

**GROUND PREPARATION**  
All unsuitable material like turf, wood, roots, topsoil and vegetable matter to be removed from the ground to be covered by the extension, inside the building to a depth of at least that which will prevent later growth that could damage the building.  
Existing concrete floors to be taken out.  
Solumm to be mechanically compacted and brought to an even surface. Any upfilling to be of hard, inert material.

**GENERAL**  
All structural timbers to be preservative treated in accordance with the "Code of Practice for preservation of timber", BS5589. All structural timber members should be dry graded and marked with the timber species and grade combinations to satisfy strength classes C16 or C24 or to BS EN 1995-1-1: 2004.

**FOUNDATIONS**  
Foundations to be RC28/35 concrete foundations, width and depth as shown on foundation plan. All to be brought down to good bearing stratum. Foundations to have A393 mesh bottom with 50mm cover. Any necessary change in level to be no more than 200mm at any one point having minimum overlap of 400mm (included for drains, services, ducts, etc.). All to relevant clauses of BS 5328 : Parts 2, 3 & 4 1997.

**FLOOR**  
15mm floor cover (tiles or engineered wood) on 75mm sand-cement screed with UFH pipes, 150 micron Polythene sheet slip layer, 150mm Kingspan TF70 insulation on 100mm concrete slab. Visqueen Radon Barrier on 30mm sand blinding, 150mm clean washed consolidated hardcore.

**RADON BARRIER**  
Radon barrier to consist of Visqueen Radon Membrane. Radon Membrane to be laid on min. 30mm sand blinding. All penetrations of barrier to be sealed with Visqueen Gas resistant lap tape. All joints in membrane to overlap at least 150mm. Joint secured with Visqueen double sided jointing tape and sealed.

**EXTERNAL WALL**  
12.5mm plasterboard and 3mm plaster skim coat. 25mm service void formed by 25 x 50mm timber battens fixed to timber frame. 30mm Celotex TB4000, TB4000 to act as VCL. All joints between boards to be taped with reflective foil tape to form effective VCL. 44 x 97mm C16 timber frame with studs at 600mm c/c. 100mm Celotex GA 4000 insulation fitted between studs. All gaps in insulation layer to be filled with expanding foam. 50mm gap between timber frame and natural stone wall. Timber frame to be fixed to natural stone wall with 5mm x 30mm stainless or galvanised steel angle straps at 600mm c/c vertically and 2400mm horizontally. Continuous horizontal cavity barrier comprising Rockwool PWCB cavity barriers fitted to the top of each wall section at ceiling level and at the top of the walls to the roof. Vertical cavity barrier fitted to each corner and at not more than 8m centres. Barriers fixed fully around all windows and external door openings.

**LINTELS**  
Lintels over new openings in 500mm wide natural stone rubble wall to be min. 4 no. Robeslee Type C non-composite lintels with 150mm bearing on masonry at each end. Timber frame lintels to be 2 no. 44 x 220mm C24 timbers supported on min. 1 no 44 x 97mm C16 timber cripple stud at each end for openings of up to 1800mm and 2 no. 44 x 97mm C16 cripple studs for openings of 1800mm and over up to 2400mm.

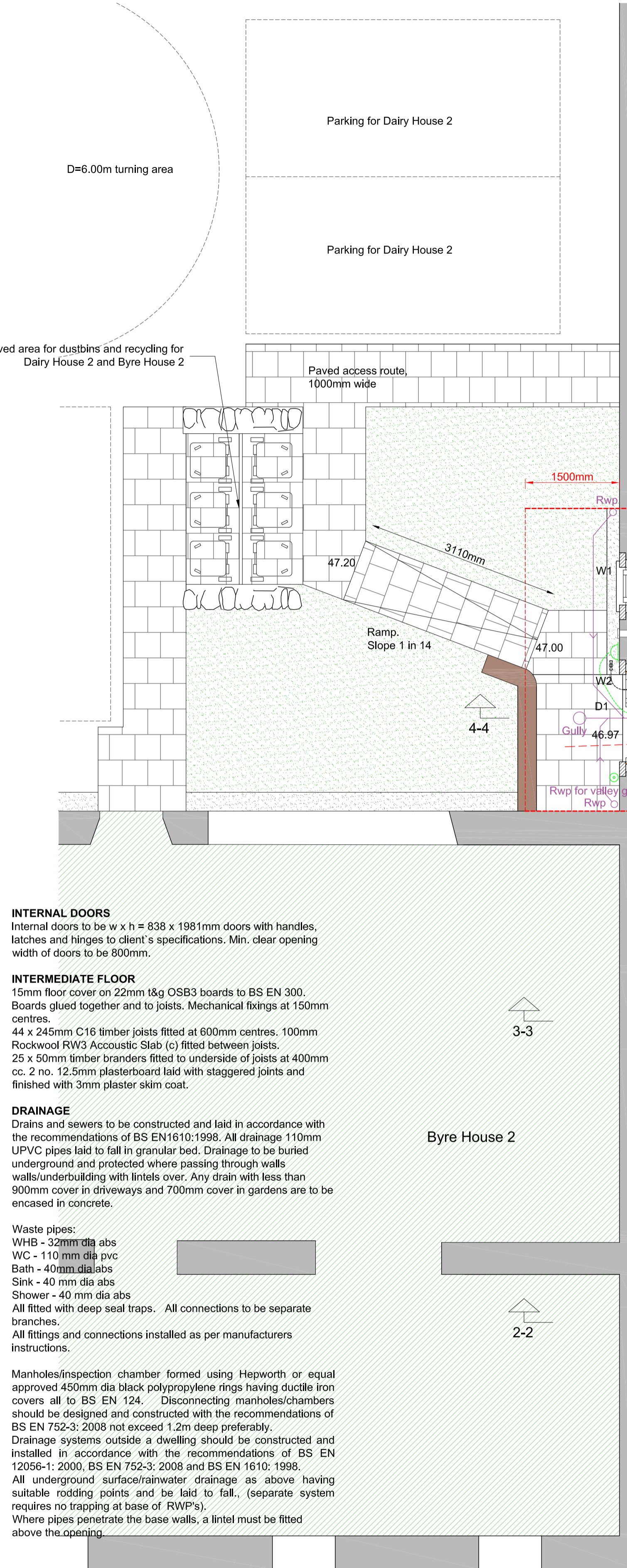
**ROOF**  
Cupa Pizzaras Heavy 3, 400mm x 200mm slates to BS EN 12326-1 and fitted in accordance with the recommendations in BS5534:2014 Code of Practice for Slating and Tiling. Minimum headlap for specified slates to be 76mm. Protect VP400 breathable roofing membrane on 22mm treated timber sarking boards with min. 3mm gap between individual boards. 44 x 220mm C16 timber rafters at 600mm centres and Ridgebeam, 115mm x 315mm C24 Glulam supported on 3 no. 44 x 97mm C16 timber studs at support locations shown on roof layout plan. 150mm Celotex GA4000 insulation fitted between rafters and 50mm Celotex TB4000 fitted to underside of rafters. All gaps in insulation layer to be filled with expanding foam. All joints to be sealed with reflective aluminium tape to form continuous vapour control layer. 25mm air gap/service void formed by 25 x 50mm timber branders at 400mm centres. 12.5mm plasterboard and 3mm skim coat.

**NOTCHING AND DRILLING**  
Holes should have a diameter not greater than 0.25 times the depth of a joist and should be drilled at the neutral axis/joist centreline. Holes should be not less than 3 diameters (centre to centre) apart and should be located between 0.25 and 0.4 times the span from the support. Notches should be min. 0.07 x span from the start of the bearing up to a maximum of 1/4 of the span. No notching in the centre half of the span. Maximum depth of notches to be 1/3 of the depth of the member. Notches or holes should not be cut in rafters, purlins or binders. Rafters restrained by ceiling ties at eaves level may be birdsmouthed at supports to a depth not exceeding one third of the rafter depth.

**NAILING AND FIXING**  
Sole plate fixed to underbuilding with mechanical fixings at 600mm centres rates at 4.7 kN shear resistance. Top rail of panets to head binders. Tops of individual wall panel members linked by member continuous across panel joints secured with 4.0mm x 90mm galvanised wire nails, 2 nails between stud centres. Bottom rail to sole plate; 4.0mm x 90mm galvanised wire nails, 2 nails between stud centres. Wall panel stud to wall panel stud: 4.0mm x 90mm galvanised wire nails at 600mm centres each side staggered. Multi-cripple studs should be secured to each other with 3.1mm x 64mm galvanised ringshank nails at 400mm centres, staggered mid distance between edge and centreline, with no nail closer than 60mm to end of studs. Top and bottom rails to studs: 2 No. 4.0mm x 90mm nails end fixed. Lintels should be secured to each other with 3.1mm x 75mm galvanised screws or 3.1mm x 75mm galvanised ringshank nails at 300mm centres, staggered mid distance between edge and centreline, with no screw closer than 60mm to end

**INTERNAL WALLS**  
All partition walls to be 44 X 97mm C16 timber frame with studs at 600mm c/c. All bathroom/wc walls to be lined with 18mm OSB/3 boards and moisture resistant plasterboard (Knauf Aquapanel or similar) on the side facing the bathroom. 50mm Rockwool RW3 Acoustic Slab (c) fitted between studs. All partition walls to bedrooms to be lined with 12.5mm Gyproc SoundBlock plasterboard (10.6kg/sqm) and 3mm skim coat on each side. 50mm Rockwool RW3 Acoustic Slab (c) fitted between studs.

**WRITTEN INFORMATION**  
All heating and dhw services and ventilation equipment should be inspected and commissioned in accordance with the manufacturers' instructions to enable optimum energy efficiency and safe operation of the installation. Written information about operation and maintenance of the buildings services and energy supply systems should be provided by the installer after commissioning. The occupier must be instructed on the safe operation and maintenance of the building services. A quick guide identifying all installed building services, the location of controls and identifying how systems should be used for optimum efficiency should be included in the written information.



**GROUND FLOOR PLAN**  
Scale 1/50

**SANITARY**  
Flow temperature of hot water at point of draw at all baths and bidets to be restricted to 48 degrees. Showers fitted with thermostatic shower valves to BS EN 1111:1999 or BS EN 1287:1999 to prevent scalding. Valves to be set to a temperature of max. 48degrees. Hot water distribution at a temperature of not less than 55 degrees. All hot water pipes insulated with min. 15mm foamed lagging. Taps serving whb should have a flow rate of not more than 6l/min. Dual flush wc cisterns with an average flow rate of not more than 4.5l/min. to be fitted. Main water connection and stop cock to be in Utility Room.

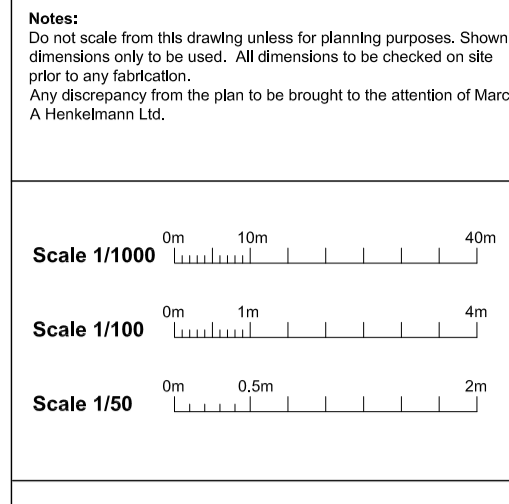
**ALL SERVICE PIPES TO BE DUCTED AT THE POINT OF ENTRY INTO THE BUILDING.**

**DRYING FACILITIES**  
Drying facilities, pulley for washing to be provided in Utility Room

**HEATING**  
Vaillant aroTherm plus air to water heat pump with 12KW rated output. Min. 250l domestic hot water cylinder. UFH pipes in 75mm screed layer. Flow temperature setting at 35 degrees. Heating controls to include digital twin channel 7 day programmer and zone controls (separate room thermostats) for bathroom, bedroom and living area. Separate controls for heating and dhw. All primary pipe work and all radiator flow and return pipes to be insulated with min. 15mm foamed lagging in accordance with the recommendations of BS5422:2009. Heating and dhw inspected and commissioned in accordance with manufacturer's instructions to enable optimum energy efficiency.

**ELECTRICAL**  
All electrical work will be carried out by a competent electrical contractor. The installation i.e. the design, construction, inspection and testing will be completed in strict accordance with BS7671:2008 (2011) (IEE Wiring regulations, 18th edition) incorporating all amendments and in compliance with other Building Regulations, in particular, will not compromise fire-stopping, structural integrity, sound insulation, thermal insulation and other related matters. The contractor will provide the relevant certification at the completion of this part of the work. All electrical switches and outlets at least 350mm from any internal corner. Light switches placed between 900mm and 1100mm from the floor. Sockets, TV and Telephone outlets to be placed between 400mm and 1200mm from the floor in accordance with clause 4.8.5 Technical Handbook. In the area of the kitchen units all sockets and switches at least 150mm above the worktop level. Isolation switches to be provided for concealed outlets behind appliances ie Fridge/Freezer, dishwasher etc. EF = Extractor fan in utility room to be fitted with humidity stat. HD = Heat detector to BS 5446 Part2: 2003 in kitchen. Hard wired mains connected detector fitted with sensor or failure device SD = Optical or ionization smoke detector to BS EN 14604: 2005 connected to mains power provided with battery back-up. Optical smoke detectors in main living area (Sun Room) and ionization smoke detectors to be used in circulation areas (Corridor). Smoke detectors and heat detector to be interconnected to each other. Min. 1 double socket in each room to be fitted with USB charger points.

**LIGHTING**  
External lighting to have max. 100 lamp watts per light fitting with automatic control by both movement detection and photocell to ensure operation only when needed. Additional manual switches to be provided to override automatic controls if necessary.



- Reference level.  
Top of Earth rod at bottom of pole on East elevation = 49.26m.
- Lintels. See specifications
  - CB Cavity Barrier
  - Demolition/taking down
  - Waste water pipe
  - Surface water pipe

- Electrical:**
- CO Carbon Monoxide detector
  - CO2 Carbon Dioxide monitor
  - HD Heat Detector
  - EF Extractor Fan
  - SD Smoke Detector
  - Cooker connection
  - 13 Amp. double power socket fitted behind appliances. With separate, accessible isolator switch.
  - 13 Amp. double power socket fitted 400mm above FFL
  - 13 Amp. double power socket fitted above worktop level approximately 1050mm above FFL
  - Light point
  - Light switch
  - Wall light
  - BT socket
  - BT socket
  - BT socket
  - TV socket
  - TV socket
  - Bell
  - Bell push, 1200mm above FFL
  - Shaver socket/light
  - Single socket behind appliance with isolator switch
  - LED track light
  - Meter
  - Consumer Unit/Fuse box

**Revision A**  
1. Specifications for cavity barriers updated  
2. Boundary line updated and dimension added  
3. Cover and invert levels of waste and rainwater manholes/inspection chambers added.

**MARC A HENKELMANN**  
ARCHITECTURE AND DESIGN

Client: Mr S Broll  
Project: Dairy House 2 Conversion of byre to form dwellinghouse  
Address: Dairy House 2, Dromore Kirkcudbright DG6 4XH  
Drawing: Ground Floor Plan View  
Scale: 1/50 Status: Building Warrant Appl.

Drawing Number: BR226.2/BW/304  
Date: 08.08.2022  
Revision: A

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