

**DESIGN STATEMENT FOR THE PROPOSED
REPLACEMENT DWELLING AND AGRICULTURAL
BUILDINGS AT CROSSWAY FARM CLYRO
HEREFORD HR3 6JY.**



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In the preparation of the design and re-siting of the farm house and agricultural buildings, consideration has been taken of the policies in the Powys Unitary Development Plan.

This Design Statement is prepared in support of the applications for a re-placement dwelling new kennels, and agricultural buildings to accommodate the agricultural machinery and implements used on the smallholding, and house the coloured Ryeland sheep the applicants breed on it.

Site location.

Crossways Farm, covers 2.8 hectares, indicated on the site / block plan on drawing number CB.9, and is situated west of the unclassified road from Clyro to Newchurch.

Refer to drawing No CB10 for the block plan of the existing farm yard layout, and the plan prepared by Ian Jones & Co in March 1915, for the existing access application.

Existing barn/sheds.

The existing farm building in the south of the yard, covers an area of 198m², with an open sided shed of 49m² on the north. The main building is divided into sections on different floor levels, part of which is used for lambing, hay, fodder and feed storage, with a section including the open shed used for implements and machinery.

The external materials are a mixture of grey block walls to 2-400 height, with blue corrugated iron cladding and vertical timber boards up to the 6-900 ridge height, with the roof covered with fibre cement sheets. Refer to drawing Numbers CB.FB.1 and CB.FB 2 for existing plan and elevations.

Existing dwelling.

The existing farmhouse is heated by Oil, with wood burner stoves in the living room and kitchen..

The water supply is from a borehole.

The sewerage is to a septic tank, the waste from the kitchen sink disperses above ground level onto the yard.

The original farmhouse built in random stonework in an L shaped design covers an area of 66m² and consists of a lounge on the east, with a large fireplace on the gable end, entrance porch and wc, with hallway leading to a staircase in the centre and an office and utility room, with steps from the utility to the higher level into the kitchen, living and dining area on the west.

The staircase to the first floor leads to a bathroom on the south, bedroom on the east and second and third bedroom to the north, with low pitched ceilings at 1-500 high to either side. There is a large chimney breast internally on the north, covering a floor area of 3-750 m², the chimney stack has been taken down to below roof level.

There has been a number of extensions to this original building which consist of, on the ground floor, a porch to the front door on the east, a utility room and kitchen on the north roadside, a dining room and living room on the west and a further lean to porch with wc facilities on the south.

A bedroom was formed on the north, via a large landing, and a large attic space on the west above the kitchen with a window in the gable end, but with no access to it.

With these additional extension the property is now 83m².

Refer to drawing Nos CB.OH 1 and 2 illustrating the existing plans and elevations.

To access these extensions on different floor levels means numerous steps throughout the ground floor, therefore does not comply with Part M of the building regs.

The utility and kitchen extension on the road side has no foundations, the utility room is below ground level and is not tanked, therefore suffers with water penetration from of the highway.

This extension on the north and east is built in single skin stone faced concrete blocks painted white,

The extension on the west is built in 250mm cavity walls with no cavity insulation, and finished externally in smooth render painted white.

The roofs are a mixture of imitation slates, corrugated asbestos sheets and asbestos slates. There is limited insulation quilt in the loft spaces that are accessible.

The staircase is sub- standard and dangerous, and does not comply with current building regulations.

The structure on the north roadside, being without foundations, is subsiding, which is increasing, due to the heavy agricultural and H G vehicle movement on the highway, and storm water ingress.

The house contributes to the 20% of the UK high carbon emissions, generated through domestic heating, hot water and cooking, the scale of which is enormous.

H9.

Guided by the LPA's policy H9.the applicants original intention was to alter and renovate the dwelling,

Refer to drawing Nos CB.OH 3 and 4, and designs were prepared for reconfiguration, and renovation of the property, to maximise its potential, in an attempt to bring it up to the relevant standards required by building control by providing, 2 further moderate sized 1st floor bedrooms, one with an en-suite, above the existing kitchen / dining room., but on assessing the property, they learned that this could quickly turn into an expensive fix, with extortionate costs that would not afford the facilities required by the owners, and is not a viable proposition due to the buildings deteriorating state with its close proximity to the highway, and would still fall below C grade EPC scale..

Demolishing the farm house and building a new energy efficient dwelling offered a far better realistic solution financially, which would allow them to build a sustainable house tailored to their lifestyle requirements, and saving 20% vat on the new build process.

The site appraisal considered the existing key features of the site and its surroundings, which revealed the opportunities of the site from which the design, layout, and size of the development to be accommodated on the site was derived.

The proposals include, removing the existing farm sheds, demolishing the existing house, levelling the site, and constructing the new dwelling away from the highway in the position shown on drawing No CH.9.

A key part of the design proposals is to replace the existing farmhouse with an energy efficient dwelling that works for modern family living.

By switching the location of the dwelling, and the removal of the existing sheds allows the new dwelling more privacy and less noise and pollution from the highway, and with the previous access re-opened, and the new agricultural buildings re- positioned it offers improved farm working facilities without interference and obstruction to the dwelling.

DM 13.Sustainable Energy resources.

Dwelling proposals.

Emissions must be reduced in construction for UK to meet net zero, therefore the new build will incorporate cost effective solutions to reduce carbon emissions and integrate low or zero LVC renewable energy technology, and to achieve a reduction in energy usage or CO2 emissions that comply with min standards set out by the LPA, and go beyond UK building regulations, demonstrating a commitment to achieving a sustainable development.

It will comply with Building regs 25a (Part L :2013) compliance.

SAP Building regs Part L1A (new build).

BREEAM (New construction).

SBEM (Simplified building energy model) Part L2A New build.

The sustainable statement includes.

- 1, Energy efficiency.
- 2 BREEAM.
3. Climate change adaptations.
- 4.SUDS
- 5 Biodiversity
- 6 Water resources.
- 7 Material
- 8 Construction.
- 9 Base testing (sound)

The new dwelling will be constructed in a timber frame, a sustainable environmentally friendly building material, PEFC certified, timber is a renewable resource, can be extracted with little waste energy, timber forests absorb carbon dioxide, and is strong, durable and easy to work with, and will have no hazardous or toxic waste left on site after construction.

Timber frame buildings are very energy efficient (reducing heating costs), combined with high levels of insulation, high performance triple glazed windows and doors, achieving air tightness, and a healthy internal environment, and with a MVHR system will bring the new building up to Passivhaus design principles for achieving excellent energy efficiency, so the building can maintain an almost constant temperature with minimal need for heating and cooling.

The advantages of having ‘off site ‘ construction are numerous, as the main components are built within a climate controlled workshop, prefabrication allows precision panels made which once on site are wrapped seamlessly around the timber frame providing a dry shell much quicker than traditional methods of construction.

With the predicted forecast on climate change, and the UK being damper, colder and windy, this method avoids weather delays and disruption.

A great deal of time has been taken in the design of the proposed dwelling to refine the original broad ideas into a consistent credible scheme that fits their functional requirements and budget .

The accommodation in the main house, on the north, consists of a combined living/kitchen with the utility off the kitchen, with an external door under a projecting roof over the single storey entrance porch, garage and kennels, which allows under this covered walk way during increment weather, ease of access to the animals on health, welfare and security grounds.

In the main house on the south is the lounge, office and small gym, and the single story accommodates the cloakroom, complying with Part M, necessary plant room, coats and boots cupboards.

The first floor consists of a gallery landing leading to a master bedroom with dressing room and en-suite, and two further bedrooms and bathroom.

The living/dining area, lounge, master bedroom and bedroom 2 are positioned to take full advantage of the magnificent views to the east of the countryside.

The floor area of the main house accommodation will be 121m², with the single storey entrance porch cloakroom, garage and kennels at 70m²

The applicants have chosen for the external finish, a mix of natural man made materials to have a modern take on traditional vernacular properties with the Eternit silver grey cladding above grey random stonework, and the dark grey zinc seam roofing, found on farmhouses throughout the area.

The lower roof over the garage, entrance porch and kennels will be covered with slates, this simple palette of materials creates a characterful finish that is appropriate for the local rural area.

Refer to drawings numbered : CB.NH.6 and CB.NH.7 for plans and elevations.

RE.1 Sustainable energy.

Creating low energy, low carbon and low bills, is a critical consideration for the applicants future.

Legal framework in building regulations, with guidance on meeting the new building regs approved Doc L – Conservation of Fuel and Power.

Every home has to be assessed against the regs and technical design stage via the latest SAP – 10.2 specification.

Government grants for renewable technologies heat pumps, set to improve the energy performance of all new homes, with set rules know as Future Home Standard' to ensure properties are highly energy efficient and use low carbon heating by 2025.

To comply with the above, and lower their carbon emissions, and make full use of renewable energy, a GSHP delivering low energy living will be installed, with the ground reaching a very stable temperature of 12 degrees C in the UK, makes it a predictable source of energy year round.

This will provide the UFH in the dwelling, the most efficient way of evenly heating a building.

The position of the new dwelling has been carefully orientated, with positions of windows and doors to encourage heat gains in winter.

Part O of the building regs, means the design will incorporate measures to mitigate overheating, with expanses of glazing having louvered brises soleil installed, to provide solar shading during the summer months, while allowing the sun's rays to reach into the dwelling during the winter.

Solar thermal collectors will be installed on the lower south facing roof of the dwelling, providing around 50% of the energy required to meet the annual hot water demand in the house for bathing, showering, washing machine and taps.

Minimising visual impact on the proposed house, solar PV panels will be installed on the south facing roofs of the proposed agricultural buildings, harvesting energy from the sun will contribute to generate enough power to last into the evenings, for winter months a Tesla power wall battery will be installed for running the lights, power sockets, to the house and proposed agricultural buildings, once the house demand has been met the solar PV's charge the battery, then any excess can be used to comply with planning policies for charging vehicles.

As electricity is so expensive, with increases occurring on a monthly basis, this installation allows the applicant to top it up over night with cheaper off peak electricity, and as the set up uses algorithms automatically to adjust to overnight battery capacity according to the weather, if a storm is forecast it will charge the battery to full in case of a power cut, the system will contribute to their own mini off-grid system.

The Build it awards winner 2022 for a timber frame eco house of 298m², now spend £5 a week on space heating and hot water, which proves that the proposed system for the new dwelling is a financially viable sensible proposition, in comparison to what their heating costs are at present.

To enable the applicants afford such a system, it is intended they will do as much work on the site and buildings as possible while working with a shell build specialist contractor.

DM 13, Agricultural buildings proposals.

The new farm building to house machinery measures 10m x 14m x 5 to the ridge. The existing ground on the north that is below road level, will be filled with rubble and hardcore from the old farmhouse to form a level access with the proposed courtyard.

This machinery shed. will be built to an agricultural specification, with insulated panels and roofing to store the vehicles, tractor, digger and machinery used on the farm, all of which is of considerable value, and presently stored in an open sided shed.

It is now imperative that such machinery is stored in lockable buildings, as Insurance companies will refuse cover if left outside, due to the increase of theft occurring on farms in the rural areas.

The new farm building to house hay/fodder, muck store, and accommodation for lambing measures 22-5 x 10m x 5m to the ridge. The existing ground will be levelled to that of the machinery shed, and with both proposed buildings being 1-900mm lower than the old shed allows the new buildings integrate into the landscape without causing an unacceptable impact on the natural landscape.

The muck from the lambing shed will be stored under cover, and used at the appropriate time of the year to fertilise the ground around the farm.

The scale, form, design, layout and use of materials is appropriate to this type of development and its surroundings, and is well related to the existing farm buildings within the community.

The development will be integrated into the landscape by the use of appropriately coloured materials, with Juniper green cladding above concrete walls, and Juniper green roof panels.

The lambing shed is sited in close proximity to the proposed dwelling for the well being of the animals, and to promote good husbandry and management of livestock on the farm, and will appear as an integrated part of the existing established farming enterprise.

Due to the isolated rural location of the site, there will be no adverse impacts, or unacceptable detrimental impact upon the amenities enjoyed by the occupants or users of neighbouring properties, by means of noise, dust, air pollution, litter, odour, hours of operation or overlooking, as there are no dwellings in close proximity to the site.

DM4.Landscaping.

Integrating the landscape plans at this early stage of the project, is important to ensure the dwelling sits harmoniously within its surroundings

The proposals consist of demolishing the existing house and recycling what materials that can be used in the proposed landscaping.

All old bricks, blocks and rubble stone will be used as hardcore to fill and level the areas under the proposed buildings, paths and courtyard.

Enhancing and increasing hedgerows on site delivers GHG savings, and maintaining these hedgerow is a positive feature for wildlife improvement

The existing vehicular access on the north east will be blocked up, and a length of the mature hedge along the roadway will be pulled back into the site by approximately 1 metre, and transplanted at the appropriate time of year, along with a new hedge consisting of the same species as existing, planted across the old access.

T1 Transport.

A new access will be created, where the previous was on the north west of the site.

In addition to the farm house being demolished, a section of the single storey stores/ kennels will be removed to provide improved visibility of 90 metres in each direction on the highway. Reverting to the old access, with the house removed, provides far better visibility in each direction as opposed to the present access on the east of the site, which is near the crest of the hill, and with the speed that some vehicles do, makes it dangerous at times exiting the existing access. It is considered a betterment, safety wise, to move the access to the original on the west as it will provide much improved visibility by being further away from the crest of the hill.

The use of the buildings will not generate any further vehicle movement to the highway.

The proposed programme of works, subject to planning permission, will be phased and consist of 1st phase, removing the existing shed on the south west, clearing the site with priority being the constructing of the new agricultural building to re-house the animals and store the hay, and feed.

The construction of the new dwelling, will be combined with the above, and the existing entrance will remain in place, and used throughout the build programme, with the couple residing in the existing farm house to oversee the works and care for the stock.

2nd phase will be the demolition of the existing farm house, preparing the ground for the construction of the proposed machinery shed, forming the new vehicle access and blocking up the existing as described.

DM6.

Flood prevention and land drainage.

The courtyard area between the new dwelling and the agricultural buildings will be finished with permeable decorative stone, the entrances to each agricultural building will be finished in concrete, full length and 3 metres wide, laid to fall to the permeable stone within the courtyard

The rainwater from the existing farm buildings, is at present, taken to an existing rainwater harvesting tank, and used for washing down and irrigation purposes.

Rainwater from the new machinery building, and new dwelling will be taken to a new 1.000 litre rainwater harvesting tank, re-cycled and used as grey water use to the house for wc's, washing machine, and irrigation during dry weather, thereafter any surplus and from any impermeable areas on the site will discharge to soakaway system designed and constructed in accordance with BS EN 752-4 or BRE Digest 365 soakaway design or (other best management practice SUDS.)

Having consulted with the Environmental Agency flood map, it indicates that the site lies within an area not subject to flood risk.

The present flooding that occurs at the site is caused from, storm water of the highway, which penetrates the east gable wall of the house, causing damage.

Powys County Council highways were informed of this problem on the 31st March 2023

Ref 0359-8237-1549-9268, the response received was that 'The report had been received and will be investigated within 10 working days' ! No investigation has taken place, and with the torrential rain that has occurred during December, the problem has worsened !

Foul drainage.

The foul drainage from the existing three bedroom farmhouse, discharges to the existing septic tank positioned on the east of the site, with field drainage within the applicants land.

The septic tank was emptied on the 9th October 2023, by GTP Waste.

The system has been working properly since the farmhouse was built, therefore as there will be no increase in occupants in the new farmhouse, it is considered unnecessary to provide percolation test results on existing ground conditions that are providing an adequate soakaway system.

DM7 Dark skies and external lighting.

Complying with the recommendations outlined in the BCT and ILP Guidance Note 8, Bats and artificial lighting (12th September 2018) the following measures are proposed to minimise impacts to nocturnal wildlife commuting or foraging around the small holding and area.

All external lighting will be on PIR sensors mostly, if not all individually.

Warm colour temperature 2700 Kelvin and low lumen output to be used.

Swan neck wall lights with hoods, retrofitted with LED GU10 recessed in fitting, so no direct upward light spill will occur, will be positioned in the appropriate places, in conjunction with the Ecologists recommendations.

All glazed screens on the east elevation will be fitted with Smart roller blinds, pre-programmable via an app, which automatically obscure light during darkness, and which eliminate human error.

DM2 The natural environment.

Biodiversity conservation and enhancement is an integral part of planning for sustainable development, and to conserve the biodiversity on site, fruit trees will be planted on the east of the machinery shed, to attract pollinators, and a wild flower area created over the old entrance drive.

The Tree planting will be carried out in the 1st planting season, following the completion of the build.

Any trees within a period of 5 years from the completion of the development die or become damaged shall be re-placed in the next planting season with others of the same species.

Small raised vegetable beds will be created to allow the applicants be self - sufficient, which will reduce travelling and pollution.

The applicants breed and show coloured Ryeland sheep, and the orientation of the proposed buildings allows ease of secure access from the proposed house to the kennels and lambing shed, as security is paramount during lambing and show times.

The holding has an additional 7.5 hectares of ground elsewhere to alternate the grazing facilities.

Europeaus Land Management services were employed to carry out the necessary Preliminary Ecological Appraisal on site, and the ecological evaluation, appraisal and recommendations attached to this planning application will be strictly followed throughout the project

Policy H9. States :

- 1 The existing building has not been abandoned and remains clearly recognisable as a permanent dwelling under Class C3 of the use class order 1987,
- 2 The proposal will not result in the loss of a building of special architectural or historic interest, or local vernacular character. Where this is the case proposals will only be permitted where the building is proven to be beyond realistic repair.
- 3 The replacement dwelling shall :
 - i. be located within or adjacent to the footprint of the former habitable dwelling,
 - ii. and reflect the form, size and scale of the former dwelling, Unless there are demonstrable planning advantages to be gained from deviating from the former dwelling's orientation, position or size.
 - iii. Respect or enhance the design of the original dwelling and those surrounding properties and the locality.

1a

The existing building has not been abandoned, and is presently occupied by the applicants.

2a

The proposals will not result in the loss of a building that has any special architectural or historic interest or local vernacular character.

The existing building has been altered and extended in substandard materials over the years, consisting of grey concrete block, imitation stone faced blocks, white rendered blocks, to walls, with imitation slates, and asbestos sheets to roofing.

Storm water ingress through the walls from off the highway causing damage.

Timber door and window frames, unable to open and leaking, upvc doors and windows without seals and insulation causing heat loss.

Dampness and condensation throughout the house, causing mould and fungi growth on walls ceilings, and clothing in wardrobes, and consolidation of cooking ingredients in the cupboards, all contributing to an unhealthy environment. 'refer to attached photographs' There is very little daylight into the house from the small windows, and the orientation of the existing dwelling with its small windows, limits the light into the living accommodation, which results in dependence on artificial lighting during the daytime, causing a financial burden on the occupants due to the ever increasing cost of electricity, and does not contribute to any 'Conservation of Fuel and Power' or any energy efficient materials within the structure.

The present monthly expenditure on heating consists of :-

Oil at [REDACTED]

Coal/wood @ [REDACTED]

Electricity @ [REDACTED]

The tender figures received are between [REDACTED] excluding plumbing, for improving the dwelling to comply with current Building regulation requirements, clearly demonstrates that financially it is beyond realistic repair.

3a.

The demonstrable planning advantages to be gained from deviating from the former dwelling's orientation, position and size, are :-

The new dwelling would be built in a new position away from the highway, as the existing structure on the north is subsiding due to the near proximity of the highway, the volume of heavy traffic and storm water ingress causing damage to the structure

The noise level and pollution from the vehicles is not conducive for good health

The proposed dwelling indicated on drawing No CB.9, will be built in an appropriate position away from the highway on sound ground, and its orientation will take full advantage of the sun for renewable energy.

All Councils are now committed to ensuring that they consider tackling 'Climate Change' in its future work and decisions taken.

From a planning perspective it is imperative that the Councils need to demonstrate explicitly how the policies can achieve zero carbon by 2023.

In terms of climate change this development utilizes physical sustainability measures that, include orientation of the farmhouse, and buildings, water conservation measures, and demonstrates that carbon reduction has influenced the design from the outset, by ensuring the fabric of the building is as energy efficient as possible by attaining thermal efficiencies through construction that achieves low U values and fuel efficiencies through the use of GSHP delivering low energy living.

In the proposed sustainable location it will achieve the accredited standards of energy conservation, and also the level achieved materially will exceed the relevant building regulations presently in place.

The dwelling will be a sustainable, energy efficient house built to Passivhaus standards, complying with all the current building regulations, as described previously

The creation of this future proof home, will allow the applicants live in it for decades to come, and the design has flexibility in the floor plans to ensure it can evolve with them. Complying with all the necessary measures and regulations for new buildings, and planning policies, it is requested that the planning authority support this young couples aspirations to provide a green energy efficient home, and support their investment in this agricultural enterprise, being the largest investments made in ones life.

Photographs of the mould and dampness in the existing house.



kitchen wall cupboard.



kitchen floor cupboard.



living room ceiling



kitchen ceiling.