1980: 1st project

1992: rural selfbuild

1994 to date

2018: urban infill
Built in 1940s
Derelict for 30 years
On market in late 2014
“Last brownfield site in Romsey.”
Planning model

Planning application submitted in Feb 2016, approved 6-0 in June 2016

Superstructure uses Potton’s Kingspan TEK Panels with added external insulation
Difficult form factor — 17 planes
PV on south roof
MVHR system for air quality
Gas heating with underfloor heating
Triple Glazing
Roof light with low-G factor glazing
Key Eco Design Decisions

- Spend money on the fabric, not the bolt-ons
Key Eco Design Decisions 2

- Decision to step back (just) from Passivhaus standard
- Concentration on insulation and air tightness
- Paul MVHR system to provide fresh air without opening windows
LEBS — Low Energy Building Standard

- Passivhaus-lite
- Intermediate target of 30kWh/m2/a
- Lesser airtightness target: 1.0 rather than 0.6
- Suitable for retrofits and small homes on tricky sites
• No heat pump, no wood stove, just a gas boiler, outsize hot water cylinder and underfloor heating
Key Eco Design Decisions 4

- Limited PV on roof – 2kW system restricted by design
- Solar iBoost instead of solar thermal
Energy Performance Certificate

73 Segwick Street, CAMBRIDGE, CB1 3AJ

Dwelling type: Detached house
Date of assessment: 20 July 2018
Date of certificate: 20 July 2018

Reference number: 2708-1003-7383-5098-3980
Type of assessment: SAP, new dwelling
Total floor area: 137 m²

Use this document to:
- Compare current ratings of properties to see which properties are more energy efficient
- Find out how you can save energy and money by installing improvement measures

Estimated energy costs of dwelling for 3 years: £1,410
Over 3 years you could save £141

Estimated energy costs of this home

<table>
<thead>
<tr>
<th></th>
<th>Current costs</th>
<th>Potential costs</th>
<th>Potential future savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>£240 over 3 years</td>
<td>£240 over 3 years</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td>£840 over 3 years</td>
<td>£843 over 3 years</td>
<td></td>
</tr>
<tr>
<td>Hot Water</td>
<td>£330 over 3 years</td>
<td>£186 over 3 years</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>£1,410</td>
<td>£1,269</td>
<td></td>
</tr>
</tbody>
</table>

These figures show how much the average household would spend in this property for heating, lighting and hot water and is not based on energy used by individual households. This excludes energy use for running appliances like TVs, computers and cookers, and electricity generated by microgeneration.

Energy Efficiency Rating

The graph shows the current energy efficiency of your home.

The higher the rating the lower your fuel bills are likely to be.

The potential rating shows the effect of undertaking the recommendations on page 3.

The average energy efficiency rating for a dwelling in England and Wales is band D (rating 60).

The EPC rating shown here is based on standard assumptions about occupancy and energy use and may not reflect how energy is consumed by individual occupants.

Actions you can take to save money and make your home more efficient

<table>
<thead>
<tr>
<th>Recommended measures</th>
<th>Indicative cost</th>
<th>Typical savings over 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Solar water heating</td>
<td>£4,000 - £6,000</td>
<td>£141</td>
</tr>
</tbody>
</table>
Key Eco Design Decisions 5

- LEDs throughout
- Low energy appliances – inc. heat pump tumble dryer
- Clothes line