

STRIDE TREGLOWN

SUSTAINABILITY STATEMENT
MOORE LAND, WILLERSEY
NEWLAND HOMES

NOVEMBER 2020

ULTRA LOW CARBON
(NET ZERO ELECTRICITY USE) HOMES AND,
ECOLOGICALLY AND ENVIRONMENTALLY
SENSITIVE DESIGN
(TO SECURE BIODIVERSITY NET GAIN)



Sustainability summary

- **Ultra low carbon design** – achieved through gas-free energy, renewable electricity, use of air source heat pumps, enhanced fabric insulation and, integrated solar photovoltaics
- **Solar layout** – no homes with north-facing gardens and roofs orientations optimised for solar
- **Pedestrian-friendly** – layout designed to promote walking and cycling
- **Community green space** – with community orchard and beehives
- **Wildlife-friendly sustainable drainage and landscape design** – planted drainage ditch and retention basin
- **Biodiversity net gain development** – through a range of measures
- **Wide range of homes** – Wide range of homes – from large family homes to bungalows, starter homes to affordable homes, including self and custom build plots, the blend of homes makes for a genuinely mixed community.

Sustainability statement

Moore Land, Willersey

Ultra Low Carbon (net zero electricity use) homes

Stride Treglown have been commissioned to produce a sustainability-led design for the Moore Land project in Willersey.

Newland Homes have acknowledged that the Local Authority has recently declared a Climate and Ecological Emergency and this commission is in response to this. It is an exciting opportunity to produce an exemplary layout of a new village development which demonstrates how environmental thinking can be at the forefront of the design, not only regarding climate issues but sustainability in its broadest sense.

This application is seeking Outline approval, only overarching principles are being set out at this stage, rather than detailed design of the houses themselves.

This statement sets out these principles and should be read in conjunction with drawing — 153275_STL_XX_00_DR_A_ZZZZ_10011_SUSTAINABILITY STRATEGY PLAN.

It has been split down into main themes and bullet points for easy reference.

Sustainability exemplar

- This is a village location which will attract buyers from all walks of life. This development is aiming to integrate strong sustainability principles by creating a layout and homes designed to help residents to lead a greener, healthier lifestyle and minimise their impact on the environment.

- For this reason we hope that it will be an exemplary sustainable development – one that will fit comfortably into its village location and will have broad appeal.

- By avoiding gas boilers that emit carbon dioxide - a greenhouse gas that contributes to global warming, using renewable electricity efficiently, and generating renewable energy on-plot we can create net zero electricity use homes.

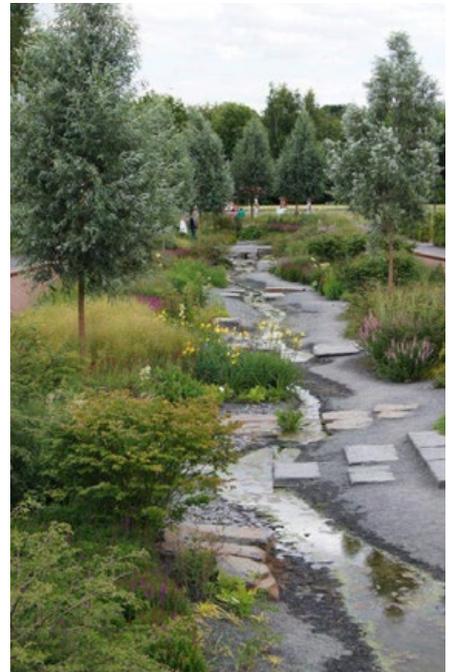
- We recognise that, like many other village locations, it is not near a main transport hub or within walking distance to a broad range of shops. The site does benefit from both a local convenience store and coffee shop located nearby on the High Street.

Landscape-led, place inspired

- The aim of this design is to produce a great place where people will want to live, with a high quality of life; a place which will foster a good sense of community.

- The layout has been influenced by the natural constraints and opportunities of the site and by successful rural development in other village locations, which has not been designed around the car but in which vehicles can be integrated with minimal impact.

- The masterplan seeks to create a green and leafy place that will be good for people's physical and mental wellbeing but also good for wildlife.



Sustainability statement

(continued)



- The masterplan also creates a strong sense of place; a distinctive design which is easy to find your way around and where one is aware of the setting, with different parts of the site having different characters and a main space which will be a natural focus of the development.

Creating a mini community

- The development will provide opportunities for single dwellers, couples, families, and retirees with a mix of different types and sizes of homes, including bungalows.
- The Government's target for affordable "first homes" will also be delivered.
- Some plots for self/custom build will be incorporated.

People first, cars second

- The road around the development will be designed with a flush kerb. This will make the development highly accessible and will help reduce vehicle speeds by breaking down the perceived barriers between pedestrian and vehicle areas. Pedestrians and cyclists will have priority.
- The road around the development will have more of a village lane character – a pleasant route that will encourage walking and cycling, its winding nature also helping to reduce vehicle speed. Along much of its length will be planting and a swale to aid rain water retention.
- Where car parking is provided it has been mostly tucked down between houses so that it doesn't dominate the street scene
- A shared space at the end of the development will be an attractive people-friendly space with a green space in the middle which will be conducive to informal play
- The existing public right of way at the north of the site will be enhanced and a new connection from the site will be created.

- Homes will have generous space for bicycle storage

- A location for a shared electric car club vehicle has been identified near the entrance to the site, individual properties will also have electric car charging points located in garages.

Water sensitive design

- A lane-side swale will be incorporated to the north and east leading to a retention basin in the lowest part of the site in the north-east corner. These attractive, ecological features will naturally attenuate rainwater in storm events
- Homes will incorporate roof-fed rainwater butts which will be generously sized to reflect the UK's changing climate of wetter winters and drier summers

Wildlife friendly

- To the north and east boundaries of the site a substantial area will be planted adjacent to the proposed swale and retention basin, providing good opportunities for ecology, strengthening the existing hedge planting.
- Additional native wildlife friendly hedge and tree planting will be introduced throughout the development, which, with the boundary ecological corridor and gardens will significantly improve the biodiversity value of the currently open site.
- An orchard will be planted adjacent to the mini village green space, offering opportunity for local food, pollination and a sense community ownership of this area. This area could also incorporate beehives.
- Bat and bird boxes will be incorporated into the house designs.
- Hedgehog holes in the fences of all homes will link gardens together to create accessible routes for these endangered mammals



Well designed exemplars such as these need to come forward early to demonstrate the deliverability of this approach, supporting local authorities and communities to raise the bar, and provide kinder greener and healthier homes.

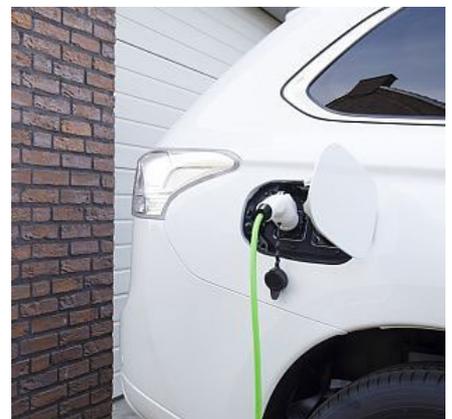
Low energy solar design

- Houses will be designed and constructed using fabric-first principles, with good levels of insulation and airtightness, reduced thermal bridging and low surface area to volume ratios.
- A layout has been produced to avoid north-facing gardens and outlooks. Most gardens and houses face south. This provides an opportunity for passive solar design in larger windows on the south side which will admit welcome low angled sun in the cooler months.
- Roofs have been designed to maximise opportunities for solar collection. These can be integrated with battery storage to maximise the householder benefits. Air source

heat pumps and renewable electricity suppliers would remove fossil fuel from heating, cooking and hot water, and create a genuinely low carbon development.

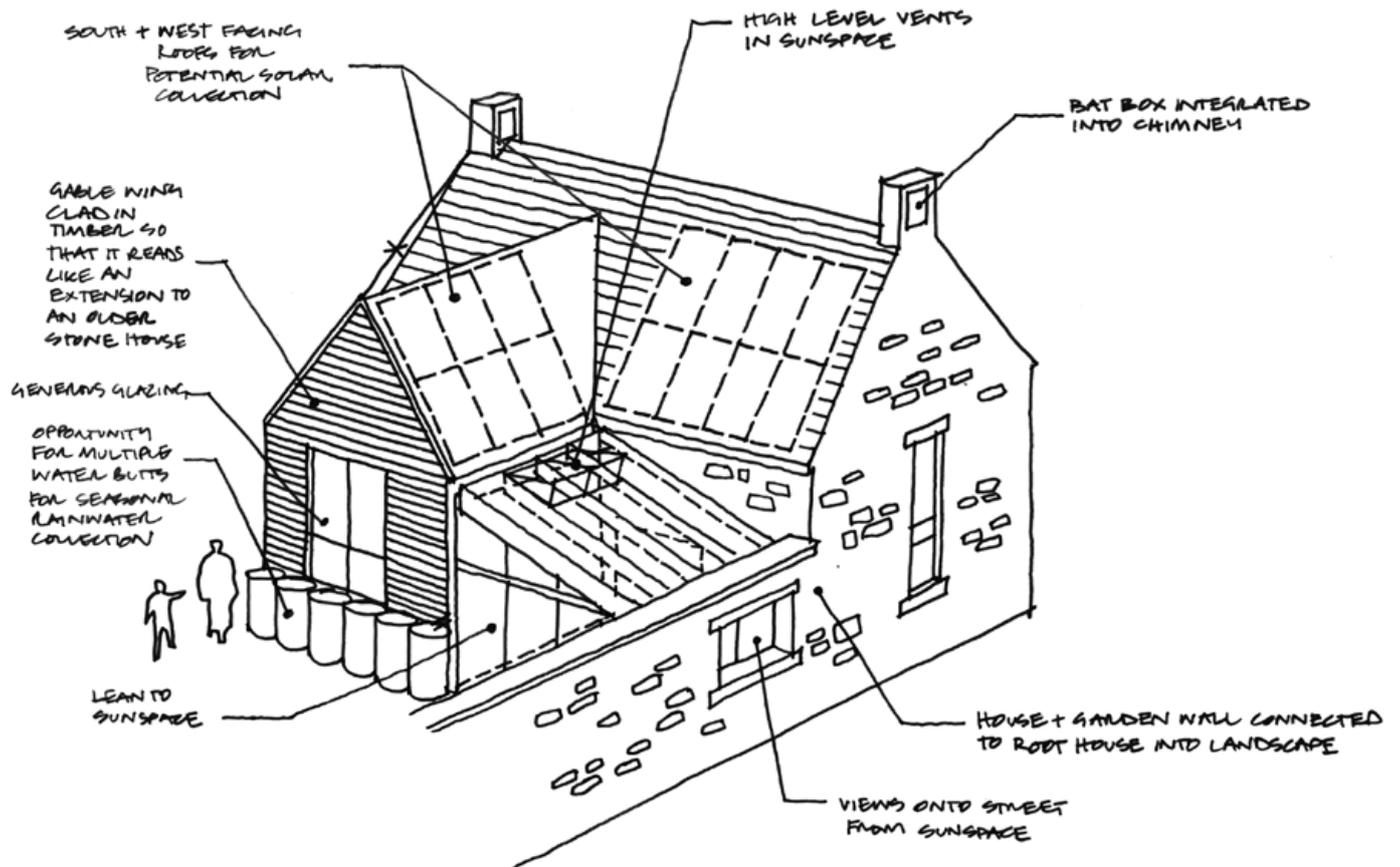
- Gloucestershire’s Sustainable Energy Strategy sets an agenda towards County wide carbon neutrality by 2050. However in the absence of legislation local Planning Authorities have very limited means to oblige developments to move in this direction.

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Layout and Designs to follow CABI guidance: Building For Nature, and Building for a Better Life

Indicative house types

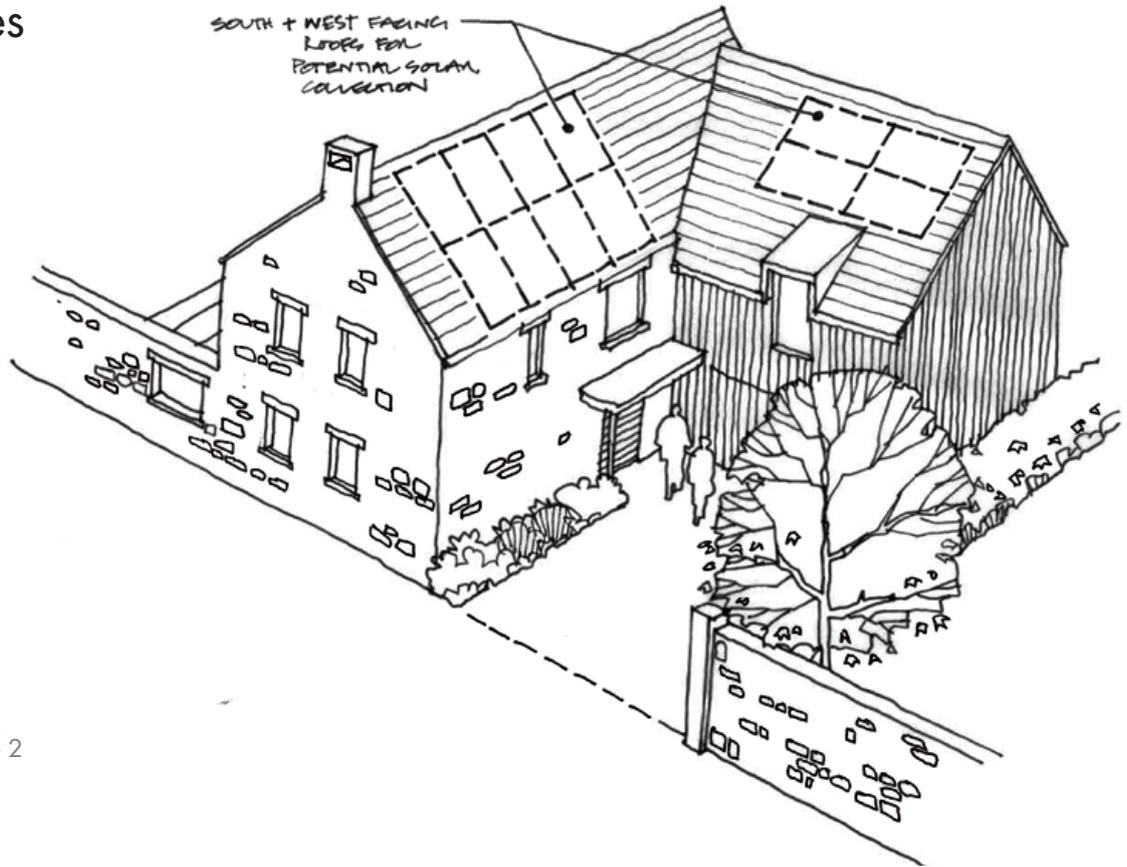


Above: Indicative house type 1
Below: Indicative street view

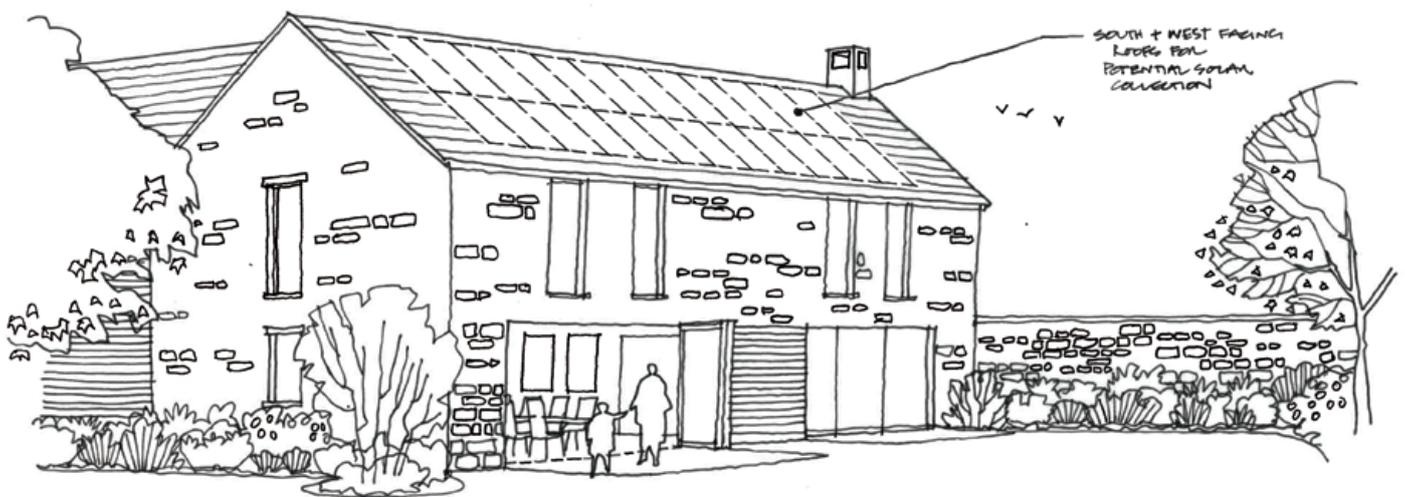


Indicative house types

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Indicative house type 2
Top: Front view
Bottom: Rear view



About Stride Treglown

Stride Treglown are an award-winning multi-disciplinary architect practice. They are well known for their sustainability credentials and approach each project with a view to actively seeking ways to limit any potentially negative environmental impact that their designs may have in terms of carbon emissions, pollution, use of resources, waste or ecological impact. And at the same time proactively exploring opportunities for their designs to have a positive impact, through re-use, regeneration, using sustainable forms of energy and promoting community, well-being, sustainable travel, biodiversity, beauty and delight and a sense of place.

They have recently been identified as a Climate Leader organisation in Bristol. Their Cardiff office was one of the 1st carbon neutral commercial buildings in the UK and a few years ago they were one of the initiators of a Bristol region-

wide Green Week which was adopted by over 70 organisations. They have designed some of the most innovative and sustainable developments in the region, including Great Bow Yard in Somerset which was named 'most energy efficient street in the UK' when it was completed, in a study by Eon and Sheffield University, and Filwood Green Business Park (named Bristol's greenest development in its European Green Capital year). They have also been behind thought-provoking initiatives like 52 Big Ideas for Bristol and Waters of Bath. They have recently submitted a proposal for 2000 passivhaus-accredited student residences at the University of the West of England, the largest project using the German energy efficiency standard of its kind in the world.

Stride Treglown look forward to the opportunity of working with the Willersey community to make this an exemplary sustainable development.



Stride Treglown designed schemes:
Left: Orchard Close, Almondsbury
Right: Baltic Wharf cohousing, Totnes

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Moore Land, Willersey

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