SUMMARY OF NOTES:

BUILDING CONTROL
Building Control Officer (BCO) is to advise/ inform architect during Building regulations, if the proposed development is near a public sewer, in a contaminated or radon area, in a flood zone, in extremely windy area or if any other special design is required for the proposed development that is characteristic/ necessary in the local area.

GENERAL NOTES
- The contractors are responsible for checking all information and dimensions on site before any orders are placed and/or commencement of construction work.
- All foundations to S/E design and details. Foundation details are subject to site findings.
- All concrete work to S/E design and details.
- Structural stability of the building to S/E design and details.
- All steelwork to S/E design and details. Steelwork sub-contractor to be responsible for taking all necessary site measurements prior to fabrication to ensure the correct fit of the new works on site. All structural steelwork to be dry fire cased to comply with the latest Building Regulations. Where concrete encasement is required the steelwork is not to be painted.
- All structural timbers to S/E design and details.
- All load bearing masonry to S/E design and details.
- All structural elements are shown indicatively, refer to S/E details for setting out.
- Refer to Structural engineer's design, details, specifications and calculations.
- Contractor to verify all levels and setting out and to determine all dimensions and relationships on site before fabrication commences.
- Contractor to be responsible for the design and supply of all temporary works. (i.e. bracing, propping, shoring, tying, etc.) and the security, stability and safety of the building during works.
- Contractors and tradesmen are responsible for site safety and Health&Safety and should be able to provide COSHH certificates where required.

CONSTRUCTION DESIGN & MANAGEMENT CDM REGULATIONS 2015:
'Principle Contractor' deemed to be responsible for H&S on site, undertaking all duties on behalf of the 'Client'.
Contractor to organise F10 form and submit prior to commencing of work on site. H&S file to be available at all times with all necessary Risk Assessments in place and for appointed sub-contractors.

QUALITY OF WORK
All materials and workmanship shall be in accordance with the latest Building Regulations approved documents, the latest British Standards and to the satisfaction of the Building Inspector.
- The works must be carried out in accordance with all relevant planning conditions.
- All proprietary products and materials are to be installed, fitted and used in accordance with manufacturer's details, instructions, recommendations and advice. The designer to be advised of any conflict identified before work proceeds.
- Contractor for structural elements should always refer to Structural Engineer's drawings. Architect's drawings show structural elements/plans for illustration only.
- All timber to be pressure impregnated with preservative and cut ends treated and comply with BS8417.
- Contractor to form openings for all works existing and proposed windows and doors. Contractor to make good all impacted areas following completion of the works.
- Top of all cavities to be closed with non-combustible material.

DEMOLITION WORKS
Locate and make safe all services. Disconnect, seal and remove all redundant pipes, cables, conduits, etc. Provide protection to all remaining services throughout contract. Remove all walls, fixtures and fittings as shown, providing temporary support and bracing as required.
NOTE: Contractor to check all setting out dimensions before work commences. Dimensions if mentioned to be read not scaled.

FOUNDATIONS
- All as per Structural Engineer's details, design and specifications. S/E to confirm that the structure has been designed to take into consideration ground conditions and surrounding trees.
- Any trees within 20m of the new foundations to be identified and the impact of the depth and type of foundations should be considered prior to commencing of any work. Arboricultural Impact Assessment to be provided where requested by BCO. Designed to suit soil conditions and to conform to NHBC practice, Note 4.2 'Building Near Trees'. Foundations min. 500mm below lowest root and to BCO approval.
- All subject to BCO approval and site inspections.
- Also foundations to be taken below invert level of drain pipes.
- if applicable build eccentric foundations (subject to S/E design) at the boundary line. The whole structure (foundations, walls, roof) to be on the client's side of the land.

GROUND FLOOR
- maintain ventilation under the existing suspended timber floor. If necessary replace proposed concrete screed witch beam&block.
Concrete Screed:
75mm sand/cement concrete screed on 500 Gauge polythene separation membrane on min. 25mm perimeter insulation and on 100mm "Celotex GA4000" (or equiv.) insulation boards tightly butt jointed over DPM on 1200 Gauge polythene DPM, tide in to DPC and lapped with existing DPM on 150mm concrete slab with A393 mesh in top, min. 150mm Type 1 granular infill + max. 150mm thick layers of Type 2 to remove made ground/ soft spots (TBC by S/E). Thickness of gravel infill max. 600mm altogether otherwise use Beam&Block.
- Allow for floor finishes. New and existing floor levels to align.
- Cavity insulation to extend below DPC level by min. 150mm (optimum 300mm).
- Minimum 225mm cavity clearance below DPC.
- Proposed approx. U=0.17W/m2K - complies (required for new fabric elements in existing dwelling U=0.18 W/m2K)

FW DRAINS
- Contractor to check feasibility of the proposed drainage system at a very early stage, prior commencement of work.
- Contractors to investigate existing below and above ground drainage at a very early stage, prior to work commencement to check existing drainage arrangement. Any discrepancy or irregularity to be reported to architect and to structural engineer) also referred to as S/E) immediately.
- Proposed above and below ground drainage system to be discussed and agreed with client.
- Proposed drainage system to be agreed, checked and approved by Building Control officer (BCO) on site.
- Contractors to fully design new above and below ground proposed drainage system and connections with existing drainage system following the latest Building Regulations (Part H) along with Structural Engineer's drawings and local water board conditions.
- Trace existing and remove/ grub-up or seal as required redundant drainage.
- At commencement of works the invert of the existing I.C.s is to be established and invert of new I.C.s is to be determined. The contractor is to check and agree drainage inverts with the BCO before starting drainage work.
- Position of all new sanitaryware, sinks, kitchen and utility appliances which require water supply and waste connection to be discussed, agreed and confirmed on site between contractors and client prior to drainage 1st fix.
- All below ground pipes to be min 100mm dia, underground plastic drains, have access points for rodding and laid to min. 1:40 fall (or 1:80 where serves one or more WC) surrounded with 150mm suitable granular material and with concrete cover over where under building and hard surfaces or when in shallow depth in accordance with Diagram 7 of Approved Document H.
- Provide concrete lintels over drains where passing through walls in accordance with Diagram 7 of Approved Document H.
- Drainage installations and alterations shall be made in accordance with Approved Document H guidance.
- New 450mm dia Inspection Chambers as shown on plans. Proprietary cover.
- SVP to terminate min. 900mm above any opening within 3m. Preferably through a vent tile.
- Base of SVP to have rodding access.

RW DRAINS & SOAKAWAY
- To be designed by contractor and approved by BCO.
- All surface water drainage to be as existing, not into water company drainage.
- Either connect to existing (subject to BCO approval) or provide a new soakaway min. 5m from any building - subject to soil type, all designed in accordance with BRE Digest 365. Use pre-fab geocellular crates wrapped in geotextile and surrounded by hardcore. Use silt filter trap before discharging to soakaway. Contractor to carry out soil percolation test to determine design and depth. Best route and location to be identified on site by contractors, discussed and agreed with client. Proposed layout and design of soakaway to be approved by BCO prior to construction.
- SW ground pipes to be min 100mm dia, underground plastic drains, have access points for rodding and laid to min. 1:100 fall (or 1:150 for 150mm dia), surrounded with 150mm suitable granular material and with concrete cover over where under building and hard surfaces or when in shallow depth in accordance with Diagram 7 of Approved Document H.
If GFL(Ground Floor Level) is less than 150mm above finished ground level:
- Provide ACO drain externally along the wall.
- DPC to be 150mm above finished ground level. Cavity Tray with weep vents.
- Internal floor DPM to wrap internal leaf block through the outside and to be lapped with DPC/DPM, joints taped.

NEW EXTERNAL CAVITY WALLS
Construction has approx. U=0.18W/m²K = complies
in Conversions/Extensions: required max. U=0.18 W/m²K, (as per BR AD L1a, Table 4.2)
- Outer leaf of 100mm brick to match existing, 100mm cavity partially filled with 90mm Celotex Thermaclass 21 (or equiv.) PIR rigid insulation boards with min. 10mm residual cavity (as specified by the manufacturer) (use self-adhesive breathable tape at all joints and wall ties locations as per manufacturer's instructions) with inner leaf of 100mm Thermalite Shield (or Celcon or equiv.) lightweight blockwork strength to be 7.3N blocks below and above DPC, subject to S/E.
Finish externally: with facing brick to match existing.
Finish internally: with 13mm lightweight plaster.
Wall ties to be spaced:
- in general wall area - max. 900mm horizontally and max. 450mm vertically.
- at jamb openings, movement joints, parallel to the top of the gable walls, etc. - max. 225mm horizontally and max. 300mm vertically.
Below DPC level use:
- if using concrete blocks use frost resistant blocks.
- if using bricks use either engineering bricks or frost resistant bricks F2/S2 to BS EN771-1.
Use frost resistant brick F2/S2 category:
- below ground level DPC, sills, coping/cappings, beneath cappings, in projecting details (e.g., plinths, cornice,), in exposed site locations, retaining walls, fence wall, chimney above roof line.

NEW PITCHED ROOF
Concrete tiles to match existing and to suit pitch on battens on breathable felt Tyvek 'Supro' (or equiv.) protected by protector trays at eaves with over fascia ventilator (or equiv.) on rafters (refer to S/E design and instructions).
- Eaves to be fully filled with insulation and to have rafter ventilator (to preserve ventilation).
- (1) min. 300mm insulation Knauf Omnifit Roll 40 (or equiv.) between roof ties. Underlay with Vapour Control Layer membrane with joints taped 12.5mm Gyproc Fireline plasterboard (Gyproc FRMR fire & moisture resistant in wet rooms). In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
Proposed approx. U=0.14W/m2K - complies (required for new fabric elements in existing dwelling U=0.15 W/m2K)
- (2) 100mm "Celotex GA4000" (or equiv.) PIR rigid insulation boards laid between rafters. Underlay rafters with 70mm "Celotex GA4000" (or equiv.), with joints taped as VCL (Vapour Control Layer) and 12.5mm Gyproc Fireline plasterboard (Gyproc FRMR fire & moisture resistant in wet rooms) with all joints taped and filled and finish with 3mm skim. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
Proposed approx. U=0.15W/m2K - complies (required for new fabric elements in existing dwelling U=0.15 W/m2K)

- Eaves and ridge ventilation with insect protector to be provided, maintain min. 50mm air gap throughout for ventilation.
- Provide vertical strapping of rafters in compliance with Approved Document A. (Subject to S/E)
- Provide lateral support with noggings between 3 rafters at the gable and provide its strapping to the wall @ max. 2m c/c in accordance with Approved Document A. (Subject to S/E)
- Wall plates 50x100mm strapped @ max. 2m c/c and min. 1m long straps in compliance with Building Regulations.
- (B3) Close cavity at wallplate level with non combustible material.
- Provide Part L compliant insulated loft hatch by Polypipe (or equiv.)
Pitched Roof side - Cavity Wall abutment: provide 150mm upstand with lead Code 4 soakers, Code 5 flashing with breathable membrane to be turned up behind flashing and a cavity tray to suit wall condition with weep vents.
Pitched Roof - valleys: Code 5 lead on 18mm OSB3 boards (or ply to BS EN 636, Class 3)

NEW FIRST FLOOR
- Allow for floor finishes (to client's choice)
- Floor to align with existing.
- Lay 18mm t&g flooring grade OSB3 boards on new joists (to SE's design and instructions). 100mm quilt sound insulation Knauf Insulation Acoustic Roll (or equiv.) with minimum density of 10kg/m³ between joists extended to full area of floor.
- Install resilient sound isolation clips with 1x 12.5mm Gyproc SoundBloc plasterboard. (for improved sound insulation)
- Underlay with 12.5mm Gyproc fireline plasterboard (Gyproc FRMR fire & moisture resistant type in bath/shower/en-suite/utility/kitchen) with all joints taped and filled and finish with 3mm skim to underside of ceiling. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
- Double up joists under the partition walls that are running parallel with floor joists and under the bath tub.

DPC's and Cavity trays.
- DPC to be min. 150mm above finished ground level and to be well lapped where meeting horizontal existing/ new DPM. Provide Cavity tray with weep vents over DPC.
- Thermabate insulated cavity closer (or equiv.) to all opening reveals
- Cavity trays over where cavity bridged with weep vents (eg. external lintels, stone/concrete/brick window sills, gas/ electric meters, etc..)

JOINTS WITH EXISTING, MOVEMENT JOINTS
Where new walls abut existing:
Allow Purlfix, or similar approved, movement joints, fully fixed in accordance with manufacturer's instructions.
- Mastic seal externally and plaster beads either side of joint internally.
- Where new cavity wall abuts existing cut existing masonry leaf vertically and insert insulated DPC.
- Movement joint to start from top of foundations and run the full height of the superstructure masonry wall.
Additional expansion movement joints:
(1) if DPC is less than 600mm above ground level - expansion movement joint to start from DPC level.
(2) if DPC is more than 600mm above ground level - expansion movement joint to start from top of foundations.
(3) if major change in foundations, between foundations of different designs, at variation of height of the building/ walls - movement joint to start from top of foundations.
(4) if S/E designed a movement joint in the foundations then this movement joint is to be continued up through the superstructure.
Material of movement joint:
- for Clay bricks (flexible cellular polyethylene, cellular polyurethane, foam rubber)
- for Concrete blocks/bricks (hemp, fibreboard, cork)
- to perform effectively a sealant in a movement joint should be applied against a suitable debonding joint filler/backing rod so that sealant adheres only to the two opposing masonry faces.
Width of joints:
- for Clay brick = the width of joint in mm should be (spacing in metres÷30%, e.g. at 8m movement joint spacing the joint width should be 10mm)
- For other masonry (concrete, stone,etc.) = 10mm
Wall ties at movement joints:
- max. 225mm from movement joint each side and max. 300mm spacing vertically.

NEW FIRST FLOOR
- Allow for floor finishes (to client's choice)
- Floor to align with existing.
- Lay 18mm t&g flooring grade OSB3 boards on new joists (to SE's design and instructions). 100mm quilt sound insulation Knauf Insulation Acoustic Roll (or equiv.) with minimum density of 10kg/m³ between joists extended to full area of floor.
- Install resilient sound isolation clips with 1x 12.5mm Gyproc SoundBloc plasterboard. (for improved sound insulation)
- Underlay with 12.5mm Gyproc fireline plasterboard (Gyproc FRMR fire & moisture resistant type in bath/shower/en-suite/utility/kitchen) with all joints taped and filled and finish with 3mm skim to underside of ceiling. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
- Double up joists under the partition walls that are running parallel with floor joists and under the bath tub.

NEW PITCHED ROOF
Concrete tiles to match existing and to suit pitch on battens on breathable felt Tyvek 'Supro' (or equiv.) protected by protector trays at eaves with over fascia ventilator (or equiv.) on rafters (refer to S/E design and instructions).
- Eaves to be fully filled with insulation and to have rafter ventilator (to preserve ventilation).
- (1) min. 300mm insulation Knauf Omnifit Roll 40 (or equiv.) between roof ties. Underlay with Vapour Control Layer membrane with joints taped 12.5mm Gyproc Fireline plasterboard (Gyproc FRMR fire & moisture resistant in wet rooms). In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
Proposed approx. U=0.14W/m2K - complies (required for new fabric elements in existing dwelling U=0.15 W/m2K)
- (2) 100mm "Celotex GA4000" (or equiv.) PIR rigid insulation boards laid between rafters. Underlay rafters with 70mm "Celotex GA4000" (or equiv.), with joints taped as VCL (Vapour Control Layer) and 12.5mm Gyproc Fireline plasterboard (Gyproc FRMR fire & moisture resistant in wet rooms) with all joints taped and filled and finish with 3mm skim. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
Proposed approx. U=0.15W/m2K - complies (required for new fabric elements in existing dwelling U=0.15 W/m2K)

- Eaves and ridge ventilation with insect protector to be provided, maintain min. 50mm air gap throughout for ventilation.
- Provide vertical strapping of rafters in compliance with Approved Document A. (Subject to S/E)
- Provide lateral support with noggings between 3 rafters at the gable and provide its strapping to the wall @ max. 2m c/c in accordance with Approved Document A. (Subject to S/E)
- Wall plates 50x100mm strapped @ max. 2m c/c and min. 1m long straps in compliance with Building Regulations.
- (B3) Close cavity at wallplate level with non combustible material.
- Provide Part L compliant insulated loft hatch by Polypipe (or equiv.)
Pitched Roof side - Cavity Wall abutment: provide 150mm upstand with lead Code 4 soakers, Code 5 flashing with breathable membrane to be turned up behind flashing and a cavity tray to suit wall condition with weep vents.
Pitched Roof - valleys: Code 5 lead on 18mm OSB3 boards (or ply to BS EN 636, Class 3)

NEW WARM FLAT ROOF (no ventilation required)
Epdm on 150mm Celotex (or equiv.) insulation boards tightly butt jointed with gaps filled with expanding spray foam on self adhesive Visqueen Fully Bonded Vapour Barrier (or equiv.) taken up and adhered to walls/edges on 18mm OSB3 boards (or ply to BS EN 636, Class 3) on firrings on joists to S/E design.
Underlay joists with 12.5mm Gyproc Fireline plasterboard (Gyproc FRMR fire & moisture resistant in high moisture areas). Finish internally with 3mm skim of plaster. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
- Roof laid to min. falls of 1/80.
- Proposed approx. U=0.14W/m2K - complies (required for new fabric elements in existing dwelling U=0.15 W/m2K)
- Flat Roof-Cavity Wall abutment: min. 150mm insulated (25mm Celotex) upstand. Code 5 lead flashing with cavity tray to suit wall condition with weep vents.

INTERNAL TIMBER STUDS PARTITIONS
- 100x50mm sw studs @ max. 600mm c/c lined each face with 12.5mm plasterboard (moisture resistant type in wet rooms). Gyproc Fireline/ Gyproc FRMR where applicable.
- All joints taped and filled and finish with 3mm skim. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
- 100mm quilt sound insulation Knauf Insulation Acoustic Roll (or equiv.) with minimum density of 10kg/m³ between joists extended to full area of floor.
- Install resilient sound isolation clips with 1x 12.5mm Gyproc SoundBloc plasterboard. (for improved sound insulation)
- Underlay with 12.5mm Gyproc fireline plasterboard (Gyproc FRMR fire & moisture resistant type in bath/shower/en-suite/utility/kitchen) with all joints taped and filled and finish with 3mm skim to underside of ceiling. In high moisture areas apply 2x coats of Gyproc Drywall Sealer to improve moisture resistance of plasterboard.
- Double up joists under the partition walls that are running parallel with floor joists and under the bath tub.

INTERNAL SOLID WALLS
- if applicable, 100mm internal concrete blocks 7.3N/mm² below and above DPC) (Subject to S/E)
- to have foundations (to S/E design)
- Provide DPC at floor level and to be well lapped where meeting horizontal new/existing DPM.
- Finish internally with 13mm plaster.

STEELWORK
All steelwork to Structural Engineer's design, details and instructions. Fire protection to steelwork supporting roof and floors to consist of 1 layer 12.5mm Gyproc Fireline board, all fixed in accordance with manufacturer's instructions, to give min 30mins. fire resistance.
- fill metal beams with mineral wool slabs to increase its fire resistance.
- if feasible, construct flush ceilings.

LINTELS
- All to S/E design, instructions and details. Catnic (or equiv.) lintels and galvanised steel beams with min. 150mm (or as specified by S/E) end bearing on concrete padstones.
- use thermally broken Catnic lintels in exterior walls otherwise, if lintel/ beam has continuous baseplate then underlay it with 37.5mm insulated foilbacked plasterboard internally. Provide plastering mesh or tape as applicable between different materials.
- Weep holes @ 450mm c/c or min. 2 No. per lintel.
- Provide additional Ruberoid tray over lintels in external walls.
- All installed in accordance with manufacturer's instructions.
- Where forming new openings, allow all temporary support where inserting new lintel (to S/E detail) and make good all disturbed surfaces to match existing.

NEW EXTERNAL GABLE WALL (No ventilation required)
Construction has approx. U=0.17 W/m²K = complies
in Conversions/Extensions: required min. U=0.18 W/m²K, (as per BR AD L1a, Table 4.2) (externally)
Lead Code 5 or Aluminium (TBC by client) on separation membrane on 18mm OSB3 boards (or ply to BS EN 636, Class 3) on 50x100 sw treated studs (subject to S/E design) filled with 100mm rigid insulation (Celotex or equiv.).
(internally)
- Overlay internally studs with 50mm Celotex (or equiv.), Vapour Control Layer membrane with joints taped and 12.5mm plasterboard (moisture resistant in wet rooms) with all joints taped and filled and finish with 3mm skim.

GLAZING
- New glazing in critical locations (i.e. any glazing within 800mm of floor level or 1500mm to doors, etc.) to be to BS EN 12600:2002 and Approved Document K.

NEW EXTERNAL WINDOWS AND DOORS
Dark brown UPVC windows. Aluminium doors. All to match existing and to be double glazed with low E glass, 16mm Argon filled gap between panes.
Front door (Opaque & Semi-glazed door 0~60% glazed area) : U=1.0 W/m²K
Doors (glazed doors with greater than 60% glazed area) : U=1.2 W/m²K, Frame factor = 0.7
Windows : U=1.2 W/m²K, Frame factor = 0.7
- All windows and doors to have external water tight seal, intermediate thermally insulating seal and internal Vapour&Air tight seal tape, all as per manufacturer's guidance.
Obscure glazing: unless requested by the client differently and if it is not in conflict with planning permission, the Bathroom, Shower, WC, En-suite are proposed to have obscured glazing.
Security: Windows to have window locks and comply with Fire Escape specification.
Security lock system to be provided to all doors (Type TBC by client).
Fire safety: Minimum clear size of opening for Fire Escape windows (refer to on plans as 'FW' or 'FE') is 450x750mm and vertical position to the bottom of the clear opening from finished floor level to be max. 1,100mm in accordance with AD Part B.
Background ventilation: Closable trickle ventilation to be provided, Habitable rooms and Kitchen 8000mm2 (dwelling with multiple floors), Other rooms 4000mm2.
Purge ventilation: Hinged or pivot windows that open 30 degrees or more with a total opening area 1/20 of the room floor area (shown on plans).

NEW ROOFLIGHTS (SKYLIGHTS)
- Sizes are indicated on the roof plan.
- Client to be consulted for type, operation and further details.
- Double glazed roof windows fitted and installed in accordance with manufacturer's details and instructions.
- in Conversions/Extensions: required min. U=2.2 W/m²K, (as per BR AD L1a, Table 4.2)
- Double up and/or triple up joists/rafters as trimmers to rooflights (see S/E drawings).
- Allow for proprietary flashing etc.
- Line internally with 25mm Celotex insulation, Vapour Control Layer and 12.5mm Gyproc fireline plasterboard (Gyproc FRMR fire & moisture resistant type in bath/shower/en-suite/utility/kitchen) with all joints taped and filled and finish with 3mm skim to underside of ceiling.

CHECK BOILER & CENTRAL HEATING
Heating design by a specialist.
- Electric underfloor heating to Sitting and Garden room.
- Master bedroom to have ceiling radiant heating panel (electric or hot water TBC by client)
Boiler and water tank to be checked and if necessary replaced. If new provide a Gas fired wall mounted boiler with unvented hot water tank to fan assisted balanced flue outlet through roof/ wall. Condensing overflow from boiler to be connected into waste system.
Boiler to have min. 89.5% 'SEDBUK' rating.
- Plan sited in accordance with Part L requirements of fittings. System to have programmer, timer and thermostat.
- Provide new radiators an extension to existing system, provide TRV's to all radiators in all rooms.
- System to be installed by GAS SAFE registered competent person, installation certificate to be issued upon completion, a copy to be provided to Building Control. Operating and maintenance instructions to be provided to the occupier.
- Provide Carbon monoxide detector to the room with gas burning appliance

PLUMBING
All above ground waste plumbing to BS EN 12056-2:2000.
Wastes to be (in accordance with BR AD H Diagram 3):
WC - 100mm dia (run for up to max. 6m for single WC)
Sinks, Baths, Showers - 40mm dia (run for up to 3m), 50mm dia (run for up to 4m), 50mm dia with AAV vent (run for up to 10m)
Handbasins - 32mm dia (run for up to1.7m), 40mm dia (run for up to 3m), 50mm dia (run for up to 4m)

Hot water is to be controlled by a thermostatic mixer to prevent scolding. Hot water supply temperature to baths and showers will be limited to 48°C by use of an inline blending valve or other appropriate temperature control device with a maximum temperature stop.
Water supply pipes to be insulated.
Rodding points to be provided at bends. Waste pipes to be boxed in. Deep seal traps to all appliances (except WCs).
If AAV vent is used then provide for sufficient income of air.
All works to be carried out by a qualified plumber.

AD Part G (Sanitation, hot water safety and water efficiency)
Applies to new units. Water consumption using fitting approach under Regulations 37, less than 125 litres/person/day using fittings approach.

WC	- max.6/4 Litres dual flush or 4.5 single flush
Shower	- max. 10 Litres/ minute
Bath	- max. 185 Litres
Basin taps	- max. 6 Litres/ minute
Sink taps	- max. 8 Litres/ minute
Dishwasher	- max. 1.25 Litres/ place setting
Washing machine	- max. 8.17 Litres/ kilogram

ELECTRICAL
All works to be carried out by a 'competent person' who is a member of a self-certification scheme. CIBSE commissioning certificates for lighting and mechanical ventilation (in accordance with BS 7671) to be provided prior to completion of works.
- 100% of installed light fittings to be energy efficient LED lights.
-Internal lighting: Any spot lights set into ceilings with floors above to be Snaplite type or similar, to give 30 mins. fire protection. Number and locations to be agreed with client.
- All electrical outlets, telephone/TV/internet points, light switches to be located between 450 and 1200 from finished floor level and the position and further details to be consulted with the client.

VENTILATION
Mechanical ventilation:
- Bath/ Shower/ En-suite - EnviroVent silent 100 SELV (or equiv.)
with humidity sensor set to start at 60% of humidity level.
Walls/ ceiling mounted fan operated with light fittings with 15mins. overrun period ducted through wall/ roof with flat-ducts (or similar) connecting to proprietary outlet. Use sound insulation for ducts.
Fan can be located in zones 1 & 2 of a bathroom but circuit must be protected by a 30mA RCD. (airflow min. 15 L/sec)
Purge ventilation: see windows&doors
Background ventilation: see windows&doors

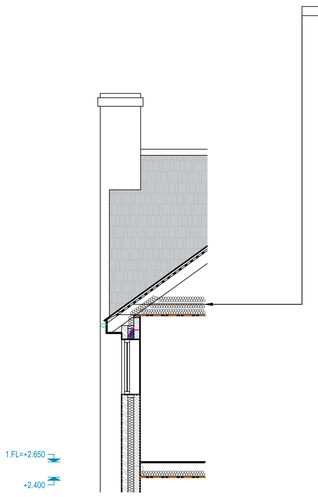
SMOKE, HEAT DETECTORS
- Provide new heat detector or smoke detector as indicated on the plans. Location on plans is shown illustratively. To be fitted and positioned in accordance with manufacturer's instructions.
- Existing system to be checked and if necessary replaced with new fire detection/alarm system.
- To be grade D - Category LD3 (BS 5839 - 6.2019).
- To be mains operated and interlinked with battery back-up and sited min. 300mm from any light fitting.

PARTY WALL ACT 1996
Any work that affects any neighbouring structure (Party wall, fence etc.) or excavation work that is close to a boundary may require you to give notice of your intentions as defined by The Party Wall etc. Act 1996. A plain English guide to your obligations under the Act is available to view on the Planning Portal
http://www.planningportal.gov.uk/buildingregulations/buildingpolicyandlegislation/currentlegislation/partywallact

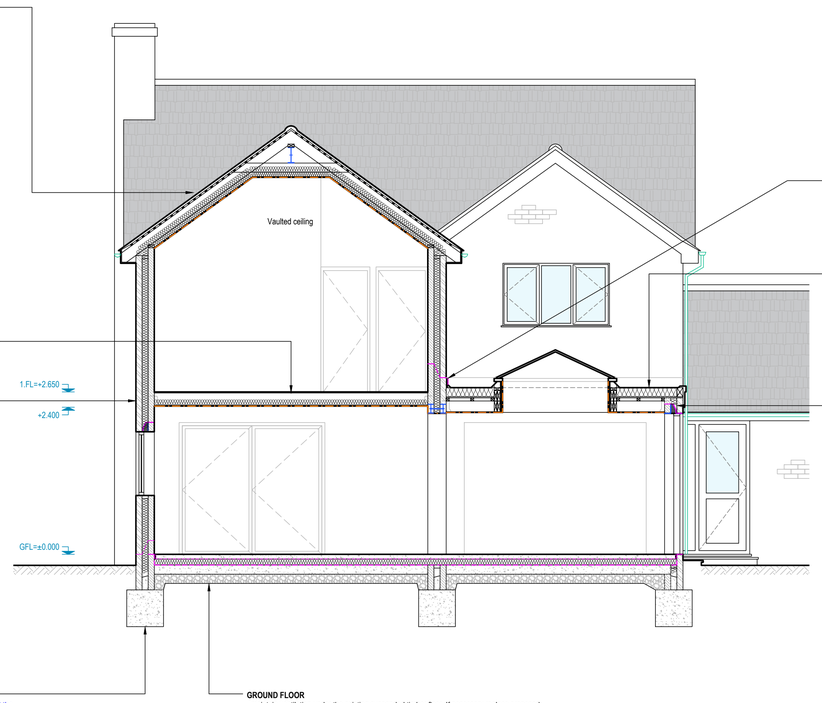
FINISHES
- Finishes to be in accordance with the approved Planning drawings.
- Refer to Client for all finishes and details floor, wall, ceiling finishes including tiling, skirting, window/ door type and handles, cabinets, fittings, landscape layout, electrical lighting and switches and its location, etc.

RW GOODS, SOFFITS/ FASCIAS/ RWDPs and GUTTERING
Material and colour to match existing.

LANDSCAPING
All landscaping works to be discussed and agreed with the client. If patio is proposed to be flush with GFL contractor is to ensure flush threshold and ACO aluminium drain (including maintenance access points as required) connected to below ground drainage.



Proposed - **SECTION C-C 1:50**



NEW EXTERNAL CAVITY WALLS
Construction has approx. U=0.18W/m²K = complies
in Conversions/Extensions: required max. U=0.18 W/m²K, (as per BR AD L1a, Table 4.2)
- Outer leaf of 100mm brick to match existing, 100mm cavity partially filled with 90mm Celotex Thermaclass 21 (or equiv.) PIR rigid insulation boards with min. 10mm residual cavity (as specified by the manufacturer) (use self-adhesive breathable tape at all joints and wall ties locations as per manufacturer's instructions) with inner leaf of 100mm Thermalite Shield (or Celcon or equiv.) lightweight blockwork strength to be 7.3N blocks below and above DPC, subject to S/E.
Finish externally: with facing brick to match existing.
Finish internally: with 13mm lightweight plaster.
Wall ties to be spaced:
- in general wall area - max. 900mm horizontally and max. 450mm vertically.
- at jamb openings, movement joints, parallel to the top of the gable walls, etc. - max. 225mm horizontally and max. 300mm vertically.
Below DPC level use:
- if using concrete blocks use frost resistant blocks.
- if using bricks use either engineering bricks or frost resistant bricks F2/S2 to BS EN771-1.
Use frost resistant brick F2/S2 category:
- below ground level DPC, sills, coping/cappings, beneath cappings, in projecting details (e.g., plinths, cornice,), in exposed site locations, retaining walls, fence wall, chimney above roof line.

FOUNDATIONS
- All as per Structural Engineer's details, design and specifications. S/E to confirm that the structure has been designed to take into consideration ground conditions and surrounding trees.
- Any trees within 20m of the new foundations to be identified and the impact of the depth and type of foundations should be considered prior to commencing of any work. Arboricultural Impact Assessment to be provided where requested by BCO. Designed to suit soil conditions and to conform to NHBC practice, Note 4.2 'Building Near Trees'. Foundations min. 500mm below lowest root and to BCO approval.
- All subject to BCO approval and site inspections.
- Also foundations to be taken below invert level of drain pipes.
- if applicable build eccentric foundations (subject to S/E design) at the boundary line. The whole structure (foundations, walls, roof) to be on the client's side of the land.

GROUND FLOOR
- maintain ventilation under the existing suspended timber floor. If necessary replace proposed concrete screed witch beam&block.
Concrete Screed:
75mm sand/cement concrete screed on 500 Gauge polythene separation membrane on min. 25mm perimeter insulation and on 100mm "Celotex GA4000" (or equiv.) insulation boards tightly butt jointed over DPM on 1200 Gauge polythene DPM, tide in to DPC and lapped with existing DPM on 150mm concrete slab with A393 mesh in top, min. 150mm Type 1 granular infill + max. 150mm thick layers of Type 2 to remove made ground/ soft spots (TBC by S/E). Thickness of gravel infill max. 600mm altogether otherwise use Beam&Block.
- Allow for floor finishes. New and existing floor levels to align.
- Cavity insulation to extend below DPC level by min. 150mm (optimum 300mm).
- Minimum 225mm cavity clearance below DPC.
- Proposed approx. U=0.17W/m2K - complies (required for new fabric elements in existing dwelling U=0.18 W/m2K)

Proposed - **SECTION B-B 1:50**

0m 1 2 3m
1:50

General key:
- Existing structures
- Demolished / As existing underlay
- New structures
- New foundations - for all foundations refer to S/E drawings and details
- Approx. Boundary line
- Structural engineers notes (S/E) notes
- M.J. - Movement joint

Drainage key:
- I.C. - Inspection chamber
- R.G. - Roddable gully
- AAV/ Durgo - Durgo air admittance valve
- SP /SVP - Soil pipe / Soil vent pipe
- Proposed FW (foul water) drains
- RWP+RG - Rain water pipe + Roddable gully
- Proposed RW (rain water) drains

Heating key:
- Radiator / Heated Towel Rail

Fire strategy key:
- All doors (including bathrooms) leading to the fire escape route to be min. E20. New doors to be FD30.
- All structural Walls/ Ceilings/ Roofs and all walls enclosing fire escape route to be min. 30 mins. fire resistant.
- (SD) (HD) - Smoke / Heat detector (approx. position)
- Provide Carbon monoxide detector to rooms with fire burning appliance if any.
- ND (FD30) / ND - New fire door / New door
- NW (FE) / NW - New window (Fire Escape type) / New window

-	-	-
A	Oct 23	updated with SE details
Rev.	Date	Revisions

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TITLE
Mr. & Mrs. ----------

---------- Road
Cheltenham

DESCRIPTION
Proposed extension and internal alterations

BUILDING REGULATIONS

as **PROPOSED**

DATE: July 2023	FORMAT: @ A1
DRAWN: VH	CHECKED: PSK

-------BR03A