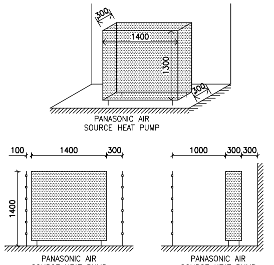
AIR SOURCE HEAT PUMP:
The primary source of heating shall be by means of an Air Source Heat Pump, model Panasonic WH-MXC09J3E5. The complete system is to be designed and supplied by Stevenson & Reid Ltd, Newry. Full details to be provided to Building Control prior to installation.

Flues shall be 200mm int. ø rebated & socketed ceramic flue liners (sockets uppermost) complying with BS/EN1457 & filled around with weak concrete fill & jointed with fireclay cement. No flue shall make an angle of less than 45° with the horizontal.

Flue(s) to be inspected for compliance and suitability by an appropiately qualified person at completion stage. A report shall be forwarded to Building Control for assessment. Fitted appliances shall have a spillage test carried out under fire.



Flues to be checked at completion to ensure that they are free from obstruction, satisfactorily gas tight and constructed with materials and components of sizes to suit the intended application and spillage test to be carried out, with any appliance fitted, under fire. A report shall be forwarded to Building Control for assessment.

No combustible material to be placed within 40mm of chimney breast or within 200mm of flue wall. Metal fixings in contact with combustible materials shall not be less than 50mm from the inside surface of a flue.

A durable notice shall be provided to convey details of the flue, the installer and type of combustion appliance that may be used in conjunction with the flue.

Combustible material shall not be located where the heat dissipating through the walls of a fireplace or flue could ignite it. The minimum separation distances for combustible material shall be –
(a) 200mm from the inside surface of a flue or fireplace recess; or
(b) 40mm from the outer surface of a masonry chimney or fireplace recess unless it is a floorboard, skirting board, dado rail, picture rail, mantel shelf or architrave. Metal fixings in contact with combustible materials shall be not less than 50mm from the inside of the flue. see Tech. Booklet L. Diagram 2.4.

Fluepipe to be protected by shielding in accordance with Tech. Booklet L Diagram 2.3.

Notice plates to be posted at a suitable location showing important safety information on the hearth and flues fitted stating:
–Location
–Type of appliance that can be accommodated
–Type, size and manufacturer of flue liner
–Installer name and date of installation

Back of fireplace recess to be 200mm thick. Hearth serving fire to be 125mm thick and project 500mm from front of jambs and extend length of fire surround.

Any room or space containing a combustion appliance shall have a permanent air vent opening of not less than 20500mm². Refer to T.B. L Table 3.1.

PRINCIPAL ENTRANCE:
Main entrance door to be min. 775mm clear ope. width with max. 15mm high threshold & drainage channel on external side to prevent ingress of water. Provide 1:12 gradient ramp as shown with guarding capable of resisting a horizontal force of 0.74kn/m.

CONSERVATION OF FUEL & POWER:
Building work to be carried out in accordance with accredited details ensuring compliance with T.B. F1: 2012.

Air Pressure test on dwelling to be carried out at completion.

An Energy Rating for the completed dwelling 'as built' will be calculated, using the same software that is used to calculate the DER and TER and a notice stating the Energy Rating will be fixed in the dwelling adjacent to the electrical distribution board. An electronic copy of the TER/DER data shall be included with the operating and maintenance instruction.

Operating and maintenance instructions for the space heating system (AIR SOURCE HEAT PUMP), heating programmes and control, hot water cylinder and controls and lighting controls (and any other specific apparatus/systems installed/fixed services) to be left for the building owner so they can be used in an energy efficient manner.

An "on construction" Energy Performance Certificate (EPC) shall be provided to Building Control before a Completion Certificate can be issued.

PREVENTION OF EXCESSIVE DOMESTIC HOT WATER TEMPERATURES:
Where the operating temperature of domestic hot water in the storage vessel in a dwelling is capable of exceeding 80°C under normal operating conditions (a situation that may occur in vessels used as heat stores and those connected to solar heat collectors or solid fuel boilers that do not have intervening controls between the boiler and the vessel containing the hot water) the outlet from the storage vessel should be fitted with a device, such as an in-line hot water supply tempering valve in accordance with BS EN 15092. The in-line hot water tempering valve should be set/adjusted to ensure that the temperature supplied to the domestic hot water distribution system does not exceed 60°C.

Output of space heating system to be controlled by means of thermostatic radiator valves and / or room thermostats.

All ducting to be insulated where it passes through unheated areas.

Where underfloor heating is installed, the installation shall be in strict accordance with the manufacturer's install specification.

HEATING:
Dwellings over 150 sq. m to have two heating zones with independent time and temperature controls. Water heating to be on separate zone.

The heating system is to be zoned into living & sleeping areas & to be capable of being controlled independently by the incorporation of room thermostats or TRV's, allowing zones to have different temperatures. Where the heating system is controlled by TRV's only the system is to be fitted with a flow control or other anti-cycling device. Boiler to be controlled with a time clock. The heating system to be programmed to switch off when there is no demand for heat.

Heating and hot water systems to be designed, installed and commissioned in accordance with the procedure given in the DCLG publication (Domestic Heating Compliance Guide 2010) for the purposes of conservation of fuel and power and handed over in efficient working order.

A notice confirming that all fixed services have been properly commissioned shall be provided, signed by a suitably qualified person and a copy given to the building owner and district council.

Hot water cylinder (200 lit.) to comply with BS 1566: 2002 & to be insulated with a factory applied coating of polyurethane foam not less than 80mm thick & to be fitted with a thermostat limiting the max. temp. of stored hot water by automatic control. A factory fitted safety device of automatic control must also limit bath water to maximum 48 degrees. All pipes within 1.0m of HWC to be insulated.

An unvented HWC must be fitted with a temperature relief valve, discharging safely to where it can be readily seen, without causing danger to people in or about the building, all to comply with the provisions of Reg 88 of TB P.

The hot water supply temperature to a bath should be limited to a maximum of 48°C by the use of an in-line blending valve or other appropriate temperature control device, with a maximum temperature stop and a suitable arrangement of pipework.

The acceptability of in-line blending valves can be demonstrated by compliance with the relevant harmonised European Standard such as BS EN 1111 or BS EN 1287 to demonstrate that the maximum temperature of 48°C cannot be exceeded in operation and that the product will fail-safe (i.e. not discharge water above the maximum temperature). Such valves should not be easily altered by building users.

In-line blending valves and composite thermostatic mixing valves (TMVs) should be compatible with the sources of hot and cold water that serve them.

The length of supply pipes between in-line blending valves and final outlets should be kept to a minimum in order to prevent colonisation by waterborne pathogens. Where intermittent use of a bath is anticipated, consideration should be given to high temperature flushing to allow for pasteurisation of the pipes and outlet fittings. This should be configured and operated in such a manner that prevents inadvertent high temperature use.

Bathroom, En-suites & w.c to be fitted with extract fan capable of extracting air at a rate of 15 lit/sec & ducted to external air through soffett via roof void where practicable. Fans to have minimum 15 minute over-run period. Ditto to Utility at a rate of 30 lit/sec.

Washbasins & bidets to have a minimum trap dia. of 32mm & seal depth of 75mm. (Seal depth may be reduced to 40mm where appliance is located on the ground floor & discharges into an extermal gully. Sink, bath & showers to have a minimum trap dia. of 40mm & seal depth of 75mm. (Seal depth may be reduced to 40mm where appliance is located on the ground floor & discharges into an external gully. W.C to have a minimum trap dia. of 75mm & seal deph of 50mm.

All pipes under ground floors or in roof space shall be insulated with an insulation to BS 5422: 2001 having a wall thickness equal to the ø of the pipe. (Armaflex or similar.)

CARBON MONOXIDE ALARMS:
Carbon monoxide detectors shall be provided in all rooms where combustion appliances are located.
Carbon monoxide alarms shall comply with BS EN 50291 : 2010 and powered by a battery. The alarm should incorporate a warning device to alert users when the working life is due to pass.
Mains powered alarms to BS EN 50291 : 2010 Type A with fixed wiring may be used as alternative applications provided they are fitted with a sensor failure warning device.
If the combustion appliance is installed in a room or space not normally used, eg a boiler room/cupboard, the detector/alarm should be located outside this room.
Carbon monoxide alarm should be located–
(a) on a ceiling at least 300mm from any wall, or if it is located on a wall located above the height of any door or window but not within 150mm of the ceiling.
(b) between 1000mm and 3000mm horizontally from the appliance.

FIRE ALARM & DETECTION:
Self-contained smoke alarms shall be permanently wired to a circuit–
1) which is separately fused at the distribution board,
2) to which no other equipment is connected, and
3) where a Residual Current Device, if used in conjunction therewith, is not connected to a RCD which is also used in connection with any other circuit.

Smoke alarms shall comply with BS 5446: Pt 1: 2000 and heat alarms with BS 5446: Pt 2: 2003 and shall be installed not less than 300mm from a wall or light fitting and not less than 300mm from and not directly above a heater or air-conditioning ventilator.

Smoke alarms shall be positioned so that a smoke alarm is within 3.0m of bedroom doors and within 7.0m of living room or kitchen doors. Where more than one alarm is required, all alarms shall be inter-connected. All alarms shall be fitted with either a primary or secondary battery as a back up power source.

Smoke detectors shall be fitted in principal habitable room. No point of room shall be more than 7.5m from a detector. Heat detectors shall be fitted in kitchens. No point of room shall be more than 5.3m from a detector.

NOTE – Fitted Appliances:
Fitted appliances shall have a spillage test carried out under fire and a BCNI stove installers checklist shall be completed and provided to Building Control.

NOTE – Gas Cookers etc:
The ventilation for a flueless gas appliance should be provided in accordance with Table 4.1 of TB L. For some flueless appliances, it may be necessary to provide permanently open air vents and/or make provision for rapid ventilation as recommended in BS 5440: 2.
A room containing a gas point intended for use with a flueless appliance (such as a cooker, or space heater or water heater, with the gas point not adjacent to a flue) should have the ventilation provision calculated on the basis that an appliance with the largest rating consistent with Table 4.1 could be installed there.

AXIAL FANS: The max. length of flexible ductwork shall be 1.5m. All ducting is to be insulated where it passes through unheated areas.
Horizontal ducting is to be sloped downward in all circumstances to prevent water ingress back into the appliance.
Any vertical ductwork shall incorporate a condensate trap to prevent water ingress back into the appliance.

VENTILATION (PIV + Extract Fans):
Envirovent loft mounted Positive Input Ventilation (PIV) systems shall be fitted as per the manufacturers instructions. On completion of the installation, the correct preset flow rate shall be set by the installer in accordance with the provisions of TB K: 2012 Table 2.2.

Where the PIV system is installed in dwellings with a volume greater than 120 cu. m. and an air tightness greater than $3m^3/(h.m^2)$ at 50 Pa, trickle vents shall not be required.

All remote wet rooms with openable window sashes must be fitted with extract fans. Extract fans to be quiet so as not to discourage their use by occupants. Wet rooms with no openable window must have continuous low level rate mechanical extract ventilation with boost facility.

Fixed mechanical ventilation systems and any associated controls shall be tested and commissioned to ensure that an adequate means of ventilation shall be provided for people in a building (TB K 65 [1] regulations). The person carrying out the work shall give not more than 5 days after completion of the work, a notice in writing to –
(a) the building owner giving sufficient information about the buildings ventilation system and its maintenance requirements so that the building can be operated, maintained and ventilated in an efficient manner.
(b) the district council stating that the requirements of sub paragraph (a) have been met.

To ensure good transfer of air throughout the dwelling a gap of about 10mm from finished floor level will be required under all internal doors (20mm from screed).

All ventilation devices should be designed to meet the performance requirement given in the Domestic Ventilation Design Guide.

The infiltration of cold air through the building fabric shall be limited by sealing all gaps between dry lining & masonary walls, sealing gaps between frames & opes., access hatches, service penetrations & around joist ends. All work to comply with Technical Booklet F, para 1.35 & diagram 1.5.

Cooker hoods should be 650–750mm above the hob surface (or installed as per the manufacturer's instruction).

All Bathrooms, Shower Rooms, Utility, WC & Kitchen floors to be tiled. (Labour only, product supplied by client).
All Bathrooms, Shower Rooms & WC walls to be tiled full height. (Labour only, product supplied by client). Kitchen & Utility wall tiling as directed by client.

ELECTRICAL:
All work shall conform to the latest edition of the IEE Regulations and shall be carried out by a NICEIC Registered contractor.
The installation shall include a minimum of:–
Living rooms – 3 No. twin sockets.
Kitchen – Cooker circuit, 4 No. twin sockets & 2 No. 15 amp radial circuits.
Hall – 2 single sockets.
Bedrooms – 2 No. twin sockets each.
Sockets to be a minimum of 150mm above worktop level and 150mm to side of cooker. Wall mounted socket outlets & switches to be positioned within 450–1200mm above floor level.
Provide adequate lighting points in each room and passageway (100% of fixed lighting to be low energy lighting).
Provide doorbell, TV socket, 4 No. exterior lights, oil burner supply, etc.

All electrical switches, socket outlets etc to be positioned within 450mm–1200mm above finished floor level – applies throughout entire ground floor area.

External lighting shall –
(a) have a maximum output of 100W per fitting and automatically switch off –
(i) when there is adequate daylight; and
(ii) when not required at night; or
(b) have sockets that can only be fitted with lamps having a luminous efficacy greater than 40 lumens per circuit-Watt.

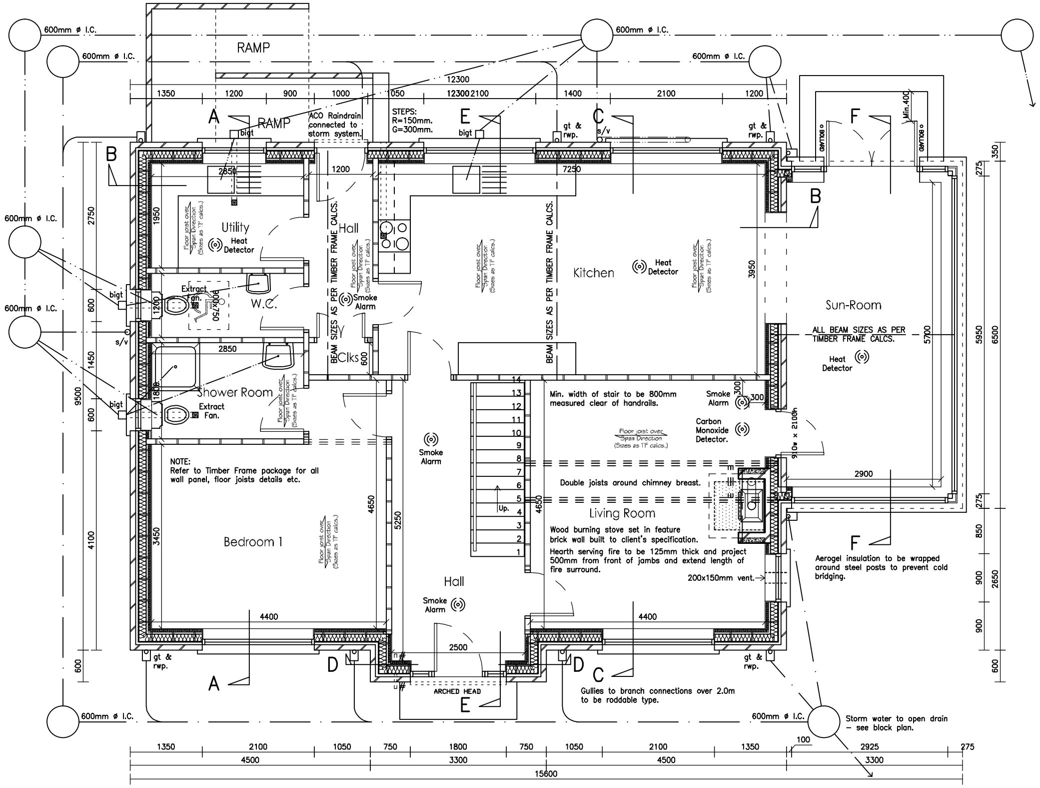
AIR TIGHTNESS:
Air permeability of 5.0m3/hm2 at 50Pa has been used in design calculations. This rate must be achieved by test on completion of the dwelling. Accredited construction details must be strictly adhered to, all design measures as included in calculations to be provided on site, wet plaster finishes to be used and district council must receive all statutory notices.

AIR BORNE SOUND:
Within a dwelling, resonable resistance to the passage of airborne sound shall be provided by–
(a) internal walls that separate–
(i) a bedroom and
(ii) a room containing a water closet
from any other room and
(b) all internal floors.

(A) Concrete block walls in relation to above to have plaster finish on both sides with minimum mass per unit area, excluding finish 120 kg/m² and all joints well sealed.
(B) PC slabs in relation to above to have minimum mass per unit area 180 kg/m² with screed and ceiling finish optional.

PRINCIPAL ENTRANCE:
PVC door to be min. 775mm clear ope. width with max. 15mm high threshold & drainage channel on external side to prevent ingress of water. Provide 1:12 gradient ramp 1.2m wide. Provide raised kerb to side of ramp with min. 100mm upstand. Landing area to have tactile surface. Insert vertical DPM where ramp or platform rise above DPC. Provide non climable guarding 900mm high along ramp & 1100mm high at landing capeable of resisting a horizontal force of 0.74 kn/m & to be formed so as to not permit the passage through it of a 100mm ø sphere. Alternatively grade the area around the landing to 1:20 gradient.

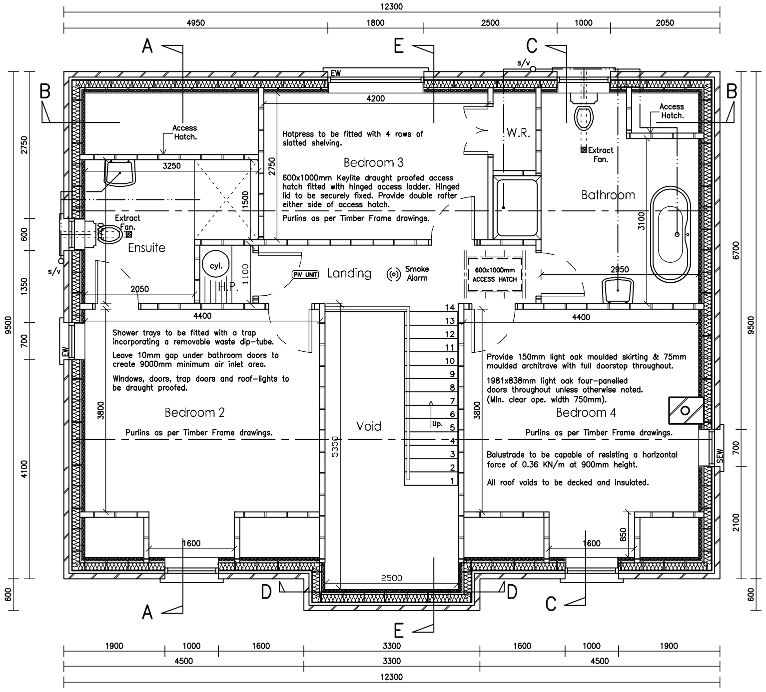
Access to principal entrance to have level approach with a firm even surface in order to provide a safe means of access from the closest vehicle area to the ramped access.



PROPOSED GROUND FLOOR LAYOUT

All materials & workmanship to accord with current B.S.S., Codes of Practice or other E.U. equivalent.

Denotes timber frame stud wall – See T/F manufacturers drawings & specification for full details.



PROPOSED FIRST FLOOR LAYOUT

NOTE: The building shall be adequately equipped with high-speed-ready –in-building physical infrastructure up to the network termination points. This shall be in the form of a 20mm dia. duct with a slight fall to outside which has been fitted with temporary seals (location of which is labelled #–# on layout plan).

GROUND FLOOR AREA	= 120.36 sq. m. (1295 sq. ft.)
FIRST FLOOR AREA	= 91.60 sq. m. (986 sq. ft.)
TOTAL FLOOR AREA	= 211.96 sq. m. (2281 sq. ft.)
(excluding stairwell/void)	= 202.27 sq. m. (2176 sq. ft.)

NOTE:
These drawings to be read in conjuction with Timber Frame / Structural Engineer's Reports & sketches. Any discrepancy to be reported prior to fabrication or installation.

All construction details to be read in conjunction with 'Accredited Construction Details (Scotland) 2010 Part 3 – Timber Frame Junction Details' and all work carried out in accordance with same. Upon completion, a signed copy of each Accredited Detail shalll be provided to Building Control as having been completed satisfactorily.

Install Envirovent Positive Input Ventilation (PIV) unit in roof void in accordance with manufacturer's instructions. (This will eliminate the need for trickle vents.) Provision of electrical supply and connection to unit to be carried out by a qualified electrician. PIV unit to be located min. 1.0m from any smoke alarm.

NOTE:
2012 BUILDING REGULATIONS APPLY TO THIS DRAWING

NOTE: Energy performance certificate to be forwarded to Building Control on completion.

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DRAWING TITLE:	Proposed floor plans.
PROJECT TITLE:	TWO DWELLINGS WITH DOMESTIC GARAGES – House Type 2.
SITE:	ADJACENT to & NW of 35 CLADY ROAD, ARMAGH.
CLIENT:	APPLE ORCHARD CONSTRUCTION.
HOME ADD:	8 CASTLEBLAYNEY ROAD, KEADY, ARMAGH, BT60 3QP.
SCALES:	1:50.
DWN BY:	AHDB
CHK BY:	AHDB
SHEET NO:	2
PROJ NO:	3898
DATE DWN:	MARCH 2023.
DRAWING NUMBER:	B497–3898–22/HT2.

REVISIONS

REQD. BY:	REV. BY:	DATE:	DETAILS:
AO Group	AHDB	05.04.22.	House type & site layout updated.
AO Group	AHDB	19.05.22.	Rear dormer revised.
AO Group	AHDB	23.05.22.	Floor layouts revised.
AO Group	AHDB	23.06.22.	Bedroom 3 door relocated.
B. Con.	AHDB	30.01.24.	General updates – refer to BR3.
B. Con.	AHDB	29.02.24.	Wall insulation updated.

NOTES:

–IMPORTANT–
THE BRAND NAMES SHOWN MUST BE USED IN ORDER TO ACHIEVE THE CORRECT SAP RATING. A FINAL SAP CALCULATION MUST BE PROVIDED TO BUILDING CONTROL WITHIN 5 DAYS OF COMPLETION FOR DWELLING AS CONSTRUCTED.

–IMPORTANT–
IT IS YOUR RESPONSIBILITY TO ENSURE YOU ARE WORKING TO THE LATEST EDITION OF THIS DRAWING – IF IN DOUBT – ASK. DO NOT SCALE. CHECK ALL DIMENSIONS ON SITE.

DRAWING ISSUE

X	PLANNING
X	BLDG. CONTR'L
	CONSTRUCTION

ELECTRICAL LEGEND

PROVISIONAL COST SUMS

The following P.C. sums to be included in all tenders. The P.C. sums do not include V.A.T.

ITEM:	P.C. SUM:

LINTEL SCHEDULE

All lintels to be (C25) mix, reinforced with high yield twisted steel having 25mm cover and to BS 4483. All lintels to be 100mm nom. thickness and to have 250mm bearing each end.

MAX. CLEAR OPENING WIDTH	DEPTH OF LINTEL	TOP REINFORCEMENT		BOTTOM REINFORCEMENT	
		NO. OF BARS	DIA.	NO. OF BARS.	DIA.
900mm	150mm			1	10mm
1200mm	150mm			2	10mm
1500mm	150mm			2	12mm
1800mm	225mm			2	12mm
2400mm	225mm	2	10mm	2	16mm
3000mm	225mm	1	16mm	2	20mm
3300mm	225mm	2	20mm	2	20mm