





## PROPOSED SIDE

#### SAFETY GLAZING

All glazing in critical locations to be toughened or laminated safety glass to BS EN 12600:2002, BS EN 14179 or BS EN ISO 12543-1 and Part K of the current Building Regulations, i.e. within 1500mm above floor level in doors and side panels within 300mm of door opening and within 800mm above floor level in windows.

## NEW AND REPLACEMENT DOORS

New and replacement doors to achieve a U-Value of 1.0W/m²K. Glazed areas to be double glazed with 16-20mm argon gap and soft low-E glass. Glass to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1 and Part K of the current Building Regulations.

Insulated plasterboard to be used in reveals to abut jambs and to be considered within reveal soffits. Fully insulated and continuous cavity closers to be used around reveals. Windows and door frames to be taped to surrounding openings using air sealing tape.

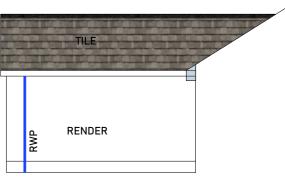
### PURGE VENTILATION

Minimum total area of opening in accordance with Table 1.4 Approved Document F1. Hinged or pivot windows with an opening angle of 15 to 30 degrees to have an openable area in excess 1/10 of the floor area of the room.

External doors and sash, hinged or pivot windows with an opening angle of equal to or greater than 30 degrees to have an openable area in excess of 1/20 of the floor area of the room.

Purge ventilation should be capable of extracting at least 4 air changes per hour per room directly to the outside.

Internal doors should be provided with a 10mm gap below the door to aid air circulation.



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#### **ELECTRICAL**

All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a Competent Person registered under a Competent Person Self Certification Scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work by a person competent to do so. A copy of a certificate will be given to Building Control on completion.

#### HEATING

Extend all heating and hot water services from existing and provide new TRVs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

The energy performance of the new components to be assessed. The results should be recorded and given to the building owner. All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L.

### BACKGROUND VENTILATION

Controllable background ventilation at least 1700mm above floor level to be provided to habitable rooms and kitchens at a rate of min 10,000mm², and to bathrooms at a rate of min 4000mm², Total number of ventilators installed in a dwellings habitable rooms to be at least 4 ventilators for one bedroom dwellings and 5 ventilators for dwellings with more than one bedroom.

Background ventilators to be tested to BS EN 13141-1.

 $\ensuremath{\mathsf{Background}}$  ventilator equivalent area and operation to be measured and recorded.

Noise attenuating background ventilators should be fitted to facades with sustained loud noise.

Where the extension connects to in an existing room and as a result the existing room is left with no windows or background ventilation less than 5000mm², then the new room background ventilation to be at least 10,000mm² equivalent area.

Where the extension connects to in an existing room and as a result the existing room is left with background ventilation at least 5000mm², then both the following is to be provided:

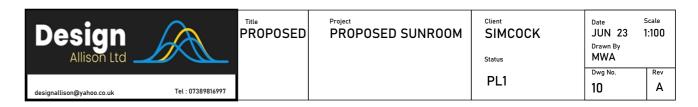
- Background ventilators of at least 12,000mm² equivalent area should be provided between the two rooms.
- Background ventilators of at least 12,000mm² equivalent area between the additional room and the outside

### C2. CONDENSATION

Walls, floors and roof of the building to be designed and constructed so that their structural and thermal performance will not be adversely affected by interstitial condensation, surface condensation or mould growth. Account to be taken of the building's form and orientation in relation to topography, prevailing winds, sunlight and over-shadowing, and the rate at which humidity is generated.

Materials with the highest vapour resistance should be located on the warm side of a thermal element. VCLs to be provided where necessary.

The junctions between elements are designed to Accredited Construction Details or guidance of BRE IP17/01] and BS 5250:2021 Management of moisture in buildings to be followed.



### **UNVENTED PITCHED ROOF**

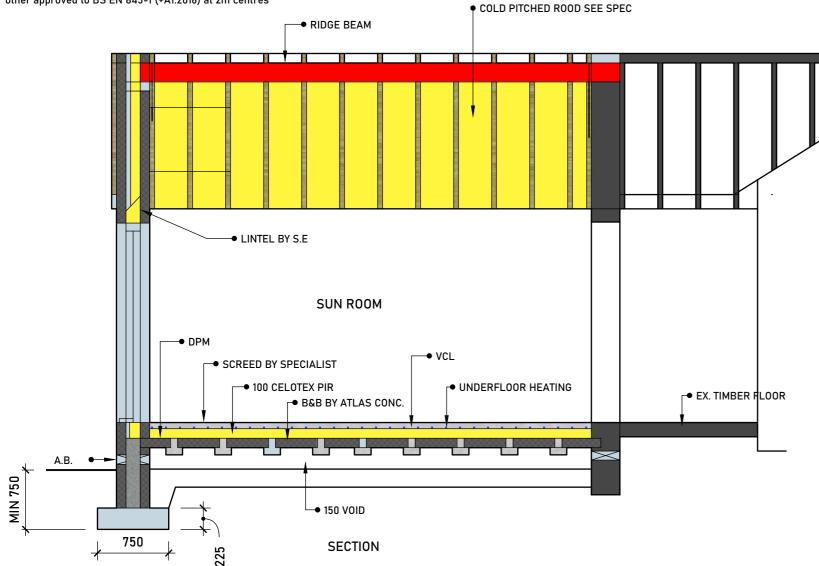
Pitch 22-45° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)

## To achieve U-value 0.15 W/m²K

Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design. Calculations to be based on BS EN 1995-1-1:2004 Eurocode 5: Design of timber structures (+A2:2014). Roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on breathable sarking felt to relevant BBA Certificate. Supported on 47 x 150mm grade C24 rafters at max 400mm centres, max span 3.47m. Rafters supported on 100 x 50mm treated sw wall plates. Allow min 20mm air space to allow for drape of breathable felt.

Insulation to be 130mm Celotex XR4000 between rafters and 50mm GA4000 under. Fix 12.5mm plasterboard (joints staggered) over VCL. Finish with 3mm skim coat of finishing plaster to the underside of all ceilings. Provide cavity tray where roof meets existing wall.

Restraint strapping - Ceiling joists tied to rafters (if raised collar roof consult Structural Engineer).  $100 \, \text{mm} \times 50 \, \text{mm}$  wall plate strapped down to walls. Ceiling joists and rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. All straps to be  $1200 \times 30 \times 5 \, \text{mm}$  galvanized straps or other approved to BS EN 845-1 (+41:2016) at  $2 \, \text{m}$  centres



## STRIP FOUNDATION

Provide concrete strip foundation in accordance with Table 10 of Approved Document A, thickness of concrete not to be less than 225mm and minimum width of foundation to be egual to the width of the wall plus 300mm. Concrete mix to conform to BS EN 206:2013(+A2:2021) and BS 8500-2. All foundations to be a minimum of 750mm below ground level, depth and size of foundation to be approved on site by Building Control to suit site conditions. All constructed in accordance with 2010 Building Regulations A1/2 and BS 8004:2015 Code of Practice for Foundations (+A1:2020). Ensure foundations are constructed below invert level of any adjacent drains. Base of foundations supporting internal walls to be min 600mm below ground level. Sulphate resistant cement to be used if required. Please note that should any adverse soil conditions be found or any major tree roots in excavations, Building Control to be contacted and the advice of a Structural Engineer should be sought.

# PIPES PASSING THROUGH WALLS

Walls above pipes passing through substructure walls to be supported on suitable lintel on semi-engineering bricks. Pipe to be provided with a 50mm clearance all round, opening to be masked with granular backfill (pea shingle) around pipe. DPC to be provided, as required by Building Control.

# Alternatively

Where new pipework passes through external walls the pipe work is to be provided with 'rocker pipes' at a distance of 150mm either side of the wall face. The 'rocker pipes' must have flexible joints and be a maximum length of 600mm.

### WALLS BELOW GROUND

All new walls below ground to be constructed using blockwork compliant with BS EN 771 and suitable for below ground level or semi engineering brickwork. Walls to be built using 1:4 masonry mortar mix or equal approved specification to BS EN 1996-1-1. Cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. Or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

## SUSPENDED BLOCK AND BEAM FLOOR

To meet min U value required of 0.18 W/m<sup>2</sup>K - P/A ratio 0.5

Remove top soil and vegetation and apply weed killer – provide 50mm concrete ground cover if required by Building Control. The underside of beams to be not less than 150mm above the top of the ground. PCC beams to be supplied and fixed to beam manufacturer's plan, layout and details (details and calculations to be sent to Building Control for approval before works commence). Beam to have a minimum bearing of 100mm onto DPC and load bearing walls. Provide concrete blocks to BS EN 772-2, wet and grout all joints with 1:4 cement/sand mix. Provide double beams below non-load bearing partitions. Lay 1200g DPM/radon barrier over beam and block floor, with 300mm laps double welted and taped at joints and service entry points using radon gas proof tape. Lay floor insulation over DPM, 90mm Celotex GA4000 applied as a rigid material. 25mm insulation to continue around floor perimeters to avoid thermal bridging.

Lay 500g separating layer over insulation and provide 75mm sand/cement screed over and prepare for floor finishes as required. The top surface of the ground cover under the building shall be above the finished level of the adjoining ground. Ventilation - Provide cross-ventilation of the under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area, whichever is the greater. Sleeper walls shall be of honeycombed construction or have provision for distribution of ventilation

### PARTIAL FILL CAVITY WALL

To achieve minimum U Value of 0.18 W/m²K

20mm two coat sand/cement render to comply to BS EN 13914-1 with waterproof additive on 100mm medium block, 0.45 W/m²K. Ensure a 50mm clear residual cavity and provide 100mm Celotex CW4000 insulation fixed to inner leaf constructed. Inner leaf using 100mm medium block, 0.45 W/m²K. Internal finish to be 12.5mm plasterboard on dabs. Walls to be built with 1:1:6 cement mortar.

#### DPC

Provide horizontal strip polymer (hyload) damp proof course to both internal and external skins, DPC to be placed a minimum 150mm above external ground level. New DPC to be made continuous with existing DPC's and with floor DPM. Vertical DPC to be installed at all reveals where cavity is closed.

#### WALL TIES

All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally, 450mm vertically and 225mm ctrs at reveals and corners in staggered rows. Wall ties to be suitable for cavity width and in accordance with BS EN 845-1:2013.

Wall ties for cavities over 150mm to be suitable for cavity width, and installed as manufacturer's details.

#### CAVITIES

Provide cavity trays over openings and where roofs abut walls. All cavities to be closed at eaves and around openings using Thermabate or similar non combustible insulated cavity closers. Provide vertical DPCs around openings and abutments. All cavity trays must have 150mm upstands and suitable cavity weep holes (min 2) at max 900mm centres.

### **EXISTING TO NEW WALL**

Cavities in new wall to be made continuous with existing, where possible, to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

### **CAVITY BARRIERS**

30 minute fire resistant cavity barriers to be provided around openings, at tops of walls, gable end walls, vertically at junctions with separating walls and horizontally at separating floors. Cavity trays to be provided over barriers where required. Trays and cavity barriers to be installed according to manufacturer's details.

### NOTICE OF COMMENCEMENT

A notice of commencement is to be submitted to Building Control within 5 days of work being regarded as commenced, under regulation 16 of The Building Regulations etc. (Amendment) (England) Regulations 2010.

Work will be deemed to have commenced when the build has progressed to at least one of the following:

For complex buildings - Foundations are constructed, and the structure of the lowest floor level is complete.

For new buildings and horizontal extensions - Sub surface structure of the building or the extension including all foundations and the structure of the ground floor level is completed.

For all other works - constructed 15% of the overall work.

#### THERMAL BRIDGING

Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.

## MATERIALS AND WORKMANSHIP

All works are to be carried out in a workmanlike manner. All materials and workmanship must comply with Regulation 7 of the Building Regulations, all relevant British Standards, European Standards, Agreement Certificates, Product Certification of Schemes (Kite Marks) etc. Products conforming to a European technical standard or harmonised European product should have a CE marking.

The latest edition of the British Standard (including any amendments) applies to any undated references within these specifications.

#### NOTICE OF COMPLETION

A Notice of Completion to be given to Building Control not more than 5 days after the work has been completed. The notice to contain the following information:

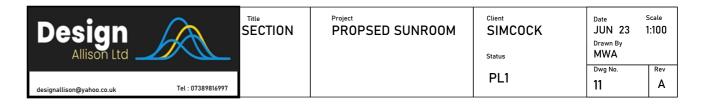
- The name, address, telephone number and (if available) email address of the client, principal contractor, and principal designer.
- A statement from the applicant to say that the works have been completed and complies with all the applicable regulations to the best of their knowledge.
- A statement from both the principal contractor and principal designer to confirm they have fulfilled their duties under Part 2A (duty holders and competence).

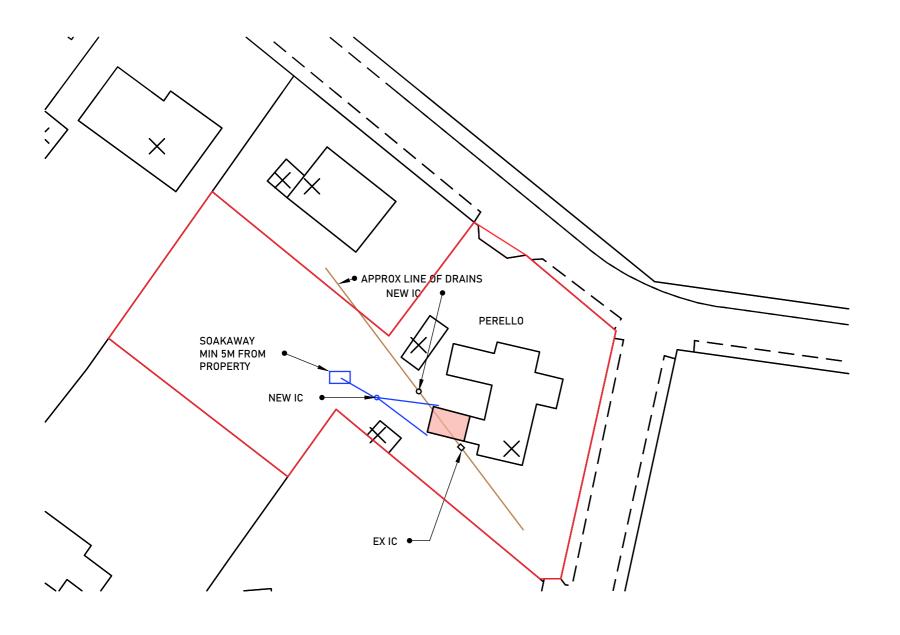
### RΕΔΜ

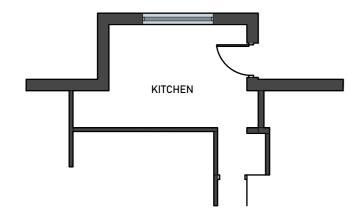
Supply and install new structural elements such as new beams, roof structure, floor structure, bearings, and padstones in accordance with the Structural Engineer's calculations and details. New steel beams to be encased in 12.5mm Gyproc FireLine board with staggered joints, Gyproc FireCase or painted in Nullifire S or similar intumescent paint to provide 1/2 hour fire resistance, as agreed with Building Control. All fire protection to be installed as detailed by specialist manufacturer.

## STRAPPING FOR PITCHED ROOF

Gable walls should be strapped to roofs at 2m centres. All external walls running parallel to roof rafters to be restrained at roof level using 1200mm x 30mm x 5mm galvanised mild steel horizontal straps or other approved to BS EN 845-1 (+A1:2016), straps to be screw fixed, built into walls at max 2000mm centres, and taken across a minimum of 3 rafters. Provide solid noggins between rafters at strap positions. All wall plates to be 100 x 50mm fixed to inner skin of cavity wall using 30mm x 5mm x 1200mm galvanized metal straps or other approved to BS EN 845-1 (+A1:2016) at maximum 2m centres.







## **EXISTING PLAN 1:100**



**EXISTING REAR 1:100** 

## RAINWATER DRAINAGE

New rainwater goods to be new 110mm UPVC half round gutters taken and connected into 68mm dia UPVC downpipes. Rainwater taken to new soakaway, situated a min distance of 5.0m away from any building, via 110mm dia UPVC pipes surrounded in 150mm granular fill. SOAKAWAY USING CRATES

Trench of soakaway to be provided slightly largely than designed depth after porosity test (if required), but a minimum of just over 1 cubic metres from invert level of pipe. Line the trench with suitable geotextile and provide a compacted bed of coarse sand to base. Install AquaCell crate units or equivalent as manufacturer's details. Geotextile to be wrapped around crates. Provide 100mm of coarse sand between the trench walls and over the AquaCell structure. Backfill with suitable material.

## UNDERGROUND FOUL DRAINAGE

Underground drainage to consist of 100mm diameter UPVC proprietary pipework to give a 1:40 fall. Surround pipes in 100mm pea shingle. Provide 600mm suitable cover (900mm under drives). Shallow pipes to be covered with 100mm reinforced concrete slab over compressible material. Provide rodding access at all changes of direction and junctions. All below ground drainage to comply with BS EN 1401-1 (+A1:2023).

## H4 BUILDING OVER OR NEAR PUBLIC SEWERS

The developer is to consult the Local Sewers Undertaker when constructing, extending or underpinning over a sewer or within 3m of the centreline of sewer shown on the sewerage undertakers sewer records and when the following applies:

- The building or extension is to be constructed over a manhole or inspection chamber or other access fitting on a sewer.
- The length of the drain or sewer under the proposed building or extension will exceed 6m.
- The Building or extension is to be constructed over or within 3m of any drain or sewer more than 3m deep or greater than 225m in diameter.

### PUBLIC SEWER REQUIREMENTS

Special measures may be required for the following:

- Soils easily eroded by ground water leaking into the drain or sewer, e.g. silty sands, saturated silts and peat.
- A rising main (except those used for the building only).
- Any sewer or drain constructed from brick or masonry.
- Drains or sewers in poor condition.
- Sites prone to subsidence.

(Advice to be sought from the Sewerage undertaker).

Other provisions that may apply to Sewers:

- Any repairs or replacements of a sewer public or drain is to be carried out by the sewerage undertaker.
- Access points to sewers to be in places where they are accessible and apparent for use in a emergency.
- All drains or sewers running under a building to be provided with a minimum of 100mm of granular fill around the pipe.

