Less is More

Feilden Fowles' self-built studio is a clear expression of the principles and pleasures of 'lean' architecture, says David Grandorge

Photos
David Grandorge

Above, below
Courtyard elevation of the studio, which overlooks a garden designed by Dan Pearson Studio.

Below left
Street elevation clad in bituminous corrugated roofing sheets, with inclined windows.

Many architects have designed and built their own homes, but few their own studios. The still-young practice Feilden Fowles has recently managed to do just this — if only as a temporary solution — on a hinterland site in central London. The development of this 140-square-metre building has been enabled by serendipity, a spirit of generosity, the confidence to seize an opportunity that had risks attached to it, and a significant amount of extra-curricular work.

Since 2014, the practice has provided pro-bono design services to Jamie's Farm and Oasis — educational charities that teach local school children about how food grows and how animals are cared for (if not how they are exploited for human needs). The charities had been offered a 'meanwhile use' for a long strip of overgrown and neglected land a little south of Westminster Bridge. The plot faces a linear social housing block to the north-east, a railway viaduct to the east and an old brick garden wall to the south-west — a surviving remnant of a row of bombed-out houses. It has been leased by Guy's & St Thomas' NHS Foundation Trust for five years (with a possible extension to ten), after which it will be redeveloped.

Feilden Fowles initially made a masterplan for the whole site, and designed a number of simple structures — composting toilets and sheep pens — as well as a large teaching barn. During this process, the charities suggested that the architect could locate its studio on the site in exchange for design services and occasional use of the meeting room.

The arrangement gave Feilden Fowles a chance to build something that has a manifesto quality about it. The studio had to be demountable and cheap — principles that led to what I call a 'lean' architecture.

The office is at the western end of the site, with its longest side aligning the street. It is primarily clad in red corrugated sheets made from bitumen and recycled cellulose fibres. Clerestorey windows are inclined, and the gap between the wall and the bottom of the panes is filled by plywood vent panels.

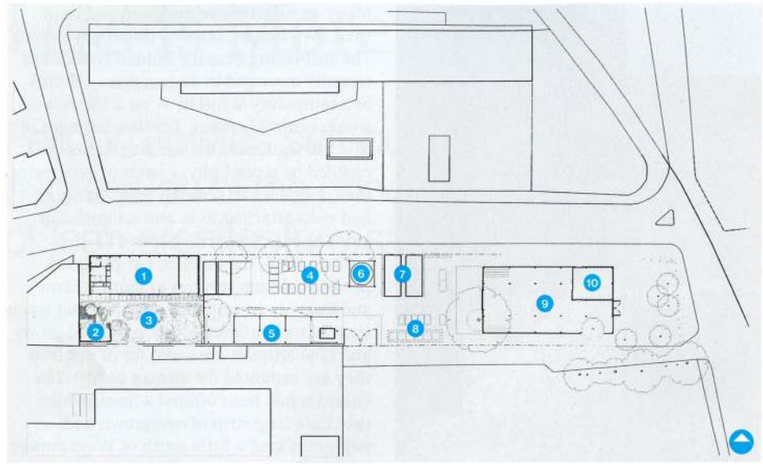
Staff and visitors enter the site through an improvised but precisely made OSB screen between the building and its neighbour. One arrives in a kind of external anteroom between the new and existing buildings before progressing to a sun-filled garden, with the studio rhythmically set out on its northern edge.

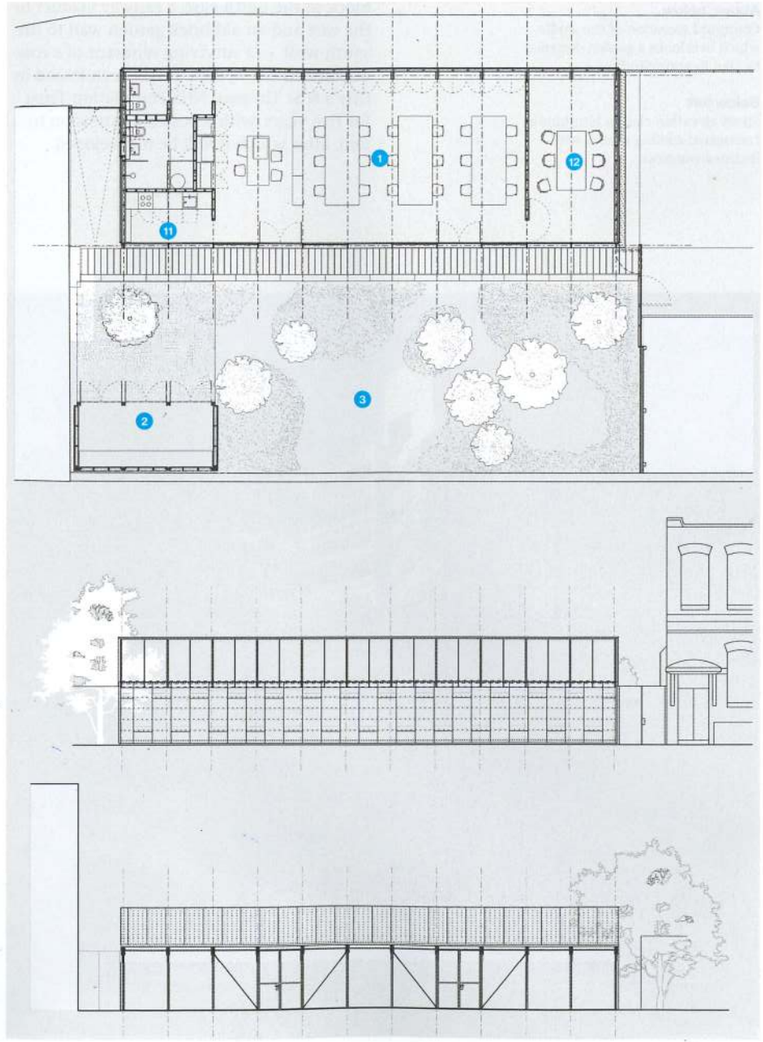
Right
Location plan; studio plan; street and courtyard elevations.

Below
Barn under construction and in use at the eastern end of the site.

Key

1 Studio
2 Workshop
3 Garden
4 Growing space
5 Animal pens
6 Water tower
7 Aquaponics
8 Composting
9 Barn
10 Classroom
11 Kitchen
12 Meeting room

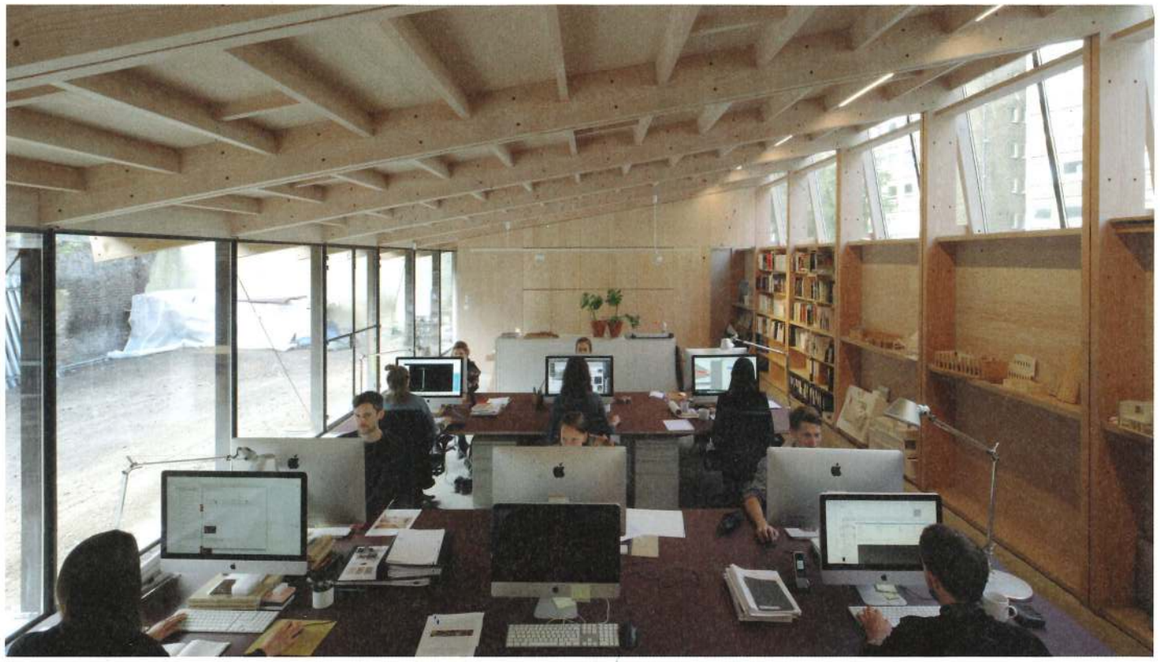




This is the first tenet of a 'lean' architecture, as exemplified in the studio building: a strategic attitude to setting out structure with foresight of the economic and tectonic consequences of dimension and measure. The mono-pitch portal frame is spaced at 1830mm centres — three-quarters of the length of standard sheet materials — so that the glazed screen to the garden could use standard rather than bespoke doors.

The second principle of 'lean' architecture is the bespoke use of standard elements, or the elegant use of cheap materials. Here, the path separating the studio from the garden is made from loose-laid, off-the-shelf concrete lintels. They are trimmed by a concrete rill — a small river in a big city. The corrugated sheeting is also cheap, but elevated through its use as the single cladding element, and the elegant resolution of every detail.

The third tenet is to use the least amount of material required for a building element to perform as needed. The studio's foundation is a thin concrete raft that the architect judged to have less impact than piles. The Douglas fir frame is also economical. Paired beams span seven metres, supported on the high north side by paired columns and on the low south side by T-section steels that hold the windows. A 12mm plywood spacer between the beams makes a niche to receive the steels and a run for lighting cables.



Top, above, right
Main studio space; meeting room; kitchen; circulation along the glazed courtyard elevation.

Right
Natural ventilation is provided by horizontal plywood ventilation panels at the bottom of the inclined clerestorey windows on the north elevation; Douglas fir timber frame under construction.

Right, below
Night view with illuminated windows lending warmth to the street.

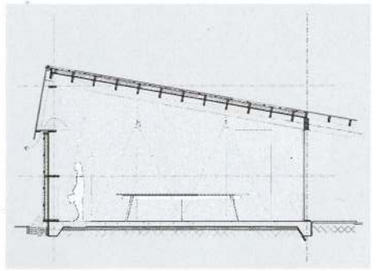
Below
Cross-section, axonometric and detail section through north facade.

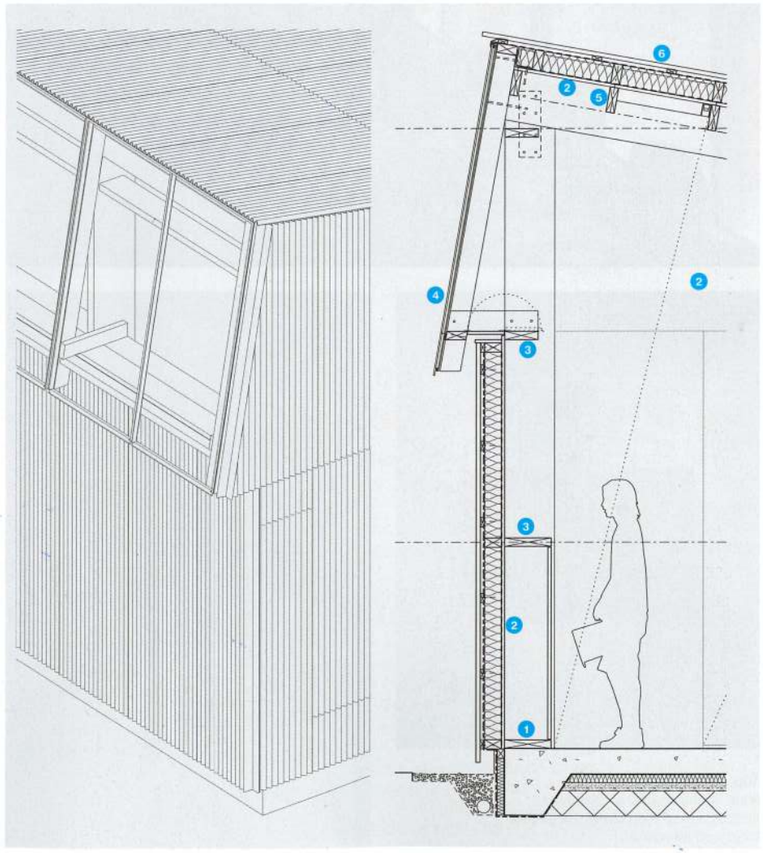
The frame was fabricated by Devon-based Timber Workshop, from timbers that were formed at Somerscales Mill in Grimbsy and sourced from forests in Scotland, Cumbria and Hampshire. I mention this provenance as the fourth tenet of a 'lean' architecture is the use of materials with the lowest possible environmental impact. Transport distances are significant factors, even when using a renewable resource.

The fifth tenet is the reduction of layers in a construction. Throughout the studio, the internal facing is beautifully figured Douglas fir plywood, with a white varnish. The ply aids lateral stability of the structure and acts as a vapour barrier, requiring only a breather membrane on the outside of the infill studwork. It lends a characterful articulation to the space — a grain — and visual warmth.

The sixth tenet is the use of a plan that minimises circulation areas, or enlarges them to allow other uses to occur within. The open-plan studio has an office at one end and spaces requiring services (kitchen, toilet and shower) at the other, behind a wall deep enough to conceal a large printer and the office files. One can see through the length of the space while talking in the meeting room or making tea in the kitchen.

There is also open storage along the north wall of the studio, where models, books and material samples sit on the timber noggins between columns. They illustrate the seventh tenet of leanness — the coupling of functions so that a building element or space can do more than one thing. There is something very human about appropriating and misappropriating space, activities that can be both enjoyable and space-saving.





Key

1 C24 baseplate resin-anchored to 150m-thick RC slab

2 Douglas fir plywood sheathing

3 Noggin between principal columns

4 Glazing panel

5 C24 purlins

6 Bituminous corrugated roofing sheets on plywood sheathing

The eighth tenet is that a building should use the minimum energy to provide for human comfort. The studio was designed to be warm in winter and cool in summer. The horizontal plywood vent panels in the north facade have provided more than adequate ventilation in hot weather. In the colder months, one or two flaps can be opened, allowing the mixing of cool and warm air to occur above the datum of the work surface. On the south side, the cantilevering overhang prevents solar gain and glare in summer, but also allows for passive space heating in winter. On the coldest days, the heat generated by bodies and computers is supplemented by two small electrical heaters.

The ninth and final tenet of leanness is the ability to deconstruct a building with relative ease and with the minimal waste. Feilden Fowles built its studio knowing that the fabric would outlast the temporary agreement to use this land. The building's superstructure and its few applied layers – inside and out – have been designed to be demountable. The primary structural elements have bolted connections, and the purlins can be decoupled from the primary beams with the removal of a single screw.

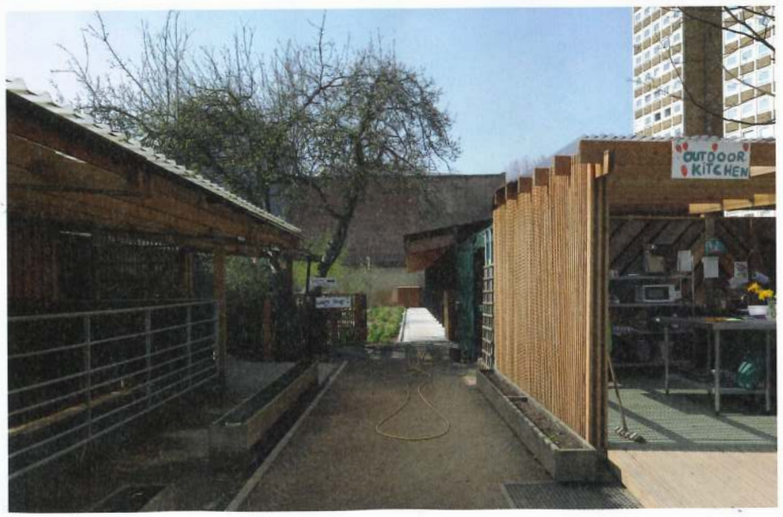
Feilden Fowles has imagined two possible futures for the building: re-use as a studio on another site in London, or selling it on for use as a classroom or as a home on a rural site. The building was designed to be specific to place but adaptable in terms of use, which reminds us that a building should always be about more than the use it ostensibly supports. For the architect, this project is both paradigmatic and prototypical, developing and exemplifying ideas that can be applied to other programmes, places and scales. It also demonstrates that more can be done with less.

Project team

Architect
Feilden Fowles Architects
Structural engineer
Structure Workshop
Main contractor
Miles Builders
Joinery
Timber Workshop
Landscape designer
Dan Pearson Studio

Selected suppliers & subcontractors

Cladding
Onduline mini-profile bituminous sheet
Timber supplier
Somerscales
Steel laser cutting
Cut Tec
Steel fabrication
Ken Ware Engineering
W20 steel windows
West Leigh



Top
The height of the steel-framed glazed screen corresponds to that of the old garden wall opposite.

Above, right
A path formed from concrete lintels that aligns the studio turns into an axial 'street' that runs through the centre of the site.