

Builders / Contractors need to be aware that they must not alter any of the construction Details / Products from the approved plans. However, where "or similar approved" is shown, an alternative Product / Manufacturer may be used, so long as the chosen alternative is at least equal in quality, performance, strength etc. Such variations however, must be approved by the Design Team in advance of ordering. All components / products should be stored, handled, installed, fixed, sealed etc. In strict accordance with the respective manufacturers instructions & recommendations.

The Client is to be aware that the work shown should only be executed by qualified builders who have attended the latest CDM courses and are fully proficient in all forms of safety procedure relating to all aspects of building and the safe operation of all plant and equipment including personal protection. The builder and sub contractors should submit to the client his Method Statement of Operation outlining his risk assessments etc relating to the work shown on this drawing before commencing work. The Client should also be aware of the Regulatory Reform (Fire Safety) Order Act; 2005, and the need to appoint a "Responsible Person's". It is recommended to consult with a Fire Safety Specialist / Consultant if in any doubt.

Materials, Goods and Workmanship: Materials, goods and workmanship are to be of the best quality of their respective kinds and those for which there are a British Standard or Code of Practice are to conform thereto unless otherwise stated. Descriptions of materials, goods and workmanship given in any one trade are to apply throughout this specification unless otherwise stated. All workmanship shall be carried out in accordance with the current Building Regulations and all to the satisfaction of the Building Control Officer, Consultants, NHBC and BS codes. All materials shall be fixed strictly in accordance with manufacturers instructions, unless specified otherwise. All commodities to be new and left in perfect condition on completion and when incorporated into the works.

Supervision: The contractor shall provide all necessary supervision and administration for the proper execution of the work and shall nominate a competent member of their staff to act as a site Foreman. This nomination shall be notified to the Contract Administrator prior to the commencement of work.

Discrepancies: Any discrepancy, discovered by the Contractor, between drawings and specification or between drawings/specification and the site, must be brought to the notice of the Contract Administrator for clarification and instruction immediately any such discrepancy becomes apparent.

Defects in Existing Work: Any defects not already identified in the existing work or structure to remain must be reported immediately to the Contract Administrator for instruction before proceeding with any work which may - a) cover up or otherwise hinder access to the defective construction, or b) be rendered abortive by carrying out of remedial works.

Resources / Temporary Works and Services: The contractor shall -
i) Allow for all necessary plant, tools, vehicles and scaffolding etc. required for proper execution of the structural works.
ii) Allow for compliance with current Health & safety Act, Construction Regulations and all other legislation affecting building works.

Construction Design & Management Regulations 2015: The contract is to be carried out in accordance with the current CDM Regulations as applicable.

Protection of Private & Public Services: Check positions of all existing services prior to commencement of work. Protect, maintain and prevent damage during the course of the works. If any damage results from the execution of the works, the Contractor will notify the appropriate service authority and the Contractor shall make arrangements for the damage to be made good without delay at their own cost and to the satisfaction of the service authority and/or private owner as appropriate. Keep approaches to site clear from mud and debris.

Prevention of Nuisance: The contractor shall take all reasonable precautions to prevent nuisance or danger to the public, occupants of the building and occupants of adjoining properties arising from dust, noise, vibration, etc.

Making Good & Protection of Existing: The Contractors pricing is to allow for all necessary making good whether specified or implied. The Contractor is to take all necessary precautions including moving, covering up and protecting existing fixtures and furnishings to prevent unnecessary damage. The Contractor will be held liable for all damage caused by their works and will be required to make good all such damage at their own expense.

Molsture, Humidity & Frost: The Contractor shall prevent the work becoming wet or damp where this may cause damage and shall allow for all necessary heating and covering up to protect against damage by frost. Drying times and provision of heaters, etc., to facilitate drying out must be allowed for in the Contractors pricing where necessary.

Good Practice: where and to extent that material products and workmanship are not fully specified, they are to be:-
1) Suitable for purpose of the works stated in, or reasonably to be inferred from contract documents, and
2) In accordance with good building practice, including the relevant provisions of the current BSI documents.

The products must be new unless otherwise specified. Ensure that the whole quantity of each product and material required to complete the work is of a consistent kind, size, quality and overall appearance. Handle, store and fix products with care incorporated into the work.

Foundations: Form Engineers designed foundations. Foundation depth close to main foul runs to be as deep as drain excavation where exceeding the standard 1m deep.

Structural Steel: All to engineers specifications and calculations including all connections, padstones etc. Steels supporting floors to be fire proofed to 1 hours resistance, steels supporting ceilings to be 1/2hrs resistance. Fireproof steel with 50x50mm battens and 2no layers 12.5mm plasterboard & skim or 25mm sand and cement render on XPM.

Ground Floor - Beam and Block: 75mm screed, on polythene vapour control layer, on 150mm Celotex XR4000 floor insulation with 25mm Celotex TB4025 turned up around edge of screed to achieve a min U-value of 0.12W/m²K, on 1200 gauge Visqueen DPM unlit on DPC) with surrounding DPC and cavity tray, on PCC floor beams (ends bedded on DPC) with infill blocks to all to specialists design. Min.150mm floor void between U/S of joists to soil cleared of vegetation. 215x75mm UPVC air bricks with cavity liners and offset telescopic ducts at 1800mm centres in external wall.

Ground Floor U-value calculations: P/A where P = 57m (exposed perimeter of floor) and A = 116m² (Area of floor), P/A = 0.49 = 150mm Celotex XR4000 to give a U-Value of 0.12W/m²K.

Ventilation to Floor Void: The openings should be not less than either 1500mm²m run of external wall or 500mm²/m² of floor area, whichever gives the greater opening area.

DPC: Damp proof courses should be laid on a level bed of cement mortar. At all lines, damp proof courses shall provide a complete barrier and mortar shall not cover the sills or the ends of the DPC. Kingspan Thermbate (or other equal) insulated cavity closer/vertical dpc to close cavity at all openings in external walls, cavity closer to be built in as work proceeds and tied in with clips at 225mm vertical centres. Cavity tray over lintels, airbricks, canopies and building projections. Cavity tray to have a min.150mm step. Unite dpc's with dpm's. Use lead core DPC under parapet copings.

External Cavity Walls - 300mm cavity wall with full fill insulation; 100mm Facing brick, 100mm Dritherm Cavity Slab 32 (limate insulation, 100mm Ytong (3.5N) lightweight aggregate block load bearing Inner skin with Thistle Hardwall plaster. All to give an anticipated U-value of 0.26W/m²K. Wall ties vertical twist type 225mm long in accord with BS DD 140-2:1987 table 1 & 3, 900mm horizontal & 450mm vertical staggered centres staggered, also 300mm vertical and within 225mm from the vertical edge of all openings, movement joints or roof verges. Hyload dpc to be a min. of 150mm above ground and paving levels. 2 skins of brickwork below dpc. Overlap wall and roof insulation at eaves. Returns less than 550mm to be reinforced with bricator at 225mm vertical centres. Mechanical joints to wall junctions Furix or similar with 2 part polysulphide mastic. Bed joint reinforcement above and below window openings.

External Cavity Walls (Weatherboard): 7 to 19x175mm black tar finished feather edge boarding, on 25x50mm treated battens at 400mm centres, on felt breather membrane, on 100mm blockwork, 100mm Dritherm Cavity Slab 32 (limate insulation, 100mm Ytong (3.5N) lightweight aggregate block load bearing inner skin with Thistle Hardwall plaster finish. All to give an anticipated U-value of 0.26W/m²K. Wall ties vertical twist type 225mm long in accord with BS DD 140-2:1987 table 1 & 3, 900mm horizontal & 450mm vertical staggered centres staggered, also 300mm vertical and within 225mm from the vertical edge of all openings, movement joints or roof verges. Hyload dpc to be a min. of 150mm above ground and paving levels. 2 skins of brickwork below dpc. Overlap wall and roof insulation at eaves. Returns less than 550mm to be reinforced with bricator at 225mm vertical centres. Mechanical joints to wall junctions Furix or similar with 2 part polysulphide mastic. Bed joint reinforcement above and below window openings.

External Stud Walls - Weatherboard: 7 to 19x175mm Stained Feather edge boarding, on 25x50mm treated battens and counter battens at 600mm centres, on YBS Breather Foil FR felt, on 10mm external quality sterling board, on 100x50mm studs at 400mm centres, noggins at 600mm alternate centres. 100x75mm head and sole plate, glasswool insulation between studs, 500G Visqueen vapour barrier behind 12.5mm plasterboard and skim internally. Anticipated U-Value 0.26W/m²K. All windows to have lead tray under sill flashed over.

Lintels: Generally to be prefabricated steel lintels over all openings to external openings, type, size and bearing as recommended by manufacturer. 65mm pre-stressed concrete lintel over ground floor soil connections. Pack lintels with insulation if not already pre-insulated. Use pre-formed stop ends bonded to cavity tray/lintel to coincide with perp joints. Use 2 per plugs/weep hole filters over each lintel. Pre-stressed concrete lintels to internal walls.

Internal Walls - 100mm Blockwork: 100mm loadbearing blockwork with hardwall plaster, built off thickened floor slab or ground floor partitions built off a triple floor beam or concrete foundation.

Internal Walls - 100mm Timber Studwork (125mm overall thickness): 100x50mm studs at max. 400mm centres, noggins at 600mm alternate centres. 100x75mm head and sole plate, Pack 100mm Rockwool insulation between studs. 12.5mm SoundBloc and skim each side. Partitions to be built off double joists where partitions are parallel with floor joists and where built at 90 degrees to floor joists provide solid packing under

Staircase: Maximum 42 degrees pitch, minimum 800mm clear between handrail and wall finish. Handrail minimum 900mm above pitch line and landing. Vertical balusters at maximum 100mm centres. Clear headroom 2.0m vertically. 14 risers of 191mm and 13 going of 220mm, 19mm nosing. Install double joists as trimmers around staircase.

Pitched Roof (Over Dining Room): 35 degrees roof pitch, tiles on 25x50mm preserved softwood battens, on 25x50mm counter battens, with YBS BreatherQuilt on top of trussed rafters at maximum 600mm centres, filled with 50mm Celotex GA4000 insulation set at bottom of rafter + 50mm Celotex GA4000 insulation fixed continuously below top chord. Trusses to be manufactured, fixed and braced in accordance with BS5268: Part 3:1985. Any infill rafters to be designed by truss supplier 100x50mm preserved wall plate strapped down at 1.2m centres with mild steel straps. Rafters strapped to end wall/gable. All insulation to be fixed in accordance to manufacturers details. Anticipated to give a U-Value of 0.16W/m²K. Provide Klobber eaves carrier. Use Code 5 lead. 12.5mm plasterboard with plaster finish with supported edges and taped joints. All timber to be treated with preservative.

Pitched Roof (Over Dwelling): 45 degrees roof pitch, tiles on 25x50mm preserved softwood battens, on 25x50mm counter battens, with YBS BreatherQuilt on top of trussed rafters at maximum 600mm centres filled with 130mm Celotex XR4000 insulation set centrally, leaving 35mm cavity top and bottom. Trusses to be manufactured, fixed and braced in accordance with BS5268: Part 3:1985. Any infill rafters to be designed by truss supplier 100x50mm preserved wall plate strapped down at 1.2m centres with mild steel straps. Rafters strapped to end wall/gable. All insulation to be fixed in accordance to manufacturers details. Anticipated to give a U-Value of 0.16W/m²K. Provide Klobber eaves carrier. Use Code 5 lead. 12.5mm plasterboard with plaster finish with supported edges and taped joints, with moisture-resistant grade used in "wet areas", such as Bathrooms, Kitchens & En-Suites. All timber to be treated with preservative.

Lead Valley: Code 5 lead valley with roll at highest point and steps at the recommended centres, dressed up and over roof tilting fillet and dressed up rafters with code 4 lead flashing lapped over, on building paper to BS1521 Class A, on 18mm thick WBP plywood boarding. Install lead sheet in accordance with the Lead Sheet associations recommendations. Code 5 lead wier out over tiles.

Dormer - Tile Hanging Cheeks: breather tile hanging on 25x50mm tile battens & counter battens treated battens on breather felt on 100mm external quality ply, dormer built off double rafters. 100x50mm studs at 400mm centres, noggins at 600mm alternate centres. 100x75mm head and sole plate. 75mm Celotex GA4000 insulation between studs. 600G Visqueen vapour barrier behind 12mm Celotex TB4000 and finish with 12.5mm foil backed plasterboard and skim internally. Anticipated U-Value 0.28W/m²K. All windows to have lead tray under sill flashed over.

Dormer - Tiled Pitched Roof: 45 degrees roof pitch, tiles on 25x50mm preserved softwood battens, on 25x50mm counter battens, with YBS BreatherQuilt on top of trussed rafters at maximum 600mm centres filled with 130mm Celotex XR4000 insulation set centrally, leaving 35mm cavity top and bottom. Trusses to be manufactured, fixed and braced in accordance with BS5268: Part 3:1985. Any infill rafters to be designed by truss supplier 100x50mm preserved wall plate strapped down at 1.2m centres with mild steel straps. Rafters strapped to end wall/gable. All insulation to be fixed in accordance to manufacturers details. Anticipated to give a U-Value of 0.16W/m²K. Provide Klobber eaves carrier. Use Code 5 lead. 12.5mm plasterboard with plaster finish with supported edges and taped joints, with moisture-resistant grade used in "wet areas", such as Bathrooms, Kitchens & En-Suites. All timber to be treated with preservative.

Leadwork: All leadwork and flashing to be in accordance with the Lead Sheet Associations details.

Rooflight: Velux 550x978mm Rooflight with integral kerb and electrical opening. Roof trimmed out to suit.

Loft Hatch: To be provided within the upper floors (700mmx500mm). The hatch should be both insulated and draught stripped. The location should allow for the provision of a loft ladder to be fitted at a later date. Loft hatch to be fitted and kept shut during construction/drying out period to stop condensation forming in the roof space.

Chimney: Construction of hearth to be a min. of 125mm concrete and project 500mm from the jambs and 150mm either side of opening. To brick flue fill 225mm Redbank circular flue liners with sockets uppermost (flue liners to BS 1181:1971), surrounded with 1 part cement to 12 parts vermiculite. No combustible material within 200mm of inside of flue and 38mm around outside of stack. 450mm brick flue. 2No. 30° offset units to be used in flue. Incorporate DPC immediately after passing through the roof. Combustion airbrick 215x215mm. The free airspace to the airbrick and fly screen internally will be equal to 550mm² per kW of appliance rated output.

Ventilation: Opening lights to all habitable rooms to provide 1/20th floor area as ventilation. Provide trickle ventilation to all habitable rooms min 8000sqmm, and 4000sqmm to non habitable rooms (i.e. Bathroom, Utility, WC's, kitchen) using proprietary hit and miss ventilators within the head of the window frame. Extractor fans to be provided to Bathroom capable of extracting at a rate of 15 litres per second, Sanitary accommodation capable of extracting at a rate of 6 litres per second, Utility Room capable of extracting at a rate of 30 litres per second. Kitchen to have a cooker hood with an extraction rate of 30 litres per second (adjacent to hob) or an extractor fan with an extraction rate of 60 litres per second. For a room with no openable window, the extract should have a 15 minutes over-run. In rooms with no natural light, the fans should be controlled by the operation of the room light switch. Ducting to axial fans to be max 3m in a straight run or 2m if run includes one 90 degree bend. Centrifugal fan to be used if ducting exceeds these distances. Encase extract ducting in insulation quilt where passing through common areas to provide sound attenuation. To ensure good transfer of air throughout the building, there should be an undercut of 10mm to the underside of all doors to Bathrooms, Shower Rooms and En-Suites. A commissioning notice is to be provided for the mechanical ventilation system and given to Building Control prior to completion; air flow rates to be measured and a notice given to Building Control upon completion of works.

Purge Ventilation: For each habitable room with:
External walls: All windows and doors must comply with Appendix B in Approved Document F.
No external walls: All windows and doors must comply with Paragraphs 5.14 to 5.16 in Approved Document F.

Main Entrance/Level Access: Minimum clear opening of 775mm for dwellings achieved using B&P SW/HW Mobility Door and Frame 932mm O/A. This may have to be increased if plastic sections are used. Note UPVC door frame to have a brick opening width size of 960mm and softwood door frame to have a brick opening width size of 935mm. Level access may be on split course with packing over door head. Leave single course out for width of doorway below finished floor level. Step up DPC either side of door opening.

Emergency Egress Window: All windows above ground floor to habitable rooms are to have an unobstructed opening area that is at least 0.33m² and at least 450mm high and 450mm wide. The bottom of the opening area should be no more than 1100mm above the floor. Escape windows should not be lockable.

Windows and Doors (New Build): Windows to be UPVC double glazed with a min 16mm air gap to achieve area-weighted average U-value of 1.6 W/m²K. Windows to be draught stripped. Use low 'E' glass in DG units. Doors to be UPVC double glazed with a min 16mm air gap to achieve area-weighted average U-value of 1.8 W/m²K.

Part Q: All easily accessible doorsets that provide access into a dwelling or into a building containing a dwelling and all easily accessible windows are to be secure in accordance with Approved Document Q.
A) A door viewer and security chain are required.
B) The maximum aperture for the letter box should not exceed 260mm x 40mm.
C) The door should be manufactured to a design that has been tested to meet the security requirements of PAS 24: 2012 or in accordance with Appendix B of Approved Document Q or the other standards listed in Paragraph 1.2 of Approved Document Q.
D) The windows should be manufactured to a design that has been tested to meet the security requirements of PAS 24: 2012 or the other standards listed in Paragraph 2.2 of Approved Document Q.

NOTE: All openable windows to be fitted with 100mm restrictors.

Safety Glazing: All glazing to windows which is less than 800mm above finished floor level and glass to doors within 300mm of either side of doors and is less than 1500mm above finished floor level will need to be safety glass to BS6206.

Plumbing: All in accordance with CP & BS. 100mm diameter upvc stack with large radius bend and rodding access at foot to terminate a minimum of 900mm above nearest window head within 3.0m (SVP) to reduce in size to 89mm diameter within roof space above highest soil connection). 75mm deep seal traps to all fittings, 32mm diam. waste to basin. If waste to basin exceeds 1.7m then a 50mm diameter waste pipe is needed, 38mm diam. to shower, bath, sink, washing machine and dishwasher. No waste entry into stack within 200mm centres of WC connection. Lowest entry into stack 450mm above drain invert. Encase soil pipe, 50x50mm battens and 2 layers of 12.5mm SoundBloc and infill with insulation quilt, access panel and rodding point to be provided.

Hot and Cold Water - Domestic: Water supply to latest BS, ACOP, Area Health and Water Bye Laws. Provide wholesome hot water to washbasins, bidets, baths and showers. Maximum delivery temperature of hot water to be 48 deg C to Bath achieved with tamperproof blender valve within 2.0m of taps. Maximum hot water deadleg of 5.0m from outlet. Provide wholesome cold water to drinking water draw-off points, washbasins, bidets, baths and showers. The return water draw-off points, washbasins, bidets, baths and showers. The return temperature to the hot water cylinder is to be minimum 55 deg C, fit temperature gauges to the domestic flow and return pipes adjacent to hot water Cylinder. Cold water should be stored and distributed at a temperature below 20 deg C.

Hot Water Storage: Any hot water storage vessel should incorporate precautions to prevent temp of water exceeding 100°C. Precautionary measures are to be provided to ensure that any discharge from safety devices is safely conveyed to where it is visible without causing danger to persons in or about the building.

Heating Gas Fired Boiler - Housing: Factory insulated Cylinder (with 38mm foam, minimum 50mm if Economy 7 is used. Alternative to foam use 80mm insulation quilt jacket). Hot water cylinder 120 litre with cylinder thermostat and time clock in conjunction with central heating system. Insulate all pipework where passing through unheated areas with insulation to same thickness as the diameter of the pipe to 0.045W/mK and up to 1.0m from hot water cylinder. Gas fired condensating boiler with minimum SEDBUK rating of 90% with fan assisted flue with guard, or oil-fired combination boilers to SEDBUK of 85%. Heating Engineer must be on the "Gas Safe Register". All rooms to reach a temperature of 21°C within 1 hour of the boiler activation. TRV's to all radiators. Provide ability to program heating times of at least two zones independently as well as having independent temperature controls. (By contrast TRV's only provide independent temperature control).

Linear Thermal Bridges: Builder/Contractor to follow the Government's Approved Construction Details (ACD's) for wall to ground floor junctions, intermediate floor junctions, sills, jambs and heads of openings (lintels with open base plates) normal junctions of gables and eaves with exposed walls. By building to these approved details the improved linear thermal bridging value of 0.040 can be used in thermal calculations for the dwellings. For this project a fully filled cavity exposed wall type detail should be followed.

Drains: Lay 100mm diam. Wavin Osma or equivalent upvc drains on 100mm bed and 150mm surround of pea shingle to falls of 1:40, sleeve through foundation, wrap with quilt, PCC lintel over ground floor soil connection UPVC manholes with 150mm concrete surround on 150mm concrete base. 100mm diam. Deepflow, gutters and 63mm diam. nwp with RW shoes to roddable gullies. Soakaways to be a minimum 5.0m away from any buildings 1.5mx1.5mx1.5m excavation filled with rubble/stone with pvc sheet over. Foul BIG to be roddable.

IC & MH chamber sizes: Up to 0.6m deep 300mm internal circular 0.61m to 1.0m deep 450mm internal circular 1.01m to 1.5m deep 1050mm internal circular 1.51m to 2.7m deep 1200mm internal circular All chamber sizes and Manhole cover sizes and construction to Part H1 of the Building Regulations.

Smoke Detection - Domestic: Provide mains operated smoke alarms to conform to BS EN 14604:2005. Smoke alarms to be interconnected and wired to a separately fused circuit at the distribution board. Alternatively provide a mains operated smoke alarm with a secondary power supply such as batteries. Smoke alarms fixed to ceiling a minimum of 300mm from lights. Smoke detectors should comply with AD"B" (2000) Clause 1.19, sa Loft Conversions to conform to BS5839: Part 1 with an automatic smoke detection and alarm system sakra.

Part M: Electrics: To clients requirements, all sockets, Bell pushes and switches to be positioned within 450mm and 1200mm of the floor level. All door furniture to be positioned approx. 1m from floor level.

Part P - Electrical Safety (Dwellings): Prior to commencement the Building Inspector must be informed by the Client, Builder or Electrician how Part P will be complied with. This will require an appropriate BS7671 electrical installation certificate to be issued for the work by a person competent to do so. All electrical work required to meet the requirements of Part P (Electrical Safety) must be designed, installed, inspected and tested by a person competent to do so.

Approved Document R: Provide in-building physical infrastructure so that, in future, copper or fibre optic cables or wireless devices capable of delivering broadband speeds greater than 30Mbps can be installed. All in accordance with Diagram 1 of Approved Document R.

Lighting - Domestic: Internal lighting to be energy efficient and outside lights to be the same with PIR operations. The minimum requirements to satisfy the building regulations are 75% of all fixed lighting fittings to be energy efficient.

Note: Robust indelibly marked important safety information notice plate, securely fixed in an unobtrusive but obvious position within the building, next to the chimney or hearth, or water supply stop cock, or electricity consumer unit.

Air Permeability: The new building is to achieve a design air permeability of 5m³/(h.m²) @ 50 Pa pressure difference.

notes

DO NOT SCALE, IF IN DOUBT ASK

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All dimensions must be checked on site prior to commencement of works and any discrepancy to be reported immediately.

Conditionally Approved under Building Regulation 17/04479/DOM/A Dated 22 August 2017

B	07/17	FB	Approved Doc Part R note added
A	06/17	FB	Minor alts to Building Inspectors comments
no:	date:	by:	revision:

project:

New Dwelling.
Abbey Bottom Farm,
Harwich Road,
Wix, Manningtree,
Essex, CO11 2RY.

drawing title:

Construction Notes

client:
Mr and Mrs Milwain

date:	drawn:	sheet:
04/17	FB	

scale@A2: as shown	drawing no: 1631-106	revision: B
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