



ABBAY PYNFORD

CASE STUDY

# Meadway

S.K. WRIGHT

## HOUSEDECK

**Name:** Meadway

**Location:** Berkhamsted, Hertfordshire

**Value:** £122,000

**Site size:** 1 unit / 662m<sup>2</sup>

**Duration:** 4 weeks

**Client:** S.K. Wright Building Contractors



Meadway is a large single plot development on a private road in Berkhamsted, Hertfordshire. The site investigation highlighted the need for an engineered foundation solution. We were approached by the structural engineer for an alternative more cost effective approach to traditional pile and beam.

### Cost-effective Risk Mitigation

The project was previously designed with trench footings. However, the Site Investigation showed the potential for solution features associated with the underlying chalk ground conditions. There were also extensive tree roots present within the site footprint. Combined with the high plasticity of the upper clay stratum, would have resulted in deeper footings being required to eliminate future potential disruption to the foundations due to heave. These risks warranted the ground to conditions to be marked as 'medium risk' for construction. As trench footings were no longer viable, pile and beam foundations were suggested. As this is a costly solution we were approached for an alternative.



Using our Housedeck system, we were able to address this concern and reduce the costs while mitigating the highlighted risks.

The flexibility of the Housedeck system would have allowed us to redesign around any solution features if found while on site. To circumvent the risk posed by the tree roots and the high plasticity of the clay, we designed a voided piled slab. This protected the structure from potential heave and prevented damage to the tree roots, which would have been severed by the deep excavation for beams. The system flexibility also enabled us to design the slab to accommodate six pre-installed Geothermal boreholes for a ground source heat pump without disruption.

By addressing all of these challenges in one tidy solution, we were able to reduce the



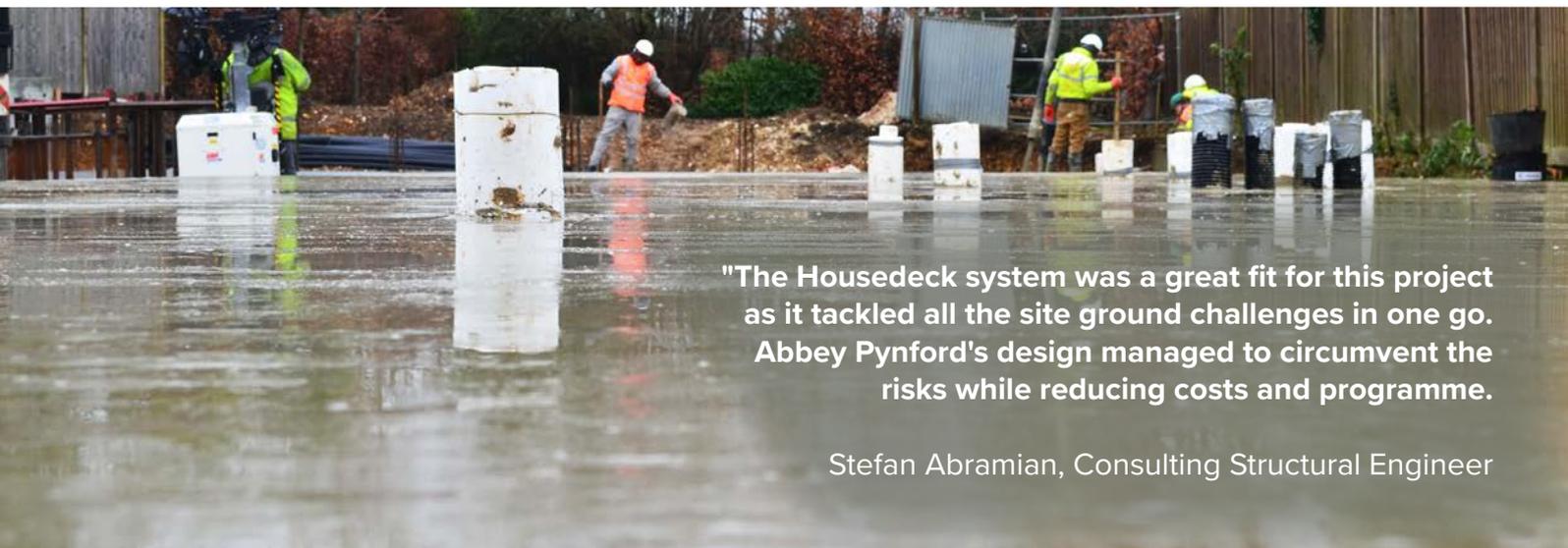
programme, completing our work in just four weeks and save the client the substantial associated costs of extensive excavation and concrete required for a piled beam scheme.

### Site Access

Another challenge of this site was limited access. The works area was located down a narrow lane, which would have caused issues for a larger piling rig often required for pile and beam foundations. As our system utilises our smaller midi-rig, it was more practical from a logistical standpoint, as well as more considerate to the community by causing less disruption and noise for the neighbours.

### Keeping a Tidy Site in Bad Weather

In the pre-start meeting, our engineers noticed the difficulty the ground conditions were causing for the installation of the drainage and services, working in wet and unstable clay resulting from inclement weather. Not only was this challenging work, to move around the site, but there was potential for



"The Housedeck system was a great fit for this project as it tackled all the site ground challenges in one go. Abbey Pynford's design managed to circumvent the risks while reducing costs and programme.

Stefan Abramian, Consulting Structural Engineer



setting out points and levels to become unclear or lost. As we use a Concrete Working Surface (CWS), in lieu of a traditional granular piling mat, the groundworker was able to re-programme the installation until after piling was complete and work from the clean and stable platform provided by the CWS.

### Environment

The Housedeck approach was also able to reduce the environmental impact of the project through reduced excavation and concrete use and cause minimal noise and plant disruption to the neighbours.

**“We were very happy with the service and relationship whilst working with Abbey Pynford. We found the Housedeck system to be quicker than conventional foundations. The site crews, engineers and project manager were all good to work with and communication worked well.”**

Steve Wright, Director, SKWright Building Contractors



The client was very pleased with this solution, as well as the minimal disturbance to their neighbours and a greener outcome for their project.”

Stefan Abramian, Consulting Structural Engineer

Get in touch to discuss your project requirements:

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