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COMPANY NUMBER
06611596

VAT NUMBER
937871771

FOR
Niall Douglas

COPY TO
Neil Bricknell
Stephen O' Leary

QUOTE NUMBER
524811

DATE
9 January 2023

VALID UNTIL
30 January 2023

Download PDF

New Build

SUBSTRUCTURE - Passivhaus Certified System (MMC)

Site - Sites 29 and 30, Ard Na Si, Banteer, Co Cork

Project - PH Plus at Co Cork

About Us

If you would like to know more about us, please see the website, www.advancedhousingsystems.co.uk

particularly the time lapse videos and news:

Overview and time lapses
https://www.advancedfoundationsystems.co.uk/
https://www.advancedhousingsystems.co.uk/
https://www.youtube.com/channel/UCfEtDcozygpLGPz5ZcOgN2Q

News
https://www.advancedhousingsystems.co.uk/post/thepassivhaus-achieves-top-result-in-riba-2030-climate-challenge
https://www.advancedhousingsystems.co.uk/post/build-it-awards-thepassivhaus-shortlisted-for-best-sustainable-technology-or-product
https://www.advancedhousingsystems.co.uk/post/ahs-most-comprehensive-system-phi

Advanced Housing Systems are recognised innovators in construction.
The last 12 years have seen a series of exceptional, award winning new builds for self builders, architects' own homes, and clients from Iceland and Norway to the Channel Islands.
Cliff top builds in Jersey (see Ch4), 'Homes by the Sea' (won the JeCC Sustainability Award); and a home erected in 2 days (BBC) are some highlights for us.

"The most comprehensive system"
- The Passivhaus Institute, Darmstadt

In 2021, we launched our most significant innovation to date: THEPASSIVHAUS, a passivhaus certified Total Envelope System, described by the Passivhaus Institute at Darmstadt system as 'the most comprehensive system' they've ever assessed.

This offsite, MMC system is for self builders & commercial developments alike, offering a fully customisable, complete envelope including substructure and superstructure. The system can be delivered with joinery, pre-installed electrical systems, ready to skim plaster internally and clad externally, with minimal site time required.

Uniquely, CAD and BIM details will be published and usable for free by architects and engineers in August 2021.

Leading custom sub and superstructure systems. We blend high tech with craftsmanship & traditional materials: the most advanced house building systems are now Passivhaus certified.

Made in Devon, built worldwide.




Quotation

This quote is based on conversations between:
Guy Fowler of Advanced Housing Systems (AHS)
Neil Bricknell (AHS)
and
Niall Douglas (Client)

SYSTEM
Design, engineering, manufacture and installation of a
SUBSTRUCTURE
Package (offsite site constructed/MMC)

PERFORMANCE
Passivhaus Certified System (THEPASSIVHAUS) - SUBSTRUCTURE

CARBON (OPERATIONAL AND EMBODIED) & PASSIVHAUS
Energy (PH) and Sustainability (Zero Carbon RIBA 2030) modelling using PHPP and PHribbon is included with THEPASSIVHAUS certified (substructure and superstructure system only).

AREAS
Based on a Gross External Floor Area of
GF 248 m2

PLANS
and strictly based on relevant plans emailed
1 Sept 2022, 21:30

Runners and Riders

Client: Niall Douglas
Phone:
Email: nialldouglas14@gmail.com
Project name: PHPlus Co Cork
Client Address:
Project Address: Sites 29 and 30, Ard Na Si, Banteer, Co Cork

AHS project managers: Neil Bricknell/Guy Fowler
Phone: 07884274556
Email: neil@advancedhousingsystems.co.uk

Substructure Overview

The substructure is a high performance insulated raft system designed to accept the anticipated line and point loads from the superstructure outlined in the Plans. It includes integral underfloor heating; excellent thermal mass characteristics optimised for heat pumps; and substitutes fibre reinforcement for steel.

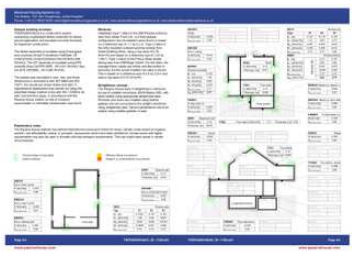
Illustrative Assistance for Quotes D2

Summary Performance and Specification

Substructure Package Type - Insulated raft substructure system
Passivhaus Certified

U value <0.10 W/m2.K (u)
Thermal Bridges zero thermal bridge free W/m.K (Psi)
Underfloor heating coil and manifold supplied and fitted into RC
Thermal Mass 81.929 kJ/(m².K)
Concrete 200mm est. Carbon or PP fibre reinforcement
Periodic thermal transmittance -10.93 EN ISO 13786 hours
Insulation 300mm EPS300
Finish Bullfloat
Sustainability A+ RIBA 2030 Carbon Challenge PHRibbon

The Passivhaus Institute calculations and detailed performance/specification plus typical drawings for THEPASSIVHAUS substructure is attached below.



b_AHS_20210727

Payment Schedule - PASSIVHAUS INSULATED RAFT PASSIVHAUS INSULATED RAFT (300mm external insulation encapsulation) integrated Underfloor heating high thermal mass U 0.10 W/m2.K thermal bridge free Design, engineering, manufacture and installation MILESTONE EVENT DRIVEN PAYMENT SCHEDULE 1. acceptance of this Agreement £10,675 2. provision of structural engineering calculations and substructure design £10,675 3. commencement of off site manufacture £16,775 4. ommencement of delivery of insulation package to site £19,063 5. arrival of team on-site £7,625 6. installation of ground floor insulated slab £7,625 7. concrete pour £3,813	76,250.00 x 1 76,250.00	
	Total GBP	**£76,250.00**

Scope of Work & Timing (anticipated from date of frozen plans)

Design and Engineering 6 weeks
Manufacture of system 5 weeks
Installation 1 week

Items required in place prior to commencement of works

These items must be provided by the client, although we can advise or specify:
Site WC & welfare facilities;
Adequate storage space for our equipment and materials;
Setting out of building and datum's;
Firm level access from the road to the area of new build, including removal of paving, concrete and existing foundations;
Services need to be clearly marked or moved away from the working area (we will not accept any responsibility for services that have not been clearly marked out prior to works commencing);
Adequate and suitable protection to any retained units, structures or decoration;
Firm and level hardstanding as required.

General

The Package is fast, simple, complete and fixed price, leaving the least practicable amount to finish the house on site.

The design and engineering, EPS modules (high density EPS insulation), damp proof membrane/radon barrier, reinforced concrete (fibre reinforced with steel if needed according to engineering calculations) are included and quickly installed on site, usually by the same team that crafted the house in our Devon workshops.

Underfloor heating ducts and manifold are included.

Finish is bullfloat.

Comfort, Health & Wellbeing
The industry leading levels of thermal bridge free insulation and thermal mass result in the most comfortable and healthy home environment.

Sustainability, Energy and Passivhaus
The Passivhaus Standard is thought to be the ultimate international standard for high performance, energy-efficient construction, providing high standards of occupant comfort and health.

Carbon footprint
Passivhaus design is an excellent place to start when designing healthy buildings, however, it is important to also consider the carbon footprint of the building.
We use Passivhaus design principles in all of our projects which allow these benefits whether or not you formally certify your project.
We are the only company in the UK, possibly the world, that makes both substructures (foundations) and superstructures (the bit above ground) that are Passivhaus Certified. Our THEPASSIVHAUS system and the majority of our systems have an A+/A++ Carbon footprint.

Speed of Installation
This is a feature of all Offsite system builds. Our use of foundation modules increases the speed of installation.

Off Site/MMC
https://www.designingbuildings.co.uk/wiki/Offsite_manufacturing lists the following advantages: Speed of production; Speed of build on site; Cost, quality and uniformity of build; Sustainability and waste reduction; Validation and testing; Health and safety.

Longevity
Our substructures are designed to compress under the calculated loads imposed by your superstructure by less than 2% in 50 years. Our systems are eligible for third party structural warranty insurances; we carry £2M Professional Indemnity insurance.

Fixed Price
Using MMC/Off Site building methods means our Price is fixed for the Design, Engineering, Manufacture and Installation of the Project and will not vary providing that:
1. The Plans used for this quote are finalised and the scope of work remains the same.
2. There are no amendments required by our structural engineer and/or by Building Control/SER authority to meet legislation, best practice, excessive superstructure loads or soil/ground conditions that are not anticipated by the ground investigation.
We have never yet had to vary a fixed Price due to condition 2.
There are a few costs we charge you that are additional to the fixed Price above. These variable costs reflect indeterminates such as the distance to site from our bases in Devon and the cost of accommodation/subsistence for our installation team for the short period when we erect/install the system. Thus, these costs are generally higher for a project in Norway than for one in the Cotswolds. The season makes a difference too, as accommodation is more
expensive in high season summer than winter. Thus, the price is FOB our Devon facility and does not include delivery, travel & accommodation/subsistence to and from Site. When we arrange for and pay for these expenses on your behalf, we will invoice you for reimbursement plus 5%. If you pay these costs directly, there is no surcharge.
Site equipment and plant hire costs are treated in the same way for similar reasons.
We can usually estimate these variable costs in advance and determine together how to minimise them. If requested, we can sometimes include them in the fixed Price. As a percentage of the Price, these variable costs usually range from 5% for a larger project, to 10% for a smaller one.

Not included in the quote: Building notice fees; Party wall matters; Surface Reinstatement; Breaking out and/or removing unknown obstructions or reinforced concrete; No allowance has been allowed for de-watering, pumping or working below the water table; quote is subject to final pile depth if piling used (very unlikely unless otherwise specified), superstructure final engineering calculations.

Access to Staff
You will have direct access to Neil Bricknell and Guy Fowler at all reasonable times during the project. We will also provide a reasonable amount of free general advice on all aspects of your project to the best of our ability, but we cannot be held liable for any advice given that is not directly related to items specified in the Contract.

Project Planning
Project progress and planning for our part of the project is included in the Price. We use professional online systems that you can access. This information can be integrated with your other subcontractors' plans.

Guy and/or Neil along with some of our senior staff should only need to visit the site 4 times and these are are included in the Price with attendances allowed for as follows:
1) Initial site inspection
2) Attendance with setting out engineer
3) Signing off prepared based with services
4) Installation insulated base/concrete pour & handover

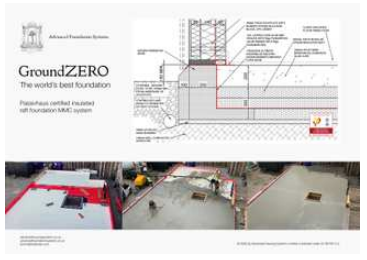
Process and program
a. Design and engineering is undertaken by us to faithfully reproduce the architect's planning drawings. We do not generally need drawings beyond the planning stage from the architect. Preparation of the substructure design package, including full and certified structural engineering calculations and related information as required for
your submission to the Local Authority Building Control Department are included. You are responsible for obtaining all necessary planning, certifications and consents that may be required.
b. Our design and engineering package includes full working drawings and calculations for the substructure.
c. Having manufactured your substructure in our Devon facility at Butterleigh Sawmill, we transport by lorry/ship to site where it is installed by hand to a prepared level base
Please refer to our website to see videos of this process.
d. The setting out is the sole responsibility of the setting out engineer which you will employ.
e. We can introduce you to suitable contractors and liaise with them to efficiently achieve the site preparation that is required.
f. Generally, from start to finish on site is less than two weeks, often one week. Including our concrete poor and power float.
g. The system can resist bad weather apart from very high winds until the concrete is poured.
h. We will install in bad weather unless high winds or poor visibility make it unsafe to do so.

ON SITE
What we are responsible for:
When the complete package is ready for delivery and has arrived at site, we will commence to install the substructure/foundation. This comprises the following:
1. Offloading the items that we supply and fix
2. Following your setting out and your installation of hardcore base, drains and services, we will install and laser level the grit 40mm layer
3. Set out the EPS base including perimeter modules and secure in position
4. Install the damp proof/radon membrane
5. Install underfloor heating coils and manifolds
6. Install the steel rebar and/or mesh reinforcement and/or fibre reinforced concrete
7. Bullfloat finish the concrete
8. Leave the site in tidy and reasonable condition with all rubbish and packaging being placed in skips
9. Follow your Health and Safety protocols (unless we are Principal Contractor)
What you are responsible for:
Some of these items are critical in which case we must arrange and specify, but they are paid for by you to the specific supplier (if we pay the supplier, we add 5%):
1. Site preparation
a. Demolition, if required
b. Setting out of the building to be constructed, by your setting out engineer (whom we can arrange)
c. Removal of soil to flat base
d. Drainage and service trenches with services/ducting; backfilled with compacted hardcore; land drain and perimeter hardcore installed according to our engineering drawings following installation of concrete.
e. Installation of any interface details i.e. foundations for external masonry leaf (engineering included our package)
f. Installation of at least 300mm compacted hardcore in 100mm layers containing all services and drains and terminating accurately and as determined by your setting out engineer in vertical ducting capped off
g. All service ducts should be tested and protected as required
h. Excavation, over-digging, sheet piling as required, backfilling with free draining material and perimeter drainage to slab
2. Provision of plant & concrete pump (we arrange)
3. Adequate water supply to site
4. Access is required for delivery vehicles and a suitable hard-standing area is required
immediately adjacent to the proposed building.
5. Welfare facilities including a site office and toilet

STAGES
Ground investigation
We can arrange this, while you pay for it - it's generally called a Geotechnical Report
Frequently, there is a large report generated and this is often not necessary, so it is useful if we can refine the parameters to save money and to produce the salient information. Our system works on sand and other ground with minimal soil bearing pressure. In the rare instance of 'heaving clay' we have hybrid piled engineering and non-piled solutions for this.
Setting out
The 'setting out engineer' is a surveyor arranged by us, but paid for by you. This gives the reference points so the building is in the correct place, as are the services and soil pipe penetrations that rise up through the base. A continuous permanent reference at the perimeter enables the setting out and is called a profiling board.
Site Preparation
Clearing the ground, with 'reduced dig' with trenches for drains and services (electricity, water, etc.) and associated ducts. We can arrange this too and it would normally be conducted by a local groundworker. The site left with the services in the right place on your base and a

layer of generally 200 to 300mm compacted hardcore levelled off. The contractor leaves a pile of grit with which we will perform a final leveling off ready to take our base modules.
Installing the substructure
Our team takes care of everything after site preparation up to the bullfloat.
First we install the perimeter modules onto the base which we level finely using the grit layer.
Then we fill in between the perimeter modules with sheets of EPS ground bearing permanent insulation.
The radon barrier/damp proof membrane is between the sheets.
The Underfloor heating coil is pinned to the top layer of EPS.
The resulting ‘shell’ is filled with pumped concrete to the formula of fibre reinforced concrete defined by our engineering.
We bullfloat the concrete to produce a level surface ready to accept a self-leveling compound and your floor finishes.
Powerfloat if indicated.

Typical section drawing:



Terms and Conditions

Your acceptance of this proposal includes your agreement to the Terms and Conditions attached.

Advanced Housing Systems Terms and Conditions of Sale of Sub and Superstructures and Associated Works 3 Jan 2022

Ask a Question

New Build

SUBSTRUCTURE - Passivhaus Certified System (MMC)

Site - Sites 29 and 30, Ard Na Si, Banteer, Co Cork

Project - PH Plus at Co Cork

Total GBP £76,250.00

Additional comments

Optional

Your order/reference number

Optional

Yes, I Niall Douglas agree to and accept this quote, on January 9, 2023 at 7:20 PM.

Accept Quote

Decline this quote…