CONSTRUCTION NOTES

1.0 STONE BARN ROOF CONSTRUCTION - PITCHED ROOFS



UNVENTILATED PITCHED ROOF BUILDUP: ORIGINAL CLAY TILE ROOF TO BE RE-LAID 25x50mm TREATED SW ROOFING BATTENS 25x50mm TREATED SW ROOFING COUNTER-BATTENS KINGSPAN NILVENT BREATHABLE ROOFING MEMBRANE 100mm KINGSPAN Kooltherm K107 PITCHED ROOFING BOARD FULLY FILLING ORIGINAL RAFTERS 57.5mm KINGSPAN K118 INSULATED PLASTERBOARD UNDER ORIGINAL RAFTERS 3mm SKIM PLASTER FINISH

TO ACHIEVE U-Value 0.15 W/m3K

1.1 DUTCH BARN ROOF CONSTRUCTION - BARREL VAULTED ROOF



CORRUGATED STEEL SHEETING 25x50mm TREATED SW ROOFING BATTENS 25x50mm TREATED SW BOOFING COUNTER-BATTENS KINGSPAN NILVENT BREATHABLE ROOFING MEMBRANE 200mm SIPS PANELS VAPOUR CONTROL MEMBRANE DECORATIVE CEILING BATTENS

UNVENTILATED SIPS PANEL ROOF BUILDUP:

TO ACHIEVE U-Value 0.15 W/m3K

1.2 STEEL BARN ROOF CONSTRUCTION - PITCHED ROOF



VENTILATED PITCHED ROOF BUILDUP:

CORRUGATED STEEL SHEETING 25x50mm TREATED SW ROOFING BATTENS 25x50mm TREATED SW ROOFING COUNTER-BATTENS KINGSPAN NILVENT BREATHABLE ROOFING MEMBRANE 120mm KINGSPAN Kooltherm K107 PITCHED ROOFING BOARD 100mm KINGSPAN Kooltherm K107 PITCHED ROOFING BOARD **BETWEEN EXISTING PURLINS & NEW RAFTERS** VAPOUR CONTROL MEMBRANE 12.5mm PLASTERBOARD w/ 3mm SKIM PLASTER FINISH

PLUS DECORATIVE CEILING BATTENS OVER ENTRANCE HALL

TO ACHIEVE U-Value 0.15 W/m3K

2.0 STONE BARN EXTERNAL WALL CONSTRUCTION



2.1 DUTCH BARN & STEEL BARN EXTERNAL WALL CONSTRUCTION - EXTERNAL WALLS AT UPPER LEVEL



2.2 DUTCH BARN & STEEL BARN EXTERNAL WALL CONSTRUCTION - EXTERNAL WALLS AT LOWER LEVEL EXTERNAL WALLS AT LOW LEVEL



2.2 STEEL BARN SWIMMING POOL EXTERNAL WALL CONSTRUCTION



2.4 INTERNAL WALL CONSTRUCTION



NOTE: ANY / ALL INTERNAL TIMBER POSITIONED NEXT TO, OR FIXED TO, EXISTING MASONRY IS TO BE SEPARATED WITH VISQUEEN / DPM MATERIAL.

3.0 FLOOR CONSTRUCTION - NEW 1st FLOORS







EXTERNAL WALL BUILDUP:

- 450mm SOLID STONE & BRICK WALLS - 50mm VENTED CAVITY - KINGSPAN NILVENT BREATHER MEMBRANE - 97mm TREATED STUDWORK with - 100mm ROCKWOOL FLEXI INSULATION BETWEEN STUDS

- VAPOUR CONTROL MEMBRANE - 9mm OSB/3 15mm WOOD WOOL BOARD - 10mm 'Solo Onecoat' Lime Plaster by LIME GREEN

- TRADITIONAL LIME WASH FINISH TO ACHIEVE min. U-Value 0.30 W/m³K

EXTERNAL WALL BUILDUP:

- 11mm OSB/3

- CORRUGATED STEEL SHEETING - TREATED SW BATTENS

- TREATED SW COUNTER-BATTENS - KINGSPAN NILVENT BREATHER MEMBRANE

- 140mm TREATED SW TIMBER FRAMING with

120mm KINGSPAN Kooltherm K12 FRAMING BOARD - leaving 20mm service void 57.5mm KINGSPAN Kooltherm K118 INSULATED PLASTERBOARD

- 3mm SKIM PLASTER FINISH

PAINT FINISH OR DECORATIVE LININGS TBC TO ACHIEVE min. U-Value 0.14 W/m³K

EXTERNAL WALL BUILDUP:

100mmBRICK OUTER LEAF 75mm CAVITY with

- 25mm SURECAV CAVITY SPACERS and - 50mm KINGSPAN Kooltherm K108 CAVITY BOARD - DPM CONTINUOUS TO TOP OF DWARD WALLS - 100mm MED. DENSITY BLOCKWORK INNER LEAF - 57.5mm KINGSPAN Kooltherm K118 INSULATED PLASTERBOARD

- 3mm SKIM PLASTER FINISH PAINT FINISH OR DECORATIVE LININGS TBC

TO ACHIEVE min. U-Value 0.15 W/m³K

EXTERNAL WALL BUILDUP:

TIMBER CLADDING or FAIRFACED FINISH - 100mm BLOCKWORK OUTER LEAF - 100mm to 200mm CAVITY (varies) with 90mm KINGSPAN Kooltherm K106 CAVITY BOARD 100mm MED. DENSITY BLOCKWORK INNER LEAF - DECORATIVE TILE LININGS TBC

INTERNAL WALL BUILDUP:

- 50x97mm TREATED STUDWORK AT max 600mm C/Cs FULLY FILLED WITH ROCKWOOL SOUND SLABS MINERAL WOOL INSULATION THROUGHOUT

- LININGS GENERALLY: 9mm OSB TO ONE SIDE

DRY AREAS LINING: 12mm GYPSUM PLASTERBOARD w/ 3mm SKIM PLASTER FINISH

WET AREAS LINING 12mm MARMOX MULTIBOARD TILE BACKER BOARD PROPRIETARY WETROOM TANKING SYSTEM TILES ON ADHESIVE BED

OTHER DECORATIVE LININGS TBC

1st FLOOR BUILDUP:

PAINT FINISH

27mm FINISHES plus UNDERLAY on 22mm T&G MOISTURE RESISTANT HARDBOARD ACOUSTIC STRIPS LAID OVER FLOOR JOISTS - 175mm JOISTS - 25mm SCREED with UFH PIPEWORK

- 70mm KINGSPAN K103 FLOOR BOARD on 25x50mm BATTENS 12mm PLASTERBOARD 3mm SKIM PLASTER FINISH

STEEL or OAK FLOOR BEAMS

GROUND FLOOR BUILDUP:

⁻ 45mm FINISHES. NATURAL STONE FLAGS ON BED. Client TC. 50mm GYPSOL CLASSIC FLOW SCREED with UFH PIPEWORK on VISQUEEN POLYTHENE SEPARATION LAYER - 100mm KINGSPAN Kooltherm K103 FLOOR INSULATION BOARD RIW 'RED' DPM & RADON BARRIER

TO ACHIEVE U-Value 0.14 W/m³K

GROUND BEARING REINFORCED CONCRETE SLAB & FOUNDATIONS TO STRUCTURAL ENGINEERS DESIGN

4.0 STAIRCASES

Internal staircase 1. 14 steps @ 187mm risers, 240mm goings.

Internal staircase 2. 13 steps @ 201mm risers, 250mm goings.

Internal staircase 3. 11 steps @ 215mm risers, 250mm goings.

5.0 GLAZING

Toughened Safety glass to be provided in critical locations to comply with Building Regulations Part N1. All glass below 800mm for fixed glazing or 1500mm for openable fenestration to be safety glass.

6.0 WINDOWS All new glazing to be thermally broken aluminium framed casements with double glazed units. To achieve max U-Value 1.4 W/m³K.

Fixed and opening roof lights to achieve max U-Value 1.4 W/m³K.

7.0 DOORS

As a minimum standard:

External glazed doors to achieve max U-Value 1.4 W/m³K.

All new glazing to have integral trickle vents.

All external doors to be aluminium framed secure doorsets with toughened glazing & multi point locking system to satisfy Part Q.

All fixed and lockable opening windows to be aluminium framed or direct glazed toughened units.

All doors, windows & rooflights to conform to BS PAS 24:2012 and to satisfy Part Q.

All windows and external doors to be installed with expanding foam tape, Compriband or similar, applied around full perimeter of the frame to ensure airtightness.

All glazing to achieve max U-Value 1.4 W/m³K.

8.0 ELECTRICITY

All electrical and smoke detection/alarm works to comply with current Building Regulations and relevant British Standards.

All fittings to be installed in accordance with manufacturers instructions/ recommendations and in compliance with relevant British Standards and Building Regulations.

All recessed downlights to be fitted with Envirograf fire protection covers, size as required.

DRAWING Rev B FOLLOWING PLAN CHECK COMMENTS FROM SHROPSHIRE BUILDING CONTROL:

Internal light fittings are required to be energy efficient with a luminous efficacy greater than 75 lamp lumens per circuit-watt.

External lighting 75 lamp lumens per circuit-watt and type of controls. Construction SAP / EPC to be submitted for completion.

Part P registered domestic installer. A certificate is to be submitted for the design, construction, inspection and testing of the electrical installation in accordance with BS7671 : 2008 + A1 : 2011 on completion, by a person competent to do so.

All penetrations through separating compartment walls and floors to be protected with proprietary fire collars in acordance with Part B of the Building Regulations. Mechanical Extract to comply with Building Regulations.

IMPORTANT - Contractor to confirm all fitting specifications with client and Gagarin Studio prior to ordering. Some light fittings, switches and sockets to be client supplied. Details to be confirmed.

IMPORTANT - If any doubt on any of the above contractor to consult client or Gagarin Studio before proceeding with works.



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SWITCH / SOCKET etc. HEIGHTS

9.0 DRAINAGE & RAINWATER GOODS

to have concrete lintels over.

Regulations and all relevant British Standards.

General Drainage Notes All drainage/sanitary pipework to comply with Part H of the Building

All penetrations through walls and floors to be protected with proprietary fire collars in accordance with Part B of the Building Regulations. Pipes passing through walls to have rocker pipe sections with flexible joints either side of low level masonry wall and

All fittings and appliances to be installed in accordance with manufacturers instructions.

All new drains to be roddable, 110mm Hepworth uPVC pipework laid to required falls: min 1:100 falls to all new surface water. min 1:60 falls to all new foul water pipework.

New foul drainage runs to connect to new package treatment plant in field, see dwg ref GAG257-4001 Site Plan.

New surface water drainage runs and perimeter land drain to discharge to existing pond, South-west of the barns.

New drainage pipework below ground should be bedded on 100mm minimum granular material, laid to falls supported along the full length of pipework.

All internal vertical soil and ventilation pipes to be fitted with 87.5 deg rest bends.

All drainage pipework set below paved terraces to be encased in concrete

All drains foul and surface water to BS EN 476:2011.

Pipe Diameters Waste pipes from bath, sink, shower and wash basins to be 40mmØ. Outfall gradient of 18 to 90mm/m. Soil pipes from WC's to be 110mm Ø. Outfall gradient of 18 to

90mm/m. Main stack soil & vent pipes to be 110mm Ø. All air admittance valves to comply with BS EN 12380.

10.0 HEATING/HOT WATER

Specialist renewables heating engineer to design and install new air source heating and hot water system, to be installed throughout the property

All combustion appliances to conform with Parts J and L of the Building Regulations.

CERTIFICATES TO BE PROVIDED.

Air source heat pump Coefficient Of Performance minimum 3.0 for space heating and 2.0 for hot water

11.0 VENTILATION

Natural ventilation via openable windows and rooflights.

Specialist renewables heating engineer to design and install new MVHR system throughout the property. Location of MVHR unit to be confirmed.

Mechanical Extraction rates to be in accordance with Part F1: Bathrooms to provide min 15l/s Kitchens & Utility Rooms to provide min 30l/s WC's to provide min 6l/s

Main Contractor to allow for coordination with specialist renewables heating engineer and associated building works.

Additional mechanical extraction in cooking areas.

DRAWING Rev B FOLLOWING PLAN CHECK COMMENTS FROM SHROPSHIRE BUILDING CONTROL:

Whole dwelling MVHR design and specification to be submitted to Shropshire Building Control.

Installer to carry out mechanical ventilation air flow testing and sublit results within 5 days of final test.

Installation & Commissioning certification to be provided.

12.0 FIRE DETECTION & EMERGENCY ESCAPE

All ground floor external doors to provide means of escape.

DRAWING Rev B FOLLOWING PLAN CHECK COMMENTS FROM SHROPSHIRE BUILDING CONTROL: Mains powered (with battery back-up), interlinked smoke detection is to be provided to BS5839 Pt6 2019LD3 Grade A. Fire Panel to be

provided at Ground Floor Utility Room. A competent installer to submit design proposal, installation and

commisioning certification to Shropshire Building Control. Ground Floor Study and Bedroom windows to be emergency escape windows. See Plans.

1st Floor Landing and Bedroom windows to be emergency escape windows. See Plans.

All emergency escape windows to comply with Approved Document B1.

13.0 FIREPLACES

All combustion appliances, chimneys, fireplaces, flues and terminals to be in accordance with ADJ.

3No new solid fuel stoves to be installed to ground floor areas. Each stove to have proprietary twin wall rigid stainless steel flue system with associated fixings, flashings, and weather cowl. Each stove to sit on raised natural stone hearth.

DRAWING Rev B FOLLOWING PLAN CHECK COMMENTS

All structural steelwork to receive intumescent finish to achieve REI30 protection, before other / decorative finish is applied.

All externally exposed steelwork to be hot dip galvanised. Structural Engineer to advise and demonstrate safe failure.

FROM SHROPSHIRE BUILDING CONTROL:

14.0 CONSTRUCTION

STONE BARN EXISTING ROOF

15.0 STONE BARN

traditional pointing irons.

new log burner.

existing.

original ironmongery.

re-use.

Existing roof and ridge tiles to be carefully removed and set aside for re-use. Tile-and-a-halfs to be re-used at all verges.

Existing oak trusses, purlins & rafters to remain in place. Timbers to be gently brushed to remove any unstable or loose material to get the surface back to sound timber. Any rotten timbers to be replaced with new seasoned oak to match existing.

Once new roof build-up is in place, all gable/verge rafters to receive new seasoned oak barge boards with nominal drip downstand. See also Structural Engineer's specification.

All new cast aluminium half-round gutters on side-mounted rafter brackets, with cast aluminium circular downpipes.

STONE BARN EXISTING WALLS

New bullseye windows to be formed in both upper and lower South-West gables at high level.

Existing masonry generally. Any unstable or bulging masonry to be re-built / repaired as necessary and consolidated to stabilise any loose material. All walls to have all joints inspected inside and out, any loose material to be raked out and area to be re-pointed.

Traditional lime mortar to be used to bed and point masonry throughout NHL2 3:1 mix with 2mm fine aggregate, or to match existing / original, exact spec to be agreed with Contractor / stonemason. Pointing technique to match existing / original, using

Existing timber lintels to be assessed and strengthened as necessary to Structural Engineer's details. Any rotten timber to be replaced with new seasoned oak to match existing.

New internal structural lining as detailed to be a fully breathable build-up, using treated timber, mineral wool insulation, wood wool render carrier boards and lime plaster with lime wash finish.

Do not use gypsum plasterboard, gypsum plaster or any other cementitious or non breathable products or finishes (including inappropriate paints and papers) on any external wall buildups.

Any / all internal timber positioned next to, or fixed to, existing masonry is to be separated with visqueen / DPM material.

Existing brick chimney to lower barn to be carefully dismantled and re-built using original bricks to match existing exactly, with decorative corbelled capping. Use lead for all soaker, cover and apron flashings, and build in lead trav (with weep vents over) with opening to receive new twin-wall stainless steel flue liner serving

STONE BARN EXISTING FLOORS

Existing hayloft floor in North bay of the tall barn to be removed, retain all sound timbers for possible re-use elsewhere. New floor structure and build-up to be installed.

Existing oak floor timbers in Central and South-West bays of the tall barn to remain in place. Timbers to be gently brushed to remove any unstable or loose material to get the surface back to sound timber. Any rotten timbers to be replaced with new seasoned oak to match existing. Floors to be packed to level and receive specific slimmer build-up, to retain as much original timber as possible exposed at Ground Floor level.

New seasoned oak floor beams and post in GF Living Room, to create new stairwell opening.

STONE BARN EXISTING SHUTTERS & CASEMENTS

All existing doorway and window casements and shutters to be refurbished and retained for re-use in original locations.

Doorway and window casements and shutters to be carefully removed, allowing for repair and re-pointing of masonry behind. Timbers to be gently brushed to remove any unstable or loose material to get the surface back to sound timber. Any rotten timber to be repaired if possible, or replaced with new hardwood to match

Maximum retention of original fabric is to be prioritised.

Timber condition to be assessed by joiner / carpenter and either left in original condition or, if deemed preferable, timber to be treated with an appropriate neutral matt weather protection natural oil, such as OSMO Natural Oil Woodstain - 701 Clear, Matt.

Maximum retention of original timber weathering and natural patina is to be prioritised. Sample areas of any wood treatment product to be carried out first to ensure a neutral/ transparent finish.

Window casements to be re-installed in their original location on new spacers / blockings (hardwood or concealed stainless steel) over new lead cill travs flashed in to form weather cills to new aluminium windows positioned behind. Spacers provide drainage route below re-installed timber casements.

Timber shutters to be re-hung in their original location, re-using

Ironmongery generally to be brushed and lightly sanded to remove any rust, oiled using a suitable natural oil and greased ready for

GENERAL NOTES FOR CONTRACTORS

The contractor is responsible for checking all dimensions, tolerances and references. Any discrepancy is to be notified to the Architects before proceeding with the work.

Where an item is covered by drawings to different scales, the larger scale drawing is to take precedence. Do not scale drawings, figured dimensions are to be worked to in all

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REVISIONS

Rev A - 08.09.22 - ADDITIONAL WALL BUILD-UP DETAIL ADDED Rev B - 24.11.22 - UPDATES/NOTES ADDED FOLLOWING BC PLAN CHECK Rev C - 10.02.23 - BUILD-UP REVISION / ADDITIONAL NOTES Rev D - 09.11.23 - MVHR NOTE OMITTED / TRICKLE VENT NOTE ADDED

RIBA STAGE 4 TECHNICAL DESIGN

DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECT'S DRAWINGS AND STRUCTURAL ENGINEER'S DRAWINGS & CALCULATIONS

NOVEMBER 2023 UPDATE

THE FOLLOWING DRAWINGS HAVE BEEN UPDATED TO INCORPORATE CLIENT REQUESTED CHANGES TO THE LAYOUT & DESIGN, PRINCIPALLY TO RAISE PROPOSED Gnd & 1st FLOOR LEVELS IN THE DUTCH BARN AND STEEL BARN :

GAG257-4200D - Gnd FLOOR PLAN AS PROPOSED
GAG257-4201E - 1st FLOOR PLAN AS PROPOSED
GAG257-4300D - NE & SE ELEVATIONS AS PROPOSED
GAG257-4400B - SECTION AA AS PROPOSED
GAG257-4401B - SECTION BB AS PROPOSED

ALL OTHER DRAWINGS ARE THEREFORE POTENTIALLY OUT-OF-DATE, AND ARE TO BE READ AND INTERPRETED ALONGSIDE THE ABOVE.

SCALE 1:10 @A1



SCALE - 1:10 @ A1 PAPER - A1 DRAWN - JF CHECKED - SG

Barn Conversion to Residential Use at

Redstart Barn, Brookhampton, Shropshire

Redstart Barn, Brookhampton, Much Wenlock, Shropshire, TF13 6LN