Building Regulation Notes and General Specification

These notes are to be read in conjunction with all relevant specification details, schedule and drawings including Structural Engineer's and Specialist Sub-Contractors' details. The general contractor is to interpret the requirements in relationship to the site conditions encountered and as agreed with Architects and Building Control Officer as necessary. All works undertaken are to be implemented in accordance with current Building Regulations, British and European Standards together with all relevant legislation, manufacturers latest written instructions and detailed specifications.
Any discrepancies in the drawings and documentation to be brought to the immediate attention of the supervising agent, client or Architect.

Planning Conditions
Before any work can commence on site ensure that all conditions relating to the Planning Permission have been met and the approval of all details has been received in writing.
Product Specification
All products are to be installed in strict accordance with the manufacturer's latest instructions, specification and where relevant, in accordance with the Manufacturer's Approved Construction Details.

Services

Take care to discover and record all incoming services including drainage, electricity, water, gas, telephones etc. and liaise with relevant providers before making new connections. Make good all landscaping affected by the works.
Arrange for connection and extension to the existing mains water, electricity and gas supply.

Site Preparation

Employer to remove furniture etc.
Carefully investigate existing services as noted above.
Temporarily disconnect, seal off and make safe all existing electrical, water and heating services in the areas to be worked on.
Allow for carrying out works from safe and secure scaffolding.
Remove surface finishes including top soil and carefully excavate to new levels.

Demolition

Basic workmanship to comply with BS 8000 Part 1 Section 3.1, 3.2 & 3.3.
Carefully remove existing extension roof, and demolish associated walls as shown on drawings. Note: Any works to the party wall are subject to the party wall act and need to be agreed on site and in writing with your neighbours.

Excavation

Basic workmanship on site to BS 8000.
Ensure any existing drainage runs that are to be retained are fully protected during the course of the works.

Excavations for Foundations

Foundation trenches to be excavated to suit dimensions indicated and taken down to virgin ground for inspection by Local Authority Building Control Officer and Architect.
Depth may vary according to site conditions and site contours but top of concrete must be min. 450mm below the finished ground level. Strip foundations to structural Engineer's Design or 650mm x 200mm deep min. to external cavity walls and 450mm x 200mm deep min. to 100 mm load bearing internal walls or with min. 150 mm toe where wall thickness varies. Form all steps in level of foundations in vertical increments of 225mm to suit block coursing, and with min. 300mm horizontal overlaps. Take care not to undermine existing foundations where excavating new foundations adjacent existing building. Provide earthwork support. Connect new foundations to existing with 3 no. 300mm long x 12mm diameter twisted stainless steel bar drilled into existing foundations and cast into new foundations to form dovetail. All in agreement with LBCO.

Concrete

Concrete to be premixed and selected to suit individual site conditions as described in BS EN 206-1/BS 8500-2 with maximum aggregate size to be 20mm. All concrete shall be distributed and placed in position as quickly as practicable by method which precludes contamination, segregation or loss of materials, compacting shall be complete before the initial set commences. Partial set concrete shall not be reworked or used. All concrete shall be continuous to completion or to an approved construction joint.
During the first seven days the concrete shall be protected by whatever means to prevent over rapid drying. Steps in the foundations are to overlap by twice the height of the step or by 300mm whichever is the greater and should not be of greater height than the thickness of the foundation. In general steps should be in increments of 225mm to suit block coursing.

Drainage

All foul drainage to be installed to be connected back to the existing foul drainage system.
All surface water drainage is to discharge into existing surface water system.
All drainage systems should be capable of meeting the design, layout, construction, testing and maintenance requirements of BS EN 752:1to4 and BS EN 1610:1998.
New soil and surface water drainage: Hunter plastics (or similar approved) 110mm diameter pipes with sealed collars laid in clean square cut trenches at a gradient of not less than 1:60 fall. Carefully back fill trenches with layered back fill strictly in accordance with the manufacturers instructions and in accordance with the recommendations of BS EN 1295, with a max. particle size not exceeding 20mm. All fittings including manholes, inspection chambers, back inlet gullies etc. to be from the same range and supplier. Set all pre formed gullies and chambers on 150mm concrete bases and surround with 150mm sleeves. Fit gullies with plastic or galvanised grills. Site conditions will determine the exact size, depth and installation of all new drainage in accordance with the manufacturers latest details and the approval of the local authority building control officer. Where existing/new drains pass under the property ensure that the building regulations and manufacturers details are strictly observed.

Cavity Walls Below DPC

For new cavity walls use appropriate trench blocks for 350mm thick external walls over **or** construct a 100mm thick dense solid concrete block inner and a 100mm thick dense solid concrete block outer leaf with ma 150mm cavity back filled with concrete to ground level or no higher than 150mm below DPC. All external walls above ground level up to DPC to be facing brick or render as specified by client.
Between ground level and floor level fix high performance polymer Hyload DPC's to both inner and outer leaves of walls at min. 150mm above external ground level.

DPC's Generally (inc weepvents)

Continuous DPC's with weepholes at 900mm centres are to be sealed to the DPM at min 150mm above external ground level.
Cavity trays are to be used over all openings and at all roof abutments. All cavity trays must be appropriate to the location as specified by the manufacturer and installed in strict accordance with their details and appropriate weep vents installed. Where render finish use small weep vents, by Cavity Trays over lintels at 450 centres. Where render finish use Beak weep/Caviweep by Cavity Trays above dpc at 450 centres to drain water penetrating the cavity. Where timber cladding the weep vent can drain into vented cavity behind the cladding .
Use proprietary steps and corners where required.
Use cavity closers with integrated dpc to all openings.

Air Tightness and Continuity of Insulation

As per Approved Document L1B (re work on existing dwellings) paragraph 5.5-5.6 all construction forming part of the new building envelope must be carefully formed in order to prevent air leakage and have continuity of insulation. All mortar beds and perpends to all walls must be flush pointed on both sides. All windows and doors must be foam fitted around their entire perimeter and sealed with a proprietary sealant and air tightness tape. Avoid building joists into external walls: where this is not possible all gaps must be sealed with a proprietary sealant. Seal carefully around all light fittings to the underside of attic spaces.
To achieve the requirement the contractor should use Accredited Construction Details (see www.gov.uk).

Solid Ground Floor Construction

Part L minimum U-Value 0.22W/m2k
(new element in an extension to existing dwelling, ADL1B) P/A of extended dwelling (as per L1B Table 2, Note 4) = 0.70
Floor Construction
Existing solid floor construction to be assessed on site and retained or removed depending on condition and the presence of an appropriate damp proofing membrane. New solid floor to be constructed lapping and taping new DPM to existing where appropriate.
New floor finish to be level and continuous over new and existing floor. Finish to be specified and agreed with client, over 65mm screed over 150mm concrete floor slab, over 500 gauge Visqueen vapour barrier, on min. 100mm Kingspan Kooltherm K103 rigid insulation boards with taped and staggered joints over 1200 gauge Visqueen continuous DPM lapped up inner leaf of cavity wall and lapped under DPC on the inner leaf and with existing floor DPM, to form continuous moisture resistant layer. All to manufacturer's specifications and recommended details. DPM laid over 50mm sand blinding over compacted 150mm Type 1 sub-base/hardcore.
Actual U-Value designed to achieve 0.15W/m2k.

Floor levels shown on the plans are finished floor levels exact levels to be determined on site.
The contractor is to ensure that accredited construction details are used, in order to limit thermal bridging.

External Walls above DPC

Part L minimum U-Value 0.28W/m2k
(new element in an extension to existing dwelling, ADL1B)
Generally new external walls to be 350mm (excluding finishes): 100mm dense concrete blockwork outer leaf externally finished with stone cladding OR Western Red Cedar timber cladding over blockwork outer leaf as shown on elevation, 150mm cavity with 100mm Kingspan Kooltherm K108 to internal leaf leaving min. 50mm clear cavity, 100mm dense concrete blockwork inner leaf, with 12.5mm plasterboard on dabs with plaster skim finish.
Tie all new walls back to existing. Install insulated cavity closer's to all new openings.
The contractor is to follow accredited construction details in order to limit thermal bridging. Where steel lintels are used, these must be as approved by the LABC building control officer.
Actual U-Value designed to achieve 0.15W/m2k.

Cavity wall ties - to be Ancon stainless steel, or similar specifically designed for 150mm cavities at 750mm horizontal centres and 450mm vertical centres, offset 375mm horizontally to form a diamond pattern. Fix additional wall ties every other course at all corners and jambs.
Openings in cavity walls - install insulated cavity closers to new and amended openings with integrated dpc, eg Thermabate or similar approved, fitted in accordance with manufacturer's details and recommendations.

Stone and Timber Cladding
Carefully remove existing render where relevant.
To areas indicated on the elevations install stone cladding and Sioo:X treated Western Red Cedar vertical timber cladding.
Screw fix WRC timber cladding with specialist stainless steel screws to min. 38mm thick horizontal treated timber battens over 15mm thick vertical treated timber cross battens all screw fixed to the blockwork wall with stainless steel fixings. Leave ventilation strip at bottom of timber cladding and cover all holes with insect proof mesh. Provide timber trims to all reveals and where the material finish changes allow for difference in thickness between stone and timber cladding and install aluminium flashing and window sills where required. All details and fixings in accordance with TRADA and latest manufacturer's instructions and specifications.

Steel Work

All structural details to be provided by the consultant Structural Engineer for inspection and approval by Building Control before the works commence on site.
All steel beams to have min. end bearing of 150 mm and be protected to 1/2 hour fire resistance either by proprietary intumescent paint treatments or encased in 1 no. layer of 12.5 mm Fireline plasterboard or 2 no. layers of 12.5 mm plasterboard with plaster skim finish.

Internal Walls

To be constructed with 100mm thick dense concrete block walls with 12.5mm plasterboard on dabs with a plaster skim finish.
Alternatively construct new timber stud partitions with 12.5mm wallboard TEN or 15mm plasterboard with taped joints and plaster skim finish to provide min. mass per unit area 10 kg/m² on each side of 100mm x 50mm softwood studs at 400mm horizontal centres with min. 75mm thick sole plate and 50mm thick head plate fixed to roof/floor structure with min. 2 rows of solid horizontal strutting at 1200mm horizontal centres. Fully insulate studs with Pilkington Crown (or similar) mineral wool slabs with min. mass per unit area 10 kg/m³.
All internal walls to achieve min. 40dB sound reduction.

Windows and Doors Generally

New windows and doors are proposed to both new and existing openings all to have U-values as per L1B Table 1 or better:
The average whole unit U-values are as follows:
Glazed windows min. 1.6W/m²K. Velux rooflights min. 1.6W/m²K. External glazed doors min. 1.8W/m²K. Solid external doors min. U-value of 1.8W/m²K.
Better:
The average whole unit U-values are as follows:
Glazed windows min. 1.4W/m²K. External doors min. 1.6W/m²K. Velux rooflights min. 1.3W/m²K. Solid external doors min. U-value of 1.4W/m²K.

New glazed windows and doors are to be aluminium clad timber OR uPVC framed double or triple glazed units in RAL 7016 colour. All constructed to high performance specifications with all necessary draught seals, water checks and extended sills to suit severe weather conditions. The window manufacturer is to provide a detailed specification including unit U-values for all glazed windows and doors prior to installation.
All windows are to be fitted with trickle ventilators to provide 2500sq.mm of ventilation to bathrooms, kitchens and utility rooms and 8000sq.mm to habitable rooms. Windows are to be close-fitting and sealed around all jambs heads and sills with mastic to match frame colour.
All windows with a sill height less than 800mm, glazed doors and side lights within 300mm of doors are to be fitted with toughened or laminated double glazing to inner and outer leaves.
All first floor windows to floor level to be designed for containment and to be capable of resisting a force of 0.36kN/m in accordance with BS6399 pt1 1996.

Lintels Over External Openings

Where block and render/timber cladding over opening
To be Catnic Steel Lintels or pre-stressed Reinforced Concrete (PSRC), by Kingstone Lintels Ltd, with min. 150mm end bearing:
GFD01 - Existing lintels to be inspected by a structural engineer and retained wherever possible. *If new lintels are required consider increasing the height of this opening.*
GFD02 - 3038mm clear span - Catnic or Steel Lintel to structural engineer's details.
*GFD03 - 2044mm clear span - 2no. 100x215mm PSRC
GFD04 - 1838mm clear span - 2no. 100x215mm PSRC
GFW01 - Existing lintels to be inspected by a structural engineer and retained wherever possible.
*GFW02 - 2044mm clear span - 2no. 100x215mm PSRC
**This is the same opening.*

All lintel sizes and exact specification to be approved by the structural engineer and lintel manufacturer prior to ordering and installation on site.
All sizes on elevations are in millimetres and represent the approximate structural opening of each window and door. All sizes should only be used as a guide for pricing purposes with exact measurements taken on site prior to ordering/manufacture.
Appropriate weeps vents to be installed over lintels according to manufacturer's recommendations. (see DPC note)

Lintels to Internal Openings

Cavity/blockwork walls
GFD05 - 970mm clear span - 2no. 100x215mm PSRC
GFD06 - 920mm clear span - 1no. 100x150mm PSRC
GFD07 - 920mm clear span - 1no. 100x150mm PSRC
GFD08 - 1618mm clear span - 1no. 100x215mm PSRC

Roof Construction - Warm Roof

Part L minimum U-Value 0.28W/m2k
(new element in an extension to existing dwelling, ADL1B)
EDPM Firestone roofing membrane adhered to 18mm thick marine plywood mechanically fixed to roof rafters through min. 145mm thick Kingspan Thermaroof TR27 LPC/FM insulation, on continuous self adhesive bituminous vapour control layer applied to 18mm thick Class 3 plywood deck, on timber firings laid to 1:50 fall on timber structure as designed and specified by the Structural Engineer, assumed to be 195x47mm C24 treated timber roof rafters at 400mm centres. Internal lining of 12.5mm plasterboard (or Fireline where required). The roofing system installation and detailing at kerbs and abutments, etc. is all to be in full accordance with the manufacturer's latest installation instructions and to be done by accredited installers.
All details to be approved by Building Control prior to the works commencing on site.
Actual U-Value designed to achieve 0.15W/m2k

Roof Generally
Lay treated wall plates on a mortar bed and fix to head of internal wall with Bat cranked galvanised steel straps fixed at max. 1500mm centres. Fix Bat MS galvanised straps at 1800mm centres to head of side walls and gables throughout perimeter of new roof structure fixed to 3 no. rafters perpendicular and along sides of truss members parallel to straps. Fix 50mm x 50mm solid strutting/packing under Bat MS galvanised straps fixed between individual joists and the last spar and wall.
Where roof rafter ends are built into walls apply additional preservative treatment to embedded timbers and sawn ends. Tightly pack bearing ends and shimmy with slate as required to provide secure level bearing.

Accredited details are to be used to limit the effects of cold bridging throughout.
Note: *Due to condensation risk do not adjust the specified construction without consulting insulation and roof finish manufacturer for an alternative specification*.

Garden Store

There is no heating in the garden store but we have illustrated insulation to improve comfort levels during colder months.
WALL - 50mm thick insulation in the 300mm thick cavity wall dense concrete block construction.
FLOOR - 70mm thick insulation in the floor construction under 100mm reinforced concrete floor over 1200 gauge Visqueen over sand blinded hardcore installed in 150mm compacted layers.
ROOF - 70mm thick insulation with C24 grade min 47 x 150mm rafters at 400mm centres with firrings over all to structural engineer's details.

Leadwork

All new code 4 lead valley gutters, soakers, and flashings to all abutments and roof penetrations shall be installed strictly in accordance with the Lead Sheet Association as issued in their specification and users manual.

Roof Lights

Trim out for roof lights with 75mm x 100mm and 2no. 50mm x 100mm timber trimmers in strict accordance with manufacturers and structural engineers specification and detailed drawings.
Ensure all installation details including the upstand are all constructed in accordance with the latest manufacturers installation instructions and detailed drawings. The roof must be constructed to ensure water falls away from behind the rooflight.

Rainwater Goods

Supply and fix gutters VM Quartz Zinc rainwater goods. Min. 100mm half round gutters and min. 63mm rainwater down pipes. All fixings and brackets to be installed in strict accordance with manufacturer's specifications and installation instructions.

Sanitaryware

Connect all new sanitaryware to existing soil vent stack at a gradient not less than 1:60. All sanitaryware is to be fitted with deep seal (75 mm min.) traps and enter the soil vent stack via an anti-siphon collar boss. Where 50 mm waste runs exceed 3600 mm in horizontal length fix a Marley durgo air inlet valve at the head of the line strictly in accordance with the manufacturer's guidelines regarding height in relation to overflows etc. and positioned within the insulated area of the building. Use thermostatic fittings to all sinks, baths and bidets to restrict the water temperature to 48°C at the outlet. Alternatively inline thermostatic controls should be installed. Caution inline valves to be located close to the outlet it serves and comply with BS EN 111:1996. The valves must be compatible with the hot and cold water sources and flushed when not in use for long periods.

Mechanical Ventilation

Where not already fitted supply and fix PIR or light switch operated extract fan to WC and PIR, light switch or independent switch (client to decide) operated extract fans ducted to outside air with integral through wall/roof ducting, damping and external grills with min. 15 minute over run to the following:
Kitchen
150 mm diameter with min. 60 litre/second extract rate, or
30 litre/second extract fan if placed directly above the cooker.
Bathroom and En-suites
100 mm diameter with 30 litre/second (min. 15 l/s) extract rate.
WC 100 mm diameter with 30 litre/second (min. 15 l/s) extract rate.
Utility
150 mm diameter with min. 30 litre/second extract rate.
Extract fans must be located at least 500mm from background (trickle) ventilators.

Purge Ventilation

Habitable rooms are to have an openable purge ventilation area equal to min. 1/20th of the room's floor area.

Smoke Alarms and Heat Detectors

Where not already fitted, fix heat and smoke detectors as indicated on the plans. All detectors/alarms are to be interlinked to and connected to the mains electricity supply and to have a trickle fed battery back up system.
The smoke detection system is to be a Grade D LD2 system installed in accordance with BS5839-6:2004 and with detectors in locations in accordance with BS5839-1:2002.

Carbon Monoxide detector

Where not already fitted fix a carbon monoxide detector in proximity to all non-electric heating appliances. This can be interlinked with the smoke and heat detectors or a stand-alone alarm.

Escape in Case of Fire

All escape windows are to have an openable area, with the opening no higher than 1100mm above finished floor level, of min. 450mm x 450mm and at least 0.33sq. m.

Electrical Safety (Part P)

All electrical work is to meet the requirements of Part P (Electrical Safety) and will be designed, installed, inspected and tested by a person competent to do so. Prior to the completion of the works, the Council will need to be satisfied that Part P has been complied with and will require a copy of the appropriate BS 76712 Electrical Installation certificate issued for the work by a person competent to do so.

Part R - Telephone and Broadband

Part R applies if the works to the existing is classed as major renovation works. These works do not encompass "structural modifications of the entire in-building physical infrastructure, or of a significant part of it" for Part R to apply, but if the LBCO suggests this is the case, co-ordinate and liaise with the telephone service provider with regard to connection of the telephone/broadband cabling. Provision should be then be made to the property for a High Speed Internet connection.

Lighting

Energy efficient lighting to be provided throughout using dedicated energy efficient fittings and bulbs.

Access and Facilities for Disabled People

Approved Document M Volume 1 does not apply to extensions to dwellings.

Part Q - Security

Part Q applies only in relation to new dwellings.

External Works

A new car parking area to be constructed with a permeable finish with falls to new surface water drainage channel.
New patio area to rear to be paved with a non-slip finish and be provided with a cross fall of 1:60 to dispose of rain/surface water. All to be agreed on site with client and LABC Officer.

Surface Water Drainage - Connections and Discharges
Surface Water Drains

Existing driveway - New surface water drainage channel proposed, connected to existing surface water system. Any extension to car parking area to be of permeable finish or tarmac with falls to new surface water drainage channel.

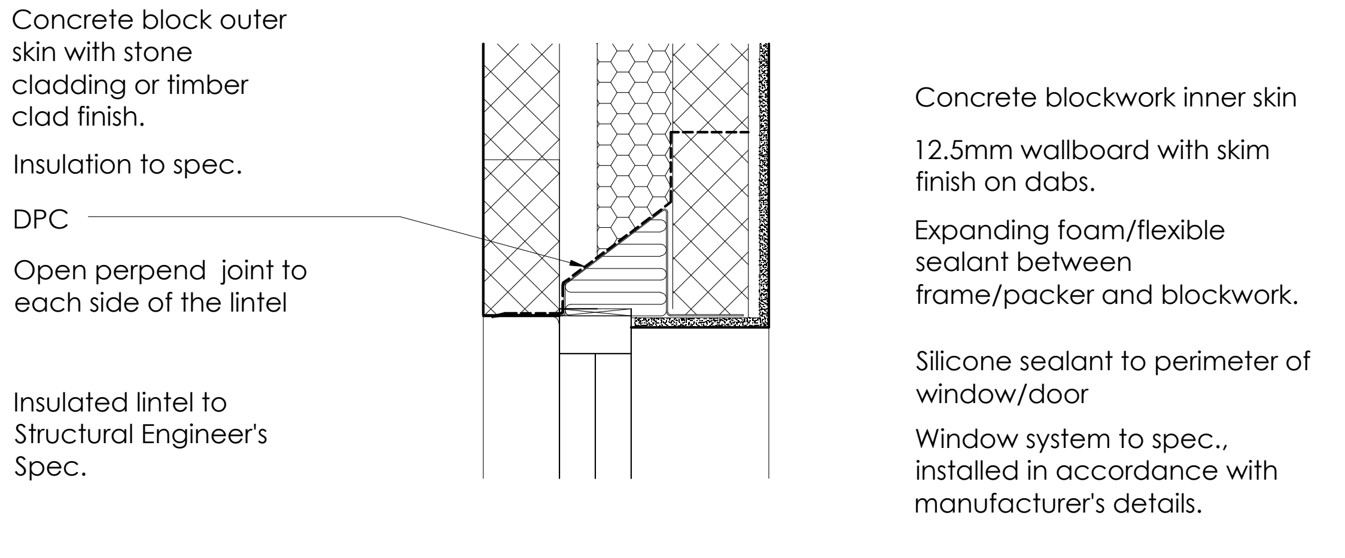
DRAINAGE KEY		
– – – – – –	Surface Water Drainage	
—— · ——	Foul Drainage	
○	SVP	Soil Vent Pipe
⊕	AAV	Air Admittance Valve
⊠○	RWP	Rain Water Pipe
⊠	BITG	Back Inlet Trap Gully
○	Inspection Chambers FIC SWIC	 Foul Surface Water
△	Rodding Access Point	

SD	Smoke detector.
HD	Heat detector.
CO	Carbon Monoxide detector.
15	15 l/s extractor fan.
30	30 l/s extractor fan.
60	60 l/s extractor fan.

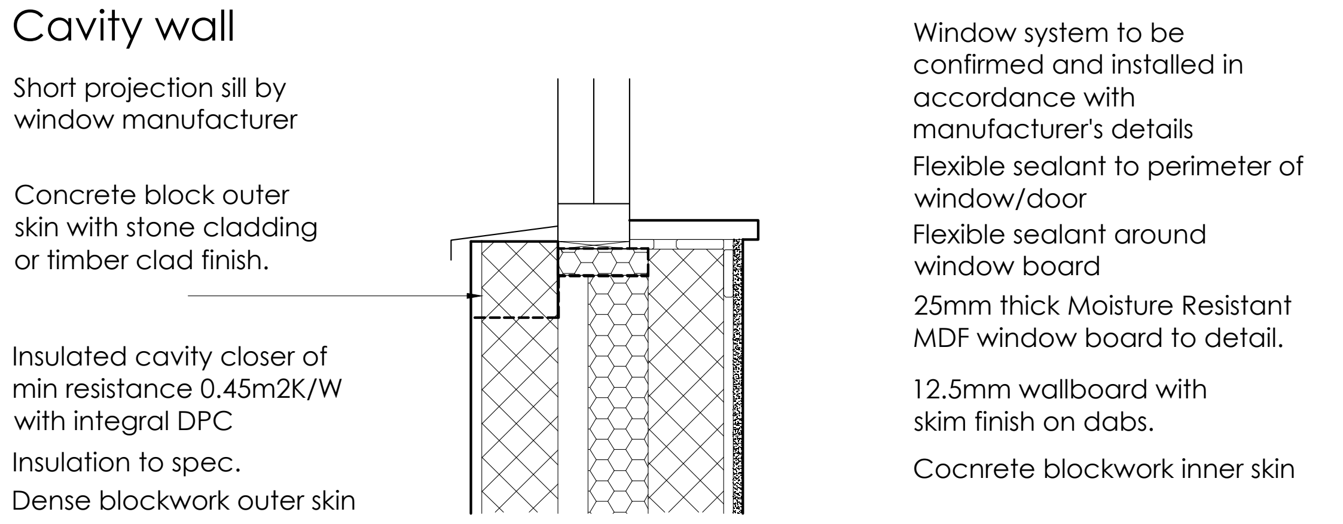
External Walls

U-value = 0.15Wm²K

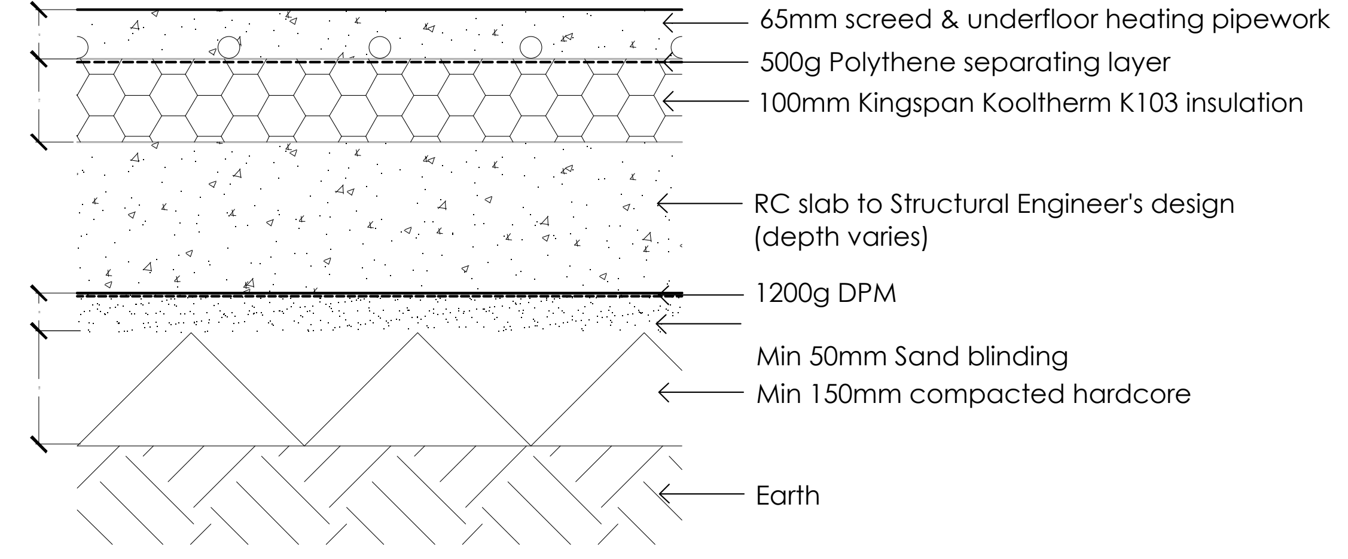
Typical Window/Door Head: Cavity wall



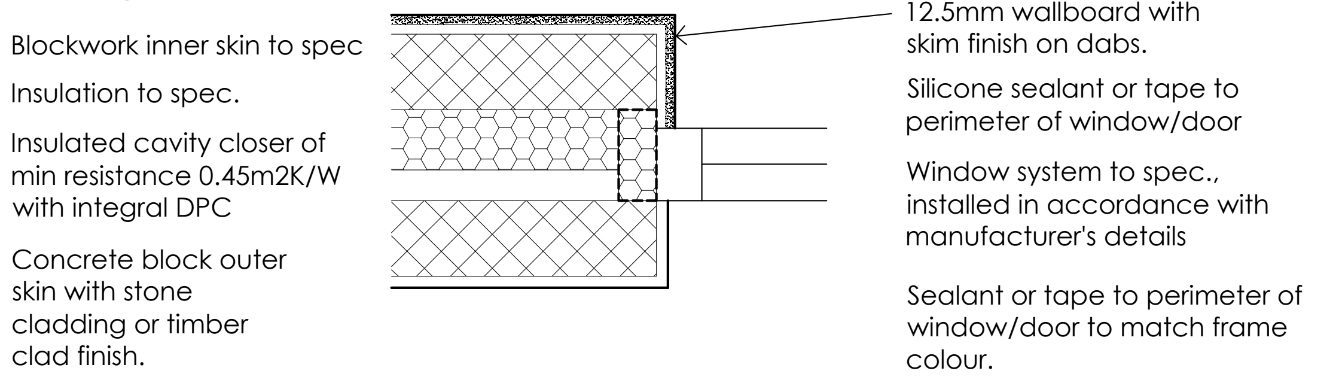
Typical Window Sill: Cavity wall

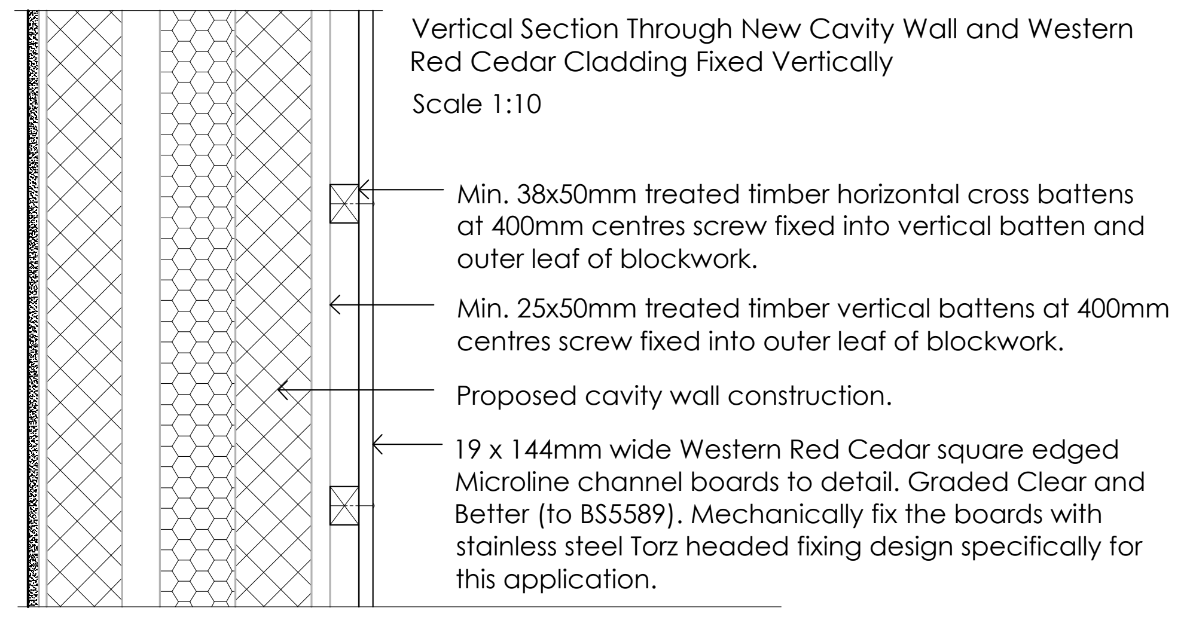


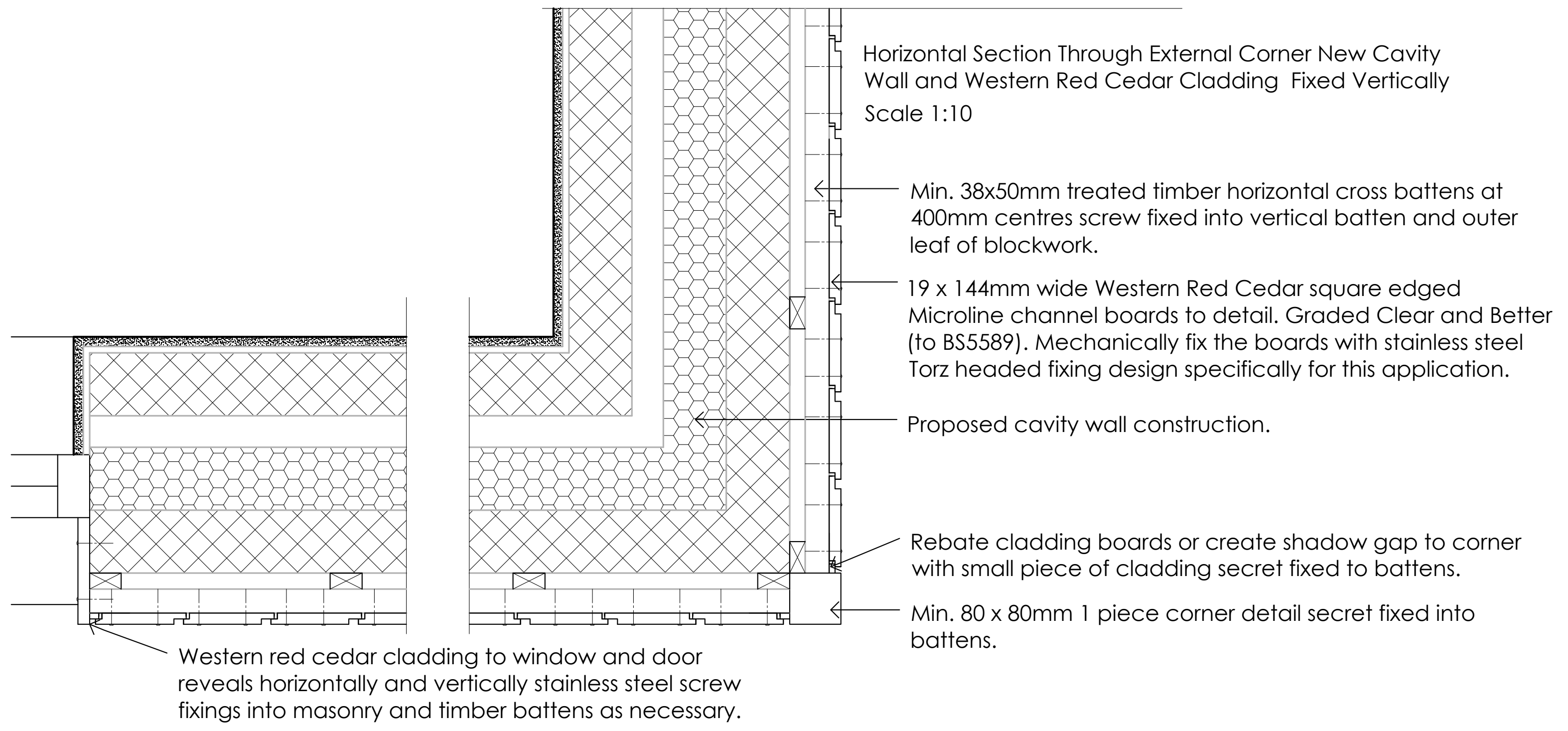
Ground Floor Structure



Typical Window/Door Jamb: Cavity wall




Vertical Section Through New Cavity Wall and Western Red Cedar Cladding Fixed Vertically
Scale 1:10


Horizontal Section Through External Corner New Cavity Wall and Western Red Cedar Cladding Fixed Vertically
Scale 1:10

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Notes and Details

Alterations and Extensions to
Longlands, Whinney Hill
Cleator Moor
for Mr and Mrs Christie

DRAWING NO. : 19.39.07
SCALE : 1:10@A1
DRAWN BY : PK
DRAWING NO. : MAY 2020

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