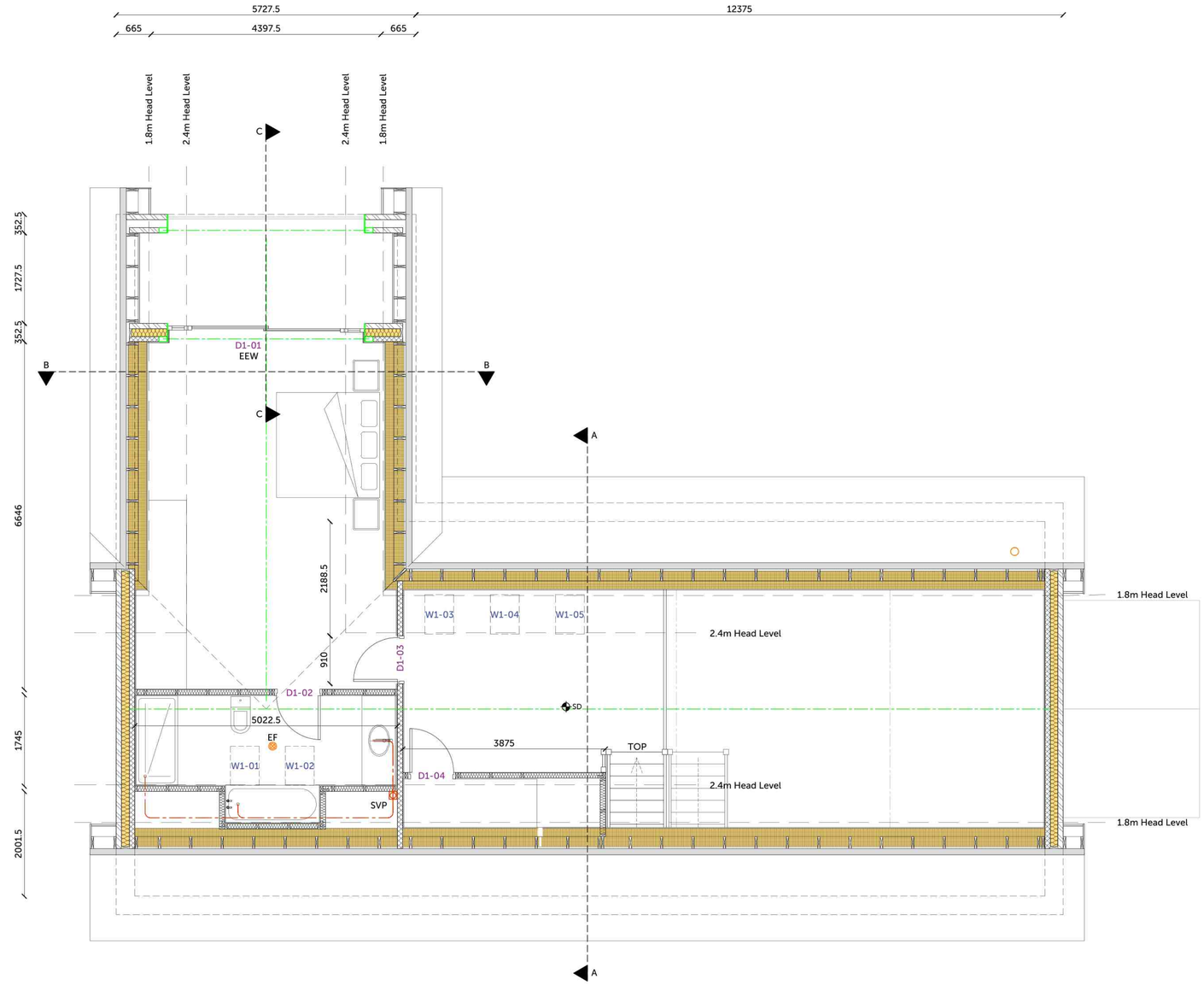


ELECTRICAL
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a Competent Person registered under a Competent Person Self Certification Scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich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

INTERNAL LIGHTING
Internal energy efficient light to be fitted as calculated within the dwelling primary energy rate and dwelling emissions rate for account for the efficacy of lamps.
Provide low energy light fittings lamps with a luminous efficacy better than 80 lamp lumens per watt. All fixed lighting to have lighting capacity (lm) 185 x total floor area.

WET UNDERFLOOR FLOOR HEATING
Underfloor heating installation to be designed and specified as an integrated package by the system manufacturer to ensure compatibility of all the components. Pipework loops design, layout and sizing of the system to be in accordance with BS EN 1264[1-5]. The most appropriate layout for a particular application should be confirmed by the system manufacturer. Maximum floor temperature to be 29°C, or 27°C where floor tiling or resilient floor is proposed in compliance with BS EN1264-2[1].
Insulation to be applied to the floor slab, the insulation type and thickness to be confirmed by calculations, taking into account the specific shape and size of the floor.
The resistance value of the insulation layer to be at least 10 times the resistance value of the floor finish. Intermediate floors should have a layer of insulation to reduce downwards heat transmission with a thermal resistance of not less than 0.75(m2 K)/W.
Joints between insulation boards to be properly taped to prevent seepage of screed.
Pipework to installed directly to rigid insulation using proprietary clip rails and clips. spaced in accordance with pipe layout design.
Pipework loops leading to and from the manifolds to be kept free of any sharp bends that could restrict the free flow of water. Where 90° bends are required, metal formers to be used to prevent twisting and constriction.
All joints between the manifold and pipework loops are to be accommodated above the level of screed. No joints to be embedded in the screed.
Pipework loops should not extend right to the edge of the floors and under the skirting boards. Pipework fixings to be maintain the integrity of the insulation and other materials.
Manifolds to be securely fastened on a wall at a reasonable height from the floor. Manifolds to be insulated or placed inside an insulated enclosure.
Min 65mm sand/cement screed to be provided over insulation and underfloor heating pipework, 75mm to be provided if required by building control and/or manufacture. Prior to pouring the screed, 25mm edge insulation must be installed along the perimeter of the floor.
Movement joints to be provided to the floor screed and/or tiles in the following locations:
Across door thresholds
Where bay sizes exceed 40m2 with a maximum of 8m on any one side
Where sub floor construction joints exist or change of span occurs e.g. beam and block floors
Between independently controlled heating zones
Between heated and unheated areas of screed
Additional joints should be considered in areas of high thermal gain e.g. large conservatories or glass atria
Screeds to be isolated at all edges, abutments and columns to allow for movement due to thermal loadings. Joints to be filled with a suitable flexible fille. Grout must not be used.
The manufacturers' guidance for both the floor screed and the tiling must be followed to determine the minimum thickness of edge strip required to allow for expansion.
Primary pipework and distribution pipework which does not provide useful heat to a room to be insulated to the standards detailed in paragraph 4.26 Approved Document L.
Heat loss to be minimised by following the guidance in paragraphs 6.29 to 6.32 and table 4.4 Approved Document L.
Each room should be provided with thermostatic room controls, capable of being used to separately adapt the heating output in each room served by the heating appliance.
Dwellings with a floor area of 150m2 or greater to have a minimum of two independently controlled heating circuits.
Pipework loops to be charged with water and pressure tested prior before screed is poured.
Labelling to be provided to enable effective inspection, commissioning, maintenance and repairs of the underfloor heating installation and to identify the rooms to which individual ports of the manifold are connected.
All installed equipment in underfloor heating systems to be commissioned in accordance with BS EN 1264-4. before floor finish is applied. At completion commissioning certificate to be given to the building control body confirming that the commissioning plan has been followed and that all systems have been inspected and conform with the design requirements.
On completion of the works the owner of the dwelling shall be provided with:
Information about the fixed building services and their operating and maintenance instructions, including timing and temperature control settings. Guidance material and handover procedures should be clear and easy to understand for a non-technical audience.

ESCAPE WINDOWS
Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms.
The window should have an unobstructed clear openable area that is at least 0.33m² and have no clear dimension less than 450mm high or 450mm wide.
The bottom of the openable area should be not more than 1100mm above the floor.
The window should enable the person to reach a place free from danger from fire.

SMOKE DETECTION
Mains operated linked smoke alarm detection system to BS EN 14604 and BS 5839-6:2019 to at least a Grade D category LD3 standard. System to be mains powered with battery back up. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/storeys and within 3m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. An interlinked heat detector to be provided in the kitchen and principal living areas if required by Building Control.

ROOF LIGHTS
Min U-value of 1.6 W/m²K.
Roof-lights to be double glazed with16mm argon gap and soft low-E glass. Window Energy Rating to be Band C or better. Roof lights to be fitted in accordance with manufacturer's instructions, with rafters doubled up to sides and suitable flashings provided.

SAFETY GLAZING
All glazing in critical locations to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current building regulations. i.e. within 1500mm above floor level in doors and side panels within 300mm of door opening and within 800mm above floor level in windows.

DOORS
Opaque doors (less than 30% glazed area) and semi-glazed doors (30-60% glazed area) to achieve U-value of 1.0 W/m²K.
Glazed doors with greater than 60% glazed area to achieve U-value of 1.2 W/m²-K.
Glazed areas to be double glazed with argon gap and soft low-E glass.
Glass to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations. Insulated plasterboard to be used in reveals to abut jambs and to be considered within reveal soffits. Fully insulated and continuous cavity closers to be used around reveals.
Windows and door frames to be taped to surrounding openings using air sealing tape.

WINDOWS
Windows to be double glazed with argon filled gap and with a soft coat low-E glass. Window Energy Rating to be Band A or better and to achieve U-value of 1.2 W/m²K.
Insulated plasterboard to be used in reveals to abut jambs and to be considered within reveal soffits. Fully insulated and continuous cavity closers to be used around reveals.
Windows and door frames to be taped to surrounding openings using air sealing tape.

EXTRACT TO KITCHEN
Kitchen to have mechanical ventilation with an extract rating of 60 l/s or 30 l/s if adjacent to hob to external air, sealed to prevent entry of moisture. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Intermittent extract fans to BS EN 13141-4. Cooker hoods to BS EN 13141-3. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.
Height of Cooker hood to be as manufacturer's specification or between 650mm and 750mm.

EXTRACT TO UTILITY ROOM
To utility room provide mechanical ventilation ducted to external air capable of extracting at a rate of 30 l/s. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO BATHROOM
Bathroom to have mechanical vent ducted to external air to provide min 15 l/s extraction. Vent to be connected to light switch and to have 15 minute over run if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

PURGE VENTILATION
Minimum total area of opening in accordance with Table 1.4 Approved Document F1.
Hinged or pivot windows with an opening angle of 15 to 30 degrees to have an openable area in excess 1/10 of the floor area of the room.
External doors and sash, hinged or pivot windows with an opening angle of equal to or greater than 30 degrees to have an openable area in excess of 1/20 of the floor area of the room.
Purge ventilation should be capable of extracting at least 4 air changes per hour per room directly to the outside.
Internal doors should be provided with a 10mm gap below the door to aid air circulation.

BACKGROUND VENTILATION
Controllable background ventilation at least 1700mm above floor level to be provided to habitable rooms and kitchens at a rate of min 8,000mm², and to bathrooms at a rate of min 4000mm².
Total number of ventilators installed in a dwellings habitable rooms to be at least 4 ventilators for one bedroom dwellings and 5 ventilators for dwellings with more than one bedroom.
Background ventilators to be tested to BS EN 13141-1.
Background ventilator equivalent area and operation to be measured and recorded.
Noise attenuating background ventilators should be fitted to facades with sustained loud noise.

RAINWATER DRAINAGE
New rainwater goods to be Alutec Evolve Box 130 x 85mm aluminium gutters taken and connected into 72 x 72mm square aluminium downpipes. Rainwater to discharge into existing watercourse to south, subject to consent from Welland & Deepings IDB.

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

INSPECTION CHAMBERS
Underground quality proprietary UPVC 450mm diameter inspection chambers to be provided at all connections, changes of level, changes in direction, and every 45m in straight runs. Inspection chambers to have bolt down double sealed covers in buildings and be adequate for vehicle loads in driveways.

ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS EN 12056-2 for sanitary pipework. All drainage to be in accordance with Part H of the Building Regulations. Wastes to have 75mm deep anti-vac bottle traps and rodding eyes to be provided at changes of direction.

Size of wastes pipes and max length of branch connections (if max length is exceeded then anti-vac traps to be used).
Wash basin - 1.7m for 32mm pipe 3m for 40mm pipe.
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe.
WC - 6m for 100mm pipe for single WC.
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.
Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.
Waste pipes not to connect on to SVP within 200mm of the WC connection.
Supply hot and cold water to all fittings as appropriate.

SOIL AND VENT PIPE
Svp to be extended up in 110mm dia UPVC and to terminate min 900mm above any openings within 3m. Provide a long radius bend at foot of SVP. Internal soil vent pipes to be wrapped in 25mm unfaced mineral fibre and enclosed in minimum two layers of 12.5mm plasterboard (15g/m² mass per unit area) to provide adequate sound proofing. Soil and vent passing through floors to be enclosed in ducts comprising of timber framing faced with fire line plasterboard to achieve half hour fire resistance. All ducts to be fire stopped at floor levels using mineral wool quilt packing.

AUTOMATIC AIR VALVE
WC to be connected to new 110mm UPVC soil pipe with accessible internal air admittance valve complying with BS EN 12380. Air admittance valve to be placed at a height so that the outlet is above the spill over level of the highest fitting.

REGULATIONS 26, 26A AND 26C ENERGY PERFORMANCE
The below to be submitted to building control before the work starts:
- Target primary energy rate and the dwelling primary the emission rate.
- The target emission rate and the dwelling emission rate.
- The target fabric energy efficiency rate and the dwelling fabric energy efficiency rate.
- A list of specifications to which the dwelling is constructed.

The dwelling primary energy rate, dwelling emission rate and dwelling fabric energy efficiency rate must not exceed the target primary energy rate, target emission rate and target fabric energy efficiency rate, respectively.

No later than 5 days after the work has been completed building control to be provided with:
- The as-built target primary energy rate and as-built dwelling primary energy rate.
- The as-built target emission rate and as-built dwelling emission rate.
- The as-built target fabric energy efficiency rate and as-built dwelling fabric energy efficiency rate.
- A list of specifications used in the as-built calculations, and whether the specifications have changed from those used in the design stage calculations.

All to be calculated using the Standard Assessment Procedure for Energy Rating of Dwellings, SAP 10.

BREL report to be given to building control along with photographic evidence of compliance.

Energy Performance Certificate (EPC) accompanied by a recommendation report in compliance with Regulation 29, is to be given to the owner of the building and submitted to building control, no later than 5 days after the work has been completed.

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This drawing is to be read in conjunction with all relevant Engineers, Architect's and specialists' drawings. Do not scale from this or any other Origin Design Studio drawing. All dimensions to be checked on site prior to construction or fabrication. Changes to specification are to contractors risk. All changes should be brought to the attention of the client/Building Control for approval. Please report any errors immediately.

KEY

ASHP	Air Source Heat Pump
C	Consumer Unit
RWP	Rain Water Pipe
AAV	Soil Vent Pipe
HD	Heat Detector
SD	Smoke Detector
	Direction on Joist Span
EF	Extractor Fan
UHM	Underfloor Heating Manifold
	Proposed Demolition
EV	Electric Vehicle Charging Point
	Indicative structural elements (See Structural Engineer's information for details)
ASHP	Air source heat pump (spec TBC)
TS	Thermal water store (spec TBC)
EEW	Emergency Escape Window
SVP	Soil Vent Pipe
LB	Log Burner w/ metal flue

Rev.	Description	Date	Checked
A03	Issued to client & BC	15/06/2023	MJO WBH

Client
Mr & Mrs Wheeler

Project Title
New Dwelling

Site Details
Corner of Cheal Road/ Saltfleet Lane,
Gosberton Fen, Spalding
PE11 4BD

Title
Proposed First Floor Plan

Drawing Number
J1931-BR-11

Print Size
A1

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