch progress. This scheme brings local residents the stunning spatial experience of these studios on the sea, and gives a place to linger, read, listen to lectures, look at paintings, visit a pilchard cellar, and above all for school children to enjoy the atmosphere and history of the place. This project is an exemplary example of how intellectually considered conservation and sensitive adaptation can safeguard historic fabric and provide beautiful, robust and characterful workspaces."

### 7.6. Conservation Awards

The project has received the regional Conservation Awards from both RIBA and RICS. These awards acknowledge the success of the project aims to 'sensitively renovate and restore this important building.'

The RICS judges noted: "Regenerating and maintaining the historic fabric and use of a building threatened with demolition, the building conveys a very real sense of history. The scheme breathes integrity as a place of work and endeavour, intimately related to Cornish tradition yet providing for 21st century occupants' needs. It is a quiet, unassuming and fascinating reflection upon change and continuity."

Conservation expert Peter Carey of Donald Insall Associates, RIBA Jury member, commented "Quite clearly this was a labour of love. This building is a triumph of dedication from both client and architect".