Borders Timber Buildings

Study Tour Guide

(including post-tour feedback)

18th April 2008

Scottish Borders Council

This document comprises feedback notes from a Study Tour held on 18th April 2008 - part of a suite of projects for Project 2 - Construction and Sustainable Development using Local Timber being undertaken by Gaia Architects and North Woods Construction Ltd on behalf of Scottish Borders Council.

The comments are entirely those of the Study Tour participants and not the organisers, and should be seen as a peer review of the eight buildings visited. Please refer to the preceding Building Fact Sheet for illustrative references for each project.

During the Tour a number of informal discussions were held, and viewpoints debated. These are not included here.

There appears to have been very positive feedback on the aim and outcomes of the tour, and, as a result, it is proposed to hold another (shorter) Tour later on this year. Those wishing to attend should register interest with Jim Knight (jknight@scotborders.gov.uk) as early as possible to ensure a space.

This document only includes Building Fact Sheets for those buildings visited during the tour.

Gaia Architects
North Wooods Construction Ltd

May 2008

NEW HOUSING DEVELOPMENT
Gattonside

Clients: **Eildon Housing Association**
Architect: **Bain Swan Architects**
Structural and Civil Engineer: **Wardell Armstrong. Edinburgh**
QS: **Thomas and Adamson. Edinburgh**
Main Contractor: **Hart Builders (Edinburgh) Ltd**
Cladding Timber: **BSW, Earlston**
Timber Frame Manufacturer: **Walker Timber**
Date of Completion: **November 2007**

Details: The site is adjacent to parkland at Tweedbank and slopes gently to the south. The houses on the upper part of the slope (not prone to shading by existing mature trees) have sun porches facing south to optimise solar gain. Thermal insulation values are in excess of those required by the Building Standards. Heating and hot water to 19 of the houses is generated by high SEDBUK rated gas fired boilers but in 2 of the houses the client has had installed air to water heat pumps to compare efficiencies and running costs. (NIBE 'Fighter' 310 supplied by Ecoliving, Glasgow).

Planning issues: The site was zoned for housing in SBC's Local Plan. Care had to be taken in the design and construction to minimise disruption to the adjacent houses and primary school.

Architectural design: All but the wheelchair users' houses are two storey and are in terraced form to optimise site use and further reduce heat losses. In the layout, particular attention was paid to external areas and soft landscaping because of its proximity to the park. The minimisation of the footprint of the buildings by using terraces allowed an area of rough grass and wild flowers to be created for the encouragement of insects and wildlife. Existing hedgerows on the site were retained and reinforced with indigenous species.

The scheme: comprises 19 general needs houses for four, five and 7 persons and 2 houses for wheelchair users.

Main timber elements: Timber frame, timber cladding ('Accoya', factory stained with microporous stain), timber windows and doors (factory stained with microporous stain).

Frame: External walls, timber intermediate floors (I beams), roof trusses, stairs, internal partitions.

Timber Cladding: Softwood, from sustainable forests or plantations, treated by the 'Accoya' process in which additional 'acetyl' molecules, which are already present, are added to the timber. The timber then absorbs less moisture and the modified cells are resistant to micro-organisms and thus decay. When this timber is factory stained (in this case with Sikkens Exterior Opaque Coating) it is guaranteed against decay for 50 years.

Facing Brick Cladding: This is used in areas where fire protection or where defence from mechanical damage is required.

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Date of Completion: **November 2007**

PROS:

- Good initiative – a good start!
- Reasonable colours
- Liked the use of Accoya – opportunities for varying patterns & colour. Could be used to get good colour balance. Works best when viewed as having an integrity and in simple forms & shapes. Juxtaposition with brick less successful. Creates awkward and unnecessary fussiness. Colour balances wrong. Cool colours of wood does not work with warm and strong chromb of brick
- Pleasing, inoffensive look
- Accoya is a safe bet
- Good mix of timber & traditional
- Smooth clean lines
- Long life of accoya timber
- Great to see a high-tech application of timber
- Aesthetically pleasing
- Accoya: Interesting timber product which could be an easy alternative to masonry cladding, especially for people who don't like the natural greying of untreated timber
- Much more attractive than the earlier buildings – cleaner lines, less fussy.
- Timber finish much more attractive than stone or render or brick in that location
- Successful terrace format

CONS:

- Shame it wasn't carried through to party walls using fireproofed timber
- Lack of texture – looks like plastic
- Lacked texture
- Imported timber
- Timber colours a bit bland
- Brick looks incongruous
- Housing looks like a hybrid because of the bricks
- Accoya not home grown (but productscould be?)
- Buildings have a rather "plastic" look as a result of the uniformed cladding and lack of layering on the surface
- Would prefer unpainted timber – natural colours, or treated with oil / stain
- No feeling of Scottish tradition – almost North American style
- Timber cladding looks artificial - lack of grain & texture
- Buildings seem to provide what they will have been designed to do, but are not rooted in the area.
- Car park on the DDA house a visual atrocity

OBSERVATIONS / QUERIES:

- Would pre-coated local sitka perform as well as accoya?

HERIOT TOUN STUDIO

Heriot

Clients : **Andy and Pat Law**
Architect : **Reiach and Hall Architects**
Structural engineer : **David Narro Associates**
Main contractor : **Quercus Rural Building Design**
Date of completion : **November 2005**
Internal floor area : **78m2**
Main timber elements: **timber ground beams and stilt foundations, post and beam structure, cladding, exterior decking and prefab stud frame.**

Stilt foundations : reclaimed treated telegraph poles embedded in ground on hard base. Average pole diameter 250mm.
Ground Beams : 200mm deep Scottish Douglas fir.
Structural Post & Beam : glulam Scots pine of varies sizes.
Frame : 144 x 44 mm Scottish softwood studs; 245 x 44 mm rafters and 160 x 44 mm joists.
Cladding : 120 x 19 mm untreated European larch horizontal shiplap boarding stainless steel nailed onto 50 x 38 mm vertical larch battens.
Flooring : Scottish Ash, painted European larch, marmoleum or slate.
Decking : 125 x 30mm untreated European larch screwed to softwood framing.
Windows : redwood framed, subsill clad in lead. Reveals in European larch.

Timber sources : The timber frames are untreated Scottish softwood in prefabricated panels supplied by ARM Buildings. Douglas fir beams and European larch supplied by local sawmill, Abbey Timber. Scots Pine glulam post and beam supplied by Norbuild of Forres. Redwood windows and external doors from various sources.

Project background : The studio is designed by architect Andy Law for his artist wife Pat, who wanted a painting studio in their back garden which also functions as a gathering place for collaboration with other artists. Their neighbour Peter Caunt, who is an architect and a builder, with his company Quercus became the ideal partner to take on the design and build of the project after planning stage. Quercus's experience in construction with local timber and ecological design has helped Andy to deliver his aspirations for this project. Delays were experienced with timber supply and heat pump installation.

Architectural design : The design is a simple timber longhouse that uses timber post foundations to sit lightly on the ground. The studio takes one end, which flows into a living space of sitting and kitchen areas, which then connects to discrete bedroom and shower room at the other end. The main studio space is open into the roof with cool daylight from North facing rooflights and a great deal of warm daylight from full height glazed screens to the South. Perched in the steeply sloping back garden to the original farmhouse at Heriot Toun there are great views from both studio and its deck over the Heriot Water valley.

Energy design : To reduce the eco-footprint and give long term economies, the studio is heated with underfloor heating running on a ground source heat pump. A wood stove is also installed as a back up and as a focus of the living space.

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Date of completion : **November 2005**
Internal floor area : **78m2**

PROS:

- Can be seen at three levels. Close up =detail impressive. At middle range = cladding ok but failure is life expectation uncertain. At a distance the building works
- Specific technical responses and intricate features look good.
- Liked the very simple lines. Basic rectangle – only 4 corners! Helped by invisible gutters & down pipes
- Liked exposed cladding
- Very un-intrusive building in the wider setting
- Local wood used, processed locally
- Minimal use of concrete / max use of timber / min chemicals
- Good look
- Good use of local timber
- Lovely simple style
- Good founds
- Good details
- Simple building - works well
- Good use of timber piles
- Untreated larch boards working well
- Simple clean lines
- Neat detailing
- Orientation
- Well integrated into landscape
- Neat foundations
- Dignified & understated
- A real gem
- Good value (too much play is made of 50 years cycle Great to see minimal ground disturbance ad no(/) cement / concrete.
- Generous use of timber
- No external paint – great
- Good use of natural materials in wall structure & thickness adds to character.

CONS:

- Main concern is over the need for replacement of cladding - after 3 years exposed areas are looking tired
- Building seems to be designed around the gutter detail – an overhanging roof looks more comfortable
- Not sure whether I like the look of untreated timber. Maybe it would look better in dry & sunny conditions
- Horizontal cladding will suffer
- Timber may have a better appearance if stained
- Treated doors now firmly stand out of untreated wood
- None really, perhaps flashings around windows less successful

HOPE
Pathhead

Clients : **Richard & Pru Irvine**
Designer : **ICOSIS Architects**
Structural engineer : **John Watt Structures**
Main contractor : **John Winthrope Ltd**
Date of completion : **December 2007**
Internal floor area : **390 m2**
Main timber elements : **timber 'I' frame clad with larch sleepers, shingles & "brise-soleil", and with timber windows and a monocoque internal timber stair**

Difficulties & constraints : House half cut into site with the entrance at upper floor level, meant the non-timber elements (retaining wall & tanking)) were the most complicated to build. Once this was complete, the main frame & form of the building was relatively straightforward, with detailing & junctions the only real issues.

Architectural design : The basic design aims to maximise passive solar design, with smaller windows to the north and large windows to the south & west, partly shaded by overhanging roof and brille-soleil. The bedrooms are located on the ground floor with the kitchen, dining & living room upstairs elevated views. The roof is seen from above and has a sedum blanket on the main section with crushed slate on the lower north roof. 'I' beams consisting of 2 timber flanges & an 8mm wide web, minimises cold-bridging & uses 40 to 65% less raw material than conventional timber building methods. Otherwise, local, natural (unprocessed) materials have been used wherever possible.

Frame : All timber framed: Parallam beams with masonite walls, floor & roof fully-filled with recycled newspaper insulation, built off a concrete slab foundation.

Cladding : All untreated Scottish larch, stainless steel nailed to treated softwood battens on panelvent sheathing. Lime render on pavatex boards used on the two storey front elevation.

Details : powder coated aluminium sills, otherwise zinc rainwater goods, hoppers & capping details.

Timber sources : Masonite & parallam timbers from Keyline. Scottish larch sleepers & shingles supplied by E.G. Johnston & Co, Campbelltown.

Planning issues : Great effort gaining Planning permission, eventually swayed at committee through emphasis on the sustainable aspects of the project and "brownfield" nature of site (replacement of existing shed), rather than new house on "greenfield" site, as originally contested by the Planners.

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Internal floor area : **390 m2**

PROS:
- Strong / bold building
- Sits within context well
- Scale of rear wall timber super
- Overall design super – loved the living room
- Striking interior
- Wide boarding “rusticated”. Rear & entrance very successful
- Very interesting – I’d like to live here!
- External wood looked good
- Very clean lines
- Fabulous spaces on the inside
- Very good views out / relationship with outdoors
- Varied use of timber – liked the chunky cladding
- Large larch panels – simple structure yet effective
- Details well finished off at corners, cills etc
- Shingle walls provide attractive cladding system
- Very nice building in an ideal setting. Well detailed timber construction
- The clients enthusiasm must have contributed to the success of the project
- Interesting use of larch rain screens
- Very confident spaces inside & enjoyed moving from one sort of space to another
- Liked clay paint
- Good roof
- Spectacular, clean piece of contemporary work
- Excellent use of structural and finishing timbers throughout

CONS:
- Use of shingles less successful
- Only caveat to striking interior is use of shingles exacerbated from interior – like a line of bad teeth
- Least favourite “aspect” was the modern rendered face towards the field – Too large, too modern
- External timber looks a bit “add-on” – This is not a solid timber house as in Canada, traditional log built houses or Scandinavia or Poland
- If you throw open the windows n summer, the house will fill with insects!
- Too much imported? Opportunities for local supply of the decking / table?
- Little local timber used, despite a strong desire to use it.
- Lock of awareness of the possibilities of using more eg. Flooring /windows
- Outside treatment less successful. Front didn’t hang together as well as back.
- Ugly straw
- A bit brash
- Not sure how eco-friendly overall?
- Seemed rather irrational – why combine mega-cladding with shingles and the odd bit of lime render?
- Plan seems a little unresolved in the sitting room spaces

OBSERVATIONS / QUERIES:
- I wonder if it was expensive to build?

NEW HOUSE
Tranent

Clients : **Paterson family**
Architect : **Paterson Associates**

NEW HOUSE
Tranent

Clients : **Paterson family**
Architect : **Paterson Associates**

NOTE: this building was a 'bonus stop' if the programme permitted. As such there are no technical details attached.

PROS:
- Excellent use of pace
- Cedar board detailing good
- Inverted house works well with light open spaces
- Very practical – no bigger than necessary
- Amazing attention to detail
- Good modern example of timber building
- Clever use of compact space
- Shows an alternative interpretation to "green building" where waste is reduced through efficient design
- Very efficient design and use of space
- External cladding is attractive
- A very intelligent use of limited space
- Very real design – simple clean lines
- Works as end stop to group
- Liked the strong vertical lines of windows
- Internal planning works well – great use of space & floor plan
- Very good use of space & excellent finish, inside & out
- Liked metal cills and lovely colour of cladding
- Sits well in surroundings
- Felt right as near the sea
- Fantastic interior space planning and use of light
- Design & integrity of exterior great
- Could be used as part of a wider development, even using accoya and a variety of paint / colours
- Excellent – rational aims
- Super efficient use of space
- Tight & simple details
- Good construction standard
- A very attractive house making the most of a small site
- Impressed by WRC cladding

CONS:
- Cladding difficult to build / not possible with Scottish timber?
- Not appealing aesthetically from the outside and not the best advert for building with timber cladding consequently – in my view timber cladding is the only redeeming feature of the exterior of this building
- Would it work in the centre of the group?
- Would have benefited from larger plot?
- Bit odd to see so much concrete – not really an eco – house!
- Not very good neighbour to houses behind
- Didn't like cement in garden wall
- Close juxtaposition & "crud" uncomfortable
- Personally would have used something slightly less processed than junkers flooring – but that's a minor quibble
- Not convinced house sits in context (shape & materials) and would look for a column or tree in garden to link with track and to break impact of expanse of cladding

HOUSE IN GRANGEWOOD

Coldingham

Clients : **Richard & Elaine Thomas**
Architect : **Quercus Rural Building Design**
Structural engineer : **David Narro Associates**
Main contractor : **Quercus Rural Building Design**
Date of completion : **September 2006**
Internal floor area : **117m2**

Main timber elements: **timber ground beams, post and beam structure, cladding, exterior decking and prefab stud frame.**

Architectural design : The brief for this house had some ecological objectives that included the use of natural wool insulation, untreated timber for structure, cladding and linings and as much as practical from Scottish sources. Quercus are both Architects and Builders so were able to provide a turnkey project for the house which is one and a half storeys and a simple rectangle on plan. The main spaces are orientated to the south with glazing maximised for solar gain. Utility spaces are located on the north side of the plan where the back entrance deck comes in from the farm directly to the washing area. The main entrance to the front is also via a timber deck which is itself a useful outdoor space.
Energy design : As the site has no connection to the national electricity grid consumption is reduced by high level of insulation and passive solar gain with a combination of energy sources being a windmill, solar panels, photovoltaic and a wood burning stove.

Ground Beam : 300mm deep Scottish Douglas fir.
Structural Post & Beam : glulam Scots pine of varies sizes, finished with fire retardant paint.
Frame : 144 x 44 mm Scottish softwood studs; 245 x 44 mm rafters and 160 x 44 mm joists.
Cladding : 140 x 22 mm untreated roughsawn European larch board stainless steel nailed onto 50 x 22 mm vertical larch battens.
Flooring : Scottish ash, marmoleum or wool carpet.
Decking : 125 x 30mm untreated European larch screwed to softwood framing.
Windows : redwood framed, subsill clad in lead. Reveals in European larch.
Timber sources : The timber frames are untreated Scottish softwood in prefabricated panels supplied by ARM Buildings. Ash flooring, Douglas fir beams and European larch supplied by local sawmill, Abbey Timber. Scots Pine glulam post and beam supplied by Norbuild of Forres. Redwood windows and external doors from Allan Brothers of Berwick.

Difficulties & constraints : As both the clients and the architect were in favour of a low impact foundation the initial idea was to sit the building on reclaimed telegraph poles stilts. Dictated by the impermeable soil condition, the heavy grid of Douglas fir floor beams are supported on concrete pads instead.

HOUSE IN GRANGEWOOD

Coldingham

Clients : **Richard & Elaine Thomas**
Architect : **Quercus Rural Building Design**
Structural engineer : **David Narro Associates**
Main contractor : **Quercus Rural Building Design**
Date of completion : **September 2006**
Internal floor area : **117m2**

PROS:

- Very well set in the woodland with trees behind & open in front
- Honest, Inexpensive (& good to see it being lived in!)
- Obviously easier to put a house like this on its own – but a cluster of similar ones would do well…
- Best of its model so far. Also best use of local timber
- Fully self-sufficient – giving a true sustainable house
- Masonite panels make house easy to heat
- Very appropriate structure for setting – rustic!
- An example of what can be done on a much bigger scale in the UK
- Can I have it?
- Homely, fits in. Ticks all the boxes.
- Seems entirely sustainable
- Integrity as structure and wonderful homely super flexible living space.
- Traditional form would allow groupings to be formed as part of a nucleurised settlement
- Simple, novel building, only one t use wholly Scottish timber
- Small, but very much a home
- Compact but useable space
- Impressive that it is off-grid
- Comfortable
- Very impressed with “low –tech” but very effective (and cost effective) design
- Ample use of local timber
- Best site so far in terms of “applicability” to project aims
- 10/10

CONS:

- House would only fit in certain locations – not built-up areas

TODLAW SUPPORTED HOUSING

Todlaw, Duns, Berwickshire

Clients : **Partnership between**
Berwickshire Housing Association
NHS Borders
SBC Social Work Dept
Architect : **Oliver Chapman Architects**
Structural engineer : **David Narro Associates**
Main contractor : **J Swintons, Hawick**
Date of completion : **October 2007**
Internal floor area : **14 housing units of approx 75m2 each (mixture of 1 & 2 bedrooms house types) and a shared core services building (SCSB)150m2**

Main timber elements: **timber frame wall panels, trussed rafters with plyweb beams for longer spans and cladding**

Project background : Our Client, Berwickshire Housing Association, entered into a partnering agreement with NHS Borders and Scottish Borders Council Social Work Department and appointed OCA as lead consultant to design and deliver 14 fully accessible semi-detached houses and a shared services facility with 24 hour care for people with substantial disabilities and illnesses at Duns. Joint funding was by Communities Scotland, Scottish Borders Council and Berwickshire Housing Association. The project is the first care home in Scotland that is based on a housing model rather than traditional institutional provision and the houses and surroundings are designed to maximize independence and links to the local community and amenities.

Architectural design : All the houses are set out around a 'tartan grid' which creates a varying relationship between houses and the quiet street. Some houses are set back further from the road than the conventional building line, whilst others are set close to the road edge. There is also a mixture of gables and eaves adjacent to the road which adds to the streetscape character and screens parked cars from view. The commonly understood character of a home is created by designing duo pitched roof forms with gables at either end. The housing is a variety of 'core' and 'cluster' types. Core houses are for individuals with a greater care need and are located closer to the services building where care managers are based and meals are provided for those that wish to eat communally. The core houses are connected to the services building via a linear covered way structure.

Substructure: vibro compacted piles in sandy soil with insitu concrete ground beams. Concrete block perimeter walls faced in Baggeridge Staffordshire Blue engineering brick.
Ground Floor: Bison pre cast beam and block with ventilated solum – allows for future disassembly and re-use.
Frame : 144 x 44 mm Scottish softwood studs
Roof Structure: Trussed rafters with plyweb (fabricated timber/OSB beams) for longer diagonal spans where ceiling/soffit follows the line of pitch at gables and in SCSB dining area.
Cladding : 120 x 19 mm stained dressed Siberian larch vertical board on board fixed to treated sw battens and counter battens
Flooring : By others
Windows : redwood framed. Reveals in larch.

Energy design : To reduce the eco-footprint and give long term economies, the studio is heated with underfloor heating running on a ground source heat pump. A wood stove is also installed as a back up and as a focus of the living space.

Testimonials: "It has allowed the tenants to live in a much more flexible way, enabling them to live their lives more in the way they want to."
- Physiotherapist, NHS Borders.

Awards: Recent winner of a Community Care Partnership Working Award, Shortlisted for an RIBA regional award and an EAA Award.

TODLAW SUPPORTED HOUSING

Todlaw, Duns, Berwickshire

Clients : **Partnership between**
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NHS Borders
SBC Social Work Dept
Architect : **Oliver Chapman Architects**
Structural engineer : **David Narro Associates**
Main contractor : **J Swintons, Hawick**
Date of completion : **October 2007**
Internal floor area : **14 housing units of approx 75m2 each (mixture of 1 & 2 bedrooms house types) and a shared core services building (SCSB)150m2**

PROS:

- Quite acceptable wooden exterior – serves its purpose as care housing
- Good looking development which demonstrates timber cladding well
- Visually the best cladding so far
- Nicely grouped
- Liked colour use & tiles on walls
- Liked mass & form / simplicity & colour balances of development
- Crisp detailing (except gutters) building frame simple but well integrated and related to each other
- Colour blend works better in reality than in plan
- Like the cladding & the colour choice
- Good use of board on board timber cladding
- Simple mix of colours
- Same building plans but different orientations help break up the scheme
- Innovative building layout for otherwise standardised housing association building type
- Nice choice of colour and effective budget control

CONS:

- Difficult to say how final outcome will seem when soft landscaping is more established. Overall seems a bit cold and grey at present. Needs some warmth – colour
- Cladding probably over-specified for painted finish
- Why the Siberian larch if the timber is to be painted? Local spruce might be just as good
- Stain a bit plasticy
- Rather expressive / wasted roof – would prefer narrower buildings / smaller roofs
- Shame about waste of attic voids
- External spaces not properly defined and site “leaks” away. External spaces need definition
- Internal spaces seem unnecessary dark compared to Coldingham House
- Landscaping could be better
- Roof void is wasted space & rooms are dark
- Missed opportunity for biomass communal heating system
- Eternit cladding makes odd junctions & could easily be broken
- Could have better natural lighting?

OBSERVATIONS / QUERIES:

- Could they have done the cladding with home grown timber instead of Siberian larch?

GARDEN HOUSE
HUMEHALL HOLDINGS
Near Duns

Clients : **Martin & Jane Worrall**
Designer : **ICOSIS Architects**
Main contractor : **Client Managed Self-build**
Timber Frame Manufacturer: **Lindisfarne Timber Frame (also installed windows & rooflights)**
Date of completion : **October 2007**
Internal floor area : **154 m2**
Main timber elements : **Timber frame (from ground floor wallplate level); larch cladding (untreated); engineered pine windows (microporous paint finish); oak t&g flooring (oiled finish); oak internal & external doors (oiled finish); softwood stair.**

Planning issues : The plot was purchased with outline permission for a 1½ storey house. The proposed design was well received, and was passed with no adverse issues raised by the Planning Department. The permission includes a small wind turbine, which may be installed in the future.

Difficulties & constraints : The overall site is bisected by a small road, with permission to build on the smaller, higher part of the site, and the larger area retained for views and siting of septic tank and drainage fields. The house therefore sits between an existing traditional stone cottage, and a farm-yard, and is orientated southeast / northwest to fit with the plot and the existing building line, rather than directly due south as would have been more desirable to maximise solar gains. The frame was manufactured in large panels off-site, to reduce construction time, wastage, and storage of materials on the tight site.

Architectural design : The ground floor is largely open-plan, with large windows to the south-east for solar gain and to make the most of spectacular views over the valley & Cheviot hills beyond. Large rooflights over the stair and sunroom allow daylight to flood into the heart of the house. The flat-roofed sunroom and garage tuck under the eaves of the main house. Garage, utility room, and entrance lobby are located on the north-east to act as buffer-zones. Simple, good quality, natural materials were used throughout.

Frame : Roof, external walls & first floor structure in 350 & 300mm deep Masonite engineered I-joists; softwood framing for internal partitions.

Cladding : Untreated European larch fixed with stainless steel nails to treated softwood battens (installation of cladding undertaken by the client). 8mm spacing has been retained at ends of boards to prevent moisture being trapped at the end-grain, tie-in with window openings to prevent differential staining from rainwater run-off below sills.

Details : All walls and roofs are “breathing” (moisture transfusive) construction, with Warmcel recycled cellulose insulation. The main roof is slate, with cast iron rainwater goods, and aluminium cappings to the roofs on the garage and sunroom. A flat-bed solar panel provides domestic hot water, and the only space heating is provided by a 12kW multifuel stove, with a whole house ventilation and heat recovery system. Internal stud partitions were infilled with unfired clay bricks to increase both thermal mass and acoustic separation.

Timber sources : Engineered I-beams from Masonite; European larch shiplap cladding from Russwood Ltd. Internal stud framing in Scandinavian softwood.

GARDEN HOUSE
HUMEHALL HOLDINGS
Near Duns

Clients : **Martin & Jane Worrall**
Designer : **ICOSIS Architects**
Main contractor : **Client Managed Self-build**
Timber Frame Manufacturer: **Lindisfarne Timber Frame (also installed windows & rooflights)**
Date of completion : **October 2007**
Internal floor area : **154 m2**

PROS:

- Short lengths of cladding provide an opportunity for greater penetration of UK larch into this application alongside Siberian larch!
- Very interesting to see short lengths of timber - well graded local larch should be an acceptable alternative to Siberian

There appeared to be a lack of comments on this project due to lack of time.

THE STEADING
Morebattle

Clients : **Paul & Helen Grime**
Architect : **William Grime Architect**
Structural engineer : **McKay & Partners**
Date of completion : **August 2006**
Internal fl oor area : **396m2**
Main timber elements : **timber framing and cladding, roofing, internal flooring, doors and windows**

Frame : 200mm softwood studs in walls; 200mm joists to first floor, 175mm rafters.

Planning issues : None, thanks to a remarkably open-minded Planning officer and no neighbour objections

Difficulties & constraints : Architect favoured vertical cladding for longevity, but client wanted horizontal cladding for appearances sake. Local timber for cladding reluctantly abandoned due to preponderance of knots, hideous orange colouring and lack of reasonable dressed finish, particularly as cladding to be left unpainted/unstained to weather naturally. Timber roof set board-on-board: recognised as a short-life option, but can be recycled, and met budget

Architectural design: The clients wanted a simple house with a minimal ecological footprint. Re-using the old steading building was a good start; the alterations were all constructed using timber frames and cladding, sheep wool insulation, and heating uses a ground-source heat pump. The stainless steel cladding (a recycled product) was a little bit of fun, and was used to 'lift' the enclosed courtyard and add interesting reflections to the pools.

Cladding : 150 x 20mm Siberian larch shiplap boarding with plane angled exposed surface, stainless steel nailed to counter-battens. Stainless steel cladding to link corridor.

Details : window sills, drips and flashings in stainless steel with reveals in Siberian larch.

Timber sources : Timber frames are untreated Scottish softwood. Siberian larch cladding, roofi ng and used for external doors) and oak flooring supplied by Russwood. Windows in Baltic whitewood by WR Matthews, Tweedmouth. Timber decking in treated Baltic whitewood.

THE STEADING
Morebattle

Clients : **Paul & Helen Grime**
Architect : **William Grime Architect**
Structural engineer : **McKay & Partners**
Date of completion : **August 2006**
Internal fl oor area : **396m2**
Main timber elements : **timber framing and cladding, roofing, internal flooring, doors and windows**

PROS:
- Very comfortable spaces with views out and courtyard
- Successful use of traditional & modern materials (slate & stainless steel) moderated by ample use of timber
- Avery good design which works outside & in
- Super building, great combination of restoration & new build
- Very warm, inviting, super framing of views
- Liked modest approach to detailing. Internally - rough walls etc
- Well designed, well executed, well done!
- You've saved the best til last
- Very good design and a home
- Building managed to keep its gem a secret to blend in external areas
- Stainless steel elements produce effective architectural details
- Timber glazed dormers – great detail & function
- Wood interacts very well with existing stonework
- Good to see the unashamedly modern fitting so comfortably with the ancient
- Very nice details
- Wood roof excellent
- Very nice building!
- Interesting combination of various types o creating a rich texture in otherwise a simple agricultural shed
- Layout well proportioned and very nice use of natural lighting makes a comfortable space
- Interesting use of timber on roofing and shower tray
- Impressed by the environ – mental credentials of this property of which extensive use of timber throughout is the most obvious
- No reason why virtually all timber used could not have been UK sourced
- The best – a home with style – stunning
- Beautiful integration of outdoor living space with interior
- An exemplar to all

CONS:
- No reason why virtually all timber used could not have been UK sourced