

Old Knebworth Roundhouse, completed July 2024

The Old Knebworth Roundhouse is a unique conversion of a redundant 14m diameter water tank. It once serviced the local village but was long abandoned. The main goal of our design was to provide a comfortable eco-home using modern and traditional materials and techniques, inspired by the arts and crafts examples of encouraging the harmonisation of indoor with outdoor life for better overall mental health and general wellbeing for whomever chooses to live there. In particular we wanted to nod to the work of Edward Lutyens with Gertrude Jekyll and the Knebworth Estate with our designs and ambitions.

The structure stands entirely on the footprint of the original semi submerged water tank and the design respects and celebrates this original structure but also makes a statement and inspires all who may pass by; Most importantly, we wanted to create a design that would be accepted by planners in the greenbelt and by the neighbours in the village. We can proudly say that we have succeeded in all these aspirations and we take immense joy and pleasure in the face that everyone can't help but to stop, admire and dream/wonder: "Who? How? What if? Perhaps one day..."

Using his craftsmanship from stone walling from the Yorkshire Dales, Andy Singleton was inspired to find a way of re-using the spoils from the site to save time, expense and energy in moving it away - the original concrete lid was removed and crushed on site, and has been re-used as external cladding to imitate flint as well as hard-core for the base of the road and infill for structural gabions. This and the careful use of excavated material removed all wagon movements from the structural groundworks element.

At the heart of the building is a wood fuelled boiler to be fed by local air dried hornbeam and oak which is abundant in the local area. This is used to provide u/f heating to 3 floors and hot water. 12 solar panels to the roof provide sustainable power to batteries before feeding into the national power grid. Pavatex wood fibre has been used to external walls for insulation and acoustics.

The topmost floor has large windows to provide a fantastic view onto a field bringing natural light and a connection to the natural outdoors. A section of the roof with glass canopy further enhances the experience for stargazing. A UK manufactured woodburning range oven and wood stove enhances the top floor living space – standing inside during a wild windy storm without a single wisp of air gives real satisfaction, showing the quality of the build – you could drop a feather, and we have done! The undulating roof is designed to mimic the brim of a hat in a breeze looking out onto the field; a balcony provides enjoyment of being outdoors with an elevated view. Gutters and fallpipes have been omitted as they would fill up with the leaves of surrounding trees. Instead, inspired by the trulli houses of Italy, rainwater is harvested to an underground storage tank, used to flush the toilets and irrigate the garden.

Glass floors over the central staircase internally provide natural light to the lower corridors and "communal areas". The design purposefully omits large windows to the front of the house to provide an acoustic and privacy screening from the road for the dwelling – it's all about that view!

The middle (ground) floor is the bedroom level – each window provides the ability to escape to ground level without harm should the need arise. The floors are locally sourced larch, planked and air dried specially for this house to provide a natural and warm interior buffer from the colder structural steelwork (fabricated less than 5 miles from the property).

A pull away shelving unit provides discrete sizable access to the u/f heating manifolds & services.

In the basement, a brick underground archway has been formed, inspired by Greek catacombs, to disguise a large structural floor slab specified to stand the central steel column-post. The central column repurposes industrial oil pipes, which were perfect to provide ample space for an exhaust and aeration pipe for the wood fuelled boiler and a conduit recirculating heat back into the building via apertures to each floor whilst offering structural support to the conical structure.

We believe there is no need to overcomplicate things. The beauty in this building is in its overall simple but bold, honest structure. This project has made good use of a redundant industrial structure in greenbelt land. It has been built by local craftsmen with materials sourced locally wherever possible...A real work of heart.

Chau Lee, Ecovril























