Watton Village Smart Community

Putting an end to Housing Poverty

Prepared by Association of Ideas, London

July 2019

“I am pleased to support this innovative new housing model which promises to deliver ecologically sensitive affordable housing in significant quantities on the basis of private finance. I believe that, if this succeeds, it may provide a model that can be replicated elsewhere, to the advantage of the country as a whole.”

RT HON SIR OLIVER LETWIN MP

Three activists have developed a unique model that promises a long - term fix for our affordable housing crisis. This is Smart Community Projects Ltd.

Roy Mathisen

Vince Adams

Jonathan Lovett

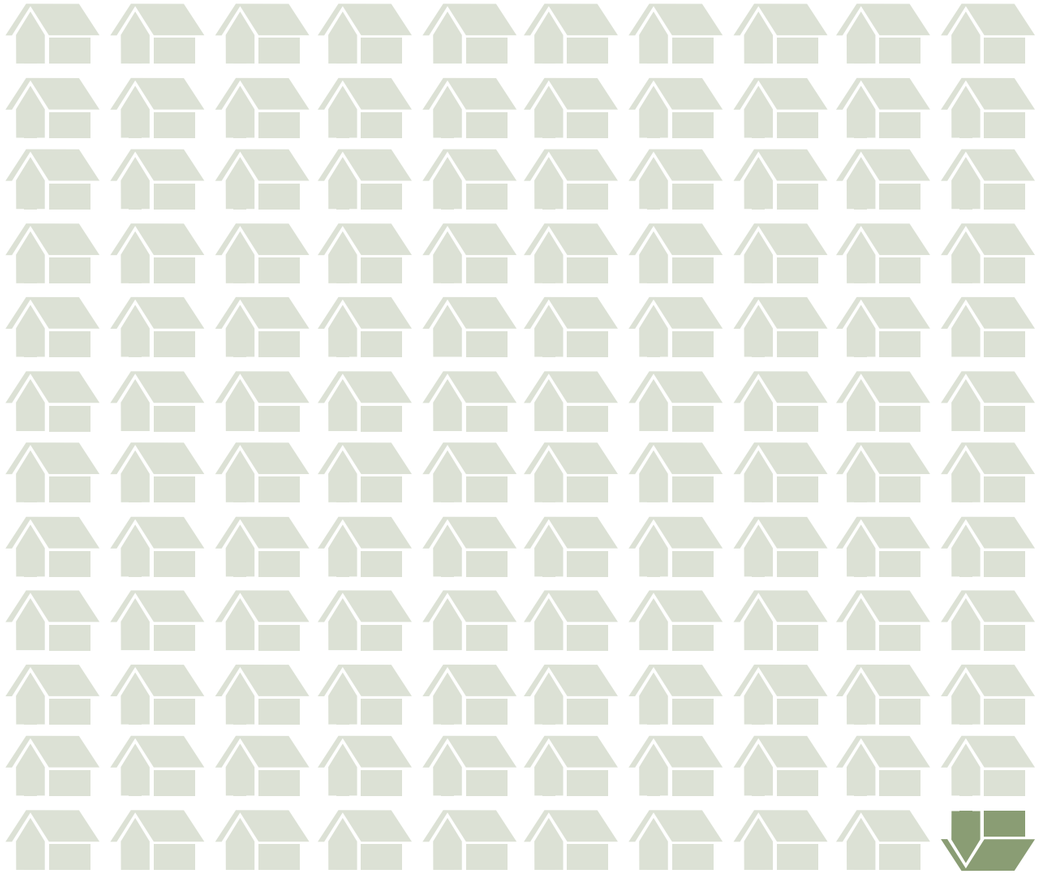
Everyone is aware of our massive and scandalous affordable housing crisis.

More than 1 million families are stuck on waiting lists for social housing in England as the number of council homes in Britain has reached a record low.

Figures from the housing and homelessness charity, Shelter, show that a total of 1.15 million households were on waiting lists last year, with only 290,000 homes made available, leaving a national shortfall of more than 800,000 homes.
Almost two-thirds of families have been on lists for more than a year, while more than a quarter have been waiting for more than five years.
But our problem is much bigger than that when you add on those sleeping rough, sofa surfers, and the tens of thousands of otherwise self-sufficient young people who simply cannot afford to leave the parental home. And those who do make the break cannot afford the 'market' rents they are paying to private landlords, are probably living on fresh air and certainly cannot afford to save to get on the housing ladder.

Smart Community Projects have studied the causes of our housing crisis and have developed a model that is set to solve this puzzle. They are close to delivering a £50 million prototype eco village comprising nearly 300 homes in Bridport, Dorset, a prosperous town that nevertheless has almost 400 households on the local housing Register, representing nearly 900 people out of a population of around 14,000. To be on the Housing Register people must be defined as either homeless or unsuitably housed. This must make shameful reading for anyone involved in UK housing, particularly those in central and local government.

In Bridport the problem is particularly acute with reports of some of the worst housing conditions in the country. A local resident comments:
'My wife was brought up in a working-class area in Southampton. In her work as a carer in Bridport, she tells me that she has never lived in a town with such poverty'.



How did **we** get into this mess?

In the late 19th and early 20th century, homes for workers were often badly built, cramped and insanitary. In 1904, philanthropist Joseph Rowntree was the first to provide adequate housing, but the real breakthrough came from the Addison Act in 1919, requiring local councils to provide affordable housing, particularly for troops returning from the trenches - 'Homes for Heroes.' This was the genesis of the Council House; good quality homes provided at affordable rents.

In 1980 'Right to Buy' gave council tenants the option to buy their council house at a discounted rate. At first sight not a bad idea but, as with so many government initiatives, the policy was based on dogma and was poorly thought through. The brutal fact is that homes that were sold were not replaced and to add to that, local authorities were stopped from building council houses altogether. The result is that the 1980 stock of 6.5 million council houses has been slashed to just over 2 million. Sale revenues were not reinvested in new housing and it has largely been left to the private, buy-to-let sector to try and fill the huge gap. A by-product of that is that around £23 billion a year of public money is paid in housing benefit, largely to help people who cannot afford private sector rents, subsidising the buy-to-let system, when these billions could be better invested in building more affordable homes.

The destruction of our council house stock is at the centre of our shortage of affordable rented homes and, to make things worse, the spiralling cost of housing for first time buyers has given rise to a new group of people who previously would have bought their first home in their 20s or early 30s. Post-crisis quantitative easing led to house prices surging ahead of incomes and, as a direct result, young first-time buyers were priced out of the market, in the process creating 'Generation Rent'.

How can **we** fix this?

To reverse these trends, we need to consider what is needed to build affordable housing on a large scale and it's not a complex formula – just money and land.

Private sector money is available from City institutions and this is particularly true for rented homes which can deliver a steady income for decades. Not only that, but housing is seen as a safe, low risk investment, if it's done well.

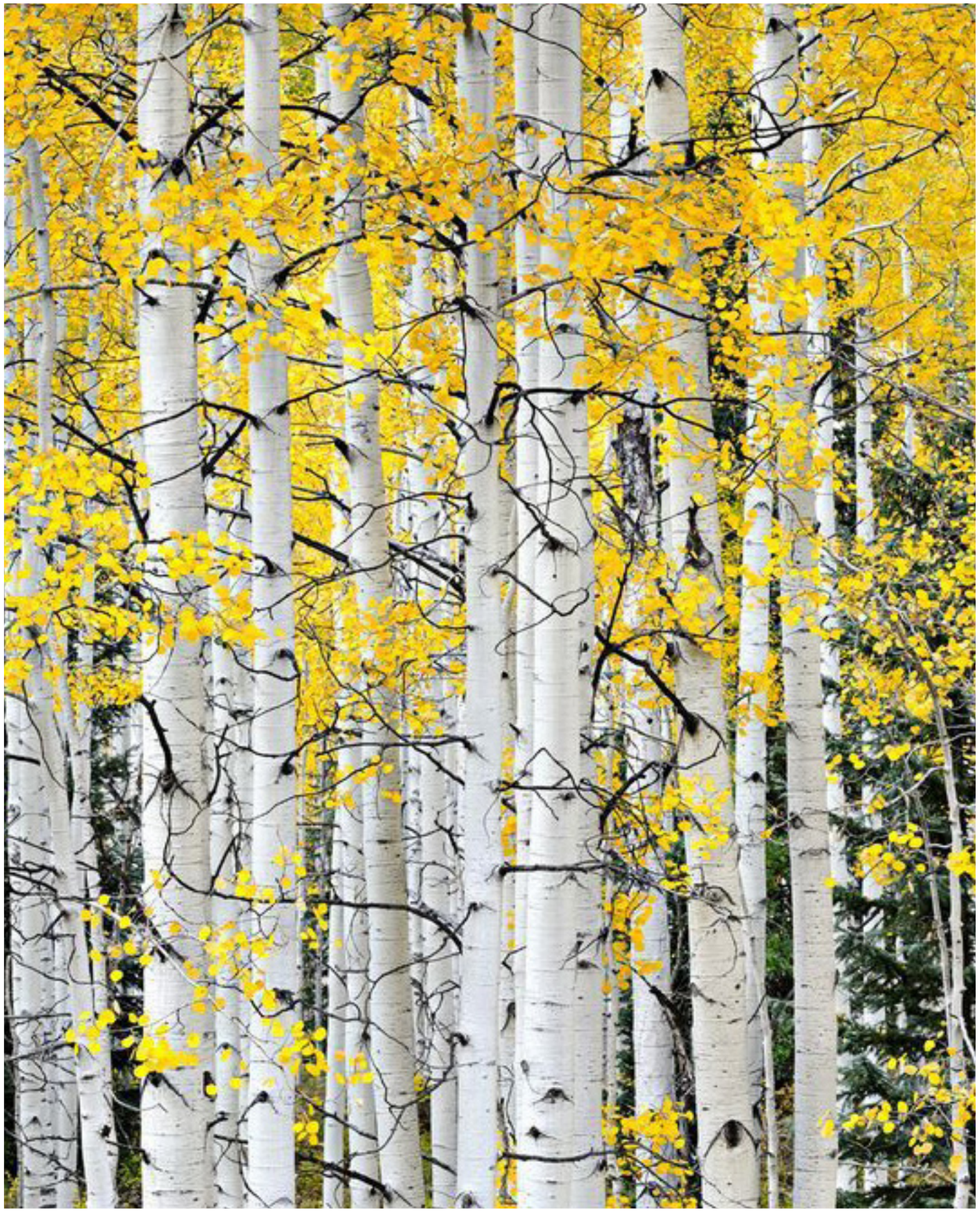
The supply of land is a problem but Smart Community Projects has, with a bit of lateral thinking, found a way forward. The question is, who owns land suitable for affordable housing? Commercial developers hold extensive land banks as do central and local government but neither seems to show much enthusiasm for financing and building affordable new homes. On the other hand, traditional land-owning families own huge stocks of land but are rarely tempted to build on it. Development land is almost exclusively sold for open market homes. Landowners, who are perceived as 'comfortably off' are not often tempted to sell and be seen making large profits from edge-of-town estates. Most people consider affordable housing to be the responsibility of government but local authorities rarely approach land owners with a view to building affordable homes. They are usually piggy-backed onto open market developments – part of the cost of planning permission, to provide a percentage of affordable units.

A potential **Legacy**

But what if a landowner sees the development of affordable homes as a potential legacy for their community? And a legacy for the landowning family further down the line? A double legacy plus, in the short term, delivering a modest profit? If those parameters can be satisfied, then many landowners would see that as a great opportunity to make a difference to those in housing poverty and play a key part in creating a community to be proud of.

The Colfox family of Bridport have offered a piece of land large enough to accommodate a development of almost 300 homes with a substantial adjoining area for farming and public amenity. Only 25% of the total site will be occupied by the homes and infrastructure.

This is an ambitious project of 235 affordable rented homes, 26 for shared ownership and 26 owner occupied for open market sale. The rented and the shared ownership homes will remain affordable in perpetuity protected by legal agreement. Facilities to help the development of a proud community include a community hall with communal laundry and crèche, landscaped gardens, allotments, cycle ways and footpaths. The management structure will give every opportunity for the village to develop into a community that shares responsibility for its well-being.

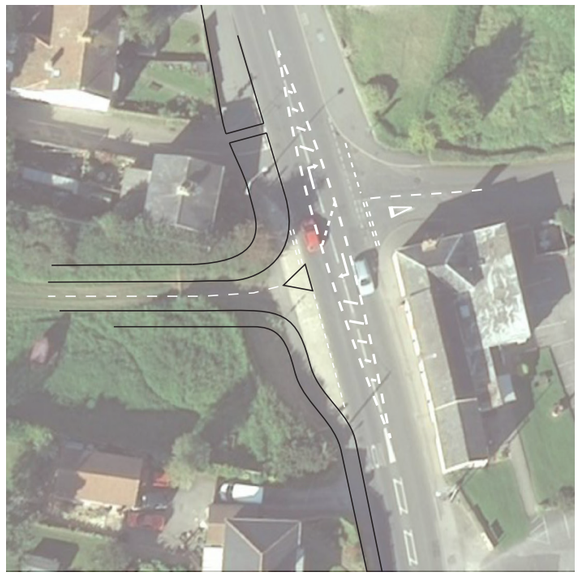


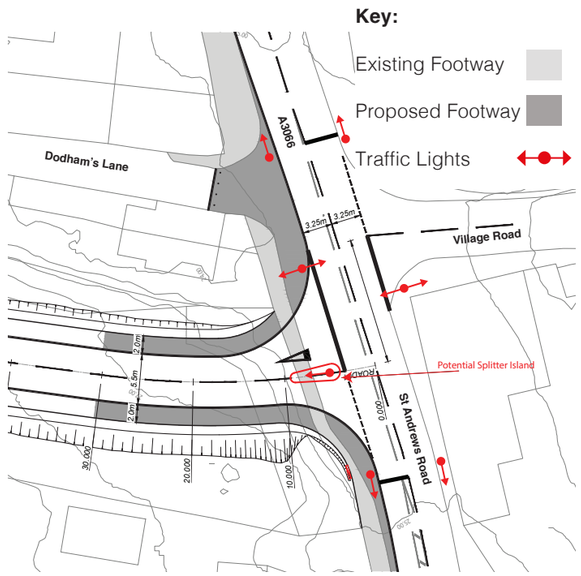
5000 new trees will enhance and screen the development

The buildings will raise the bar for combatting the climate change crisis with passive house standard homes in highly insulated timber framing giving very low fuel bills and a minimal carbon footprint.

See http://www.beattiepassive.com for more details of this technology. Photovoltaic panels (PV cells) are expected to deliver more than double the energy needs for the whole site with lithium batteries storing excess energy to compensate for varying demand and feed back into the grid.

Rainwater will be harvested and stored as part of a sustainable drainage system for gardens and allotments and 5000 new trees will enhance and screen the development, encourage wildlife and add to the development's green credentials.





The Proposed Model

The Land

The site will be leased to a major City financial institution for a period of 35 - 40 years. At the end of the lease, the affordable rented homes (and the land) will revert to the Colfox family who may choose to retain them or sell them to an agency who will continue to operate the development. In any event, the tenants will be secure and the concept of affordable rents will be safeguarded in perpetuity.

Finance

We've been working with the City institution for some time raising financial support for the development. This institution will develop and own the affordable rented homes for the period of the 35 - 40 year lease.

Housing Leases

Tenants in the affordable rented homes will be given lifetime leases, subject to good conduct.

Management of the Development

This will be carried out by an agency working with the financing institution; almost certainly a housing association with an impeccable record in this area of housing management.

Shared Ownership Homes. These will be owned and operated by the same agency that manages the development. In most cases shared ownership homes are the only way that Generation Rent can get on to the housing ladder. The supply of this genre of homes is meagre.

Land Sales

The plots for the shared ownership and owner-occupied homes will be sold by the landowners to the housing association.

The majority of the land is **leased**, not sold.

The majority of the land is leased, not sold. The Colfox family will lease it to the City institution for a period of 35 - 40 years before the development reverts to family ownership.

The project is primarily developed through private sector finance

This model is replicable anywhere that a landowner wishes to provide a legacy of affordable homes to their local community and a legacy of property to their descendants, by leasing their land for a fixed period to a private sector financial institution.

Watton Village is at the leading edge of sustainable development and paves the way to help solve our affordable housing crisis in an innovative and inspiring way.

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We offer residents, the local community and particularly future generations places to live that are highly insulated, easy to heat, inexpensive to run and ……

Sustainable Design

Sustainability is central to our proposal. We aim to show that sustainable design and affordable housing are compatible. We offer residents, the local community and particularly future generations places to live that are highly insulated, easy to heat, inexpensive to run.

Construction

Watton Village will use wood as the main construction material. The benefits are numerous and the economic advantages of modern timber technology will enhance the affordability of the construction process.

The project will benefit from the efficiency and quality of offsite manufacturing. UK based Beattie Passive, with its wood frame structural system, makes highly energy efficient Passive House homes without compromising design options.

The Beattie framing system provides a continuous insulated layer and the simple, robust construction can be built by labour that can be sourced and trained locally, adding to the social and economic benefits to the local community.

Economic benefits include build times that are 30% faster than other materials using offsite construction and snagging costs and site injuries are reduced by up to 80%. The combination of wood construction with the offsite method enables highly energy efficient Passive House standards with a cost reduction of >20% compared to a Zero Carbon equivalent.

Embodied Carbon

This refers to the carbon emissions associated with the energy used to extract and transport raw materials as well as manufacturing processes. In construction, CO2 emissions associated with supplying materials can be as much as 50% of total emissions over a building's lifetime. Wood not only has the lowest embodied carbon in comparison to other building structure materials but is also a CO2 sink through the process of photosynthesis. The wood frame achieves the

“Training young people who will bring that knowledge and expertise to future projects.”

best U-value with the lowest embodied carbon and least wall thickness. In addition, there is less waste and the lighter weight construction needs smaller foundations.

Health And Social Benefits

There are health and social benefits connected with timber construction too.

For example, increasing local skills through collaboration with social enterprise organisations like Toolshed, training young people who will bring that knowledge and expertise to future projects.

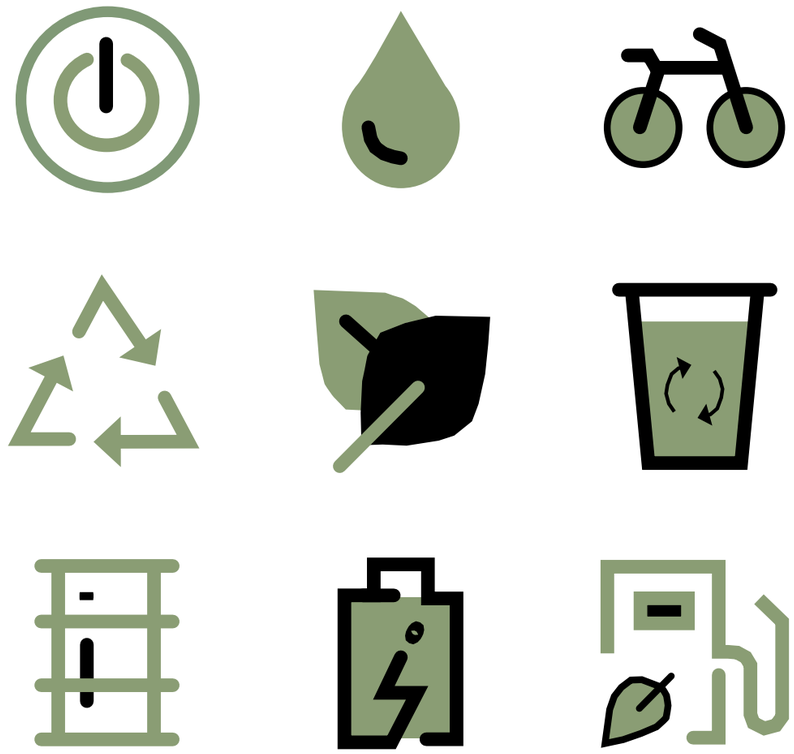
Reduced physical and mental health problems indirectly through timber in buildings i.e. biophilic design and directly by contact with nature, walking, gardening and community events.

Research has shown that there are numerous health benefits associated with wood interiors (TRADA, 2019) including reduced blood pressure and stress.

We propose planting an additional 5,000 trees. In 30 years, these trees will have absorbed an average of 2,000 tonnes of CO2.

Energy

Energy security is of vital importance to the UK. This is shaped by a number of factors including the need to reduce emissions, technological advances and politics – such as Brexit. The construction, operation and maintenance of the built environment accounts for around 50% of total UK carbon emissions with 28% from domestic buildings (DBEIS). These carbon emissions derive from the energy used primarily from burning fossil fuels (gas, coal, oil) and have a direct impact on the climate change crisis. Additionally, the depletion of current fossil reserves and the environmental damage caused by alternative extraction methods only serves to underline the importance of finding alternative ways to reduce demand and generate renewable energy.



Watton Village will approach the operational energy demand with a series of **energy saving strategies**

The Watton Village proposal will incorporate the energy efficient principles in its design strategy demonstrating macroscale benefits on the local community with environmental, financial and social values.

Operational Energy

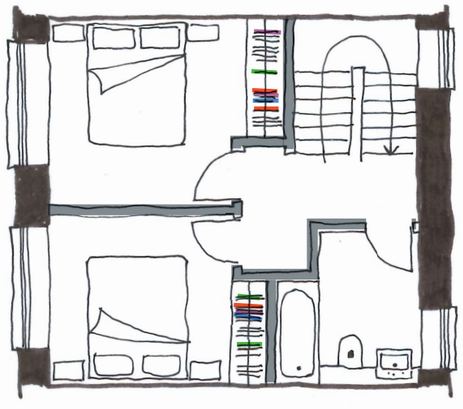
Operational energy refers to the energy used for space and water heating, lighting and appliances. The energy used (and its emissions) for space heating, hot water, ventilation, cooling and fixed lighting are part of the “regulated” energy, meaning that it is obligatory to model and meet the minimum or maximum standards dictated by the Building Regulations. “Unregulated energy” relates to the plug-in devices and appliances and is difficult to estimate, it depends on individual behaviour.

Watton Village will approach the operational energy demand with a series of energy saving strategies:

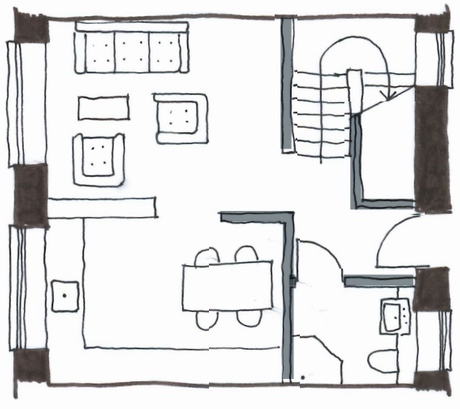
Heating: The proposal adopts the “fabric first” approach that reduces the heating energy demand with focus on the holistic aspect of a building such as U-values, heat gains, airtightness and thermal bridging.

Hot water: The energy used for domestic hot water is usually the highest demand when the space heating is reduced via the fabric first approach. Homes in the village will use Waste Water Heat Recovery system to reduce the energy demand by reclaiming up to 60% of the heat from waste water.

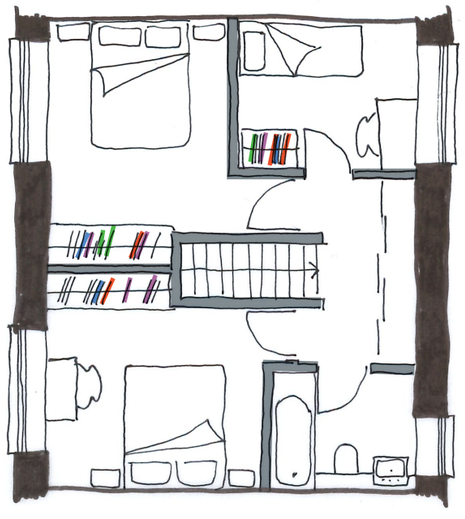
Lighting and appliances: Highly energy efficient appliances and LED lighting, along with passive solar design maximising daylight, will reduce the need for artificial lighting.



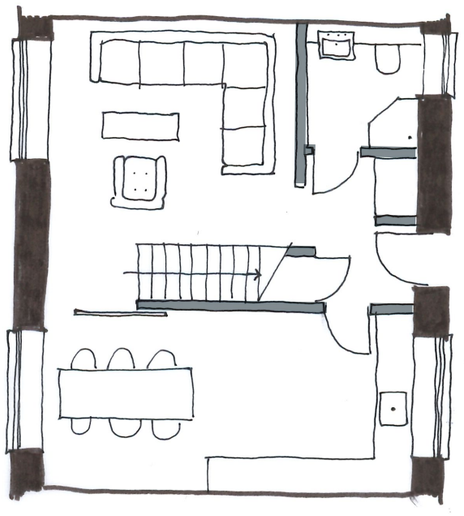
Typical 2 Bedroom Plan FF



Typical 2 Bedroom Plan GF



Typical 3 Bedroom Plan FF



Typical 3 Bedroom Plan GF

"Watton Village will offer environmental, financial and social benefits for generations to come."

Renewable Energy

Renewable energy refers to energy generated from inexhaustible sources such as the sun's radiation (directly or indirectly). Not all technologies fall to this category even if they offer significant benefits in comparison to conventional fossil fuels. Therefore, Low and Zero Carbon technologies (LZC) are often used instead of renewables.

Even though the first step of the proposal is to reduce the energy demand as much as is feasible, renewable energy strategies are introduced to ensure the remaining energy demand is met by sustainable methods.

Watton Village aims to use the entire roof area of the buildings for photovoltaic cells to generate all the energy the village needs as well as a surplus for export to the grid.

The site will have an effective roof area of around 14,000m2 and with integrated PV cells could generate approximately 3,000,000kWh annually. With the site's total demand modelled at 1,800,000kWh annually, 1,200,000kWh could be exported back to the grid.

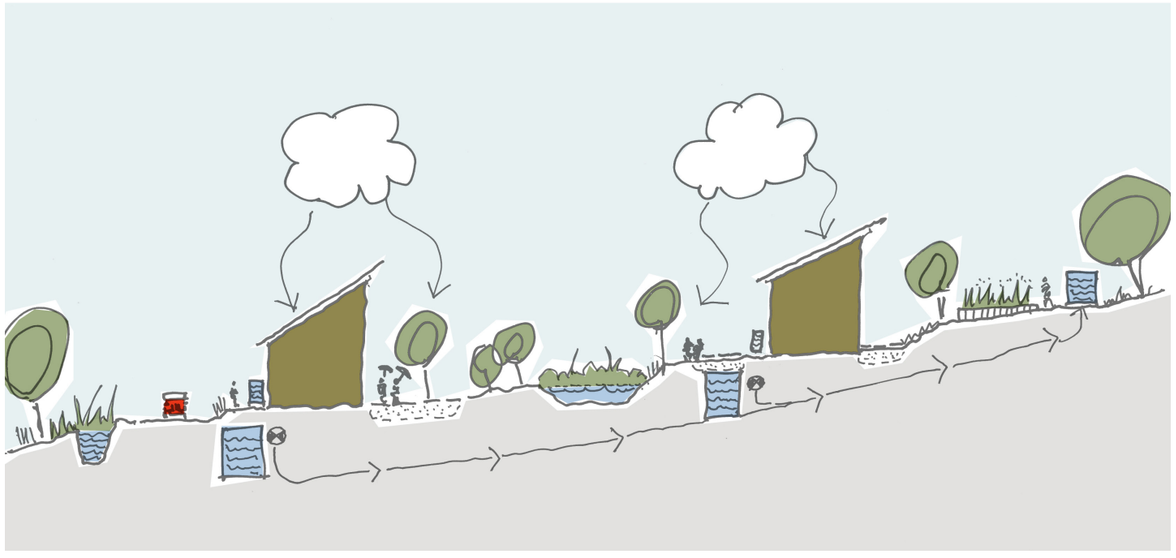
Storage batteries will ensure that the energy generated is used in the most effective and flexible way.

Renewable energy aggregation strategies will also be developed in the future to ensure the best outcome for the project and local community.

Watton Village will offer environmental, financial and social benefits for generations to come.

Water

Water efficiency is of great importance to ensure the mitigation of future shortage due to climate change (less rainfall / less supply) with the combination of rising demand. Adding to this around 1kg CO2 per m3 resulting from water supply and wastewater treatment operations. The steps to mitigated water shortage are related to: the reduction of consumption demand through metering, efficient fittings, water recycling/ rainwater harvesting and with implementations of sustainable drainage systems. The Watton Village proposal will ensure to adopt in its design:



“Watton Village could save around 8,700m3 of water & 8,7 tonnes of CO2 emissions annually.”

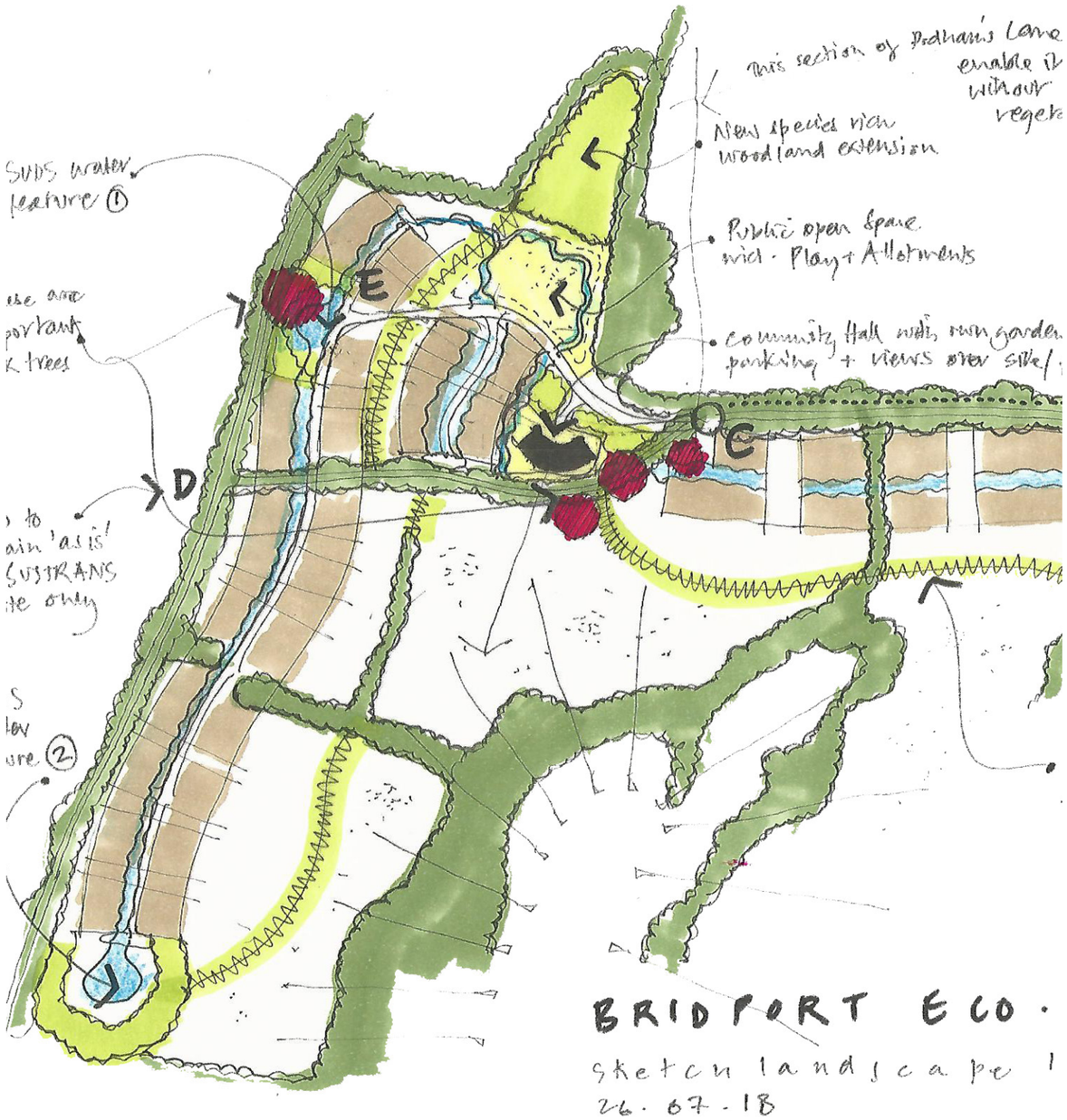
Water Metering: Metering has a great impact on water consumption with unmetered dwellings consuming around 30 litres per person per day more than metered households. 82% of adults with a water meter reduce their water usage in order to save money (Waterwise, 2017). Watton Village could save around 8,700m3 of water and 8,7 tonnes of CO2 emissions annually.

Rainwater Harvesting: The Village will harvest rainwater to meet the external use demands onsite – for gardens and public planting - to reduce water demand on site by 1,460m3 (plus 1,46tonnes/CO2) annually and help in the mitigation of flooding.

Sustainable Drainage Systems (SuDS): Sustainable drainage systems will intercept the water runoff and retain it temporarily before slowly releasing it back to the mains sewers or outflow to soil. Equally important, the design will enhance the existing landscape, introduce biodiversity and create amenity spaces for the community. To this effect the following SuDS strategies are proposed for Watton Village:

5,000 trees introduced on site that slow the flow of water to reduce runoff by up to 62% compared to asphalt, increase the interception and infiltration of water into the soil. By reducing the amount of water running into the drains the amount of water that needs treatment is also reduced.

Permeable surfaces will be used throughout with permeable block paving, porous asphalt or concrete with swales that do not store water but allow it to soak directly into soil or run off into a larger collection pond. A combination of filter and swales will be introduced along the new proposed pathways and roads creating new bio diverse areas for wildlife and planting – like reed beds.



Sketch by Aileen Shackwell

"ours is the only development that has such a broad range of sustainable credentials."

Comparison to Other Schemes in the UK

We want to compare the Watton Village scheme with some current affordable home proposals around the UK to demonstrate that ours is the only development that has such a broad range of sustainable credentials:

Location	Plymouth	Marden	Nottingham	Norwich	London	Bridport Dorset
Number of Homes	87	86	120	172	493	285
Heat Demand Standard	Zero Carbon	Building Regulations	Building Regulations	Passive House	Passive House	Passive House
Photovoltaics	✔	✘	✔	✘	✘	✔
Battery Storage	✘	✘	✔	✘	✘	✔
Mechanical Ventilation & Heat Recovery	✔	✘	✘	✔	✔	✔
Renewables or Low Carbon Technologies:	✔	✘	✔	✔	✔	✔
Electricity	✔	✘	✔	✘	✘	✔
Space Heating	✔	✘	✘	✔	✔	✔
Domestic Hot Water	✘	✘	✘	✘	✘	✔
Affordable Homes Percentage	7%	40%	0%	33%	52%	82%