

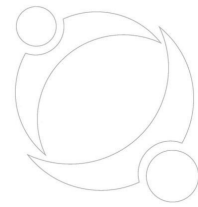
Building Control Specification (BCS)

BCS-001

5 Moresby Terrace, Parton CA28 6PF

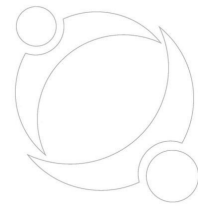
Proposed kitchen extension

05/11/20



Document Control

Date	Issue Number	Change/Amendment	Author:
05.11.20	0.0	First Issue	



Approval and Sign off

Project: 5 Moresby Terrace, Parton CA28 6PF

I have reviewed and approved the Design Plans, Specification and all associated documentation for the project named above, with changes, additions, deletions or corrections as annotated in the instructional designer's master copy.

I hereby give you approval to proceed with creating the drafts of all workbooks, scripts, and other course materials.

I also give my approval for you to invoice my department for satisfactory completion of the Design Plans milestone of this project.

I understand that further changes to the structure, objectives, or content of the course (aside from those specified in the designer's master copy) will likely result in a delay in the final delivery date and could result in additional costs.

A Design and Specification Author

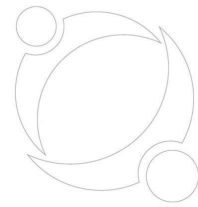
.....	05 th Nov 2020
Print	Sign	Date

B Design and Specification Approver

.....	05 th Nov 2020
Print	Sign	Date

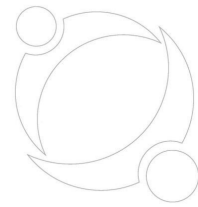
C Design and Specification Sponsor (Clients)

Ms J Ward		
.....	05 th Nov 2020
Print	Sign	Date



Contents

1	General	5
2	Materials and workmanship.....	7
3	Foundations.....	7
4	Cavity walls	8
5	Suspended timber floor	10
6	Roof	11
7	Means of Escape	12
8	Site preparation and contaminants.....	12
9	Resistance to moisture	12
10	Sanitation, hot water safety and water efficiency	13
11	Drainage	14
12	Insulation.....	16
13	Access in and around the building	16
14	Electrical Installations	17

**1. General**

This document is for pricing purposes only. Specification may vary due to requirements resulting from Building Regulations approval. Specification to be read in conjunction with the latest revision drawings.

The contractor is to ensure that proposed Works will be executed in accordance with any relevant Conditions appended to the Local Planning Authority's Decision Notice; the current Building Regulations and N.H.B.C. Standards; the requirements of the Fire Officer; the Institute of Electrical Engineers handbook (current edition); the requirements of the local Water Authority.

Materials and workmanship should, where applicable, comply with the current British Standards Institute specifications and Codes of Practice. Where such guidance does not exist, materials and workmanship should conform to established good practice and Regulation 7 of Building Regulations.

All Materials and components must be suitable for their intended purpose and location and must be manufactured and installed in accordance with all Relevant, Current British Standards and codes of practice, Building Control requirement and manufacturer's specification.

The location of existing services should be established prior to the commencement of any works - if discovered to be at variance with that shown on the Engineering drawings, the Architect and Engineer must be notified immediately.

The contractor is to check all dimensions, both internal and external, prior to the commencement of any works and the ordering of materials - any errors must be reported to the design team.

Where proprietary materials, fixtures or fittings are used, they must be placed / fitted strictly in accordance with the manufacturers written instructions and published details pertaining to circumstance in which they are to be used.

This specification is to be read in conjunction with all other drawings, client's standard specification, Structural Engineers and Mechanical & Electrical Engineers design.

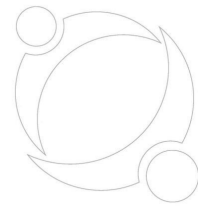
Any reference to an Approved Document in this Specification relates to the relevant Approved Document of the Building Regulations.

Obtaining Building Regulations approval

The building owner must make a building regulations application & pay a fee for the construction of a new dwelling or carrying out the works. All work must comply with the 2010 Building Regulations and the technical design and constructional requirements of the current Approved Documents A to Q and Regulation - 7 Materials and Workmanship.

The person carrying out the building works is to liaise with and meet the requirements of the LA Building Control/Certifying Body, giving required notices of stages of works as required by the Building Regulations including:

- Foundation excavations before any concrete is laid
- Foundation excavations after the concrete is laid
- Over site covering to ground floors before any concrete or after beams are laid
- Foul & surface water drainage before any pipes are covered over
- Structural timbers – steel (upper storey floor joists/beams and roof structure before any coverings are fixed.
- First fix electric if not carried out by a competent person
- Completion of building-prior to occupation



There are two methods of making a Building Regulations application as follows:

- Full Plans
- Building Notice

The Party Wall Act 1996

If the project affects a party wall, you will be required to give your neighbour the required notice under the Party Wall Act. Two months' notice in writing is to be given to adjoining owner(s) for the following works to an existing Party Wall:

- Support of beam
- Insert DPC through wall
- Raise wall or cut off projections
- Demolition and rebuilding
- Underpinning
- Insert lead flashings

Excavations within 3 meters of an existing structure where the new foundations will go deeper than adjoining foundations, or within 6 meters of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

In the event of a disagreement, a Party Wall Surveyor may be required to resolve the dispute under the terms of the Party Wall Act. Copies of the Party Wall Act can be obtained from the Council Offices or www.communities.gov.uk.

Building Control will require the following information 21 days prior to commencement of any works by the contractor;

- Structural details and calculations for beams and bearings

Construction (Design and Management) Regulations 2015 (CDM)

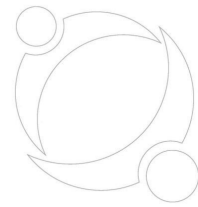
The Construction (Design and Management) Regulations 2015 apply to every construction project. If you are about to undertake construction work, which could include alterations, extensions, routine maintenance, new build or demolitions, then you need to know to what extent these Regulations will apply to you and whether you are a duty holder under these Regulations.

With non-domestic* projects expected to last longer than 30 days, or more than 500 man-hours, you will require the assistance of an advisor called a CDM advisor, who should be appointed at the earliest opportunity, before detailed design work is complete.

If you are a Client thinking of commissioning work, the builder/developer about to undertake work, you should be aware of your responsibilities or duties under CDM 2015 and they must take full responsibility as the Principle Designer and Principle Contractor as the plans provided are only for Building Control and Planning approval purposes.

*Non-domestic Clients are people who commission building works related to a trade or business, whether for profit or not. This work can be carried out on a domestic property; it is the type of Client that matters, not the type of property –;

- Where a project is notifiable (the construction work is likely to last longer than 30 working days and have more than 20 workers working simultaneously at any point, or exceed 500 person days), the client must give notice in writing to the HSE as soon as is practicable before the construction phase begins, or arrange for someone else to do this on their behalf. See Notify HSE for more information.



- Where there is more than one contractor, a principal contractor and principal designer must be appointed.

2. Materials and workmanship

All materials used for a specific purpose should be assessed for suitability using the following aids:
(See Approved Document: Regulation 7: Materials and Workmanship for full details)

- British Standards or European Standards (or other acceptable national and international technical specifications and technical approvals)
- Product Certification Schemes (Kite marks)
- Quality Assurance Schemes
- British Board of Agreement Certificates (BBA)
- CE marking under the Construction Products Regulations
- CE marking under other EU Directives and Regulations
- Local Authority National Type Approvals (System Approval Certification)
- In certain circumstances, materials (and workmanship) can be assessed by past experience, for example a building already in use- providing it is capable of performing a function for which it was intended- subject to building control approval.

All materials must be fixed in strict accordance with manufacturer's printed details. Workmanship should be in strict accordance with Regulation 7 and BS 8000: Workmanship on Building Sites: should be in compliance with Parts: 1 to 16. Where materials, products and workmanship are not fully specified or described, they are to be 'fit for purpose' stated or inferred and in accordance with recognized best practice. Testing to be carried out if required by building control to ensure workmanship is appropriate.

Provide the follow commissioning certificates to Building Control upon completion;

- Electrical, (NICEIC or similar)

Structural engineer's design details and calculations will be provided for the following;

- Structural beams – (WDS Ltd - Tom Short)

3. Foundations

300mm cavity walls foundations to be minimum 700mm x 200mm, internal wall foundations to be minimum 450mm x 200mm. Ready mixed concrete in foundations to comply with B.S. 5328: 1992 not less than 20 N/mm² minimum cement content 220 Kg/m³, 20 mm maximum aggregate.

External garden & internal block walls foundations to be 450 x 150 (minimum size). Stepped foundations to have minimum overlap 300 mm. Steps not to exceed 150 mm if require extending.

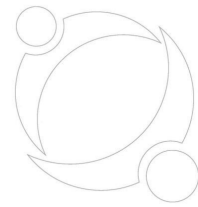
Concrete mixes for foundations

Foundation work to comply with BS 8000:1, 2 and 5 and BS 8004. General purpose concrete mixes for non-hazardous conditions to comply with BS 8500 and BS EN 206-1.

(i) Site mixed concrete (Standardised Prescribed mix ST)

Site mixed concrete for domestic construction activities to be in accordance with the guidance table below, designed using materials and mix proportions given in BS 5328: 1 Section 4. Standard mixes should not be used in soils, ground waters or adjoining materials containing sulphates or other aggressive chemicals

(ii) Ready mixed concrete (Designated mix GEN, RC and FND)



Ready mixed concrete designed and specified in accordance with BS 5328:1 Section 5, produced and mixed under quality controlled conditions in accordance with BS EN ISO 9001. Note: GEN to be used for general purposes, RC is used for reinforced concrete and FND to be used in soils containing sulphates.

Stepped foundation section detail

Steps in strip foundations should not exceed its thickness and should overlap by twice its thickness or 300mm if greater.

Building near trees, hedges, shrubs or in clay sub soils

Foundations in shrinkable cohesive clay soils to be taken to a depth below the influence of any existing or proposed trees, hedges or shrubs near the building which can take moisture from the ground, causing significant volume changes, resulting in possible ground settlement and damage to the foundations and building.

Foundation depths should be in accordance with the NHBC foundation depth calculator (or other foundation depth calculator acceptable by building control) which calculates the foundation depth from the type of sub soil and tree type including the mature height and water demand. Foundations, substructure and services should incorporate adequate precautions to prevent excessive movement due to ground heave in shrinkable clay sub soils in accordance with design details from a suitably qualified specialist. Typical heave precautions for trench fill foundations with suspended floors in shrinkable sub soils should be carried out in accordance with requirements of building control

4. Cavity walls

300mm cavity below DPC level up to 1m deep are to be constructed with two skins of 7N/mm² 100mm or 140mm if over 1m deep concrete blocks 1:3 - 4 cement mortar with plasticiser and in-filled with concrete to a maximum of 225mm below DPC level.

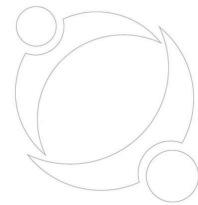
Cavity wall construction (U-value not worse than 0.28 W/m².k)

External walls constructed in 100mm K-rendered block skin with a clear 40mm cavity at all times, 60mm minimum thickness PIR insulation, 100mm dense block inner leaf with a 12.5mm plasterboard on dabs skimmed dry lining.

Proprietary purpose made cantic lintels to be constructed over all external openings in accordance with lintel manufacturer's details which should be approved by building control before works commence on site. Minimum 150 end bearing with DPC over with weep holes at 900mm centres. Lintels bedded on mortar.

Board of Agreement (BBA or other third party accredited) stainless steel wall ties suitable for cavity width as guidance table below Ancon ST1 Wall Tie Type 1 Tie to PD 6697.

Partial fill insulating material to be placed in the cavity between the outer leaf and an inner leaf of masonry walls subject to the suitability of the cavity wall construction and UK zones for exposure to wind-driven rain - 40mm min' clear cavity.



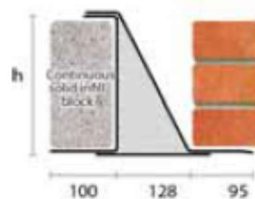
Psi Values for cavity wall lintels			
Lintel	Lengths	Psi Value (W/m.K)	Temperature factor
CG90/100	900-1500mm	0.20	0.891
	1650-1800mm	0.21	0.879
	1950-2100mm	0.20	0.887
	2250-2400mm	0.19	0.894
	2550-2700mm	0.18	0.901
	2850-3600mm	0.17	0.902
CH90/100	900-1800mm	0.327	0.792
	2100-2400mm	0.378	0.784
CX90/100	900-3000mm	0.361	0.785
	3300-4800mm	0.371	0.783

For the **CG90/100** lintel range the Psi values quoted take into account any additional heat loss that occurs through discreet brackets within the lintel.

Extra Heavy Duty



Standard lengths are available in 150mm increments up to 3000mm, 300mm at lengths 3000mm to 4800mm (including 4575mm, but excluding 4500mm).

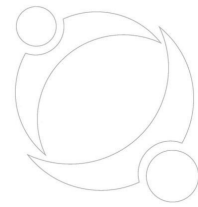


CX130/100				
Standard lengths (mm)	900-2700	2850-3000	3300-3900	4200-4800
SWL 1:1/19:1 (kN)	60	55	50	32
Weight (kg/m)	17.8	17.8	21.4	21.4
Nominal height 'h' (mm)	232	232	232	232

Subject to the suitability of the cavity wall construction, insulation to be positioned in the wall in compliance with the insulation guidance tables below and installed to prevent cold bridging and also any possible capillary attraction of water between the insulation and cavity surfaces past the damp-proof courses into the building in accordance with the insulation manufacturer's details.

Proprietary British Board of Agreement (BBA or other third party accredited) acoustic/thermally insulated/fire resistant cavity closers/ cavity barriers are to be provided to all cavity openings/ closings, tops of walls and junctions with other properties in accordance with manufacturer's details.

Tops of cavity walls can be closed using a proprietary British Board of Agreement (BBA or other third party accredited) 30 minutes fire resistant rigid board to prevent the passage of fire, fixed in accordance with manufacturer's details.



Walls should be built in 1:5-1:6 cement /sand mortar mix with plasticiser and tied with British Board of Agreement (BBA or other third party accredited) approved stainless steel wall ties suitable for 100mm cavity width.

Cavity wall insulation and insulation inner block skin to be positioned in the wall in compliance with the insulation guidance (together with proprietary insulated closers to prevent cold bridging which have been omitted for clarity). The wall insulation should be continuous with roof insulation level and taken below floor insulation levels in compliance with manufacturer's details.

Block and cavity width and wall tie spacing, etc. Ancon ST1 Wall Tie Type 1 Tie to PD 6697, to be same as the wall above, but with a row of wall ties to support the cavity wall insulation below DPC level. All materials to be frost resistant. If sulphates are present in the ground- use sulphate resisting cement.

DPC on internal wall minimum 150mm above ground level. Block/brick work below d.p.c. on external leaf from two courses below finished ground level. Cavities to be filled with weak mix concrete up to 225 mm below the lowest d.p.c if required.

60mm cavity Insulation to be fitted tightly to inner leaf foam sealed round all gaps, stainless steel cavity ties double triangle, with double drip, together with retaining. Wall ties to be positioned at 450 centres vertically between the slabs and maximum 750 mm horizontally. First row of ties at d.p.c. level. Ties to be staggered at 400 centres horizontally. At reveals ties to be at every course. Wall ties to be B.B.A. Certificated double drip type to B.S. 1243.

Proprietary stainless steel wall starters to connect proposed block/brick walls to existing masonry or tooth out and block bond.

Thermabate flexible high performance insulated d.p.c. to all door and window jambs, or equal approved insulating cavity closer.

Concrete cills, to window openings, 10mm expansion joint to be provided to gable wall with slide ties and through cavity ties at each course with plaster expansion beads or bed joint reinforcement for 3 courses every 1200mm.

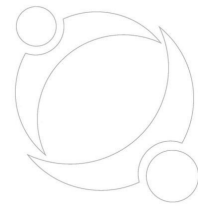
Ensure continuous sealing bands to edges of openings and at junctions of walls, floors and ceilings in accordance with "Robust Standard Details".

5. Suspended timber ground floor (U-value 0.22 W/m².k)

Topsoil and vegetable matter to be cleared from site and floor area to be in filled between walls with minimum 150mm/maximum 600mm clean, sand blinded, mechanically compacted, hardcore. 1200g (300 micrometer) type 1 - continuous polythene damp proof membrane (DPM) barrier is to be laid over sand blinded hardcore, lapped and sealed at all joints and linked to DPC's in walls.

Lay 100mm minimum thick ST2, or Gen1 concrete floor slab with a trowel smooth surface ready for finishes over insulation. Note: 500g polythene separating layer is to be installed between the concrete slab and insulation if using a foil faced polyurethane/ PIR type insulation board. Sealing of joints in the barrier and sealing around service penetrations in compliance with part C of this guidance.

New floor to be constructed of kiln dried, structural grade, timber joists C16 38x170mm at 600mm centres (for a permissible span of 2.45m); this incorporates a 10% reduction in span capacity where non load bearing partitions are constructed at right angles to the span. Bottom of joists to be fitted flush with Ex20x20mm SW runner battens to support installation of 150m PIR kingspan floor grade insulation. Moisture resistance chipboard flooring to be Type C4 to B.S. 5669. Boards to be fixed



using wood screws at 150mm centres. All joints to be glued to reduce squeaking. Ensure joists running parallel to wall are offset enough to be inserted with insulation board to reduce cold bridging.

Joists to have a nominal minimum bearing of 90mm supported by heavy-duty, proprietary, galvanized metal restraint joist hangers built into walls or fixed to treated timber wall plates (same sizes as joists) resin bolted 100mm minimum into sound walls at 600-800mm centres using approved 12-16mm diameter extensions stainless steel fixings - as agreed with building control. Alternatively, joists can be built into walls using approved proprietary sealed joist caps or sealed with silicon sealant to provide an air tight seal for new dwellings which require air testing, as agreed with building control.

Allow expansion gap around wall perimeters as manufacturer's details (typically 10-15mm).

6. Roof

100 x 50 mm softwood treated wall plate anchored all as manufactures details 1200mm wall plate straps and mono pitch roof to be resin bolted high level wall plate at 800mm centres.

C16 44x145mm roof joists at 600mm centres and 12.5mm vapour checked plaster board ceilings with skim finish; 50mm thermal board super over. Rafters to have a nominal minimum bearing of 90mm supported by heavy-duty, proprietary, galvanized metal restraint joist hangers built into walls or fixed to treated timber wall plates (same sizes as joists) resin bolted 100mm minimum into sound walls at 600-800mm centres using approved 12-16mm diameter extensions stainless steel fixings - as agreed with building control. Rafters to be provided with 1 row of 38 x ¾ depth solid strutting at ends between joist hangers or proprietary galvanized struts to BS EN 10327 fixed as manufacturer's details and at mid span for 2.5 – 4.5m spans.

(U-value not worse that 0.18 W/m².k)

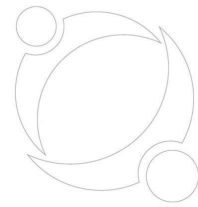
Flat roof to be of a uniform gradient not less than 1:80, to be cold applied liquid plastic finish which is certified in accordance with BS EN 13501-5 and BS 476-3. The flat roof insulation shall be Thermaroom TR27 LPC/FM 120mm thk installed as per manufacturers instructions to achieve a U-Value of 0.18 W/m².K. on and lapped with vapour control layer which should be bonded to 18mm thk plywood deck on rafters. SW timber battens to allow for fixing of HW timber fascia board to match existing. ceiling to receive foil backed plasterboard and skim. Rainwater goods to match existing.

Soffits, fascia's and barge boards etc.

Should be constructed in painted/stained soft/hardwood or Upvc to BS 4576. Allow for all necessary alteration/modification of any existing adjoining roof as required to enable the proper completion of the works and in agreement with building control. Allow for building in as work proceeds or insertion of proprietary stepped/cavity tray dpc to follow line of new roof 150mm above all roof/wall abutments as necessary using proprietary dpc trays and code 5 lead flashings. Tie the new roof into the existing, alter/modify/renew existing roof coverings and form a weather tight structure. Fix 12.5mm foil backed plasterboard (joints staggered) and 3mm skim coat of finishing plaster to the underside of all ceilings using galvanized plasterboard nails.

Internal ceilings / first floor

Ground floor ceilings to comprise of 20mm MR chipboard over 200mm x 50mm C24 or Armstrongs Space joists to be under dawn with British Gypsum 12.5 thick "Fireline" With 200mm Rockwool between. (To comply with the sound insulation requirements of Part E.) 12.5 tapered edge plasterboard screwed at 150 centres, with taped joints and skim finish to first floor rooms. Bat straps at 1200mm centres spanning 3 joists and solid noggin under, 200mm mineral wool insulation between joists.

**7. Means of escape****Grade D Category to a LD3 standard**

Self-contained mains operated smoke alarms with battery backup to BS 5446, to be installed in accordance with the relevant recommendations of BS 5839 Part 6: 2004 as follows:

- In all circulation areas that form part of the escape route from the dwelling within 7.5m of all doors to habitable rooms.
- sited at least 300mm from walls and light fittings
- All detectors interconnected together
- Heat alarms to be installed in kitchen
- CO2 in boiler room & within dining room if stove installed.

Mains operated smoke detectors which comply with B.S. 5446: Part 1, one to each level Alarms to be interlinked and wired independently. Alarms to be located within 7.5 metres of all habitable rooms on each level (heat detector in kitchen & garage - smoke detector in living room, hall and 1st floor landing).

Internal fire spread

Cavities at roof (wall plate and up gables) to be closed off with calcium silicate board. Load bearing elements of structure to have the minimum standard of 30min fire resistance to prevent premature failure of the structure and minimize the risk to occupants, also reduce the risk to fire fighters and reduce the danger to people in the vicinity of the building should failure of the building occur.

8. Site preparation and contaminants

The site should be stripped of all turf and vegetable matter prior to the forming of foundations and floors.

Or

The site should be stripped of all turf and vegetable matter prior to the forming of foundations and floors. The site has been inspected and tested as per the phase 1 desk top study & phase 2 ground investigation report and no contamination is present however I have highlighted the following;

- No ground contamination believed to be on site however the owner and ground workers MUST carry out a watch brief and if any contamination found it must be reported to CBC

9. Resistance to moisture**Walls**

Visqueen or equal approved damp and gas proof course set minimum of 150 mm above finished external ground level.

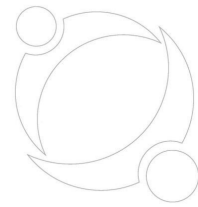
The walls, floor, and roof of the building should be constructed in accordance with ADC and the details/diagrams in this guidance to prevent and resist the passage of moisture into the building.

Horizontal damp proof courses (dpc's)

Horizontal damp proof course (dpc) and dpc trays with weep holes at 900mm ctrs to be provided 150mm above external ground level continuous with and sealed to the floor damp proof membrane (dpm) and radon/ dpc tray to prevent the ingress of moisture into the building.

Vertical damp proof courses and damp proof course trays etc (dpc's)

Stepped and horizontal lead dpc/cavity trays are to be provided over all openings, roof abutments/ projections and over existing walls with different construction or materials. Install vertical dpc or



proprietary insulated cavity closers at all closings, returns, abutments to cavity work and openings etc to prevent the ingress of moisture into the building.

Wall openings

Thermabate flexible high performance insulated d.p.c. to all door and window jambs, or equal approved, insulated cavity closer, with stepped DPC / cavity trays above all openings (doors and windows and roof abutments) with weep holes at 450mm centres and below all cills.

Floors

Full Visqueen damp proof membrane/course ZEDEX range linked to all dpc's

10. Sanitation, hot water safety and water efficiency**Wholesome hot and cold water supply**

Sinks with wholesome hot and cold running water are to be provided in all food preparation areas, bathrooms to be fitted with either a bath or shower. Hot and cold water supplies to wash basins, baths, showers and sinks including external taps to have water from a wholesome water supply. Hot taps should be located on left hand side (traditionally as most people are left handed it prevents people from unwittingly running the hot tap and burning themselves).

Softened wholesome cold water should not be provided where drinking water is drawn off or to any sink where food is prepared.

Wholesome water supply to comply with The Water Supply (Water Quality) Regulations 2000 (SI2000/3148) and in Wales; The Water Supply (Water Quality) Regulations 2001 (SI2001/3911) and Annex1 of AD. Private water supplies to comply with The Private Water Supplies Regulations 2009 (SI 2090/3101) and in Wales; The Private Water Supplies (Wales) Regulations (SI 2010/66) Scale of provisions Any dwelling house or flat must have at least one bathroom, with a fixed bath or shower, wash basin and wc in compliance with BS 6465. Hot taps should be located on left hand side. In new dwellings, wc should be located in the principle entrance storey.

Supply (Water Fittings) Regulations 1999

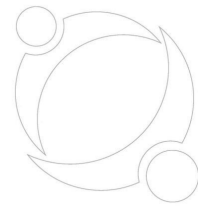
All new water installations must be in compliance with the 'Supply (Water Fittings) Regulations 1999' for England and Wales, for the protection against frost and freezing, prevention of waste, misuse, undue consumption, contamination and erroneous measurement of a water supplier's mains water supply. A free copy of regulations can be downloaded from the HMSO website, or alternatively a hard copy of the new Regulations can be purchased directly from your local HMSO stationary office. The Regulations are Statutory Instrument No 1148 and the amendments are Statutory Instrument No 1506 both dated 1999.

Insulation of pipe work to prevent freezing

All hot and cold water service pipe work, tanks and cisterns should be located within the warm envelope of the building to prevent freezing. Where hot and cold water service pipe work, tanks and cisterns are located in unheated spaces they should be insulated to prevent freezing in compliance with BS 6700 and BS 8558, and typically as follows:

(i) All tanks and cisterns should be thermally insulated to prevent freezing with proprietary insulated systems in compliance with manufacturer's systems (insulation normally omitted from below tank where it benefits from heat in the heated area below).

(ii) Pipe work should be insulated with proprietary insulated sleeves of phenolic/



polyisocyanurate/ polyurethane foam having a minimum wall thickness of 30mm for 15mm diameter pipes and 12mm for pipes 22mm diameter pipes, (or other approved) and fixed in accordance with manufacturer's details.

Incoming cold water supply service pipes should be at least 750mm below the ground level and other precautions should be carried out to prevent freezing and protect the pipe in accordance with the relevant Water Authorities requirements, which will require consent from the Water Authority before works commence.

Commissioning certificates

Commissioning certificates for fixed building services are required on completion with copy sent to building control

11. Drainage**Above ground**

Provide 100 mm soil vent pipes to take waste pipes from Bathroom. Refer to drawing for location of s.v.ps. Drain invert to vertical soil stack to be min. 450 mm below lowest connection point (large radius 90 bend). Stacks to be ventilated at head of drain and terminated above the roof line, 900 mm above any opening within 3m, and finished with a cage or cover which does not restrict the flow of air.

"Durgo" or equal approved air admittance valve to be located as indicated on the floor plan. Waste pipes serving bath, basin, shower, and bidet to connect either 200mm above or below W.C. branch connection to s.v.p.

Waste and sanitary appliance branch lines in excess of lengths in Diagram 3 Part H, to be provided with a branch ventilating pipe in accordance with Diagram 4 Part H. Rodding points to be provided to any length of waste pipe which cannot be reached by the removal of traps.

Minimum 100 mm trap to W.C. with 75 mm re-sealable traps to other fittings. Bath, shower and sink washbasin wastes to be minimum 50 mm dia. Waste pipe gradients to meet requirements of Regulation H1

Foul Water

The foul water layout will be as approved consisting of the following;

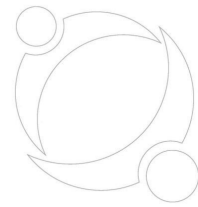
- 100mm waving plastic drainage system
- 100mm concrete encasement of treatment plant (where required for protection)
- 1-80 falls minimum
- 450mm PPIC Inspection chambers at change of gradient and direction

Below ground

Provide new drain connections as shown and agreed at planning stage by United Utilities. All new underground drainage in 110 dia Marley up drainage pipes and fittings, or equal approved, to B.S. 4660: 2000 and installed in accordance with B.S. 5572: 1978 and B.S. 5955: 1980 to minimum fall of 1/60, Bedding (pea gravel) and protection (concrete encasement) to shallow pipework or below traffic loadings to be confirmed on site with Building Control, all gullies to be trapped and rodable.

Where passing through walls pipes are to be bridged over using concrete lintels. A single drained system is to be used into the existing sewer as indicated on the plans. All drainage work is to be confirmed on site with Building Control.

The following conditions will be adhered to (all in accordance with united utilities);



1. CCTV before and after of drainage to prove adequacy,
2. Drain under the footprint to be one continuous length of 6m pipe,
3. New chamber to be formed outside the footprint of the extension and drain to be fully concrete encased underneath the footprint of the extension,
4. The sewer will be accurately located on site in order that the effect of the proposed works can be determined.
5. The condition of the sewer will be determined (where the sewer is to be built over) or failing that the affected length of pipework is replaced with new.
6. All foundations within 3m (minimum) of the sewer are to be taken down to below the invert level of the sewer.
7. No structures (footings, walls, etc) running parallel to the line of the sewer are to be located within 500mm (min.) distance of the sewer.

Pipes penetrating through walls

Pipes penetrating through walls should have joints formed within 150mm of either wall face, with 600mm maximum length adjacent rocker pipes fitted both sides with flexible joints, or alternatively lintels provided above openings through walls to give 50mm clear space around pipes and openings infilled with inert sheet material and sealed to prevent ingress of fill, vermin and radon gas.

Drain trenches near buildings

Trench excavations for pipe runs located within 1.0m of buildings which extend below the level of the existing foundations should have trenches backfilled with concrete up to the underside of the existing foundations. Trench excavations for pipe runs located more than 1.0m from buildings which extend below the level of the existing foundations should have trenches backfilled with concrete up to the underside of the existing foundations less 150mm.

Inspection chambers and gullies

Proprietary Upvc 450mm diameter inspection chambers to be provided at all changes of level and or direction and at 45m maximum spacing in straight runs up to 1.2m in depth. Other access fittings and rodding eyes to be in accordance with the guidance table below. All gullies to be trapped and have rodding access where serving branches.

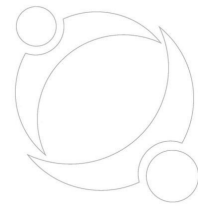
Inspection chamber covers to be mechanically fixed and suitable for vehicular loads in drives and roads and double sealed air tight bolt down covers and frames in buildings in accordance with manufacturer's details.

Surface water drainage around the building

Paths and paved areas around the building to have a non-slip finish and provided with a surface cross fall of 1:40 – 1:60 to dispose of rain/surface water and a reverse gradient of at least 500mm away from walls of building (unless the paved/path area is a proprietary system designed to be porous and installed in accordance with manufacturer's details). Surface water to be disposed of by an adequately sized and roddable drainage system via soakaways, or other approved means.

Rain/surface water disposal

Rain/surface water to be piped away from buildings as detailed in guidance above and discharged in to combined storm/foul water drainage facilities using existing or new inspection chamber connection as shown on plans/ specification, or as agreed with building control on site. New connections to existing storm or combined storm/foul water systems may require consent from the relevant Water Authority before works commence on site. Rain/surface water should only connect into a combined system with the consent of the relevant Water Authority, and only into a foul system under exceptional circumstances and subject to written approval from the Water Authority.



Rain/surface water disposed of in combined sewer and should be connected via trapped gullies, with inspection chamber positions as detailed in guidance for foul water drainage. Drainage systems to low lying buildings or basements which carry storm water or other vulnerable drainage systems should be provided with anti-flood protection such as one way valves, etc., to prevent flooding and sewerage entering the building.

Rainwater gutters to be Marley "Deep flow" or "Premier" Brown uPVC half round eaves gutter system with 68 mm dia circular down pipe connecting directly into gullies

12. Insulation

Walls

Cavity wall construction incorporating Celotex CW3000Z insulation, 60 mm thick (100mm 0.22)

Floor

Concrete floor on Celotex GA3000Z, 150 mm thick. Perimeter insulation 20 mm thick. Provides "U" value not exceeding 0.20 W/m²K.

Roof

Thermarroof TR27 LPC/FM 120mm thk installed as per manufacturers instructions to achieve a U-Value of 0.18 W/m².K.

Glazing

All timber and PVC-U windows and external doors to be double glazed, 4 mm glass – 16 mm gap (min.) – 4 mm glass, in low E glazing with hard emissivity coating argon filled. (Pilkington "K" glass, or equal approved), to provide a maximum U value of 1.1 W/m²K (0.7 if triple glazed). Glazing in windows / doors under 800 mm - 1500 mm above floor level is to be glazed in safety glazing to B.S. 6206:1981 in either toughened or laminated glass.

Openings

Thermabate vertical insulating d.p.c. to all door and window jambs, or equal approved. Catnic insulated steel lintels to all window and door openings. Ensure continuous sealing strip of fixing plaster to edges of openings and at junctions with walls, floors and ceilings as Robust Standard Details.

Provide draught-stripping to frames of opening elements of windows, doors and roof lights together with roof access hatches. Proprietary loft access door (Glidevale or equal approved) to comply with Building Regulation F2. Trap door to be insulated with flexible seal to frame. Minimum opening of not less than 520 mm in any direction.) Ensure sealing around boxing to concealed services.

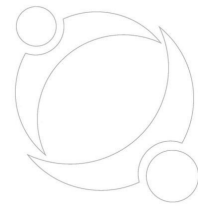
All windows and doors to be PAS 24:2012 Enhanced security performance requirements for doorsets and windows in the UK. External doorsets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk and the specific and the relevant material specific standard for general performance referenced in BS 6375 Parts 1, 2 and 3.

Shower and baths to have thermostatically controlled mixing valve.

All water carrying pipework running in ground and first floor joists and all unheated areas are to be insulated in accordance with B.S. 5422: 1990.

100% of all lights are to be energy efficient Energy Saving LED

13. Access In & Around the Building



- Switches and socket outlets for lighting and other equipment should be located so that they are easily reachable.
- Sockets, including T.V. and Telephone sockets, to be minimum 450 above floor level and switches to be maximum 1200 above finished floor level,

Door and Window Security

All new external doors, doors between dwellings and conservatories/garages and windows to be designed and installed to resist forced entry. These units must meet the recommendations for physical security in Section 2 of 'Secured by Design'(ACPO, 2009); or be tested and certified by a notified body as meeting recognised standard for security; or by use of doorsets and windows manufactured to meet recognised product standards and defined component reference. Door security must also meet BS PAS 24:2007, windows must meet BS 7950: 1997.

Vulnerable windows should be constructed to resist attempts to force frames, and if openable, ironmongery. Opening windows should either be fitted with a keyed locking system that uses a removable key; or a keyless locking system together with glazing which incorporates laminated glass or a similarly robust glazing material.

If single swing door sets are to be used, they should be fitted with at least one and a half pairs of hinges meeting the recommendations of BS EN 1935: 2002 for hinge grade 11 or above. Hinges fitted to an outward opening door should be of a type that does not permit the hinge pin to be removed unless the door is open. Otherwise hinge bolts should be fitted to ensure the door leaf will remain secure when closed.

A doorset should include a single point locking device to BS 3621: 2007 (for keyed egress) or to BS 8621:2007 (for keyless egress) or a multipoint locking system. A deadlocking facility should be provided. Any lock cylinder should be in accordance with BS EN 1303: 2005, grade 5 key security and grade 2 attack resistance as a minimum.

Access to locks from outside by breaking of glazing in or adjacent to a door leaf should be prevented by use of laminated glass or a similarly robust glazing material.

A sliding door should have a multi-point deadlocking system with 3 or device should be fitted. Shoot bolts, if used, should locate into the head of the frame.

A doorset with more than one door leaf should include a means of securing any secondary leaf at head and foot to allow the primary leaf to be securely locked.

14. Electrical Installations

All fixed electrical wiring installed in dwellings must comply with Part P of the Building Regulations. All work performed on new or existing electrical circuits or systems must be designed, installed, inspected, tested and certified by a competent person in accordance with the current version of the IEE Regulations as documented in BS 7671.

For notifiable works, an installer who is not a registered competent person may use a registered third party to certify notifiable electrical installation work as an alternative to using a building control body. The competent electrician must provide signed copies of an electrical installation certificate conforming to BS 7671 for the owner of the property and for notifiable works a copy of the completion certificate must be forwarded to the Building Control surveyor for approval at completion, so the Building Control completion certificate can be issued.