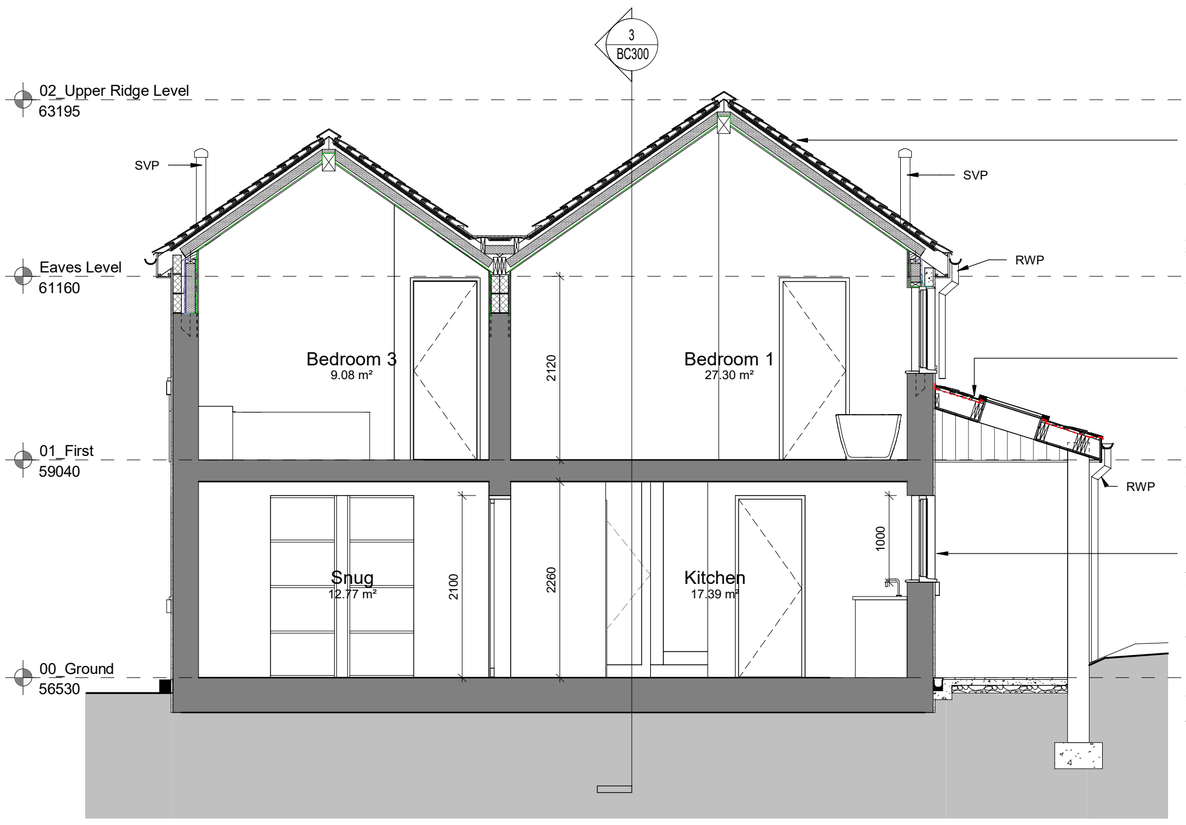
1 BC300 Proposed Section A-A
Scale - 1 : 50

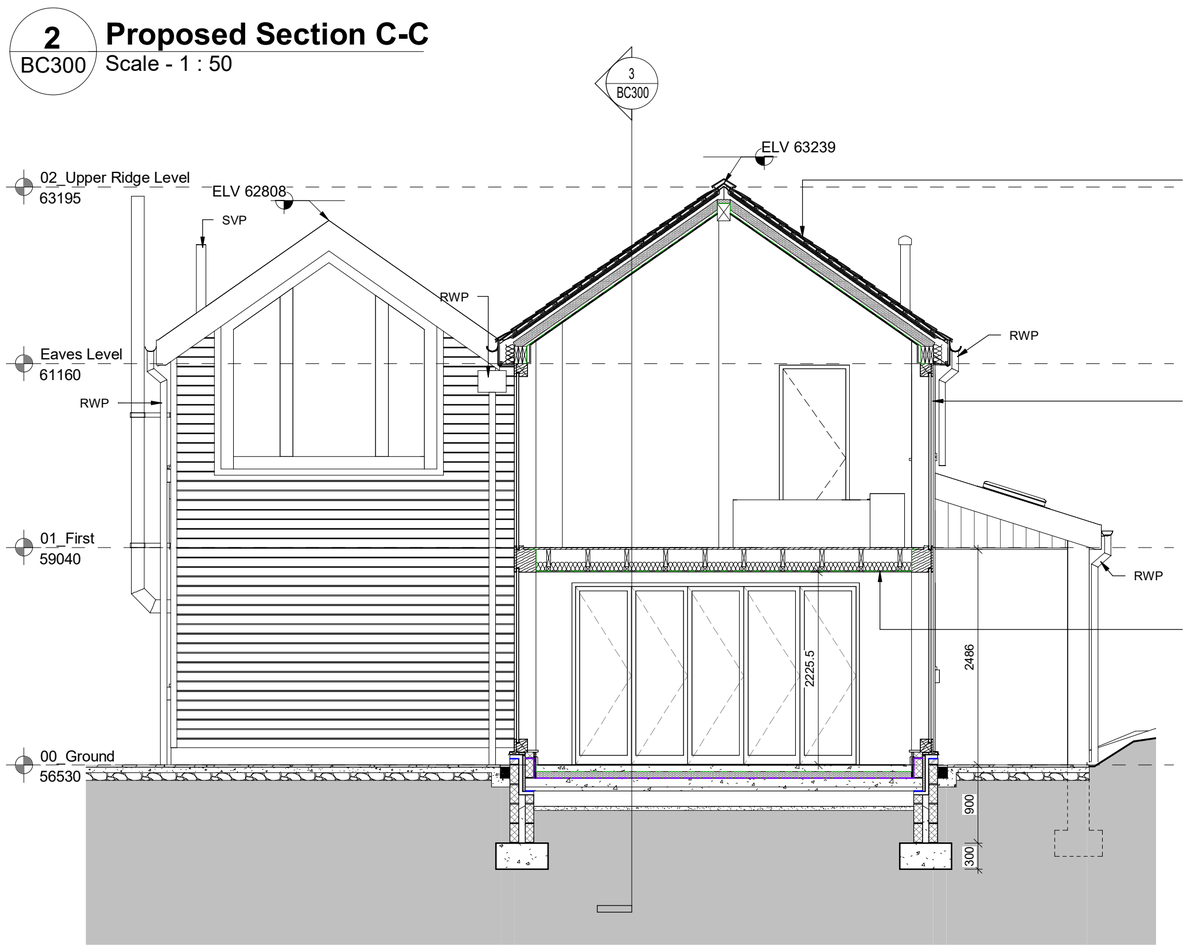


ROOF STRUCTURE - VAULTED CEILINGS TO FIRST FLOOR
Pitched 47 x 200mm rafters to form roof structure with 1 x layer of 120mm Kingspan Kooltherm K107 between rafters with top face of boards battened to ensure a 25mm clear gap (based on 200mm rafters) between underside of roof underlay and top of boards to provide a void to drape roof underlay. Provide a continuous layer of TLX Gold multi-foil insulation draped over rafters with Kingspan boards flush with underside of rafter. Tiling to be battened over all-in-one TLX membrane in strict accordance with manufacturer's guidelines. Knauf 12.5mm Plasterboard Tapered Edge with end joints staggered and fixed to u/s of timber rafters at 450mm centres with 60mm Gyproc Drywall screws. Before skimming reinforce joints using Gyproc Joint Tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas.
NOTE: Pitched roof construction to achieve a maximum U-Value of **0.18W/m²K**.

ROOF STRUCTURE - EXTERNAL SHELTER
Pitched 47 x 200mm rafters to form roof structure with weather treated Douglas fir 100x 25mm cladding battens with 5mm spacings fixed to underside of rafters installed across rafter direction to provide soffit line. Tiling to be battened with Proctor non-woven polypropylene breather membrane or similar approved lapped 100mm horizontally and vertically, 150mm at hips, 300mm at valleys and sealed with recommended adhesives. Membrane to be draped over rafters to allow for water run off under tiling battens. Membrane to discharge over fascia into rainwater gutters on proprietary eaves carrier. Where membrane meets TLX gold to roof areas housing internal spaces, membrane to overlap and tape to seal over TLX to suit. All in strict accordance with manufacturer's instructions and BBA certificate.

EXTERNAL SASH WINDOWS - REPLACED EXISTING AND NEWLY PROPOSED
All windows to be BBA approved timber thermally broken frames with internally beaded sealed double glazing units with 6 split per pane glazing bars. Specified windows to have French Grey external frame colour. Glazing bars to match external French Grey frame colour. Frames to be mechanically fixed with galvanised frame cramps to inner leaf SIPs structure spaced at 150mm from corners and 300mm centres elsewhere. Frames to be weather stripped and draught sealed and to be pointed externally with one part non staining facade sealant to ISO 11600 Type F to suit joint width and depth with closed cell polyethylene backing strip.
NOTE: All windows to be installed in such a position that the internal face of the frame overlaps the thermal line by a minimum of 25mm. Extended sill units to be provided as necessary to achieve a minimum of 50mm overhang from the outside face of the external wall.
NOTE: The supplied window system to achieve a U-Value of maximum **1.2W/m²K**.

2 BC300 Proposed Section C-C
Scale - 1 : 50



ROOF STRUCTURE - VAULTED CEILINGS TO FIRST FLOOR
Pitched 47 x 200mm rafters to form roof structure with 1 x layer of 120mm Kingspan Kooltherm K107 between rafters with top face of boards battened to ensure a 25mm clear gap (based on 200mm rafters) between underside of roof underlay and top of boards to provide a void to drape roof underlay. Provide a continuous layer of TLX Gold multi-foil insulation draped over rafters with Kingspan boards flush with underside of rafter. Tiling to be battened over all-in-one TLX membrane in strict accordance with manufacturer's guidelines. Knauf 12.5mm Plasterboard Tapered Edge with end joints staggered and fixed to u/s of timber rafters at 450mm centres with 60mm Gyproc Drywall screws. Before skimming reinforce joints using Gyproc Joint Tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas.
NOTE: Pitched roof construction to achieve a maximum U-Value of **0.18W/m²K**.

GLAZING ELEMENTS OF TIMBER FRAME CONSTRUCTION
All glazing forming part of the exposed timber frame construction and bespoke timber feature windows to bedrooms to be sealed double glazing units fabricated to suit by the glazing supplier. Glazing to be mounted within a cut rebate within the timber with a 5-8mm tolerance to allow for natural movement. Units to be sealed with expanding adhesive foam or EPDM sealing strips. Seasoned timber capping board cut to the same width as frame positioned to the external face to conceal glazing connections and to present frameless aesthesic.

FIRST FLOOR STRUCTURE
200x50mm C24 regularised floor joists. At clear spans greater than 2.5m provide strutting at mid span and at 2.0m centres with packing pieces against supporting structure. All floor joists parallel to external walls to be fixed with Expamet standard or similar approved galvanised steel restraint straps at maximum 1800mm centres taken over last three notched joist members with 200x50mm timber noggins between and packing piece between first joist and wall. Where stud walls run parallel to floor joists, double joists to be provided. For trimmers use doubled or tripled up joists bolted together. 22mm tongue and grooved flooring/moisture grade C4 chipboard fixed down to floor joists with rink shank nails at 300mm centres to all board edges and 150mm from corners. All joints to be glued with PVA waterproof adhesive.
NOTE: Floorboard to extend to eaves to ensure 30 minute fire protection is achieved.
12.5mm Gypsum wallboard plasterboard with end joints staggered and fixed to u/s of timber joists at 450mm centres with 25mm Gyproc Drywall screws. Finish ceilings with thistle board finish. Before skimming reinforce joints using Gyproc joint tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas and kitchen.

Garden room plasterboard to ceiling to be spaced from underside of timber joists via softwood battens to allow for continuous ceiling line where floor buildups alter from first floor internal buildup to balcony floor construction.

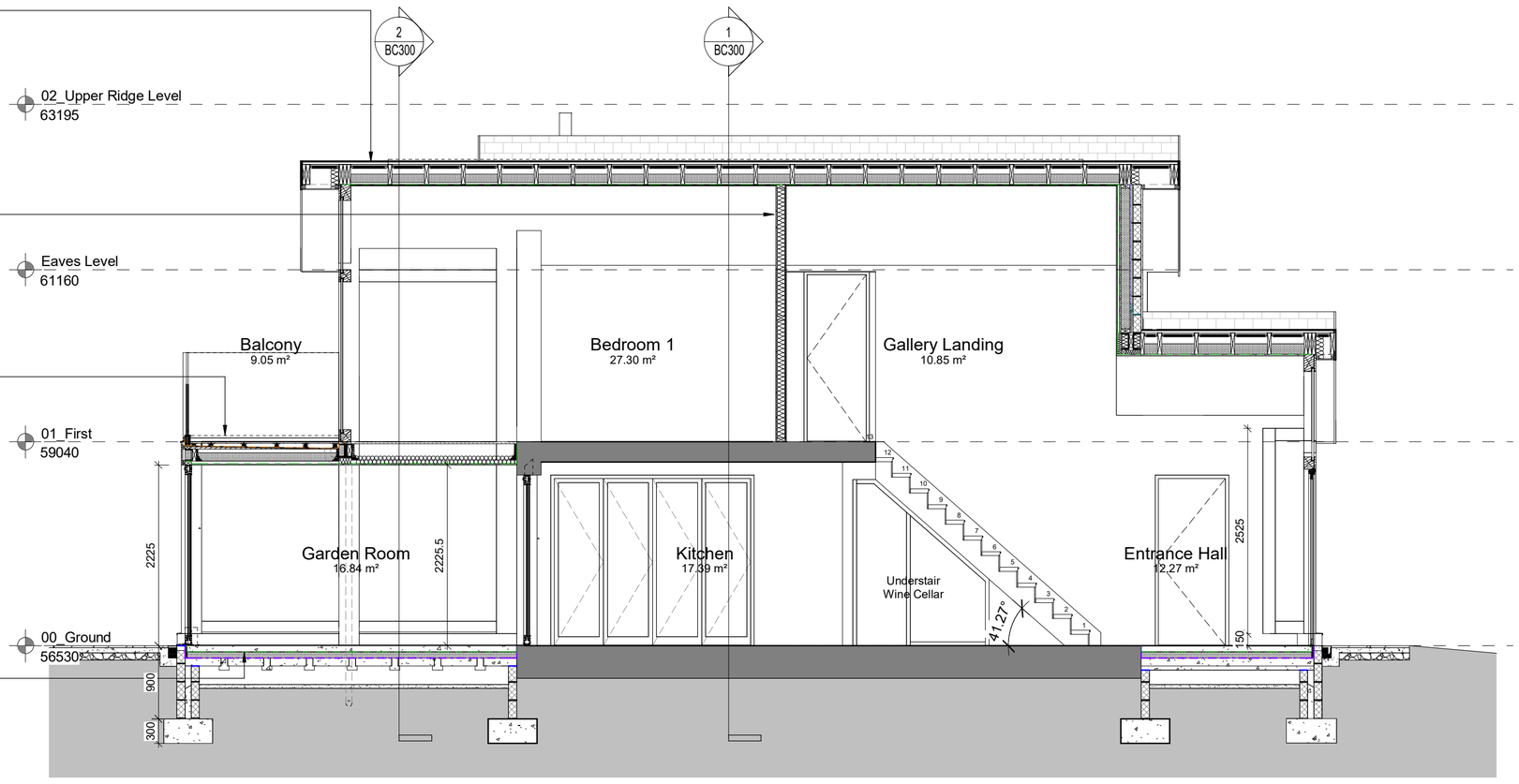
3 BC300 Proposed Section B-B
Scale - 1 : 50

ROOF STRUCTURE - VAULTED CEILINGS TO FIRST FLOOR
Pitched 47 x 200mm rafters to form roof structure with 1 x layer of 120mm Kingspan Kooltherm K107Z between rafters with top face of boards battened to ensure a 25mm clear gap (based on 200mm rafters) between underside of roof underlay and top of boards to provide a void to drape roof underlay. Provide a continuous layer of TLX Gold multi-foil insulation draped over rafters with Kingspan boards flush with underside of rafter. Tiling to be battened over all-in-one TLX membrane in strict accordance with manufacturer's guidelines. Knauf 12.5mm Plasterboard Tapered Edge with end joints staggered and fixed to u/s of timber rafters at 450mm centres with 60mm Gyproc Drywall screws. Before skimming reinforce joints using Gyproc Joint Tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas.
NOTE: Pitched roof construction to achieve a maximum U-Value of **0.18W/m²K**.

INTERNAL LINING PARTITIONS
Fabricated on site using regularised 94x44mm softwood vertical studs at 400mm centres with one line of solid noggins at mid height. 94 x 44mm head and sole plates mechanically tied to floor and ceiling for lateral support. Provide additional noggins as necessary to provide fixings for radiators etc. Fix 12.5mm Gyproc Wallboard tapered edge plasterboard to timber studs with Gyproc 38mm drywall timber screws with minimum 25mm penetration into timber. All joints taped and prepared to receive a 3mm Gyproc Thistle finish coat, all in accordance with manufacturer's recommendations.

BALCONY FIRST FLOOR CONSTRUCTION
150x47mm C24 regularised floor joists to be fixed between steel beams and hung from proprietary joist hangers from external walls. At clear spans greater than 2.5m provide strutting at mid span and at 2.0m centres with packing pieces against supporting structure. Provide 1 x layer of 150mm Celotex XR4000 between timber joists supporting balcony construction for continuous external grade thermal performance. All floor joists parallel to external walls to be fixed with Expamet standard or similar approved galvanised steel restraint straps at maximum 1800mm centres taken over last three notched joist members with 150x50mm timber noggins between and packing piece between first joist and wall. 18mm exterior grade plywood to top of rafters ready to accept treated timber firrings cut to provide a minimum 1:80 fall for rainwater runoff directed towards detailed rainwater outlet. Additional exterior grade 12mm plywood deck installed above firrings ready for fully bonded proprietary BBA certified balcony suitable single ply membrane roof finish in strict accordance with manufacturer's instructions.
NOTE: Balcony construction to achieve maximum U-Value of **0.18W/m²K.**
600 x 600 x 20mm balcony paving slabs installed on self-levelling pedestals positioned to support all corners of slabs cut to accomodate tapered roof construction.

BEAM AND BLOCK GROUND FLOOR
See chosen manufacturer's additional design details for suspended concrete ground floor. Block type to be as recommended by manufacturer. Beams to be built into block inner skin with joints fully filled with mortar. Infill blocks to be minimum 100mm thick 3.5N/mm sq or as recommended by manufacturer. 2 layers of DPC to be placed below concrete beams and supporting blockwork, all to be in accordance with manufacturers recommendations. Provide (min) 150mm void below beams and (min) 150mm well consolidated ground. Floor void to be ventilated using proprietary air bricks and telescopic vents to give ventilation equivalent free area of 1500mm sq per 1000mm run of wall. Ventilators to be placed in any sleeper walls to allow cross ventilation. Sand and cement screed [75mm thickness] 4:1 with steel trowelled finish (tolerance of +/- 3mm in 1m) with 20.50 wire mesh laid in accordance with BS 8204 Part 1. Minimum of 1200g Polythene DPM laid between beam/block and insulation above, lapped and sealed at all joints. Vapour control layer (minimum 500g) to be laid between insulation and screed above. 75mm Kingspan Kooltherm K103 rigid insulation floorboard [or similar approved] to provide **0.18W/m²K** with 25mm Kingspan upstands cut to same depth as screed.



IMPORTANT NOTE: Extension and Alterations
These drawings have been prepared without the benefit of exposing underlying construction and therefore assumptions have been made. Prior to commencement the contractor must contact designer to agree the necessary scope of investigation works, to confirm on site conditions. It should be noted that results of these investigations may require the drawings and structural design to change.

IMPORTANT NOTE: General
All dimensions are in millimetres. Where dimensions are not given, drawings must not be scaled. In the event of any detail or dimensional conflict between these drawings and site conditions, the matter must be referred back to designer for clarification.

All dimensions and conditions are to be checked on site by the contractor prior to commencing any work.

Drawings to be read in conjunction with Structural Engineer's, Mechanical and Electrical Engineer's, Specialist Manufacturer's and Sub-contractor's drawings and specification.

FIRST FLOOR STRUCTURE

TIMBER JOISTS [TO BE CONFIRMED BY STRUCTURAL ENGINEER]
200x50mm C24 regularised floor joists. At clear spans greater than 2.5m provide strutting at mid span and at 2.0m centres with packing pieces against supporting structure. All floor joists parallel to external walls to be fixed with Expamet standard or similar approved galvanised steel restraint straps at maximum 1800mm centres taken over last three notched joist members with 200x50mm timber noggins between and packing piece between first joist and wall. Where stud walls run parallel to floor joists, double joists to be provided. For trimmers use doubled or tripled up joists bolted together.

CHIPBOARD FLOORING TO TIMBER JOISTS
22mm tongue and grooved flooring/moisture grade C4 chipboard fixed down to floor joists with rink shank nails at 300mm centres to all board edges and 150mm from corners. All joints to be glued with PVA waterproof adhesive.
NOTE: Floorboard to extend to eaves to ensure 30 minute fire protection is achieved.

PLASTERBOARD TO UNDERSIDE OF FLOOR JOISTS
12.5mm Gypsum wallboard plasterboard with end joints staggered and fixed to u/s of timber joists at 450mm centres with 25mm Gyproc Drywall screws. Finish ceilings with thistle board finish. Before skimming reinforce joints using Gyproc joint tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas and kitchen.

Garden room plasterboard to ceiling to be spaced from underside of timber joists via softwood battens to allow for continuous ceiling line where floor buildups alter from first floor internal buildup to balcony floor construction.

STEEL BEAMS TO UPPER FLOORS [TO BE CONFIRMED BY STRUCTURAL ENGINEER]
Steel beam sizes and pad stones to Structural Engineer's design and detail. Where possible all steel beams are to be incorporated within the floors or ceiling voids. Steel beams not concealed with the floor zone to be provided with minimum 30 minutes fire resistance by intumescent coating/3 sided casement protection. Steel beams to be delivered to site pre-painted, with 2 coats of zinc-phosphate paint.

ACOUSTIC INSULATION BETWEEN FLOOR JOISTS
All voids between floor joists to be filled with 100mm Rockwool mineral wool with minimum density 10kg/m³ for sound insulation. All to achieve a sound reduction of at least 40dB. All in accordance with Approved Document E5.

BALCONY FIRST FLOOR CONSTRUCTION

BALCONY STRUCTURE
150x47mm C24 regularised floor joists to be fixed between steel beams and hung from proprietary joist hangers from external walls. At clear spans greater than 2.5m provide strutting at mid span and at 2.0m centres with packing pieces against supporting structure. All floor joists parallel to external walls to be fixed with Expamet standard or similar approved galvanised steel restraint straps at maximum 1800mm centres taken over last three notched joist members with 150x50mm timber noggins between and packing piece between first joist and wall. 18mm exterior grade plywood to top of rafters ready to accept treated timber firrings cut to provide a minimum 1:80 fall for rainwater runoff directed towards detailed rainwater outlet. Additional exterior grade 12mm plywood deck installed above firrings ready for fully bonded proprietary BBA certified balcony suitable single ply membrane roof finish in strict accordance with manufacturer's instructions.
NOTE: Balcony construction to achieve maximum U-Value of **0.16W/m²K.**

BALCONY DECK
600 x 600 x 20mm balcony paving slabs installed on self-levelling pedestals positioned to support all corners of slabs cut to accomodate tapered roof construction.

INSULATION BETWEEN FLOOR JOISTS
Provide 1 x layer of 150mm Celotex XR4000 between timber joists supporting balcony construction for continuous external grade thermal performance.

ROOF STRUCTURE - VAULTED CEILINGS TO FIRST FLOOR

NEW DUO-PITCHED ROOF (INSULATION AT RAFTER LEVEL)
Trussed rafters to be designed and supplied by specialist sub-contractor.

RESTRAINT STRAPS TO ROOF STRUCTURE
All mechanical strapping and fixings to be confirmed by Structural Engineer.

ROOF INSULATION TO SLOPED CEILINGS
Provide 1 x layer of 120mm Kingspan Kooltherm K107 between rafters with top face of boards battened to ensure a 25mm clear gap (based on 200mm rafters) between underside of roof underlay and top of boards to provide a void to drape roof underlay. Provide a continuous layer of TLX Gold multi-foil insulation draped over rafters with Kingspan boards flush with underside of rafter. Tiling to be battened over all-in-one TLX membrane in strict accordance with manufacturer's guidelines.
NOTE: Pitched roof construction to achieve a maximum U-Value of **0.16W/m²K**.

PLASTERBOARD TO SLOPED CEILING
Knauf 12.5mm Plasterboard Tapered Edge with end joints staggered and fixed to u/s of timber rafters at 450mm centres with 60mm Gyproc Drywall screws. Before skimming reinforce joints using Gyproc Joint Tape and pre-fill any gaps between boards exceeding 3mm. Use moisture resistant plasterboard to wet areas.

ROOF STRUCTURE - COLD ROOF TO SINGLE STOREY GROUND EXTENSION

NEW SINGLE-PITCHED ROOF (INSULATION AT RAFTER LEVEL)
Trussed rafters to be designed and supplied by specialist sub-contractor.

RESTRAINT STRAPS TO ROOF STRUCTURE
All mechanical strapping and fixings to be confirmed by Structural Engineer.

ROOF CONSTRUCTION TO COLD ROOF
Pitched 47 x 200mm rafters to form roof structure with a continuous layer of TLX Gold multi-foil insulation draped over rafters. Tiling to be battened over all-in-one TLX membrane in strict accordance with manufacturer's guidelines.
47 X 150mm timber joists to form ceiling line structure with 1 layer of 150mm Celotex XR4000 between ceiling joists and 25mm Celotex TB4000 (or similar approved) rigid insulation installed over timber joists.12.5mm Gypsum wallboard plasterboard with end joints staggered and fixed to u/s of timber joists at 450mm centres with 25mm Gyproc Drywall screws. Finish ceilings with thistle board finish. Before skimming reinforce joints using Gyproc joint tape and pre-fill any gaps between boards exceeding 3mm.
NOTE: Pitched roof construction to achieve a maximum U-Value of **0.18W/m²K**.

ROOF STRUCTURE - EXTERNAL SHELTER

ROOF CONSTRUCTION TO EXTERNAL SHELTER SPACE
Pitched 47 x 200mm rafters to form roof structure with weather treated Douglas fir 100x 25mm cladding battens with 5mm spacings fixed to underside of rafters installed across rafter direction to provide soffit line. Tiling to be battened with propreietary breathable roof underlay draped over battens in strict accordance with manufacturer's BBA certificate.

PROPRIETARY BREATHABLE ROOF UNDERLAY
Proctor non-woven polypropylene breather membrane or similar approved lapped 100mm horizontally and vertically, 150mm at hips, 300mm at valleys and sealed with recommended adhesives. Membrane to be draped over rafters to allow for water run off under tiling battens. Membrane to discharge over fascia into rainwater gutters on proprietary eaves carrier. Where membrane meets TLX gold to roof areas housing internal spaces, membrane to overlap and tape to seal over TLX to suit. All in strict accordance with manufacturer's instructions and BBA certificate.

ROOF VENTILATION
All roof ridges and abutments occur, roof buildup to include suitable ventilation systems to provide continuous, unobtrusive, weathertight air paths from roof voids to outside. All ventilation to comply with BS 5250:2011 and to be installed in strict accordance with manufacturer's detail and specification.

ROOF FINISHES

ROOF TILES
All roof tiles to be natural slate. Origin and tile sizing to be confirmed dependant on availability. Colour of tiles to be confirmed by client.

Notes:

DRAWING INFORMATION
Dimensions to be checked on site. All in millimetres (mm) unless stated. Not to be scaled.
This drawing and information displayed is the confidential property of **ep** projects Ltd and shall not be copied or used for any purpose without the written permission of an agent of the company.

Comments:

Drawn by: TS Date: 25.06.21

Checked by: GW Date: 25.06.21

Issued for: BUILDING CONTROL

Client: -

Project: - -

Drawing: Proposed Sections

Project No: 21023 Dwg No: BC300

Scale: As indicated@A1

Rev:

© **ep** Projects Ltd.
E: gary.wilburn@energyprotld.com
W: www.energyprotld.com
Contractors must work only to figured dimensions which are to be checked on site.
Registered Office:
7 Bell Yard,
London,
WC2A 2JR
Registered Number: 08236665

ep projects