



education

green roof
structures



who we are

green roof structures designs, engineers and constructs timber framed buildings. We specialise in bespoke new build residential and education schemes including extensions, new build homes, standalone education buildings and garden rooms delivered as fully managed turn-key projects, or 'bare' frame only.

We are highly experienced designers and structural engineers with vast experience of delivering high quality and efficient structural framed solutions.



Timber framed structures offer a real alternative to traditional construction methods, and by choosing a green roof structures timber frame for your education project, whether extension or new standalone bespoke building, you will be providing an extremely air-tight and thermally efficient solution.

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what we do

green roof structures work with architects, and clients directly to create engineered, efficient and above all natural and beautiful structures.



We work with natural timber and engineered products such as glue-laminated (glulam) timber to create the perfect structure to frame your space.

On education projects, timber offers the ideal environmentally friendly structural solution. Exposed and treated, timber is a beautiful and natural finish to your project.

green roof structures are able to provide fully managed build options acting as principal contractor coordinating a range of sub-contractors from our trusted working partners, or our bespoke timber frame solutions as 'bare' frame options only.

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education projects and timber frame – key benefits

Why choose a timber framed building for your education project?

- Timber frame construction is a low carbon solution so a sustainable choice. green roof structures can specify a range of high performance low embodied carbon options.
- Timber frame construction is thermally efficient and air-tight ensuring reduced in-use energy during the lifetime of the building.
- Timber frame construction is fast. green roof structures utilise off-site pre-fabrication where possible with erection on site in just a few days, allowing finishing trades to quickly follow on. Construction programmes are comparable to other pre-fabricated solutions with the benefits of increased performance and the longevity of traditional construction techniques.
- Timber can be a complimentary background to learning with known benefits creating a natural and calming backdrop where exposed.

green roof structures can manage the entire process...



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sustainable design and construction

We use timber harvested from sustainable sources so you are guaranteed that your project is helping to both store carbon, and to restore natural woodlands in a managed and sustainable way. Timber is a beautiful and natural material and can be simply treated both internally and externally for a long lasting structure as any traditional construction building material.



We typically provide all of our projects with an EPDM roof with sedum mat as standard promoting pollinating insects and capturing rainwater, reducing surface water runoff. Our sedum roofs perfectly contrast the natural timber cladding options we can provide.

At ground level, we utilise concrete with care specifying no-concrete solutions where feasible with soft pad-pile or screw pile type foundations provided.



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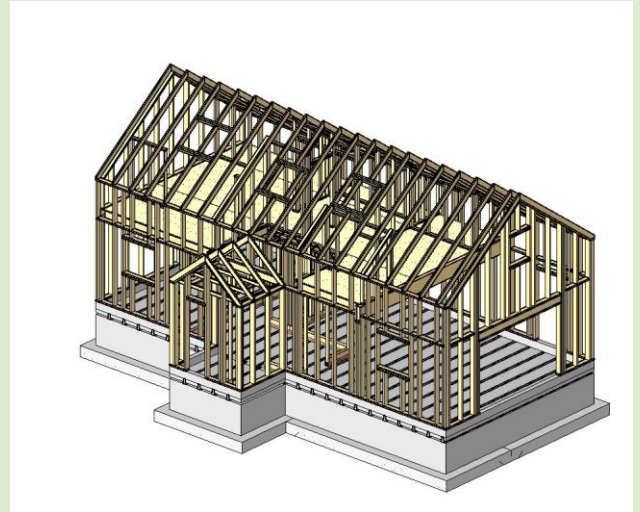
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process

design

green roof structures work closely with our clients and their designers to develop an appropriate timber solution to achieve the design required. We work to optimise an efficient and elegant use of timber throughout the project. Each and every project is modelled using the latest 3D software to realise the structure so this can be viewed and coordinated with the rest of the design



fabrication

Each project is unique but we aim to fabricate as much of the timber frame as possible in controlled conditions in our Gateshead workshop bringing the frame flat-pack to site for erection.

on site

Our on-site setup enables us to erect in most moderate weather conditions. We carry out erection of our flat pack style frame and direct fabrication and construction of bespoke elements cut and built on site.

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specification

Typically our minimum service costs are based on providing a 'bare' skeleton structural frame for each project. This would include external and internal load-bearing walls, floors and roof structures which may also comprise the use of proprietary floor joists or roof trusses.

Typical inclusions and our additional service's for our 'turn-key' option with our trusted partners as below:



Typical Inclusions

- Drafting and detailing of the timber frame and all materials provided
- Supply and erection of the timber frame, manufacture will take place both off and onsite, Fixing the frame to the foundations
- Survey the foundations to check tolerances
- Structural calculations for building control for the design of the timber frame and quality check and sign off upon completion

Programme

- Timber frame construction is generally quicker than traditional masonry construction techniques enabling follow-on trades to commence earlier
- Each project is unique in it's scale and a bespoke programme of works is provided at the point of quotation, typically this comprises design, off-site fabrication, on-site erection, completion

Additional 'turn-key' services

Delivered alongside our network of trusted partner trades managed on site by GRS:

- Foundation structures
- Ground floor structures
- Below ground drainage
- Above ground drainage
- Cladding
- Internal finishes
- First and second fix electrics and plumbing
- Glazing/doors

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case study – education – forest school building

Bespoke standalone education building for Northumberland school providing over 100m² flexible teaching space with 2 no. classrooms and covered outdoor teaching spaces for the school's forest school curriculum.

Key features:

- Delivered by green roof structures as a turn-key building designing, manufacturing and erecting the timber framed building managing the full fit-out of the building with our trusted working partners.
- The fully insulated and serviced building provides valuable additional teaching space to the school delivering a carbon positive, high quality product over a typical modular solution.
- No-concrete foundation solution with ground screw pads utilised.
- GRS panelised softwood wall system.



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case study – education – forest school building



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case study – education – performing arts building

Bespoke standalone education building for Northumberland school providing a 60m² performing arts studio and associated facilities for the school.

Key features:

- Delivered by green roof structures as a turn-key building designing, manufacturing and erecting the timber framed building managing the full fit-out of the building with our trusted working partners.
- The building is high performance with functionality as a practice and performance space, including a sprung floor and provides a valuable asset to the school as a standalone building to be let out during holiday periods and for the local community.
- No-concrete foundation solution with screw piles utilised.
- Internally plastered and painted finish – all trades managed by green roof structures.



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case study – education – performing arts building



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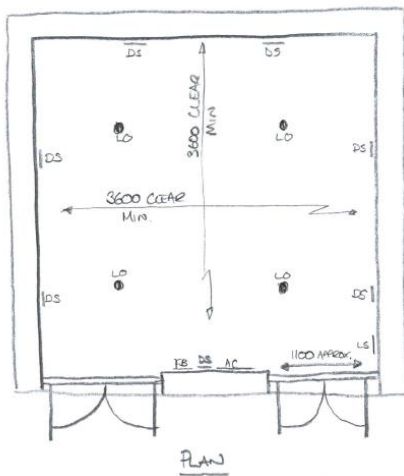
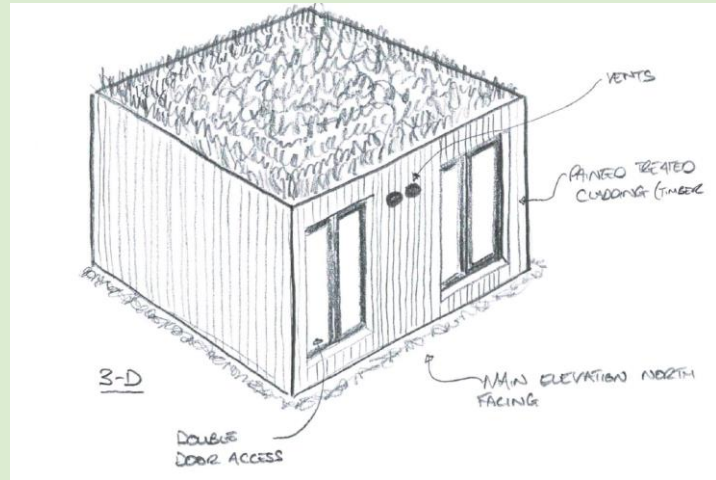
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case study – education ‘pod’

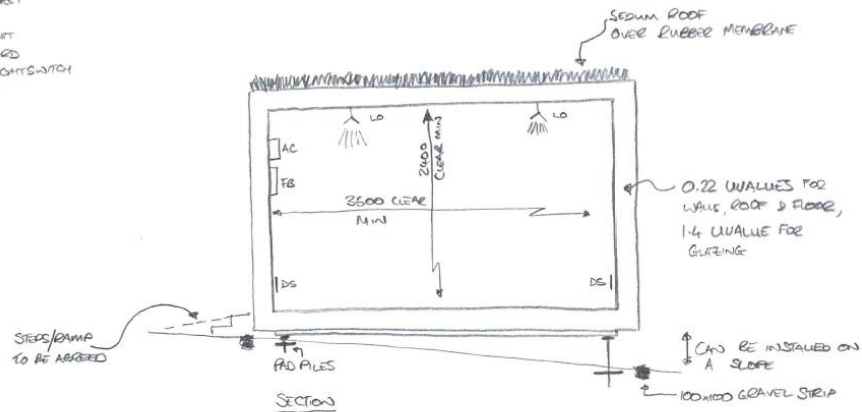
Additional teaching spaces providing one to one teaching spaces and activity rooms.

Key features:

- Twin double patio style doors provide ventilation and connection to the outside enabling internal/external teaching practice and visibility.
- Heating and cooling provided for all year around use.
- ‘Soft pad’ foundations without concrete allowing future relocation on site



DS - DOUBLE SOCKET
LD - LIGHT
AC - AIR CON UNIT
FB - FUSE BOARD
LS - DOUBLE LIGHTSWITCH



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