

Self-build extension using locally sourced eco-friendly materials.



Overview

Age/Period:	Mid to late 19 th century
Type:	Single storey
Years in residence:	1
Fabric:	Stone, overclad timber, hempcrete
Area:	Bathwick
Status	Grade II listed curtilage

Key Features

-  Hempcrete extension
-  Clay and Straw internal walls
-  Permission for solar PV
-  Reuse of materials onsite

Introduction

Nat and Erica moved into 1 Canal Cottages in 2019, a property that was originally a ticket office and stable for the canal.

To better accommodate their family, Nat recently built a modest extension using hempcrete. This choice, along with other local materials, aligns with Nat's ecological values as a regenerative gardener. They also have planning permission for solar panels, though they have yet to install them.



Features

Hempcrete Extension

Hempcrete is a highly low-carbon building material that acts as a carbon sink over its lifetime and is relatively easy for self-builders to install. Unlike modern construction methods, which rely on concrete and are extremely carbon-intensive—often producing emissions 100 times greater than the building's annual operational carbon footprint—hempcrete offers a much more sustainable alternative.



Hempcrete is absorbent and releases moisture efficiently, helping to regulate indoor humidity. This natural material also contributes to improved air quality. To preserve its breathability, the hempcrete walls will be finished with an internal lime plaster.

The floor of the extension uses a Geocell Foam glass aggregate which uses recycled glass to provide insulated foundations. The extension has a clay floor; the clay comes from the clay removed

when digging out the floor. Nat intends to seal the floor and polish it using linseed oil.

Experimental Straw and Clay internal Wall

Nat has also installed an internal straw and clay wall:



Nat sourced the cow dung binder for the wall from local fields. The wall is to be finished with clay from the foundation excavation and polished with linseed.

Wood stoves using locally sourced scavenged wood

Along with electric wall panel heaters the home is heated by 2 wood burning stoves. Nat sources the wood for these stoves from spare wood from across Bath.

Solar PV

While not a listed building itself, the home is located within the curtilage of a nearby listed building. Therefore, planning permission was necessary for the installation of solar panels on the rear roof. Nat and Erica plan to install solar panels in the future

Low-impact living

Nat and Erica aim to have as low an impact on the planet as possible, growing their own food, reusing as much as possible and cycling throughout Bath.

Recommended suppliers

Bath & North East Somerset Council

<https://greenopenhomesbanes.org/>

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