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PHASE 3

# REMEDIATION STRATEGY REPORT

job number	C3096/23/E/5507	date	20.07.2023
site address	9 Miry Lane, Thongsbridge, Holmfirth, HD9 7SA		
written by	S. Alexander	checked by	R. Palmer
issued by	S. Alexander		

 Please consider the environment before printing this report.



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## Phase 3: Remediation Statement

Location: 9 Miry Lane, Thongsbridge,  
Holmfirth, HD9 7SA.

For: A H Construction

Report No. C3096/23/E/5507

Report date: July 2023

For and on behalf of **Rogers Geotechnical Services Ltd**

**Scott Alexander** BSc FGS  
Geo-Environmental Engineer

**Rob Palmer** MSc FGS ACIEH  
Senior Geo-environmental Engineer

### 1. Introduction

Further to the site specific risk assessment provided within the environmental report (C3096/22/E/4693, November 2022) and subsequent gas monitoring letter (C3096/22/E/4855, 1<sup>st</sup> June 2023), it is considered that some remediation will be required at this site. This report provides the strategy for that remediation.

From the environmental investigation, it was considered that the made ground present at the site was contaminated with respect to the intended residential with plant uptake end use. Therefore, it was recommended that garden areas be 'remediated' by providing a clean cover system with a 100mm 'capillary break' between the clean cover system and the underlying made ground.

It should be noted that prior to construction, site levels were to be reduced by approximately 1m to reduce the thickness of made ground beneath the site. Subsequent to this reduction in levels, ground gas monitoring has been undertaken. The ground gas monitoring regime has characterised the site as Characteristic Situation Level 2 (see gas monitoring letter), thus protection from bulk ground gasses (CO<sub>2</sub> and CH<sub>4</sub>) is also required.

## 2. Remediation Strategy

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### 2.1 Remediation Objectives

Based on the site specific risk assessment provided in the geo-environmental report and gas monitoring letter, the object of remediation at the site is as follows:

- To protect the site operatives during the construction process from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust.
- To protect the end user and neighbours from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust.
- To protect the garden plants from contaminated ground and to protect the end user from the ingestion of contaminated fruit and vegetables.
- To protect plastic services from being penetrated by, or degrading due to the presence of contamination in the soil or groundwater.
- To protect controlled waters from run off via drainage/sewers etc.
- To protect buried concrete from being affected by aggressive ground conditions.
- To protect operatives and end users from accumulation of carbon dioxide and methane.

### 2.2 Development Requirements.

The site is to be developed by the construction of a single residential property with a garden. Therefore, it is considered that the site may be classified as being a residential with plant uptake development.

## 3. Scope

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In order to fulfill the objectives defined above the following remedial strategy will be utilised. A pragmatic approach will be undertaken, with observational techniques being employed at each stage of the work. The design will be in accordance with the following documents and drawings for the proposed structure:

- Drawing 23-001-03A – Proposed Plans
- Drawing 23-001-04A – Proposed Plans
- *Drawing 8603/1 – Topographic survey as of January 2023.*

Copies of these documents are presented in Appendix 1 of this report.

### 3.1 Groundworks

During the ground-works phase of the development, protection to the site operatives is required. The risk to site operatives is considered under the Health and Safety at Work Act 1974, together with regulations made under the act, which includes the Control of Substances Hazardous to Health (COSHH) regulations. Therefore the risks to site personnel will be considered under the Construction Design and Management (CDM) regulations at the planning stage and be included in

the contractor's Health and Safety Plan and site specific Method Statements. These documents shall include the following main elements.

- Site operatives at all levels shall be made aware of the hazards of working with potentially contaminated soils and the hazards of working in an area where accumulations of bulk ground gasses (carbon dioxide or methane) could occur.
- Personal hygiene facilities, including washing and messing, will be provided and site operatives will be encouraged to use them.
- Where work is undertaken in dry weather the site will be dampened down to avoid dust. In addition, dust masks will be provided to all site operatives for use in dry weather.
- Where vehicles are transferring soil to the landfill site they will be covered to prevent contamination of the surrounding area by dust.
- Any stockpiles of contaminated soil on site will be sheeted over to prevent excessive amounts of airborne dust.
- Where work is undertaken in wet weather, vehicle and wheel washing facilities will be provided to ensure that the vehicles leaving the site do not transfer contamination to surrounding areas.

On completion of the ground-works a careful site inspection of the sub-grade will take place. Should visual or olfactory evidence of contamination be revealed, then suitably qualified specialists will be consulted. Further testing and updates to the site specific ground model, risk assessment, and remediation strategy will be undertaken where necessary

### 3.2 Construction

During the construction phase of the contract the following items are required to protect the end user from the potential contaminants revealed at this site.

- Beneath buildings, pavements and hard-standings clean inert granular sub-base shall be employed.
- New plastic services will be constructed in a surround of clean inert material and a risk assessment will be carried as instructed by the statutory water authority for the area. Where necessary testing as recommended in the United Kingdom Water Industry Research (UKWIR) website under Report Ref. No. 10/WM/03/21 - 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' will be carried out.
- The redundant services revealed at this site will be de-commissioned and piped services sealed. Any existing services that are to be employed in the new development will be carefully inspected to ensure that they are serviceable and will not allow the ingress of contamination.
- Buried concrete placed at the site will conform to the guidance given in BRE Special Digest SD1 in accordance with a design sulphate class of DS-1.

### 3.3 Garden Areas

In view of the presence of contamination within the made ground and the residential end use of the site, it is considered that remediation will be required in the garden areas. Towards the north-east of the site, a raised terrace is proposed. The current level of the land where this raised terrace is proposed is between 126.5m and 127.5m above Ordnance Datum (AOD) based on topographic *Drawing 8603/1, January 2023*. The final finish level of the raised terrace is proposed to be

127.950m AOD from *Drawing 23-001-03A*. This raised area is expected to form the clean cover system for the raised terrace.

Towards the south-west of the site a garden area is proposed. The final finish level for this garden is approximately 128m AOD from *Drawing 23-001-03A*. From the *Drawing 8603/1, January 2023*, this level is approximately between 128.4m and 128.8m AOD. In this area a clean cover system will be required. In both cases the clean cover shall comprise of a minimum total thickness of 600mm of which a minimum of 150mm shall comprise topsoil. At the base of both clean cover systems a granular capillary break of 100mm of free draining granular soil shall be placed in order to prevent mobile contamination rising upward. The implementation of these measures will put any latent contaminated ground out of the end users' dig range, thus severing the pathway to end users.

### 3.4 Gas Protection Measures

In order to assess the protection measures required BS8485: 2015: Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings has been employed. In accordance with Table 3, Building types, of the code, the development may be considered to conform to Type A. Therefore, on the basis of Table 4 Gas protection score by CS and type of building, the minimum gas protection score (points) is 3.5. The gas protection system should consist of at least two different elements. The elements work independently and collaboratively, and a single element should not be used because there would be no redundancy to allow for defects in the component.

In order to achieve this score the following shall be undertaken.

Table 1: Combination of Protection Elements (BS8485: 2015) for CS2		
Reference	Protection Element	Score
Table 5	Precast suspended segmental sub-floor (i.e. beam and block).	0
Table 6 <sup>1</sup>	Passive sub-floor dispersal layer ( <b>Note 1</b> ):	1.5
Table 7	Gas resistant membrane complying with the requirements given in Table 7 ( <b>Note 2</b> )	2
<b>Total Score</b>		<b>3.5</b>

Note 1:

Dispersal layers include:

- Clear void beneath sub floor is to be utilised of a minimum thickness of 150mm. See *Drawing 23-001-03A Section A-A' and Section B-B'* for design specifications.

Note 2:

The gas resistant membrane shall meet the following criteria (from Table 7, BS 8485: 2015):

- Sufficiently impervious (methane gas transmission rate <40.0ml/day/m<sup>2</sup>/atm (average) BS ISO 15105-1 manometric method).
- Sufficiently durable and strong to remain serviceable for the anticipated life of the building, to withstand in-service stresses and installation process.

<sup>1</sup> For details on the criteria for good and very good performance see Annex B of BS84845: 2015.

- Capable, after installation, of providing a complete barrier to the entry of the relevant gas.
- Verified in accordance with CIRIA C735: 2014: *Good practice on the testing and verification of protection systems of buildings against hazardous ground gasses.*
- Chemically resistant to degradation by other contamination that might be present.

It should be appreciated that if the membrane installed does not meet all the criteria above, then the score for the membrane is considered to be zero.

In addition to the above, the following points shall be considered.

- Technical drawings of the incorporation of the gas protection measures into the sub-structure will be provided by a suitably qualified engineer/architect and produced in accordance with the guidance given in BRE 414.
- The sequence of construction indicating when the gas protection system will be installed will be providing within the installers method statement. Where possible the installation of membranes will take place as a unique activity on site and shall not take place until sub-structure construction is complete.
- During and following the installation of the membrane, all parties in attendance at the site shall be made aware that a gas protection system is to be employed within the construction. Such communications should include, but not be limited to, the CDM documentation for the site and site inductions.
- The installation of the membrane shall be carried out only by suitable personnel and the qualifications or experience/training will be included in the chosen contractors method statement. The suitability of personnel will be assessed in accordance with Annex 1 of CIRIA C735.
- The installation shall be in strict accordance with manufacturer specifications and recommendations.
- The membrane system employed will not be an ensemble (i.e. a system comprising a mixture of products from different manufacturers will not be employed).
- Membranes shall be supplied to site on a single wound roll, creased product will not be accepted or employed.
- Whilst membranes are exposed, signage will be provided to indicate the access to the installation area is prohibited unless authorised. Footwear will be checked prior to accessing the membrane surface to ensure no sharp objects are apparent, such as stones caught in treads. The use of sharp objects or hot-works around the exposed membrane will be strictly prohibited unless the risk of damaging the membrane has been full assessed and mitigated.
- Non-conformance of manufacturer recommendations shall be discussed and agreed as acceptable, in writing, with a suitably qualified person from the manufacturer.

### 3.5 Fill Materials

Any materials to be used as fill at the site, will be subjected to the following assessment to determine its suitability.

Fill materials will be initially screened, by a suitably qualified engineer, for the following.

- It is a suitable growing medium where is to be employed as such, including compliance with BS3883 (2007)
- It is free from obvious contamination i.e. visual or olfactory evidence
- It has not come from areas where Japanese Knotweed or other invasive or injurious plants are suspected to be growing

- It is not a statutory nuisance, such as being odorous
- It is free from unsuitable material i.e. whole bricks, brick ties, timber or glass.

It should also be appreciated that any fill will be subjected to validation testing to assess its suitability. The following table has been taken from YALPAG<sup>2</sup> documentation and will be used in the first instance. Depending on the origin and nature of the material, not all fill will require the sampling frequency and testing indicated, although this will be in agreement with any regulatory bodies (such as the Local Authority).

Table 2: Validation Sampling and Testing		
Fill Type	Frequency	Minimum Determinands
Virgin Quarried Material	1 or 2 depending on the type of stone (to confirm the inert nature of the material)	Standard metals/metalloids (should include as a minimum As, Cd, Cr, CrVI, Cu, Hg, Ni, Pb, Se, Zn)
Crushed Hardcore, Stone, Brick	Minimum 1 per 500m <sup>3</sup>	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, Total TPH. Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).
Greenfield/ Manufactured Soils	Minimum 3  Dependent on source and receptor, between 1 per 50m <sup>3</sup> and 1 per 250m <sup>3</sup>	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, pH and soil organic matter (SOM) (or calculated from total organic carbon (TOC)).
Brownfield/ Screened Soils	Minimum 6  Dependent on source and receptor, between 1 per 50m <sup>3</sup> and 1 per 100m <sup>3</sup>	Standard metals/ metalloids (as above), PAH (16 USEPA speciation), TPH (CWG banded), asbestos, pH and SOM (or calculated from TOC). Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).

It should be noted that screening values for the above regime have been included within Appendix 2 of this report. The screening values will need to be agreed with any regulatory bodies. It is anticipated, for example, that 1% SOM values will be employed for typical granular fill and 6% SOM for topsoil. However, organic matter testing will determine which screening values are appropriate for each material. Moreover, testing will comply with UKAS and MCERTS, where applicable, and undertaken by an accredited laboratory.

Where the material has been derived from a commercial company, certificates or other industry quality protocol compliance i.e. WRAP shall be obtained. However, it will be necessary to ensure that this documentation is specifically related to the material being imported, is no more than two months old and complies with the screening and frequency requirements given above.

Suitable fill materials will either be placed immediately or sufficiently quarantined to prevent cross-contamination. If it is necessary, the quarantined material will be placed on appropriate sheeting and covered to prevent it becoming mixed with contaminated soils or dust, or penetrated by mobile contaminants.

<sup>2</sup> YALPAG *Technical Guidance for Developers, Landowners and Consultants – Verification Requirements for Cover Systems V4.1* Appendix 1a, June 2021.

## 4. Verification Report

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In order to demonstrate that the remediation has been sufficiently carried out and risks highlighted in the conceptual ground model are mitigated, a verification report will be produced and submitted to any statutory authorities.

The report will be produced by a suitably qualified engineer or engineers and will include the following:

### 4.1 Ground Works

- A record of the measures taken to cap and seal any disused services.
- The methods used for handling and final destination of any contaminated soils removed from the site.
- The qualifications or relevant experience/training of the persons carrying out the verification.

### 4.2 Imported Fill and Removal of Contaminated Made Ground/Topsoil

- Characterisation of the suitability of clean imported fill employed at the site including the derivation of the material, comments from a visual screen, the tests results of chemical screening, delivery tickets where appropriate and the conditions by which the clean material has been stored and handled on site.
- Photographic and logged evidence the clean material has been handled on site and placed in a sufficient thickness over areas where made ground remains. This may be either at the time of placement or after placement by means of hand excavated trialpits. Photographs shall include visual site references or reference boards to prove the location and date taken. A measurement reference shall be visible in the photographs to substantiate the thickness of material placed.

### 4.3 Ground Gas Protection System

- The qualifications or relevant experience/training of the persons carrying out the installation.
- The independence of the person carrying out the verification, along with evidence of their qualifications or relevant experience/training.
- Details of the verification process including the dates of inspections and findings.
- Signed statements to confirm that protection measures were constructed as agreed. These statements shall also include confirmation that:
  - Membranes were free from tears and punctures, and installed in accordance within manufacturer guidelines.
  - Underfloor voids were clear and free from debris.
- Clear photographic evidence of the construction of membranes and/or underfloor voids, which should include key details such as air vents, membrane penetrations etc.
- Details of non-conformances and how they were rectified.
- A declaration that remedial objectives set out in the conceptual site model have been achieved.



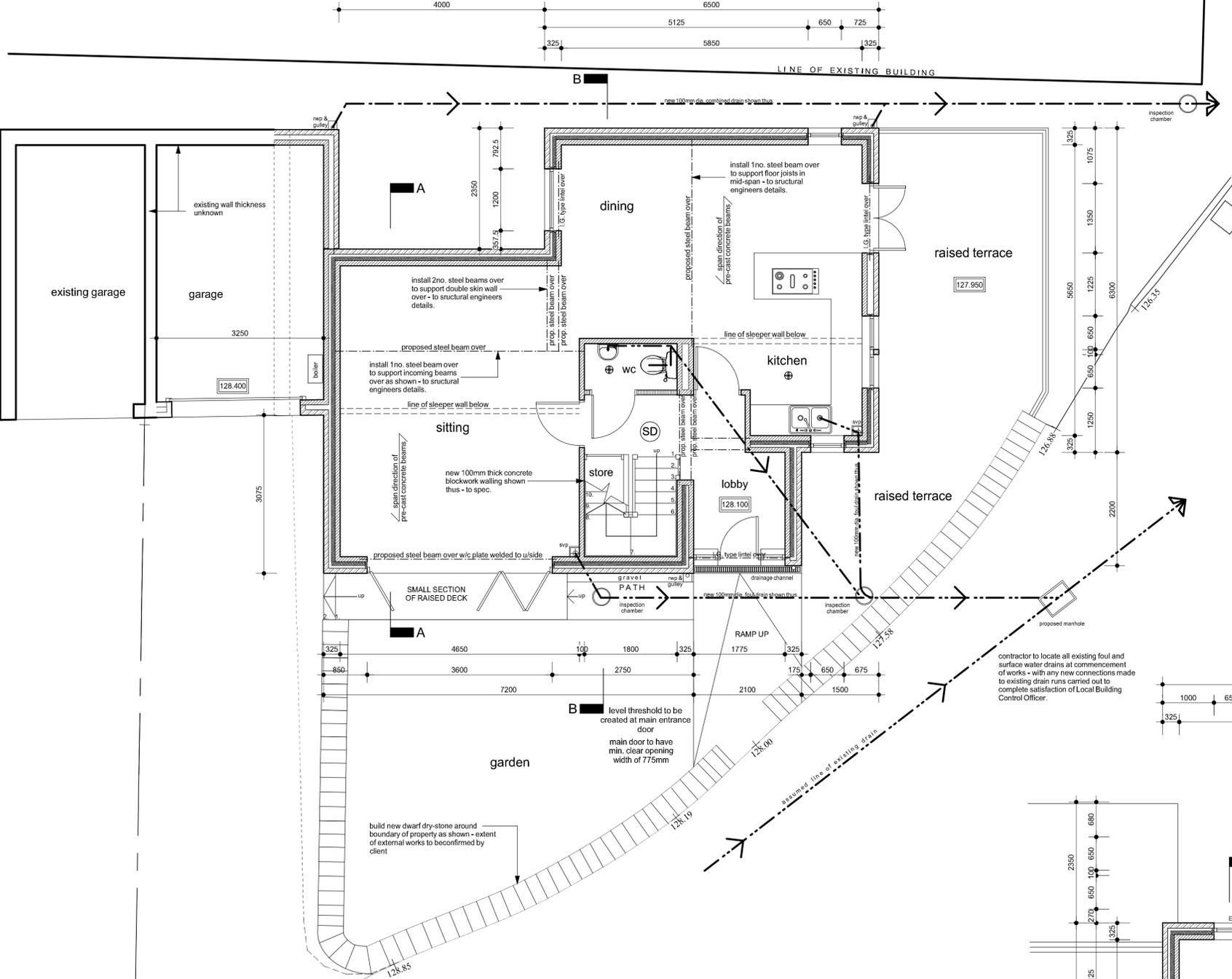
We trust that this information is of interest, clearly Rogers Geotechnical Services Ltd would be happy to offer advice with respect to the above and assist where necessary.

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## Appendix 1

### Plans and Documents

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ground floor plan

THIS DRAWING TO BE READ IN CONJUNCTION WITH CONDITIONS ATTACHED TO PLANNING APPROVAL

THIS DRAWING TO BE READ IN CONJUNCTION WITH STRUCTURAL ENGINEERS DETAILS

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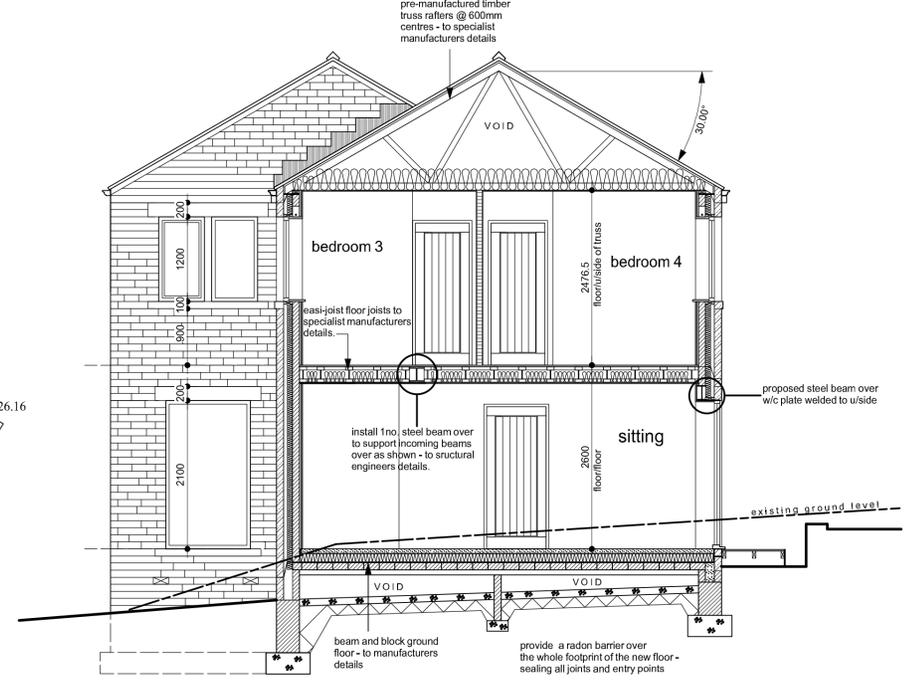
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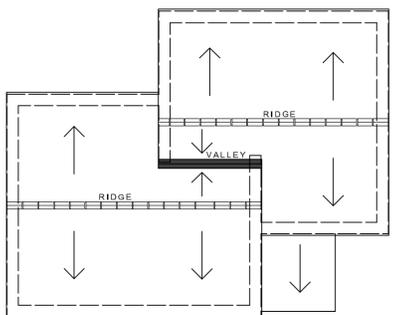
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DWELLING WHEN CONSTRUCTED TO BE SUBJECT TO AN AIR PRESSURE TEST SHOWING AN AIR PERMEABILITY OF UNDER ? m3/h/m2

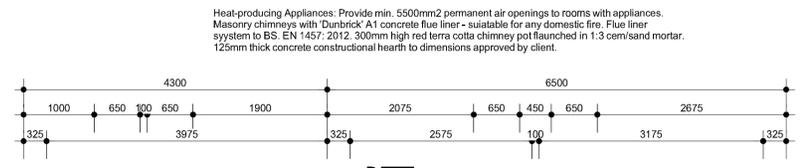
FINISHED FLOOR LEVEL TO BE CHECKED & CONFIRMED WITH CLIENT/DESIGNER ON SITE



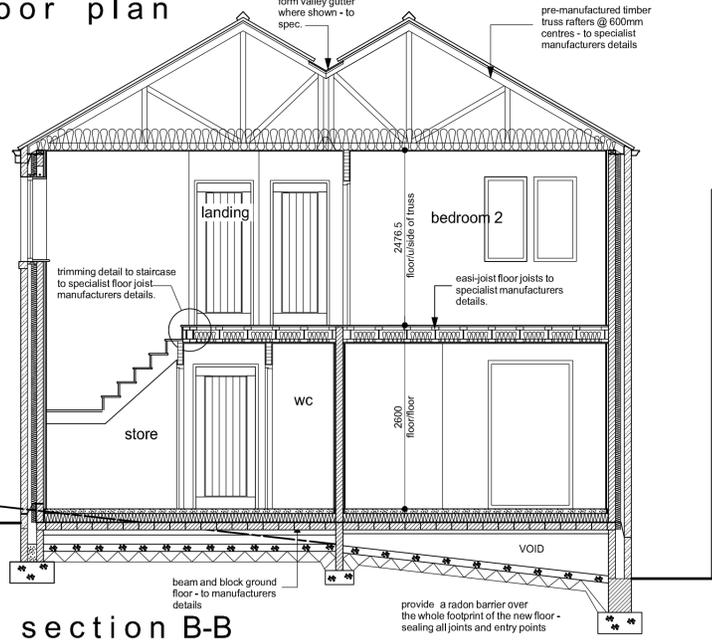
section A-A (part s.w. elevation)



roof plan



first floor plan



section B-B

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Notes:  
This drawing has been prepared specifically for the purpose of Planning Permission (where appropriate) & Building Regulation Approval. Valley Properties accept no liability for errors or omissions. The drawing may be used for estimating purposes, but the Principal Contractor must cost fully from a site investigation. The Contractor is responsible for checking site dimensions, materials etc., and all building work, such work being checked by Building Control on site, as may be appropriate. Valley Properties disclaim any liability for works carried out.

Revisions:  
Rev. A (09-05-2023) - Drawing generally updated  
Rev. B  
Rev. C  
Rev. D  
Rev. E

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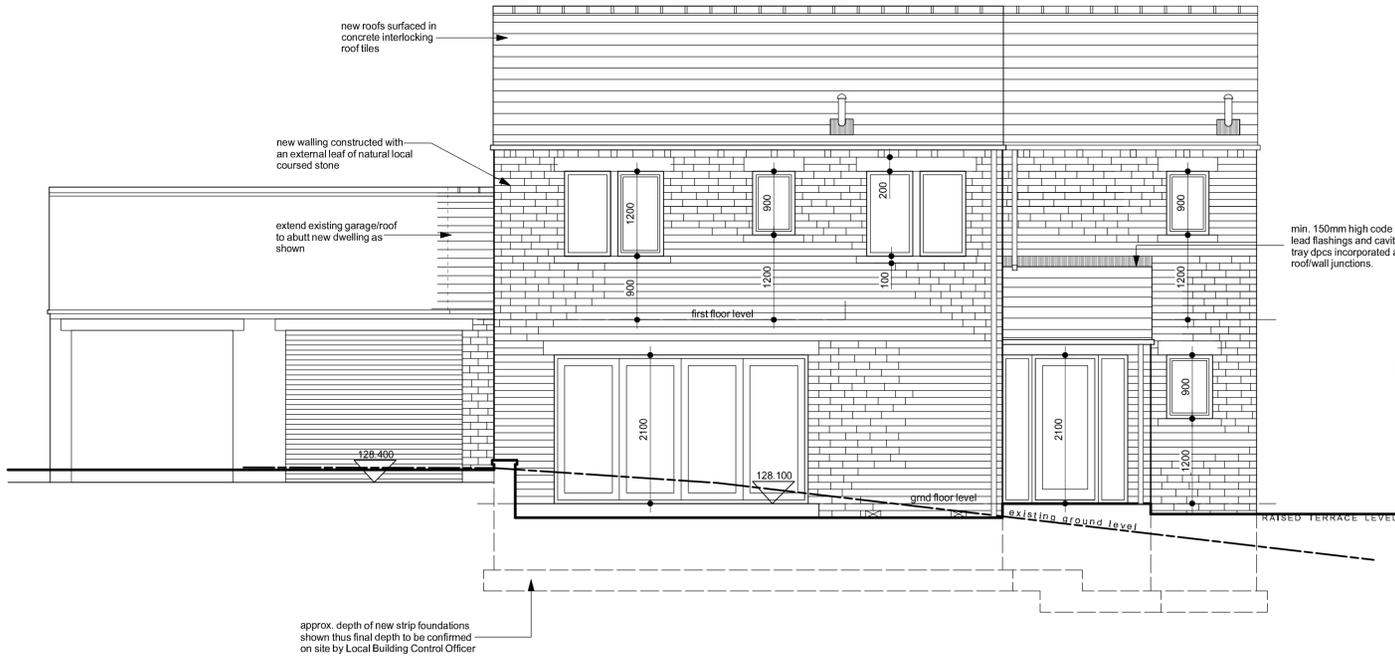
Client Details  
 A. H. Construction

Project Title  
 Proposed erection of detached dwelling on land adjacent 9 Miry Lane, Thongsbridge, Holmfirth

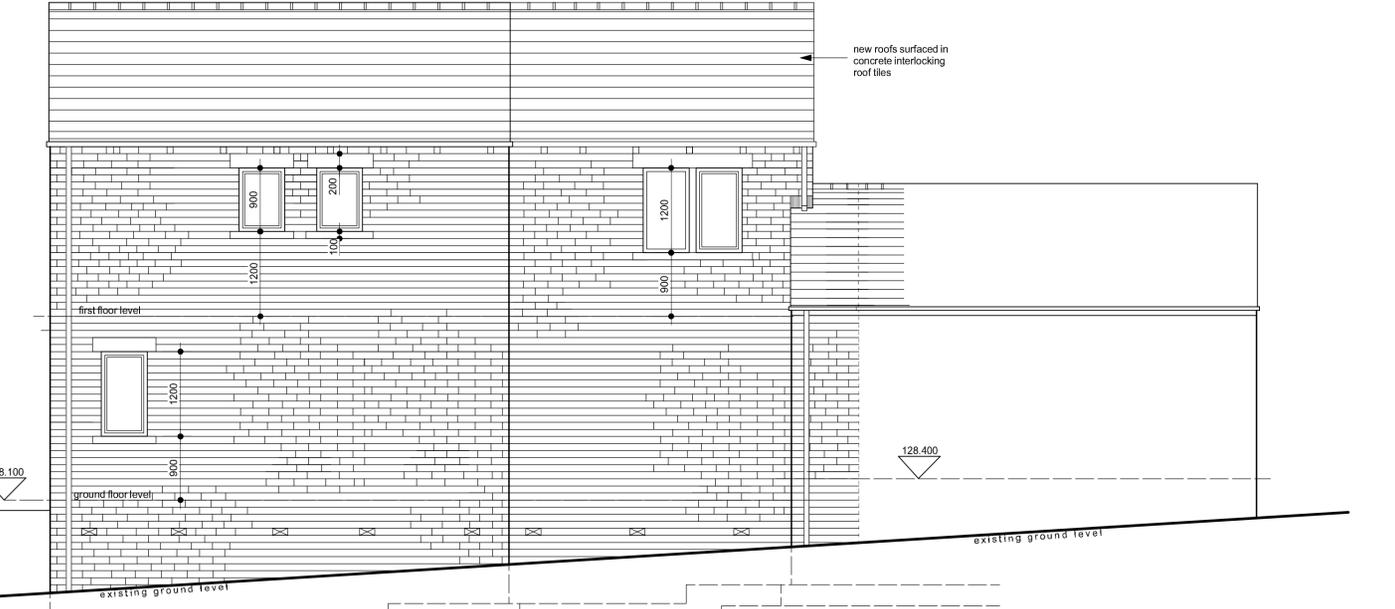
Drawing Title  
 Building Regulations drawing - Floor Plans

Drawing Status  
 PRELIMINARY

Scale: 1/50 & 1/100  
 Drawing Number: 2023/00103  
 Rev. A  
 Date Drawn: March 2023  
 Drawn By: Andrew Smith



south east elevation



south east elevation

**GENERAL SPECIFICATION:**

This drawing has been prepared specifically for the purpose of obtaining Planning Permission (where appropriate) and Building Regulations Approval. Its suitability for other purposes, without supplementary details and specifications cannot be guaranteed. Permission for Planning is beyond the Designer's control and no guarantee that such will be granted is to be inferred by the preparation of this drawing. Use only figured dimensions. All dimensions to be checked on site. The Contractor should visit the site before tendering to ascertain any local features, e.g. trees, adjacent buildings, etc. which may adversely affect the works. This drawing, together with the design is the property and copyright of the Designer, and must not be reproduced without prior permission.

CDM (Construction Design & Management Regulations 2015): The works will be notifiable under CDM Regulations. The Client is advised to discuss with designer and contractor their obligations when carrying out proposed works to their dwelling.

Site Preparation: Ground for development shall be inspected and prepared to comply with Building Regulations C1/2/3 and to the satisfaction of the Building/NBC Inspector of the removal of deleterious materials.

**SUB-STRUCTURE:**

Excavate down for reduced levels and foundations taken down to suitable bearing strata with minimum top cover of 600mm – final depth to be confirmed on site with Local Building Control Officer. Mass concrete strip foundations in ST2 mix concrete, min. 225mm thick and 150mm projection beyond wall thickness. Foundation walls below ground level to be brought up as 2 skins of Class A blockwork the same thickness as walls above with 225mm long st. steel vertical-twat wall ties at 450mm vertical and 750mm horizontal staggered c/s. Cavity to be filled to ground level in weak-mix concrete. Hardcore bed to be laid for solid floor/overlaid concrete in well-consolidated sulphate-free crushed-run stone blined with sand to receive DPM. 100mm thick oversite slab in ST1 mix concrete.

Radon Barrier: Provision to be made for the incorporation of radon barriers in floor slab and substructure walling with measures taken as described in accordance with the most up to date version BRE guidance report 2211(957). Radon guidance on protective measures for new dwellings.

**SUPERSTRUCTURE:**

Suspended Beam & Block Ground Floor: To comprise of suspended pre-cast 175mm deep beam and block floor system details of which are to be provided by manufacturer to Building Control on request. Suspended beam and block floor to be overlaid with 1200 gauge visqueen c.p.m, lapping with dpc of cavity wall inner leaf. Floor insulation on top of dpm, to be 7mm thick Thermatool® F70 rigid urethane insulation to achieve a U-value not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project. 55mm sand/cement structural screed to be laid over insulation – suitable for incorporating underfloor heating pipes. Screed to have a trowel smooth finish ready for finishes. Min. 150mm minimum ventilated floor void to be provided under suspended beam and block ground floor with 100 mm oversite concrete finish or 50 mm of concrete on 1200 gauge visqueen membrane on 50 mm thick sand blinding over ground (prepared as site preparation). Void to be ventilated with 225 x 150 air grates and Rytons Periscope Under floor ventilators or equal approved which should be positioned at maximum 2.0 m centres below dpc, level around perimeter walls. Mortar to be cement / sand 1:6 mix above dpc.

Garage Floor: Power floated 150mm thick concrete slab (concrete mix should be in accordance with BS 8110, BS 5328, mix type ST2 or GEN 1) with 1 layer of A252 steel mesh positioned mid span of slab on 1200g visqueen dpm/radon barrier on sand blinding on min. 150mm well consolidated sulphate free clean hardcore.

External Walls (Stone): Cavity walling formed with outer leaf in 100mm thick natural stone with 125mm cavity incorporating 75mm thick Kingspan Kooltherm® 108 cavity board insulation, maintaining a 50mm minimum cavity. Inner leaf of 100mm thick lightweight loadbearing blocks, 12.5mm plasterboard and 5mm plaster skim on plaster dabs finish internally. Wall construction to give a U-value not exceeding not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project. 300mm long stainless steel vertical twist wall ties at 450mm vertical and 750mm horizontal c/s, and 300mm (max.) c/s, within 150mm of openings. Ties to incorporate plastic insulation retaining clips. Tops of cavities to be closed with 9mm 'Sapikaul' closures. Openings to have ashlar surrounds as shown on drawing. Unless shown otherwise openings to have 1 G.H. them® frames installed in accordance with manufacturers' recommendations. Use 50mm thick TWSO insulation with dpc, as thermal closures to close cavity around openings. Install Rytons Weep Hole Ducts (in colour to match stone) over all openings, at 450mm c/s, but min. 2 per opening. Provide a min. 12mm check in the reveal for the installed frame to trap the DPC against the outer leaf. All openings to have full vertical DPCs, lapped behind the stepped cavity DPCs, over and in front of the horizontal cavity DPC, below the sill. Horizontal DPCs, incorporated in walls min. 150mm above finished external ground level.

Blockwork Internal Walls (Loadbearing): To be built in 100mm thick loadbearing blockwork as previously described, of a min. 400x225mm thick concrete strip foundation as previously described. 100mm thick solid loadbearing blockwork plastered both sides. Naylor's P100 prestressed concrete lintols over openings to manufacturer's instructions.

Internal Walls (Stud): 50 x 75mm sw. studs at 400mm c/s, with 75 x 75mm head and sole plates and 50 x 75mm sw. noggins at max. 1200mm staggered c/s. Face in 12.5mm plasterboard fixed with staggered joints and finish in 5mm skim coat on jute-reinforced scrim joints. All walls to incorporate 75mm Rockwool RW3 sound-deadening quilt (min density 10kg/m<sup>3</sup>) between studs.

First Floor (Essi-Joist floor joists): Generally to comprise 22mm 'green' flooring grade chip board (min mass per unit area 15kg/m<sup>2</sup>) as before described (double layer under baths) on Essi-Joist Floor System to manufacturer's details. U/foor heating incorporated in first floor using proprietary tray system. Incorporate a minimum layer of 100mm thick mineral wool insulation (min density 10kg/m<sup>3</sup>) between floor joists. Underside finished with 12.5mm plasterboard (min mass per unit area 10kg/m<sup>2</sup>) and skim.

Stair: Closed tread staircase in sw. with ex 38mm stringers. Ex 25mm treads and ex 19mm risers. Treads and risers ploughed, wedged and gued into stringers. Risers grooved into underside of tread with min. nosing of 16mm. Min. 2m clear headroom to be maintained vertically above pitch-line of new staircase.

Total Rise of Stair: 2600mm  
No. + size of equal risers: 13 x 200mm  
No. + size of equal goings: 12 x 225mm  
Pitch of stair: 42°  
Minimum galling at any part of tapered tread within the width of a stairway should not be less than 50mm.  
SW handrail and balustrade 900mm high above pitch line. Spindles set vertical and not to allow passage of a 100mm dia. sphere. Underside of stair to have plasterboard and skim as for ceilings.

Windows/Doors: Generally to be double-glazed with min. 16mm air gap between panes. Glazing to be low-E type. Opening lights to be weather-sealed and provide a minimum of 1200th of the total floor area of rooms as ventilation. Windows to give a U-value not exceeding not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project. Doors to give a U-value not exceeding not exceeding not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project. Windows in habitable rooms including kitchens to be fitted with trickle-vents to give background ventilation the equivalent area of at least 8000mm<sup>2</sup>. Windows in vest rooms, bathrooms etc. to be fitted with trickle-vents to give background ventilation the equivalent area of 4000mm<sup>2</sup>. Any glazing extending to less than 800mm above finished floor level, for windows, and 1500mm above finished floor level for doors and side panels, to be safety glass as to B.S.8206. All glazing to comply with B.S.6206.  
Windows & doors are to comply with Part Q1 (unauthorised access) of the building regulations and to meet requirements of PAS 24:2012

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DWELLING TO BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION TOGETHER WITH USE OF ACCREDITED CONSTRUCTION DETAILS FOR THERMAL BRIDGING.

DWELLING WHEN CONSTRUCTED TO BE SUBJECT TO AN AIR PRESSURE TEST SHOWING AN AIR PERMEABILITY OF UNDER ? m<sup>3</sup>/h/m<sup>2</sup>

FINISHED FLOOR LEVEL TO BE CHECKED & CONFIRMED WITH CLIENT/DESIGNER ON SITE

THIS DRAWING TO BE READ IN CONJUNCTION WITH S&D GARRITT LTD SOUND REPORT & RECOMMENDATIONS

Timber pre-treatment: All structural and external timbers shall be pre-treated with either the double vacuum process using organic solvent to BS 5707 or vacuum/pressure process using a fixed water borne preservative (to BS4072) location of timber will determine which specification used i.e. As recommended by the processor.

Flashings: To BS 1178-1982 milled lead sheet or equal approved. Minimum thickness are code 4 for gutters and flashings and code 3 for soakers. To extend minimum 150mm vertically to all abutments. All to be coated with patination oil.

Draught Sealing: All pipes entering boxing or passing into unheated spaces to be sealed against draughts. Large diameter pipes such as S&D VP's to be passed through close fitting holes where passing through plaster board to ceilings, walls, pipe boxing etc.

Pitched Roof (Tussled Rafter + unvented): Roof timbers to be in Grade C16 timber (unless otherwise stated). Roof to be surfaced in concrete interlocking tiles, with lap and gage suitable for pitch. sw. battens as recommended by tile manufacturer over Proctor 'Roofshield' vapour permeable roofing felt. Tussled rafters at max. 600mm c/s, manufactured and erected in accordance with BS. 5268, Part 3. 1985 and including sw. bracing fixed in chevron pattern along rafters and ceiling ties. Account to be taken in the design of the tusses of any water storage platforms or trimmings. Manufacturer to be responsible for providing structural calculations for Local Authority approval.

Tusses supported on 50 x 100mm sw. wallplate, secured at max. 2000mm c/s with 30 x 5mm x 1000mm long galv. m.s. holding-down straps.

Roofspace to incorporate 7mm Rockwool 'Rollbat' insulation in 2 layers laid between and across joists. Roof construction to give a U-value not exceeding not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project.

12.5mm plasterboard and 5mm plaster skim to ceiling on jute scrim reinforced joists.

Pitched Roof with Sloping Ceiling (Partial fill & unvented): Roof timbers to be in Grade C16 timber (unless otherwise stated). Roof to be surfaced in concrete interlocking tiles, with lap and gage suitable for pitch on sw. battens as recommended by the manufacturer over Proctor 'Roofshield' vapour permeable roofing felt. 50x150mm sw. rafters, on 50 x 100mm sw. wall-plate, secured at max. 2000mm c/s with 30 x 5mm x 1000mm long galv. m.s. holding-down straps.

Sloping ceiling to incorporate 7mm Kingspan 'Kooltherm K107 Pkched Roof Board' insulation between rafters (partial fill) maintain an air space of at least 25mm above insulation to provide a space to drape the breathable sarking felt. Incorporate 7mm Kingspan 'Kooltherm K116' insulated dry lining board underlying rafters with 12.5mm plasterboard and 5mm plaster skim to ceiling, on jute scrim reinforced joists. Roof construction to give a U-value not exceeding not exceeding 0.77W/m<sup>2</sup>K, in accordance with SAP calculations provided for project.

150mm high Code 4 lead flashings and cavity-tray DPCs incorporated at wall/roof junctions.

Valley Gutter: Valley gutter to be formed where new roofs. Gutter to be lined with Code 5 lead sheet, in max. sheet lengths of 2.0m. Junctions between sheet lengths to be formed over min. 50mm high drips. Gutter sole to be min. 25mm wide. Lead to be taken up roofs a min. of 225mm and dressed over a continuous tilt fillet. Sole board to gutter bottom and up roof slope to be 18mm exterior quality W & B.P. plywood.

Lateral Stability: To be provided in roof and first floor by 30 x 5mm galv. m.s. straps secured with 8sw. x 75mm long nails to 3no. joists/rafters and built into wall at 1200mm c/s. (roof and 2m c/s. (first floor). Incorporate sw. packs and noggins between joists at strap locations - min. 38mm thick x 1/2 pitch depth.

Gutters: Roofs to drain into 100mm deep seamless aluminium gutters, with 76mm dia. aluminium rwp's draining to gully's where shown. Gutters and rwp's installed and fixed back to structure in strict accordance with manufacturer's instructions.

Below-ground drainage: Existing drainage runs, including manholes and other connections should be verified on site.

New foul and surface water drains are to connect into the existing system via 100mm dia. vitrified clay extra-strength pipes and fittings with flexible-joint joints - all to B.S.65-1981. Pipes to be laid to an even fall of min. 1:80 (surface water) and min 1:40 (foul). Drains running under the building to be surrounded in min. 100mm granular fill. Drains passing through structural walls to be bridged over with RC. lintols, maintaining a min. 50mm clearance from the crown and sides of the pipe.

Inspection chambers/manholes: To be constructed in proprietary P.C. conc. sections, set and jointed in 1:3 cement/sand mortar or 215mm class 'B' hard-burnt smooth-face local bricks off a 150mm thick mass concrete base slab. Charnels with 1.5 x 2 to be benchd up in similar conc. and finished off with 15mm cement/1:2 mix troweled smooth. Cast-iron airight covers set in grease on C.I. frames set level in 1:2 cement mix. Polypropylene C.I.s may be used up to a max. invert of 1000mm, and in accordance with manufacturer's instructions.

Above-ground drainage in UPVC: Pipework with solvent-welded joints in accordance with B.S.3945-1979 and B.S.4514-1983 and installed in accordance with B.S.572-1978. 100mm dia. soil pipe. No connections to be made within 200mm of W.C. connection, except that wastes up to 50mm dia. may connect to the centre-line. No ground-floor branches to connect to stack within 450mm of drain invert. Base of stack to connect to drain via a min. 200mm radius slow bend. SVP, to terminate min. 900mm above any opening into building within 3m. and be fitted with a birdproof cover and flexible sleeve.

Waste runs to appliances to be as follows:

Appliance	Min. dia. mm	Max run mm
Sink	40	3000
**	50	4000
WC,	100	No limit
Washbasin	32	1700
**	40	3000
Bath	40	3000
**	50	4000
Shower	40	3000
**	50	4000

Use 75mm deep seal trap or if max. run exceeded use re-sealing trap.

Mechanical Ventilation: WC, to have mechanical extract ventilation, extracting min. 15 l/sec. via extract fan operated from light switch with 15min. overrun.  
Bathroom: En-suite to have mechanical ventilation, extracting min. 15 l/sec.  
Kitchen: to have mechanical extract ventilation, extracting min. 60 l/sec., or 30 l/sec. if incorporated in a cooker hood.

Electrical: Electrical installations to be in accordance with IEE Regulations and requirements of the supply authority. All new electrical installations to be carried out in accordance and meet requirements P12 of Building Regulations 2000 (as amended by SI 2002/3210) Approved document P (Electrical Safety). Reasonable provision shall be made in the design, installation, inspection and testing of electrical installations by a person competent to do so in order to protect persons from fire and injury. Sufficient information shall be provided so that persons wishing to operate, maintain or alter an electrical installation can do so with reasonable safety. Prior to completion, Building Control must be satisfied that Part P has been complied with and may require an appropriate BS 7671 Electrical Installation Certificate to be issued for the work by a person competent to do so. Switches and sockets in habitable rooms to be fitted between 450mm and 1200mm above finished floor level to comply with Building Regulations Part P. Mains led smoke detectors to be installed where indicated. All linked to sound together in the event of a fire.

Low energy lighting to be provided at a ratio of 100%.

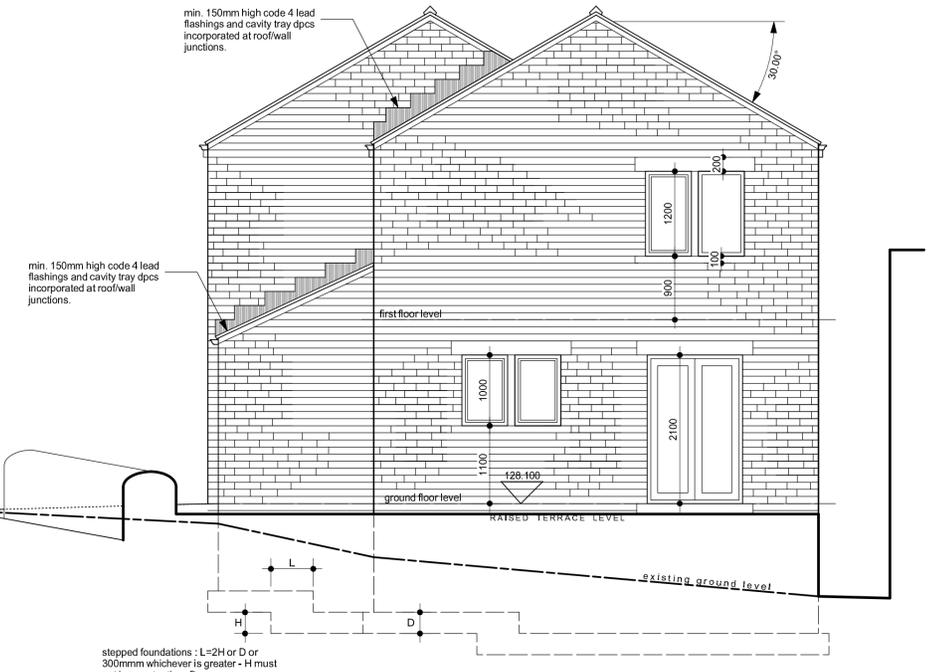
Gas installations: Gas installations to be in accordance with the British Gas Corporation's regulations and the requirements of the supply authority, by GAS SAFE registered fitter.

Central Heating: To comprise gas fired central heating combi condensing boiler in utility providing minimum SEDBUK rating of 7% and fitted with information plate, providing space heat to all rooms, temperature reducing valves fitted to all radiators excluding those in bathrooms and floor control to be fitted to prevent unnecessary 'boiler cycling'. Hot water provided also to be provided by combi boiler in utility. All pipes within any unheated spaces such as floor voids and lofts to be insulated with 25mm preformed pipe insulation. Central heating system to be fitted with a thermostat and an electronic timer control to ensure boiler is switched off during periods when no heat is required.

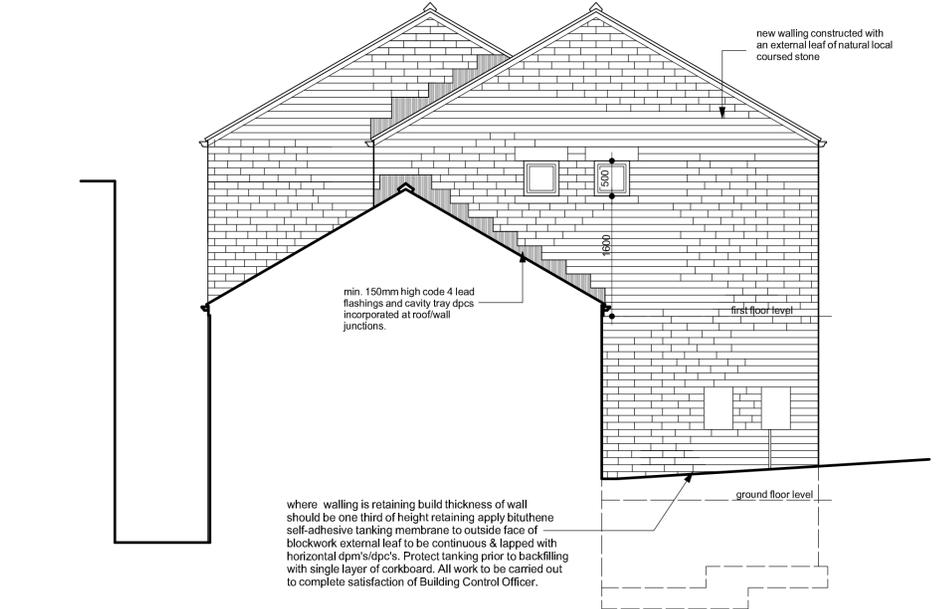
Fire:

Escape Windows: All first floor windows to habitable rooms in dwellings and any ground floor rooms where indicated should have an unobstructed openable area of at least 0.33m<sup>2</sup> with opening lights at least 450mm wide. The bottom of the openable area should be less than 1100mm above the finished floor level and not lower than 800mm.

Steel Beams: Beams to have 1/2-hour fire protection using 12.5mm Gyproc FireLine board on expanded metal lathing. Ensure min. 6mm gap between lathing and flanges of beams to provide adequate mechanical bond for plaster.



north east elevation



south west elevation

where walling is retaining build thickness of wall should be one third of height retaining apply bitumene self-adhesive tanking membrane to outside face of blockwork external leaf to be continuous & lapped with horizontal dpm/dpc's. Protect tanking prior to backfilling with single layer of corckorb. All work to be carried out to complete satisfaction of Building Control Officer.

Notes: This drawing has been prepared specifically for the purpose of Planning Permission (where appropriate) & Building Regulation Approval. Valley Properties accept no liability for errors or omissions. The drawing may be used for estimating purposes, but the Principal Contractor must cost fully from a site investigation. The Contractor is responsible for checking site dimensions, materials etc. and all building works, such work being checked by Building Control on site, as may be appropriate. Valley Properties disclaim any liability for works carried out.

Revisions:  
Rev.A  
Rev.B  
Rev.C  
Rev.D  
Rev.E

**VALLEY PROPERTIES**  
**ARCHITECTURAL DESIGN SERVICES**

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Client Details  
A. H. Construction

Project Title  
Proposed erection of detached dwelling on land adjacent 9 Miry Lane, Thongsbridge, Holmfirth

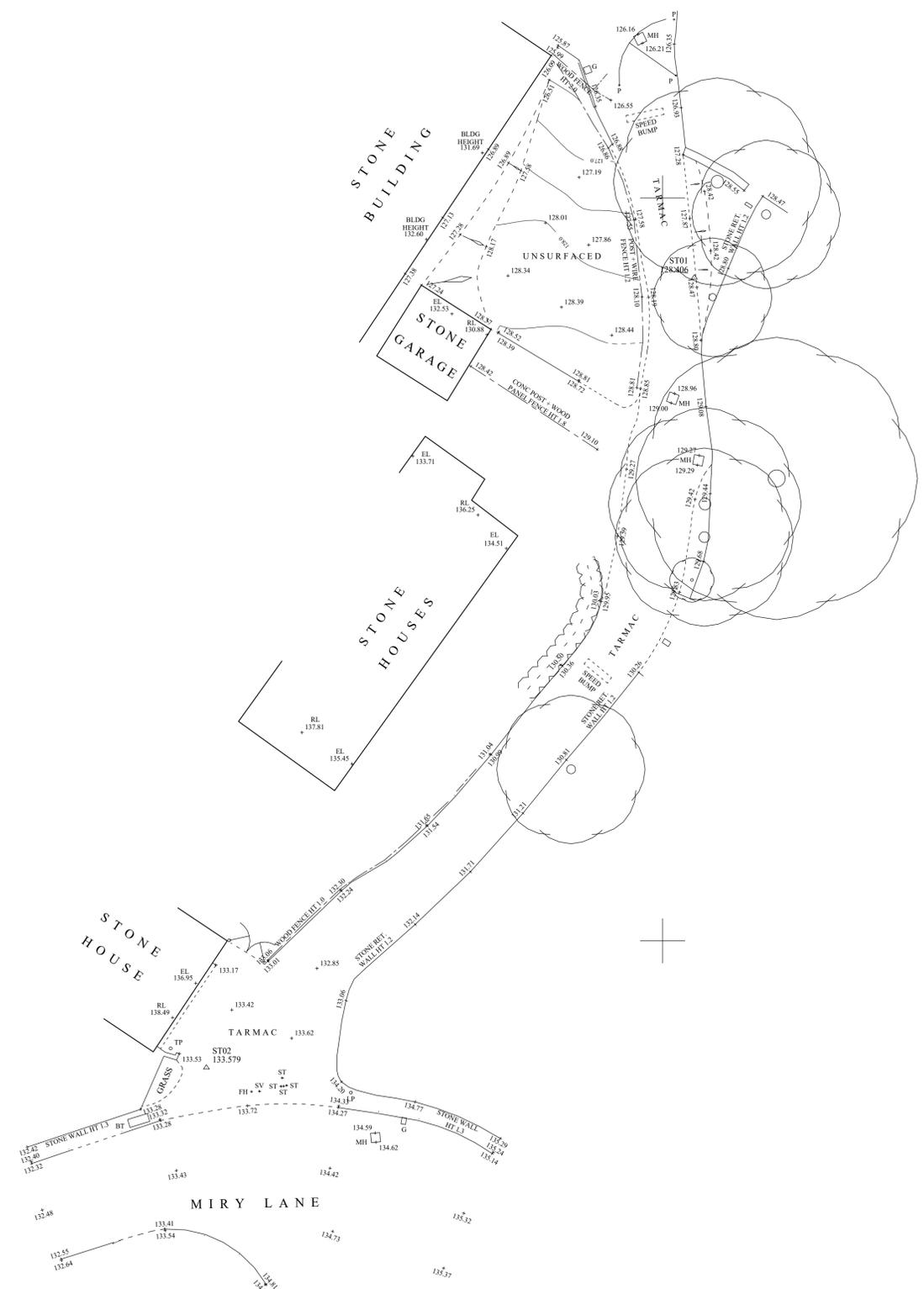
Drawing Title  
Building Regulations drawing - Elevations

Drawing Status  
PRELIMINARY

Scale:  
1:50

Scale	Drawing Number	Rev.	Date Drawn	Drawn By
1:50	2023/001/04	A	March 2023	Andrew Smith

Station	Easting	Northing	Level
ST01	414952.137	409744.638	128.406
ST02	414919.249	409691.469	133.579



SURVEY NOT TO BE MOVED OR ROTATED  
 ALL SERVICES TO BE FIELD VERIFIED  
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THE COORDINATE SYSTEM USED FOR THE PRIMARY CONTROL IS OSG36(15)  
 GRID CENTRE POINT: ST02

SHEET	1 OF 1	LEVEL DATUM	GPS
SCALE	1 : 200 @ A1	GRID DATUM	GPS
DRAWN	NEIL SYKES	DATUM USED	GPS STN: ST02
CHECKED BY	SE		Value 133.579m
DATE	JAN 2023	DRAWING NO.	8603/1

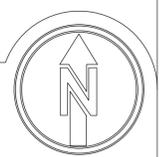


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LOCATION  
**MIRY LANE, THONGSBRIDGE**

CLIENT  
**VALLEY PROPERTIES**

LEGEND	
AV	AIR VALVE
B	BOLLARD
BH	BORHOLE
BS	BUS STOP
BT	BRITISH TELECOM
CC	CONCRETE COVER
CM	CABLE MARKER
CP	CATCH PIT
CTV	CABLE TV I/C
DP	DOWN PIPE
ECP	ELEC. CABLE PIT
EP	ELEC. POLE/PYLON
ER	EARTH ROD
FH	FIRE HYDRANT
FWS	FOUL WATER SEWER
G	GULLY
GV	GAS VALVE
HV	HIGH VOLTAGE
IC	INSPECTION COVER
JB	JUNCTION BOX
KW	KERB WEIR
LB	LITTER BIN
LH	LAMP HOLE
LP	LAMP POST
MC	METAL COVER
MH	MANHOLE
MV	MEDIUM VOLTAGE
P	POST / POLE
RE	RODDING EYE
RS	ROAD SIGN
S	STAY
SC	STOP COCK
ST	STOP TAP
SV	STOP VALVE
SWS	SURFACE WATER SEWER
TL	TRAFFIC LIGHTS
TP	TELEGRAPH POLE
TH	THRESHOLD
VP	VENT PIPE
WM	WATER METER
WO	WASH OUT







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## Appendix 2

# Screening Levels Summary Sheet

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# Rogers Geotechnical Services Ltd.

## Atkins ATRISK Soil Screening Values (SSVs) - Residential With Plant Uptake Landuse

Tox Data Report No.	Compound	Residential with Homegrown Produce Landuse (mg/kg)				Reference
		SOM: 1%		SOM: 6%		
<i>Metals</i>						
3	Cadmium	22.1		22.1		C
4	Chromium VI	3.62	20.5	3.62	20.5	B/C
	Copper	4730		4790		A+
7	Mercury	8.81		15.80		A/D
8	Nickel	136		136		A+
	Lead	200		200		C
	Zinc	20000		20300		A+
	Vanadium	136		138		A+
<i>Semi and Non Metals</i>						
1	Arsenic	37		37		C
10	Selenium	375		375		A
	Free Cyanide	34		34		A
9	Phenols (total)	267		1200		A
<i>Poly Aromatic Hydrocarbons</i>						
		Free product	No free product	Free product	No free product	
20	Napthalene	0.829		12.2		A+
	Acenaphthene	157	608	2760		A+
	Fluorene	735		2610		A+
	Anthracene	10200		26200		A+
	Fluoranthene	983		2980		A+
	Pyrene	668		2120		A+
	Benzo(a)anthracene	1.71	4.52	8.54		A
2	Chrysene	0.44	585	2.64	927	A
2	Benzo(b)fluoranthene	1.22	7.72	7.29	9.86	A
2	Benzo(k)fluoranthene	0.686	84.4	4.12	100	A
2	Benzo(a)pyrene	1.51	4.95	0.998	5	B/C
2	Dibenzo(a,h)anthracene	0.00393	0.838	2.05	4.95	A*
2	Indeno(1,2,3-cd)pyrene	0.0614	7.31	0.368	9.75	A
2	Benzo(g,h,i)perylene	0.0187	96.2	0.112	103	A
<i>Petroleum Hydrocarbons</i>						
	Aliphatic C5-C6	42.7		369		A+
	Aliphatic C6-C8	99.3		768	1240	A+
	Aliphatic C8-C10	13.9		204		A+
	Aliphatic C10-C12	49.9	81.7	297	1180	A+
	Aliphatic C12-C16	20.9	385	125	4130	A+
	Aliphatic C16-C21	210000		210100		A+
	Aliphatic C21-C35	210000		210100		A+
	Aromatic C5-C7 (Benzene)	0.137		0.871		A+
	Aromatic C7-C8 (Toluene)	113		780		A+
	Aromatic C8-C10	20.5		232		A+
	Aromatic C10-C12	70		468		A+
	Aromatic C12-C16	155	165	830		A+
	Aromatic C16-C21	319		1040		A+
	Aromatic C21-C35	1120		1710		A+
A+ = Values update June 2017.						
A* Atrisk's SSV is lower than Chemtest's detectable limit for this compound.						
B = Health Criterion Values (available from toxicological reviews published in the C4SL project methodology report).						
C = Category 4 Screening Levels (C4SLs).						
D = SSV provided is for Methyl Mercury.						