Shropshire Council: Shropshire Local Plan

Representation Form

*Please complete a separate **Part B Representation Form** (this part) for each representation that you would like to make. One **Part A Representation Form** must be enclosed with your **Part B Representation Form(s).***

*We have also published a separate **Guidance Note** to explain the terms used and to assist in making effective representations.*

Part B: Representation

Name and Organisation:	Nigel Thorns Planning Consultancy Ltd on behalf of Shingler Homes Ltd

Q1. To which document does this representation relate?

☑ Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Sustainability Appraisal of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Habitats Regulations Assessment of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

(Please tick one box)

Q2. To which part of the document does this representation relate?

Paragraph:		Policy:		Site:		Policies Map:	Baschurch

Q3. Do you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is:

	Yes:	No:
A. Legally compliant	☑	☐
B. Sound	☑	☐
C. Compliant with the Duty to Co-operate	☑	☐

(Please tick as appropriate).

Q4. Please give details of why you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

The settlement boundary of the village has been amended at Shropshire Stone and Granite Works, to the south east of Station Road and to the west of the Railway Line in the northernmost part of the village.

This reflects the implemented planning permissions 14/02286/OUT and 17/02174/REM which were formally commenced on the 25th Feb 2021 on the Phase 1 part (9 houses adjacent to Station Road). There is also a current application 21/00666/FUL on the Phase 2 land to the rear (34 dwellings and 6 workshops). The Phase 1 and Phase 2 parts are due to be developed by Shingler Homes in 2021 and the adjustment of the boundary is a sensible housekeeping amendment to the plan, to reflect the change from 'open countryside' to 'developed land'.

See supporting documents including site layout, ground report, ecology report, FRA, Heritage Impact Assessment, Noise Report, Planning Statement

(Please continue on a separate sheet if necessary)

Q5. Please set out the modification(s) you consider necessary to make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at Q4 above.

Please note that non-compliance with the duty to co-operate is incapable of modification at examination. You will need to say why each modification will make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

None

(Please continue on a separate sheet if necessary)

Please note: *In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.*

After this stage, further submissions may only be made if invited by the Inspector, based on the matters and issues he or she identifies for examination.

Q6. If your representation is seeking a modification to the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan, do you consider it necessary to participate in examination hearing session(s)?

Please note that while this will provide an initial indication of your wish to participate in hearing session(s), you may be asked at a later point to confirm your request to participate.

☐ No, I do not wish to participate in hearing session(s)

☑ Yes, I wish to participate in hearing session(s)

(Please tick one box)

Q7. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

We need not attend if there are no participants making representations against the allocation at the Examination.

However if there are participants at the Examination which seek to make representations against the site, we would wish to attend to respond and answer any questions raised

(Please continue on a separate sheet if necessary)

Please note: *The Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.*

Signature: Date: 22/02/2021

Office Use Only	Part A Reference:
	Part B Reference:

DRAINAGE ASSESSMENT

Including Flood Risk Assessment

Erection of 34 Dwellings and 6 Workshops with Associated Access onto Station Road with Open Space Areas (redesign of Phase II scheme under applications 14/02286/OUT and 17/02174/REM)

Shropshire Stone & Granite Site Phase II,
Station Road, Baschurch SY4 2BQ

Prepared by
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Document 1 Environment Agency Mapping

1. Introduction

This report considers the flood risk and drainage issues associated with the current planning application relating to Land at Shropshire Stone & Granite Phase II, Station Road, Baschurch SY4 2BQ for:

> Erection of 34 Dwellings and 6 Workshops with Associated Access onto Station Road with Open Space Areas (redesign of Phase II scheme under applications 14/02286/OUT and 17/02174/REM)

The application is submitted on behalf of Shingler Homes Ltd, Hillcrest Works, Myddle, Shrewsbury, Shropshire, SY4 3SE.

The report seeks to investigate the possibility of flood risk across the site and demonstrate the viability of drainage, both foul and surface water, to serve this development proposal.

National Planning Guidance states that a Flood Risk Assessment is required if the site is more than 1 hectare (ha) in flood zone 1.

2. Site Description

The application site is an irregular shape following field and historic ownership boundaries.

The land is currently in commercial and agricultural uses with access onto Station Road.

The site is shown in the context of the immediate surroundings in the aerial photograph below.

The land is relatively flat and amounts to around 1.96ha.

The site is generally open with areas of hardstanding within the Shropshire Stone and Granite working area shown above. There are a number of portal framed sheds which will be removed as part of the wider development of the site.

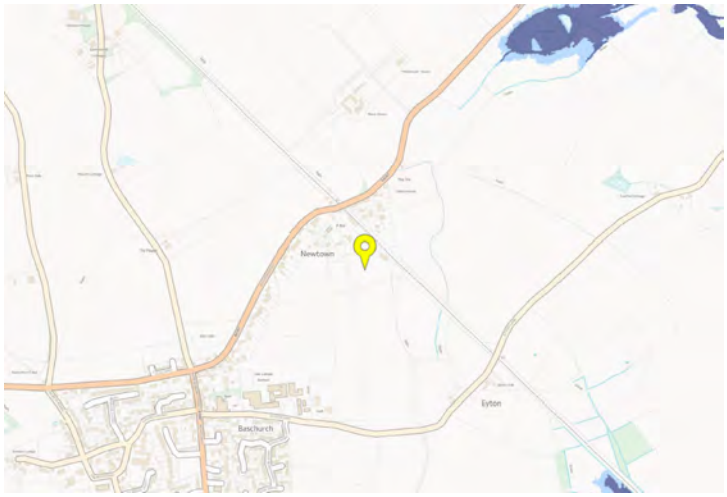
There are areas of paddocks to the south western side of the site.

Previous investigations have revealed the non-cohesive nature of the sub-soils of this land and the surrounding vicinity, largely of gravel, sands and boulders.

3. Flood Risk

The site is shown to be within Flood Zone 1 as identified by the Environment Agency. This is land and property which has a low probability of flooding.

An extract from the Environment Agency mapping is shown below and the full document is attached as Document 1.



The site is currently not at risk from overland surface water flooding and/or third-party flooding. On the basis of the Environment Agency mapping there will be no detrimental impact upon any future occupiers of the development through flood risk and the development of the site will not result in the loss of flood storage capacity

Previous investigations have revealed the non-cohesive nature of the sub-soils of this land and the surrounding vicinity, largely of gravel, sands and boulders. This supports natural infiltration drainage with anecdotal evidence confirming a complete lack of any flooding instances or lying water within the site.

The watercourse to the south east is around 200m from the site and there is no recorded history of any rising waters affecting the site and no evidence to suggest that any such potential flood will arise in the future.

Given the information above it is confirmed that flood risk to or from this development site from any overland flow of water will not occur.

The development fulfils the flood risk criteria within NPPF and Local Plan Policy CS18 Sustainable Water Management.

4. Surface Water Discharge

Approved Document H of the current Building Regulations sets out a hierarchy for disposal of surface water from new development at Part H3, as follows:

Rainwater drainage

H3. (1) Adequate provision shall be made for rainwater to be carried from the roof of the building.

(2) Paved areas around the building shall be so constructed as to be adequately drained.

(3) Rainwater from a system provided pursuant to sub-paragraphs (1) or (2) shall discharge to one of the following, listed in order of priority:

(a) an adequate soakaway or some other adequate infiltration system; or, where that is not reasonably practicable,

(b) a watercourse; or, where that is not reasonably practicable,

(c) a sewer.

Previous investigations have revealed the non-cohesive nature of the sub-soils of this land and the surrounding vicinity, largely of gravel, sands and boulders. This supports natural infiltration and soakaway drainage.

The surface water scheme including the relevant calculations and drawings are provided by Richard Harman of Berrys, Beech House, Shrewsbury Business Park, Shrewsbury SY2 6FG.

Surface water from the buildings will discharged via designed soakaways and the 'Private Drainage Layout' is shown on Drawing SA38098-BRY-ST-PL-C-0503_RevB.

The development fulfils the flood risk criteria within Building Regulation Approved Document H, NPPF and Local Plan Policy CS18 Sustainable Water Management and MD8 Infrastructure Provision.

5. Foul Water Discharge

Approved Document H of the current Building Regulations sets out a hierarchy for disposal of foul water from new development at Part H1, as follows:

Foul water drainage

H1. (1) An adequate system of drainage shall be provided to carry foul water from appliances within the building to one of the following, listed in order of priority:

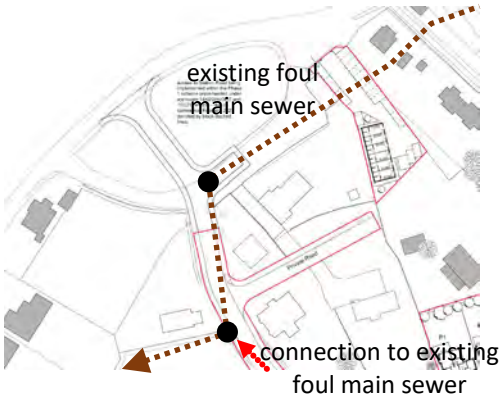
(a) a public sewer; or, where that is not reasonably practicable,

(b) a private sewer communicating with a public sewer; or, where that is not reasonably practicable,

(c) either a septic tank which has an appropriate form of secondary treatment or another wastewater treatment system; or, where that is not reasonably practicable,

(d) a cesspool.

Foul water from the buildings will discharged to the 150mm public foul sewer which crosses the site in the location shown in the plan extract below:



The foul water scheme is shown on the 'Adoptable Drainage Layout' shown on Drawing SA38098-BRY-ST-PL-C-0502_RevB provided by Richard Harman of Berrys, Beech House, Shrewsbury Business Park, Shrewsbury SY2 6FG.

The foul drainage will fall to a pumping station in the south western corner of the site which will then pump the foul water to the foul main shown above.

The development fulfils the flood risk criteria within Building Regulation Approved Document H, NPPF and Local Plan Policy CS18 Sustainable Water Management and MD8 Infrastructure Provision.

Document 1

Environment Agency Flood Risk Mapping

Environment Agency

Flood map for planning

Your reference	Location (easting/northing)	Created
Station Rd P2	**343002/322522**	**27 Jan 2021 15:09**

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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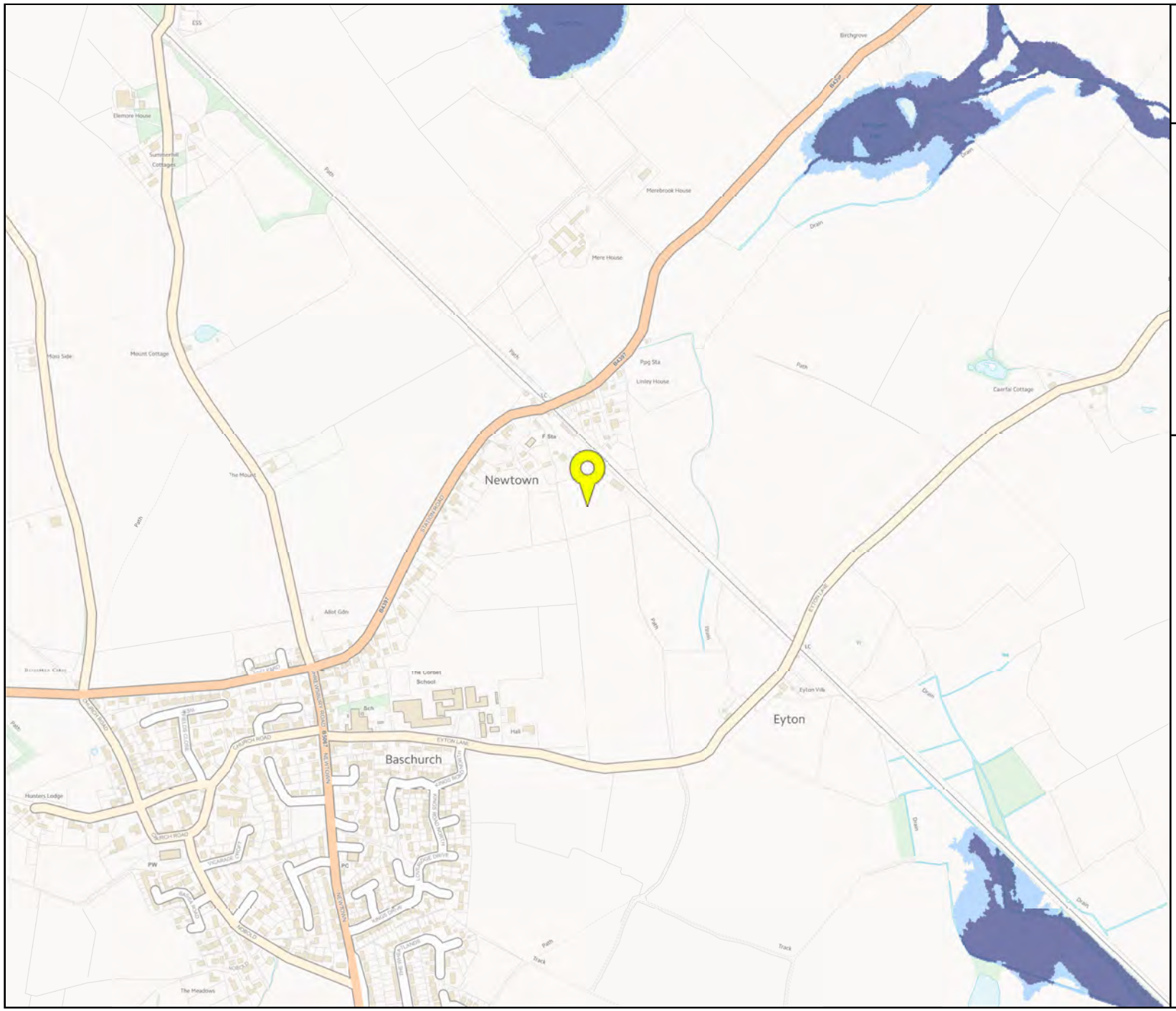
https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/



Environment Agency

Flood map for planning

Your reference
Station Rd P2

Location (easting/northing)
343002/322522

Scale
1:10000

Created
27 Jan 2021 15:09

- Selected point
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 100 200 300m

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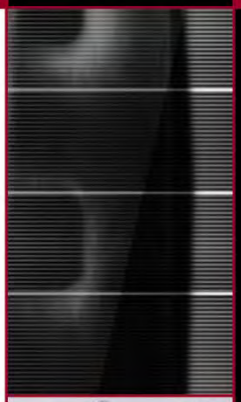
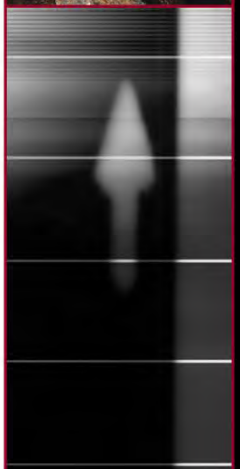
georisk
MANAGEMENT





Innovative Land Development Solutions

GEOENVIRONMENTAL ASSESSMENT

STATION ROAD, BASCHURCH

Report No: 20213/1
Revision No: 1
Date: January 2021

Prepared for

SHINGLER GROUP LIMITED

PROJECT QUALITY ASSURANCE
INFORMATION SHEET

GEOENVIRONMENTAL ASSESSMENT

STATION ROAD, BASCHURCH

Report Status:	**Final**
Report No:	**20213/1**
Revision No:	**1**
Issue Date:	**January 2021**
Prepared For:	**Shingler Group Limited** **Hillcrest Works** **MYDDLE** **Shropshire** **SY4 3SE**
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georisk MANAGEMENT

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EXECUTIVE SUMMARY

GEOENVIRONMENTAL ASSESSMENT

STATION ROAD, BASCHURCH

Georisk Management Limited has been commissioned to carry out a geoenvironmental assessment of the above site which is to be redeveloped for housing.

Phase I	**Comments**
The Site	The site is situated off Station Road in Baschurch, Shropshire and can be located approximately by National Grid Reference 342970, 322580. It covers an area of approximately 2.2 hectares and comprises a derelict public house with associated car park, stonemasons yard an area of undeveloped land. The stonemasons yard comprises three workshops and external storage area and there is an above ground fuel storage tank adjacent to a workshop building. No evidence of potential significant contamination, including evidence of any leakage/spillage from the on-site fuel tank was noted during the site walkover.
Site History	Historical maps indicate that the site comprised a hotel/public house in the north, railway yard/sidings in the east and north-east with the southern area remaining undeveloped land. The railway yard/sidings closed and was dismantled between 1954 and 1974 – probably following the Beeching report of 1963. Surrounding land use was predominantly agricultural with sparse residential development from early 1950's onwards.
Geology	The geology beneath the site is anticipated to comprise Made Ground in the north, east and north-east of the site and Glaciofluvial Deposits in the north and Glacial Till in the south overlying the Bollin Mudstone Member of the Sidmouth Mudstone Formation of the Mercia Mudstone Group of Triassic age.
Coal Mining	The site is not in an area affected by past coal mining activities.
Hydrology	The nearest surface watercourses is a stream flowing northwards approximately 90 m to the east of the site. The EA has no records of licensed surface water abstractions within 250 m of the site.
Flood Risk	The site is not mapped by the EA in an area likely to be at risk from river flooding.
Hydrogeology	The Glaciofluvial Deposits are classified by the EA as a *'Secondary A'* aquifer, the Glacial Till as a *'Secondary – Undifferentiated'* aquifer and the Bollin Mudstone Member as a *'Secondary B'* aquifer. The EA has no records of licensed groundwater abstractions within 250 m of the site and it is not mapped in a groundwater Source Protection Zone.
Landfills	The EA and Local Authority have no records of any operational or historic landfills within 250 m of the site.
Radon	Radon protection measures are not required for a residential development at the site.
Phase II	**Comments**
Ground Conditions	**Made Ground** was encountered in the north and east of the site to depths typically of between 0.4 and 1.5 m begl; however, deeper Made Ground was recorded in TP5 and WS1 to depths of at least 2.5 m and 2.7 m begl respectively. In the north of the site in WS1 to WS3, the Made Ground comprised grey and brown locally clayey silty locally gravelly sand/sandy gravel with the gravel being sandstone, quartzite, brick and localised ash. The deep Made Ground recorded in WS1 is coincident with the historic location of the Boreatton Arms and is suspected to be associated with an infilled former basement/cellar. Tarmac was recorded at the surface in WS1 and WS2 to a depth of 0.1 m begl overlying hardcore sub-base of grey gravel of igneous rock and yellowish-brown sandy gravel of sandstone and brick. In the east of the site, the Made Ground typically comprised grey, black and brown ashy gravelly sand with the gravel being brick, quartzite, coal, ash, clinker and slag. Gravel, cobble and boulder sized fragments of sandstone were encountered in WS7, WS8 and TP4 with WS8 refusing at 1.0 m begl on suspected buried sandstone rock. Anecdotal evidence suggests that levels in this part of the site have been raised using excess rock fragments from the stonemasons operations. **Topsoil** was recorded in WS9 to WS12 and TP6 to TP8 put down in the south-west of the site to depths of between 0.3 and 0.4 m begl. It comprised dark brown silty locally clayey gravelly sand with the gravel content being sandstone, mudstone and quartzite. **Subsoil** was encountered in WS2, WS3, WS9 and WS10 to depths of between 0.6 and 1.0 m begl and comprised brown slightly clayey slightly gravelly sand.

Phase II	Comments
Ground Conditions	**Glaciofluvial Deposits** were encountered beneath the Made Ground or topsoil/subsoil to a maximum penetrated depth of 4.0 m begl. These deposits comprised medium dense becoming dense with depth locally slightly clayey gravelly sand with occasional cobbles and boulders.
Contamination	Ash, clinker and slag were identified in the Made Ground in the east of the site, which was previously a railway yard. No visual or olfactory evidence of potential hydrocarbon impact was recorded in WS5 put down adjacent to the above ground fuel tank.
Groundwater	Groundwater was not encountered during the fieldwork and subsequent monitoring of standpipes installed in WS1, WS5 and WS9 has recorded dry conditions throughout the monitoring programme.
Soil-Gas	No methane was recorded and steady state carbon dioxide levels ranged from 1.1 to 7.0 % by volume (v/v) during the monitoring programme. A maximum positive gas flow of 0.1 l/hr has been recorded and ambient atmospheric pressures ranged from 984 to 1013 mb during the monitoring programme.
Environmental Assessment	**Comments**
Soil Contamination	The following test results for lead and PAH compounds exceeded the relevant assessment criteria in samples of Made Ground: • lead: TP1: 0.2 m begl (220 mg/kg); TP2: 0.3 m begl (260 mg/kg); TP3: 0.4 m begl (210 mg/kg); TP5: 0.3 m begl (250 mg/kg) and WS5: 0.5 m begl (860 mg/kg); • benzo(a)anthracene: TP3: 0.4 m begl (8.9 mg/kg); • benzo(a)pyrene: TP1: 0.2 m begl (5.6 mg/kg); TP2: 0.3 m begl (3.2 mg/kg); TP3: 0.4 m begl (9.7 mg/kg); TP5: 0.3 m begl (4.1 mg/kg); WS4: 0.2 m begl (4.3 mg/kg) and WS5: 0.5 m begl (3.0 mg/kg); • benzo(b)fluoranthene: TP1: 0.2 m begl (7.7 mg/kg); TP2: 0.3 m begl (4.3 mg/kg); TP3: 0.4 m begl (13 mg/kg); TP5: 0.3 m begl (7.0 mg/kg); WS4: 0.2 m begl (6.1 mg/kg) and WS5: 0.5 m begl (4.1 mg/kg); • dibenz(ah)anthracene: TP1: 0.2 m begl (1.6 mg/kg); TP2: 0.3 m begl (0.92 mg/kg); TP3: 0.4 m begl (2.2 mg/kg); TP4: 0.2 m begl (0.37 mg/kg); TP5: 0.3 m begl (1.2 mg/kg); WS4: 0.2 m begl (2.1 mg/kg) and WS5: 0.5 m begl (1.2 mg/kg). Amosite fibres were identified in a sample of Made Ground from WS4 at a depth of 0.2 m begl with subsequent quantification recording a total percentage by weight of <0.001%.
Risk Evaluation: Human Health	To address the remaining pollutant linkages to future site users from elevated lead, PAH and localised asbestos in the near-surface Made Ground, it is recommended that allowance is made for the provision of a blinding layer of clean imported soil in garden areas where Made Ground is present to act as a physical barrier between site users and the Made Ground. Refer to Drawing No. 20213/3. The composition and thickness of the cover layer would need to be agreed with the relevant regulators in advance of any works starting on site; however, at this stage we would suggest allowing for the following minimum thicknesses: • private rear garden areas: 600 mm (nominally 150 mm topsoil; 450 mm subsoil); • front gardens and soft landscaped areas: 300 mm (typically 150 mm topsoil; 150 mm subsoil). No specific remedial action is required in the south-west of the site; however, strict controls must be put in place to avoid contaminating the 'clean' areas of the site when excavating, moving or stockpiling Made Ground. Placement of the clean cover layer will require independent validation and verification.
Risk Evaluation: Soil-Gas	'Amber 1'/CS2 classification in the north and east of the site, which requires low-level gas protection measures to be incorporated into plots using a gas resistant membrane and ventilated sub-floor void to create a permeability contrast to limit the ingress of gas into buildings. The gas protection measures should be installed as prescribed in BRE 414 and ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours. The installation of the gas protection measures will need to be verified in accordance with guidance given in BS8485 (2015+A1:2019). Refer to Drawing No. 20213/4. The ground conditions encountered in the previously undeveloped south-west of the site comprised topsoil overlying natural granular Glaciofluvial Deposits and as the soil-gas monitoring results are consistently indicative of a 'Green' classification, gas protection is not considered necessary.

Environmental Assessment	Comments
Statutory Consultation	If required to satisfy planning or land quality conditions, this report should be submitted to the Local Authority and/or NHBC/warranty provider for approval in advance of any development works starting on site.
Geotechnical Assessment	**Comments**
Foundations	This investigation has identified topsoil/subsoil and/or Made Ground to depths typically up to 1.5 m begl overlying medium dense to dense granular Glaciofluvial Deposits. Deeper Made Ground was recorded locally in TP5 and WS1 to depths of at least 2.5 m and 2.7 m begl respectively. WS1 was put down in the north of the site and the deep Made Ground is believed to be represent the infilled basement of the former Boreatton Arms Hotel that was demolished in 1974. TP5 is outside the area of new built development. The proposed development is to comprise traditional low-rise housing and following site preparatory works, it is considered that strip/trench fill foundations extending through any Made Ground (where present) into competent medium dense Glaciofluvial Deposits should be viable for much of the proposed development. The near-surface Glaciofluvial Deposits are considered non-shrinkable and; therefore, tree influence would not be of concern. A minimum founding depth of 0.6 m (provided a minimum 300 mm penetration into the competent Glaciofluvial Deposits is achieved) should be adopted in accordance with NHBC guidance. For strip/trench fill foundations placed in competent medium dense Glaciofluvial Deposits, an allowable bearing pressure of 150 kN/m^2 is considered appropriate for these materials with total settlements not anticipated to exceed 25 mm. Foundation excavations should be inspected by qualified personnel and any soft or loose materials that are encountered should be removed and replaced with compacted granular fill or lean mix concrete. In the north of the site, the infilled basement/cellar of the former Boreatton Arms Hotel was encountered in WS1 and Made Ground was recorded to a depth of at least 2.7 m begl. Further investigation is recommended in this area to determine the most appropriate foundation solution and, if deep trench fill, is not considered viable, an alternative approach such as piling would need to be adopted.
Floor Slabs	In the north and east of the site, as the thickness of Made Ground exceeds 0.6 m and to comply with NHBC guidance on soil-gas risk, it is recommended that a suspended floor slab with underfloor void is adopted for the proposed development. In the south-west of the site, natural granular material was encountered beneath the topsoil and a suspended floor slab design (cast in situ or 'beam and block' with underfloor void) could be utilised or, providing all topsoil was removed and replaced to level with engineered granular fill, a ground bearing slab could be used.
Pavement Design	Final road and pavement levels are not known at this stage; however, for preliminary design purposes, the following long-term equilibrium CBR values are recommended for the various near-surface materials present at the site: • Made Ground: 2 %; • Glaciofluvial Deposits: 5 %. The proposed formation should be proof rolled and caution must be exercised to ensure that any soft/loose areas identified within the formation are excavated and filled with suitably compacted granular fill. Once road alignments and levels have been finalised, in situ CBR tests should be undertaken to allow detailed design of road formations to be made.
Buried Concrete	A Design Sulphate Class of DS-1 and an ACEC class of AC-1 apply at the site.
Dewatering	The findings of this investigation indicate that significant water ingress is unlikely to occur in temporary excavations; however, any localised seepage should be controllable by sump pumping.
Excavations	Conventional mechanical excavation should be readily achievable to depths of at least 4.0 m begl. Shallow excavations may require temporary support due to the instability recorded during the fieldwork. Care should be taken to limit the exposure of any excavation prepared to receive concrete, which may cause deterioration and a reduction in bearing capacity. Foundation excavations should be inspected by qualified personnel and any soft or loose materials that are encountered should be removed and replaced with compacted granular fill or lean mix concrete.

Additional Work	Comments
Various	This report should be submitted to the Local Authority and NHBC/warranty provider for approval before any development works start on site.
	Installation of CS2/'Amber 1' gas protection – refer to Drawing 20213/4 and requires independent validation and verification.
	Placement of the clean cover layer – refer to Drawing No. 20213/3 and requires independent validation and verification.
	Detailed foundation design for plots affected by infilled basement/cellar to former Boreatton Arms Hotel (WS1).

The above summary is intended for reference purposes only and specific details should be obtained by reading the entire report.

FOREWORD

This report has been prepared for the sole internal use and reliance of the Client(s) named on the Project Quality Assurance Information Sheet. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Georisk Management Ltd (Georisk). If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

The report should be read in its entirety, including all associated drawings and appendices. Georisk cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed within this report and which Georisk believes is reliable. All reasonable care and skill has been applied in examining the information obtained, nevertheless, Georisk cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

The report represents the findings and opinions of experienced geoenvironmental consultants. Georisk does not provide legal advice and the advice of lawyers may also be required.

Any recommendations made or opinions expressed in the Report are based on the exploratory hole records, an examination of samples and the results of the site and laboratory tests. No liability can be accepted for conditions not revealed by the exploratory holes particularly between positions. Whilst every effort is made to ensure accuracy of data supplied any opinion expressed as to the possible configuration of strata between or below investigation locations is for guidance only and no responsibility is accepted as to its accuracy.

Unless otherwise specifically stated, this report assumes that ground levels will not change significantly from those existing at present and that the proposed development will be of two to three storey construction. If this is not to be the case, some modifications to this report may be required.

The groundwater conditions entered on the borehole records and from any monitoring programme are those observed at the time of the investigation. Groundwater levels are susceptible to seasonal fluctuations and may be higher during wetter periods than those encountered during this investigation.

Where the report refers to the potential presence of invasive plant species, such as Japanese Knotweed, or the presence of possible asbestos containing materials, it should be noted that the observations are for information purposes only and should be verified by a suitably qualified expert.

Georisk reserves the right to amend the conclusions and recommendations made in this report in the light of any further or more detailed information that may become available.

GEOENVIRONMENTAL ASSESSMENT

STATION ROAD, BASCHURCH

1. INTRODUCTION

1.1 Georisk Management Limited (Georisk) has been instructed by Shingler Group Limited (Shingler) to carry out a geoenvironmental assessment of a parcel of land located off Station Road in Baschurch, Shropshire. The work was carried out in accordance with Georisk's offer letter reference 20213/LO.001/AMG dated 27 August 2020, which was accepted by Shingler in their email dated 27 August 2020.

1.2 The site is to be redeveloped for housing and the principal aims of this investigation are as follows:

- to carry out Phase I hazard identification and assessment (desk study) including determination of an initial conceptual model based on '*source-pathway-target*' principles;
- to determine the prevalent ground and groundwater conditions at the site;
- to provide an assessment of the concentrations of a range of potential contaminants of concern within the near surface soils, including Phase II evaluation of risk to human health and environmental receptors;
- to identify any potential geoenvironmental constraints or opportunities associated with the redevelopment of the site for a residential end use;
- to provide general geotechnical design recommendations for the proposed development scheme.

1.3 This report presents the factual data obtained from the programme of fieldwork, laboratory testing and monitoring implemented by Georisk, together with an assessment of the contamination status of the near-surface soils and general engineering considerations for the proposed development scheme.

2. INFORMATION SOURCES

2.1 The information sources used in the production of this report were as follows:

- site walkover to appraise current layout and conditions;
- review of British Geological Survey (BGS) maps and publications;
- review of information contained within environmental databases maintained by the Environment Agency (EA) and other regulatory bodies provided in an Envirocheck report by Landmark Information Group dated August 2020 – supporting information is included as Appendix G of this report;
- information gained with respect to the ground and groundwater conditions established in the programme of fieldwork and monitoring carried out by Georisk;
- appraisal of laboratory data resulting from chemical and geotechnical testing scheduled by Georisk;
- topographic survey of the site by Battlefield Land Surveys Limited reference BAS10762 dated April 2017;
- proposed site layout as shown on drawing entitled 'Indicative Proposed Site Plan' by Shingler Group reference STAT01 PP-009.

3. REFERENCE SOURCES

3.1 This report has been prepared with regard to the following sources of reference and guidance, supplemented with experience of similar sites:

- *Investigation of Potentially Contaminated Sites – Code of Practice. British Standards Institute BS10175 (2001);*
- *Code of Practice for Site Investigations. BS5930 (2015+A1:2020);*
- *Human health toxicological assessment of contaminants in soil. Science Report SC050021/SR2 EA (2009);*
- *Updated technical background to the CLEA Model. Science Report SC050021/SR3 EA (2009);*
- *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document. SP1010 DEFRA/CL:AIRE (2014);*
- *Model Procedures for the Management of Land Contamination. CLR11, DEFRA and EA (2004);*
- *The LQM/CIEH S4ULs for Human Health Risk Assessment. LQM 2015;*
- *Guidance on Comparing Soil Contamination Data with a Critical Concentration. CIEH and CL:AIRE (2008);*
- *Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination. EA (2006);*
- *Guidance for the Safe Development of Housing on Land Affected by Contamination. R & D Publication 66, NHBC, Environment Agency and CIEH (2008);*
- *Concrete in Aggressive Ground. BRE Special Digest 1: Part 1 Assessing the aggressive chemical environment. Building Research Establishment (2005);*
- *Radon: guidance on protective measures for new dwellings. BRE Report BR211 (2015);*
- *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. BS8485 (2015+A1:2019);*
- *Guidance on Evaluation of Development Proposals on sites where Methane and Carbon Dioxide are Present. NHBC report Edition No. 4 (2007);*
- *Assessing Risks Posed by Hazardous Ground Gases to Buildings. CIRIA Report C665 (2006);*
- *Passive venting of soil gases beneath buildings. DETR/ARUP Environmental PIT Research Report (1997);*
- *Protective measures for housing on gas-contaminated land. BRE/EA Report BR414 (2001);*
- *Site preparation and resistance to moisture. The Building Regulations 2000 Approved Document C (2004 edition);*
- *Specification for Topsoil and Requirements for Use. BS3882 (2015);*
- *NHBC Standards (2017).*

4. THE SITE

4.1 The site is situated off Station Road in Baschurch, Shropshire and can be located approximately by National Grid Reference 342970, 322580 and covers an area of approximately 2.2 hectares. The existing site layout is shown on Drawing No. 20213/1 included in Appendix A.

4.2 The northern part comprises a derelict public house, formerly the Boreatton Arms, with tarmac surfaced car park to the east and south together with a small grassed area and trees to the north-west.

4.3 The east and north-east of the site is occupied by a stonemason, Shropshire Stone and Granite Co, and is secured with palisade fencing along the northern and north-eastern boundaries. It comprises a yard used for the storage of stone blocks with three workshop buildings of concrete block construction with corrugated metal roofs and a former railway shed of metal construction. A diesel storage tank is present at the rear of the former railway shed. A gravel surfaced access road crosses through this part of the from the north-west to the south-east corner and trees/hedgerows are present along the north-eastern site boundary.

4.4 The southern part of the site comprises undeveloped grassed land bordered by hedgerows to the north, south and west.

4.5 The site is generally flat and level at approximately 99 m AOD; however, a depression is present in the south-east of the site, with levels dropping to approximately 96 m AOD.

4.6 The site is bound by agricultural land and Station Road to the north, housing and a railway line to the north-east, agricultural land to the south and agricultural land and housing to the west.

4.7 No evidence of potential significant contamination, including evidence of any leakage/spillage from the on-site fuel tank was noted during the site walkover.

5. SITE HISTORY

5.1 The history of the site and the surrounding area has been assessed by reviewing available historical County Series and Ordnance Survey maps. The maps studied are included in Appendix B of this report and a summary is presented in Table 1.

Year	Site	Surrounding Area
1881	The north of the site is occupied by the Boreatton Arms Hotel. The north-east and east comprises a railway yard with a crane in the south of this area. An embankment is mapped in the north of the railway yard. The south-west and west of site comprises undeveloped land.	Baschurch Railway Station and railway line are to the north-east and undeveloped land is mapped to the north, south and west. Several houses are mapped to the north and west of the site.
1901	The railway yard has been extended westwards with construction of new sidings and additional buildings.	Animal holding pens, Smithfield, have been constructed immediately west of the site.
1954	No significant changes are mapped.	The animal pens to the west are no longer mapped and housing is mapped 60 m to the west.
1974	The Boreatton Arms Hotel has been demolished and replaced with a new public house building. The railway line and yard/sidings have closed and been dismantled with several of the railway buildings being demolished.	A fire station and a building named as a 'Hall' are mapped to the west of the site and housing is mapped 40 m to the north-east.
1982	No significant changes are mapped.	No significant changes are mapped.
1994	No significant changes are mapped.	No significant changes are mapped.
2000	No significant changes are mapped.	No significant changes are mapped.
2006	No significant changes are mapped.	No significant changes are mapped.
2020	Two large buildings are mapped in the south-east of the site.	No significant changes are mapped.

Table 1: Summary of Historical Land Usage

6. GEOENVIRONMENTAL SETTING

6.1 Geology and Mining

Geology

6.1.1 The geology of the site has been appraised from information published by the BGS and is shown to comprise Glaciofluvial Deposits (sand and gravel) in the north and Glacial Till in the south overlying the Bollin Mudstone Member of the Sidmouth Mudstone Formation of the Mercia Mudstone Group of Triassic age.

6.1.2 The presence of Made Ground associated with historic built development at the site should also be anticipated.

Mining

6.1.3 The '*Interactive Map Viewer*' on the Coal Authority website indicates the site lies outside a '*Coal Mining Reporting Area*' and; therefore, no further assessment is required in respect of this potential development constraint.

6.2 Hydrology

6.2.1 The nearest surface watercourses is a stream flowing northwards approximately 90 m to the east of the site.

6.2.2 The EA has no records of any licensed surface water abstractions within 250 m of the site.

6.2.3 The EA has no records of any licensed discharge consents within 250 m of the site.

6.2.4 Based on current information provided by the EA, included in the Envirocheck report, the site is not mapped in an area likely to be at risk from river flooding.

6.3 Hydrogeology

6.3.1 The Glaciofluvial Deposits are classified by the EA as a '*Secondary A'* aquifer, which are defined as '*permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers'.*

6.3.2 The Glacial Till is classified by the EA as a 'Secondary – Undifferentiated' aquifer, which is assigned 'in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type'.

6.3.3 The Bollin Mudstone Member is classified by the EA as a *'Secondary B'* aquifer, which are defined as *'predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers'.*

6.3.4 The EA has no records of any licensed groundwater abstractions within 250 m of the site.

6.3.5 The site is not mapped by the EA within a groundwater Source Protection Zone.

6.4 Waste Management

6.4.1 The EA and Local Authority have no records of any operational or historic landfills within 250 m of the site.

6.5 Pollution

6.5.1 The EA has no records of any significant or major pollution incidents to controlled waters within 250 m of the site.

6.6 Radon

6.6.1 Information from the BGS contained in the Envirocheck Report indicates that radon protection is not required for the proposed development at the site.

7. INITIAL CONCEPTUAL SITE MODEL AND INVESTIGATION STRATEGY

7.1 Environmental Setting

7.1.1 On the basis of the findings of the Phase I Desk Study presented in Sections 4 to 6 of this report, the environmental setting of the site can be summarised as follows:

- the site is situated off Station Road in Baschurch, Shropshire and can be located approximately by National Grid Reference 342970, 322580;
- it covers an area of approximately 2.2 hectares and comprises a derelict public house with associated car park, stonemasons yard an area of undeveloped land;
- the stonemasons yard comprises three workshops and external storage area;
- there is an above ground fuel storage tank adjacent to a workshop building;
- no evidence of potential significant contamination, including evidence of any leakage/spillage from the on-site fuel tank was noted during the site walkover;
- historical maps indicate that the site comprised a hotel/public house in the north, railway yard/sidings in the east and north-east with the southern area remaining undeveloped land. The railway yard/sidings closed and was dismantled between 1954 and 1974 – probably following the Beeching report of 1963;
- surrounding land use was predominantly agricultural with sparse residential development from early 1950's onwards;
- the geology beneath the site is anticipated to comprise Made Ground in the north, east and north-east of the site and Glaciofluvial Deposits in the north and Glacial Till in the south overlying the Bollin Mudstone Member of the Sidmouth Mudstone Formation of the Mercia Mudstone Group of Triassic age;
- the site is not in an area affected by past coal mining activities;
- the nearest surface watercourses is a stream flowing northwards approximately 90 m to the east of the site;
- the EA has no records of licensed surface water abstractions within 250 m of the site;
- the site is not mapped by the EA in an area likely to be at risk from river flooding;
- the Glaciofluvial Deposits are classified by the EA as a *'Secondary A'* aquifer;
- the Glacial Till is classified by the EA as a *'Secondary – Undifferentiated'* aquifer;
- the Bollin Mudstone Member is classified by the EA as a *'Secondary B'* aquifer;
- the EA has no records of licensed groundwater abstractions within 250 m of the site;
- the site is not mapped by the EA in a groundwater Source Protection Zone;

- the EA and Local Authority have no records of any operational or historic landfills within 250 m of the site;
- radon protection measures are not required for a residential development at the site.

7.2 Initial Conceptual Model and Preliminary Risk Assessment

General

7.2.1 The initial conceptual model and preliminary risk assessment are based on information derived from the desk study to provide a qualitative assessment of risk posed to human health and environmental receptors from potential on and off-site sources of contamination as defined within Part IIA of the Environmental Protection Act (1990). For a significant risk to exist, it must be established that contamination has the potential to cause harm to susceptible targets. This is known as "*pollutant linkage*" and requires three criteria to be identified at a significant level:

- the presence of substances that may cause harm (SOURCE);
- the presence of a receptor which may be harmed (TARGET);
- the existence of a plausible pollutant linkage between the source and the target (PATHWAY).

7.2.2 EA R&D66 (2008) includes a risk classification system based on classification of consequence and probability. Table 2 shows a risk matrix, in which the likelihood or probability of each pollutant linkage being realised is ranked against the severity of the consequences. The result is the risk classification, based upon which risk management actions can be implemented. The individual sources, pathways and receptors identified are assessed against this risk matrix; potential pollutant linkages and associated risks are recorded.

		Severity of Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability of pollutant linkage	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate / low risk
	Likely	High risk	Moderate risk	Moderate / low risk	Low risk
	Low Likelihood	Moderate risk	Moderate / low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	Very low risk	Very low risk

Table 2: Risk Matrix

7.2.3 Definitions of risk terminology are as follows.

7.2.4 **Very high risk:** there is a probability that severe harm could arise to a designated receptor from an identified source, or there is evidence that severe harm to a designated receptor is currently occurring.

7.2.5 **High risk:** harm is likely to arise to a designated receptor from an identified source.

7.2.6 **Moderate risk:** it is possible that harm could arise to a designated receptor from an identified source. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.

7.2.7 **Low risk:** it is possible that harm could arise to a designated receptor from an identified source, but it is likely that this harm, if realised, would at worst normally be mild.

7.2.8 **Very low risk:** there is a low possibility that harm could arise to the receptor. In the event of such harm being realised it is not likely to be severe.

7.2.9 Professional judgement and experience has been used to estimate the combination of probability and consequence of the harm posed by the pollutant linkages identified. This allows the risk to be evaluated on a qualitative basis. The risk category is used to prioritise /target the site investigation. Using this matrix and the available screening limits it has been possible to carry out a semi-quantitative risk assessment for the sources, pathways and receptors which have been identified at the site.

7.2.10 The initial conceptual model also illustrates the contaminants of concern identified from the contamination assessment and demonstrates the potential pathways and receptors which are considered likely to exist at the site.

7.2.11 Risk is based on a consideration of both:

- the likelihood of an event (probability); and
- the severity of the potential consequences.

7.2.12 A pollutant linkage must be established before tests for probability and consequence are applied. If there is no pollutant linkage then there is no potential risk and there is no need to apply tests for probability and consequence. The risk assessment needs to include a logical and transparent system to define categories of severity of consequence and probability of occurrence. The initial conceptual model and preliminary risk assessment are discussed below.

Proposed Development

7.2.13 The proposed development is to comprise housing with private gardens together with hard-surfaced areas for access roads and parking.

Potential On-Site Sources of Contamination

7.2.14 Based on information derived from the Phase I Desk Study, the following potential significant on-site sources of contamination have been identified that could affect the proposed development of the site:

- contamination associated with the former use of the east and north-east of the site as railway land. Following guidance in EA R&D66 (2008), for '*railway land*', key potential contaminants include metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), pH, polyaromatic hydrocarbons (PAH), sulphate, Total Petroleum Hydrocarbons (TPH) and asbestos;
- Made Ground associated with past and current built development in the north, east and north-east of the site;
- TPH impact associated with leakage/spillage from the above ground fuel tank on site;
- hazardous soil-gases derived from any on-site Made Ground in north, east and north-east of the site.

7.2.15 No potential significant sources of contamination have been identified in the south and south-west of the site that has remained undeveloped land.

Potential Off-Site Sources of Contamination

7.2.16 Based on the information presented above, no potential significant off-site sources of contamination have been identified that could affect the proposed development of the site.

Targets/Receptors

7.2.17 The following site-specific targets are considered to be potentially feasible:

- site workers – construction personnel involved in redevelopment works;
- long term site users – house occupants;
- plant life – garden areas;
- building fabric and foundations;
- controlled waters – Glaciofluvial Deposits classified as a '*Secondary A*' aquifer;
- controlled waters – stream approximately 90 m from the site.

Pathways

7.2.18 The potential pathways that are considered relevant to this site are as follows:

- direct contact with and/or incidental ingestion of any contaminated soils or dusts derived from contaminated soil;
- inhalation of dust derived from any contaminated soil;
- consumption of home-grown produce;
- migration of hazardous soil-gases via permeable strata or via ducts/drains into confined spaces;
- direct contact between contaminated soils and building substructures;
- migration of mobile contaminants to controlled waters receptors.

Pollutant Linkages

7.2.19 Based on the '*source-pathway-target*' information presented above, the following potential pollutant linkages have been identified at the site:

Source	Pathway	Target	Consequence	Probability	Risk
Made Ground associated with former and current built development Contamination associated with former use of the east and north-east of the site as railway land Localised TPH associated with on-site fuel storage Potentially significant levels of hazardous soil-gas derived from Made Ground	Dermal contact	Site user: female child 0-6 years	Medium	Likely	Moderate
		Site construction worker	Minor	Likely	Low
	Ingestion	Site user: female child 0-6 years	Medium	Likely	Moderate
		Site construction worker	Minor	Likely	Low
	Consumption of home-grown vegetables grown in Made Ground	Site user: female child 0-6 years	Medium	Likely	Moderate
	Ingestion of soil attached to home-grown vegetables	Site user: female child 0-6 years	Medium	Likely	Moderate
	Dermal contact with dust derived from contaminated soil	Site user: female child 0-6 years	Medium	Likely	Moderate
		Site construction worker	Minor	Likely	Low
	Ingestion of dust derived from contaminated soil	Site user: female child 0-6 years	Medium	Likely	Moderate
		Site construction worker	Minor	Likely	Low
	Inhalation of dust derived from contaminated soil	Site user: female child 0-6 years	Medium	Likely	Moderate
		Site construction worker	Minor	Likely	Low
	Soil-gases derived from Made Ground entering buildings via services/foundations	Site user: female child 0-6 years	Medium	Likely	Moderate
	Migration of mobile contaminants via shallow groundwater	Controlled waters	Mild	Unlikely	Very low
	Direct contact	Buildings	Minor	Likely	Low
	Direct contact	Water supply pipework	Minor	Likely	Low

Table 3: Pollutant Linkages

7.2.20 Based on the known previous land usage of the site and surrounding area, the identified pollutant linkages and geological setting, it is considered that the site represents a **very low** risk to controlled waters. No further assessment of risk to controlled waters is considered necessary unless significant contamination is identified at the site.

7.2.21 Based on the proposed end use of the site, the site is considered to represent a **low to moderate** risk to human health, which should be assessed through a programme of chemical testing, soil-gas monitoring and risk assessment in accordance with current guidance.

Contaminants of Concern

7.2.22 The following potential contaminants are considered appropriate for the assessment of the site:

- selected toxic and phytotoxic metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc);
- speciated polyaromatic hydrocarbons (PAH);
- Total Petroleum Hydrocarbons (TPH);
- pH;
- cyanide;
- phenol;
- sulphate;
- asbestos.

7.3 Investigation Strategy

7.3.1 On the basis of the information presented above, the ground investigation strategy proposed for the investigation is shown in Table 4.

Exploratory Holes	Purpose
All exploratory holes	To determine prevalent ground and groundwater conditions across site, including: • nature and extent of any Made Ground; • nature and extent of any soil contamination; • suitability of the ground for foundations and pavement design.
Dynamic percussive boreholes	Undertake in situ Standard Penetration Tests (SPT) to determine a geotechnical strength profile.
Selected dynamic percussive boreholes: WS1, WS5 and WS9	Construction of groundwater and soil-gas monitoring installations to facilitate assessment of risk posed by any hazardous soil-gases and establish standing water levels.
WS1 to WS3	Investigation of public house/former public house in the north of the site.
WS4 to WS8 and TP1 to TP5	Investigation of former railway land in east and north-east of the site.
WS5	Investigation of above ground fuel storage tank.

Table 4: Investigation Strategy

8. FIELDWORK, LABORATORY TESTING AND MONITORING

8.1 Fieldwork

8.1.2 The fieldwork was carried out between the 9 and 11 September 2020 and comprised the following elements:

- 12 No. dynamic percussive sampling boreholes, designated WS1 to WS12, formed to a maximum depth of 4.0 m below existing ground level (begl);
- in-situ Standard Penetration Tests (SPT) in WS1 to WS12;

- construction of 50 mm diameter combined soil-gas and groundwater monitoring wells in WS1, WS5 and WS9;
- 8 No. trial pits, designated TP1 to TP8, excavated by tracked excavator to a maximum depth of 3.6 m begl.

8.1.3 The fieldwork was supervised by Georisk. All soil description and sample logging was carried out in accordance with BS 5930 (2015+A1:2020) and the exploratory hole records are presented in Appendix C.

8.1.4 The positions of the exploratory holes were set out by Georisk and the locations are shown on the Exploratory Hole Location Plan included as Drawing No. 20213/1 in Appendix A.

8.1.5 Small disturbed samples were recovered from the exploratory holes as necessary to facilitate sample description and for subsequent laboratory testing.

8.1.6 Observations of groundwater encountered during the fieldwork are included on the relevant exploratory hole records included in Appendix C.

8.2 Soil-Gas and Groundwater Monitoring

8.2.1 Combined soil-gas and groundwater monitoring installations were constructed in WS1, WS5 and WS9 as shown on the borehole records included in Appendix C and monitoring has been carried out on six occasions between 23 September 2020 and 5 January 2021. The results of the monitoring are included in Appendix D with the following measurements having been taken in sequence:

- atmospheric pressure (mb);
- relative pressure (mb);
- flow monitoring (l/hr);
- measurement of CO_2, CH_4 and O_2 gas concentrations (% by volume; % v/v);
- groundwater level (m begl).

8.3 Chemical Testing

8.3.1 A programme of chemical testing was scheduled by Georisk on selected soil samples retrieved from the exploratory holes. The testing was carried out at an independent UKAS accredited laboratory for the contaminants of concern as indicated in Section 7. The chemical test results are presented in Appendix E.

8.4 Geotechnical Testing

8.4.1 Routine geotechnical testing to inform buried concrete design and laboratory recompacted California Bearing Ratio (CBR) was scheduled on selected samples. The testing was carried out in accordance with BS1377 (1990) at an independent UKAS accredited laboratory and the results are presented in Appendix F.

9. GROUND AND GROUNDWATER CONDITIONS

Full details of the ground conditions encountered by Georisk are presented on the exploratory hole records included in Appendix C; however, a summary is presented below.

9.1 Made Ground

9.1.1 Made Ground was encountered in the north and east of the site to depths typically of between 0.4 and 1.5 m begl; however, deeper Made Ground was recorded in TP5 and WS1 to depths of at least 2.5 m and 2.7 m begl respectively. The extent of the Made Ground encountered is shown on Drawing No. 20213/2 included in Appendix A.

9.1.2 In the north of the site in WS1 to WS3, the Made Ground comprised grey and brown locally clayey silty locally gravelly sand/sandy gravel with the gravel being sandstone, quartzite, brick and localised ash. The deep Made Ground recorded in WS1 is coincident with the historic location of the Boreatton Arms and is suspected to be associated with an infilled former basement/cellar.

9.1.3 Tarmac was recorded at the surface in WS1 and WS2 to a depth of 0.1 m begl overlying hardcore sub-base of grey gravel of igneous rock and yellowish-brown sandy gravel of sandstone and brick.

9.1.4 In the east of the site, the Made Ground typically comprised grey, black and brown ashy gravelly sand with the gravel being brick, quartzite, coal, ash, clinker and slag.

9.1.5 Gravel, cobble and boulder sized fragments of sandstone were encountered in WS7, WS8 and TP4 with WS8 refusing at 1.0 m begl on suspected buried sandstone rock. Anecdotal evidence suggests that levels in this part of the site have been raised using excess rock fragments from the stonemasons operations.

9.2 Topsoil and Subsoil

9.2.1 Topsoil was recorded in WS9 to WS12 and TP6 to TP8 put down in the south-west of the site to depths of between 0.3 and 0.4 m begl. It comprised dark brown silty locally clayey gravelly sand with the gravel content being sandstone, mudstone and quartzite.

9.2.2 Subsoil was encountered in WS2, WS3, WS9 and WS10 to depths of between 0.6 and 1.0 m begl and comprised brown slightly clayey slightly gravelly sand.

9.3 Glaciofluvial Deposits

9.3.1 Glaciofluvial Deposits were encountered beneath the Made Ground or topsoil/subsoil to a maximum penetrated depth of 4.0 m begl. These deposits comprised medium dense becoming dense with depth locally slightly clayey gravelly sand with occasional cobbles and boulders. The gravel, cobble and boulder content comprised being mudstone, sandstone and quartzite.

9.3.2 The result of 39 No. SPT carried out in Glaciofluvial Deposits at depths of between 1.0 and 4.0 m begl returned 'N' values of between 12 and 50, which are summarised in Table 5.

Depth (m begl)	Minimum SPT 'N' value	Maximum SPT 'N' value	Material Description
1.0	13	37	Medium dense to dense SAND
2.0	15	39	Medium dense to dense SAND
2.4/2.45	19	50	Medium dense to dense SAND
2.7/2.9	38	50	Dense SAND
3.0	12	50	Medium dense to dense SAND
3.55	50	-	Dense SAND
4.0	13	34	Medium dense to dense SAND

Table 5: Summary of SPT 'N' Values in Glaciofluvial Deposits

9.4 Groundwater

9.4.1 Groundwater was not encountered during the fieldwork.

9.4.2 Groundwater monitoring standpipes were installed in WS1, WS5 and WS9 and have been monitored on six occasions between 23 September 2020 and 5 January 2021. The results of the groundwater monitoring are included in Appendix D and summarised in Table 6.

Exploratory Hole	Standing Groundwater Levels (m begl)	
	Shallowest	Deepest
WS1	Dry	-
WS5	Dry	-
WS9	Dry	-

Table 6: Summary of Groundwater Level Monitoring Results

9.5 Evidence of Potential Contamination

9.5.1 Ash, clinker and slag were identified in the Made Ground in the east of the site, which was previously a railway yard.

9.5.2 No visual or olfactory evidence of potential hydrocarbon impact was recorded in WS5 put down adjacent to the above ground fuel tank.

9.6 Trench Stability

9.6.1 Instability in the form of spalling of trial pit sides was noted below depths of between 0.4 and 1.5 m begl during the excavation of TP1 to TP8.

9.7 Development of Conceptual Model

9.7.1 Based on the ground and groundwater conditions revealed by the geoenvironmental investigation carried out and detailed above, the preliminary conceptual model described in Section 7 is representative of the actual site conditions in relation to the proposed development.

10. HUMAN HEALTH RISK ASSESSMENT

10.1 General

10.1.1 The UK approach to the assessment of contaminated land is based upon the principles of risk assessment, which is founded on the use of "*source-pathway-target"* principles in order to establish the potential presence of "*pollutant linkage*". The main legislative driver for dealing with historical land affected by contamination is Part 2A of the Environmental Protection Act 1990. Under Part 2A, land is considered to be contaminated if it is determined that there is a '*Significant Possibility of Significant Harm*' (SPOSH) to human health.

10.1.2 Georisk adopts a tiered approach to risk assessment in accordance with current UK guidance and good practice. The initial step of this process, known as Tier 1, is the comparison of site-derived data with relevant guideline levels.

10.1.3 Should the adopted criteria be exceeded then two courses of action are available. The first is to break the pollutant linkage by undertaking remedial works such as removing or treating the contaminated soil. Alternatively, a more detailed risk assessment can be carried out to determine whether a contamination risk actually exists.

10.1.4 The UK approach to the assessment of human health risk from contaminated land is set out in the CLEA (Contaminated Land Exposure Assessment) framework, which was first published in 2002 by the Department for Environment, Food and Rural Affairs (DEFRA) and the EA. The original guidance was withdrawn and revised guidance issued in 2009, which is set out in the following documents published by the EA:

- *Human health toxicological assessment of contaminants in soil*. Science Report SC050021/SR2;
- *Updated technical background to the CLEA Model*. Science Report SC050021/SR3.

10.1.5 The CLEA model uses generic assumptions about the fate and transport of chemicals in the environment and a generic conceptual model for site conditions together with human behaviour to estimate long term human exposure to soil contaminants.

10.1.6 Soil Guideline Values (SGV) were derived using the CLEA Model by comparing estimated exposure with 'Health Criteria Values' (HCV) that represent a tolerable risk to health from chronic exposure. SGVs are scientifically based 'generic assessment criteria' that can be used to simplify the assessment of risk to human health from chronic exposure to contaminants in soil. SGVs are a screening tool for the 'generic quantitative risk assessment' of land contamination.

10.1.7 Since revised SGVs were developed in 2009, revised Part 2A statutory guidance was then published in 2012. The revised Part 2A statutory guidance introduces a four-category system for classifying land under Part 2A for cases of SPOSH to human health. Category 4 applies to land where the level of risk posed is acceptably low. DEFRA appointed CL:AIRE to develop '*Category 4 Screening Levels*' (C4SL), which would provide a simple test for deciding when land is suitable for use and definitely not contaminated. In March 2014, C4SLs were published for a limited number of contaminants.

10.1.8 Further to this, Suitable for Use Levels (S4UL) published by the Chartered Institute of Environmental Health (CIEH) and Land Quality Management (LQM) were issued in January 2015. These provide a comprehensive update of previous GAC published by CIEH. The S4UL are derived from the CLEA software produced by the EA and are based upon the concept of either 'tolerable' risk (where the relevant health criteria value is a tolerable daily intake), or 'minimal' risk (where the health criteria is an index dose).

10.1.9 The following hierarchy has been adopted by Georisk for determining which assessment criteria to be followed:

- Suitable 4 Use Levels (S4UL) developed by LQM/CIEH (2015);
- CLEA SGV;
- C4SL (in the absence of other assessment criteria);
- Soil Screening Values developed by Atkins ATRISKsoil (in the absence of other assessment criteria).

10.2 Human Health Risk Assessment Design

Proposed Development

10.2.1 The proposed development is to comprise housing with private gardens together with hard-surfaced areas for access roads and parking.

Assessment Criteria

10.2.2 The assessment criteria used for the screening of contaminants is summarised in Table 7.

Contaminant Group	Determinants	Assessment Criteria Selected
ORGANIC CONTAMINANTS		
Non-halogenated hydrocarbons	Phenol	LQM/CIEH S4UL
	TPH	LQM/CIEH S4UL
Polyaromatic Hydrocarbons (PAH)	USEPA 16 priority compounds	LQM/CIEH S4UL
INORGANIC CONTAMINANTS		
Metals	Lead	C4SL
	Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Selenium, Zinc	LQM/CIEH S4UL
Non-metals	Cyanide	Atkins AtRisk Soil Screening Value (SSV)

Table 7: Human Health Risk Assessment Criteria

10.2.3 It should be noted that there is no S4UL for lead and that the SGV for lead has been withdrawn. As such, the only available authoritative published criteria for lead is the DEFRA C4SL. The C4SL for lead is considerably more conservative than the former SGV and is therefore considered suitable for use.

End Use

10.2.4 In view of the proposed development, a 'residential with home-grown produce' with 1 % organic matter content end use conceptual model is considered appropriate for the site.

10.2.5 Considering the possibility of double digging in gardens and/or installation of garden features, it is considered that the top 1 m of soil will need to be considered within the risk assessment, as the critical receptor (i.e. occupiers of the residential area) is most likely to be exposed to these materials.

Contaminants of Concern

10.2.6 The potential contaminants of concern are detailed in Section 7 and these contaminants have subsequently been targeted for chemical analysis.

10.3 Generic Quantitative Human Health Risk Assessment

10.3.1 The results of the chemical testing from the site are results are presented in Appendix E and can be summarised in Table 8.

Contaminant of Concern	Measured Concentration*		Critical Concentration (S4UL/C4SL/SSV*)	Number of test results above S4UL/C4SL/SSV
	Min	Max		
Arsenic	2.9	24	37	0 (16)
Cadmium	<0.1	1.1	11	0 (16)
Chromium	9.9	25	910	0 (16)
Copper	7	200	2400	0 (16)
Cyanide	<0.5	3.6	34	0 (16)
Lead	13	860	200	**5** (16)
Mercury	<0.1	1.9	40	0 (16)
Nickel	12	37	130	0 (16)
Phenol	<0.3	0.43	120	0 (16
Selenium	<0.2	0.82	250	0 (16)
Zinc	34	370	3700	0 (16)
PAH Compounds				
Acenaphthene	<0.1	0.48	210	0 (16)
Acenaphthylene	<0.1	0.77	170	0 (16)
Anthracene	<0.1	2.3	2400	0 (16)
Benzo(a)anthracene	<0.1	8.9	7.2	**1** (16)
Benzo(a)pyrene	<0.1	9.7	2.2	**6** (16)
Benzo(b)fluoranthene	<0.1	13	2.6	**6** (16)
Benzo(ghi)perylene	<0.1	6.9	320	0 (16)
Benzo(k)fluoranthene	<0.1	5.2	77	0 (16)
Chrysene	<0.1	7.7	15	0 (16)
Dibenz(ah)anthracene	<0.1	2.2	0.24	0 (16)
Fluoranthene	<0.1	16	280	0 (16)
Fluorene	<0.1	0.91	170	0 (16)
Indeno(123-cd)pyrene	<0.1	6.8	27	0 (16)
Naphthalene	<0.1	0.91	2.3	0 (16)
Phenanthrene	<0.1	5.9	95	0 (16)
Pyrene	<0.1	17	620	0 (16)
* Concentration expressed in mg/kg except where stated. Assumption of 1 % soil organic matter.				

Table 8: Summary of Chemical Test Results – Metals and PAH

10.3.2 The following test results for lead and PAH compounds exceeded the relevant assessment criteria in samples of Made Ground:

- lead: TP1: 0.2 m begl (220 mg/kg); TP2: 0.3 m begl (260 mg/kg); TP3: 0.4 m begl (210 mg/kg); TP5: 0.3 m begl (250 mg/kg) and WS5: 0.5 m begl (860 mg/kg);
- benzo(a)anthracene: TP3: 0.4 m begl (8.9 mg/kg);
- benzo(a)pyrene: TP1: 0.2 m begl (5.6 mg/kg); TP2: 0.3 m begl (3.2 mg/kg); TP3: 0.4 m begl (9.7 mg/kg); TP5: 0.3 m begl (4.1 mg/kg); WS4: 0.2 m begl (4.3 mg/kg) and WS5: 0.5 m begl (3.0 mg/kg);
- benzo(b)fluoranthene: TP1: 0.2 m begl (7.7 mg/kg); TP2: 0.3 m begl (4.3 mg/kg); TP3: 0.4 m begl (13 mg/kg); TP5: 0.3 m begl (7.0 mg/kg); WS4: 0.2 m begl (6.1 mg/kg) and WS5: 0.5 m begl (4.1 mg/kg);
- dibenz(ah)anthracene: TP1: 0.2 m begl (1.6 mg/kg); TP2: 0.3 m begl (0.92 mg/kg); TP3: 0.4 m begl (2.2 mg/kg); TP4: 0.2 m begl (0.37 mg/kg); TP5: 0.3 m begl (1.2 mg/kg); WS4: 0.2 m begl (2.1 mg/kg) and WS5: 0.5 m begl (1.2 mg/kg).

10.3.3 Nine samples of Made Ground were tested for the presence of asbestos; amosite fibres were identified in a sample from WS4 at a depth of 0.2 m begl with subsequent quantification recording a total percentage by weight of <0.001%.

10.3.4 Speciated TPH CWG testing was carried out on 5 No. selected samples of near-surface soil with samples from TP1, TP2, TP5 and WS6 taken from the former railway yard area and the sample from WS5 taken adjacent to the existing fuel storage area. The concentrations of each hydrocarbon fraction were assessed against the relevant S4UL, as summarised in Table 9 below.

Determinand	Measured Concentration*		S4UL*	Number of test results above S4UL
	Min	Max		
TPH Aliphatic Fraction				
C_5-C_6	<1.0	-	42	0 (5)
>C_6-C_8	<1.0	-	100	0 (5)
>C_8.C_{10}	<1.0	5.5	27	0 (5)
>C_{10}-C_{12}	<1.0	4.2	130	0 (5)
>C_{12}-C_{16}	<1.0	9.4	1100	0 (5)
>C_{16}-C_{35}	<1.0	11	65000	0 (5)
TPH Aromatic Fraction				
C_5-C_7 (benzene)	<1.0	-	70	0 (5)
>C_7-C_8 (toluene)	<1.0	-	130	0 (5)
>C_8-C_{10}	<1.0	4.2	34	0 (5)
>C_{10}-C_{12}	<1.0	6.7	74	0 (5)
>C_{12}-C_{16}	<1.0	22	140	0 (5)
>C_{16}-C_{21}	4.1	59	260	0 (5)
>C_{21}-C_{35}	32	410	1100	0 (5)
* Concentration expressed in mg/kg except where stated.				

Table 9: Summary of Chemical Test Results – TPH

10.3.5 All results for TPH are below the relevant S4UL for each hydrocarbon fraction.

11. SOIL-GAS RISK ASSESSMENT

11.1 Risk Assessment Protocol

11.1.1 Current best practice for the assessment of soil-gas risk to development is provided in CIRIA Report C665 '*Assessing Risked Posed by Hazardous Ground Gases to Buildings*' (2007), NHBC Report Edition No. 4 entitled '*Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present*' dated March 2007 and BS8485 (2015+A1:2019) '*Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings* '.

11.1.2 C665 sets out a semi-quantitative procedure to estimate gas risk, which was proposed by Wilson & Card (1999) and is a development of a procedure given in CIRIA 149 (1995). This method also uses both gas concentrations and borehole flow rates to define a Characteristic Situation for a site based on the limiting gas volume flow for methane and carbon dioxide. For a given Characteristic Situation, a set of remedial measures can be applied to the development.

11.1.3 The NHBC has derived a series of 'Traffic Lights' to assess ground-gas risk for housing developments. It is a risk-based approach designed to allow design of gas protection for housing development by comparing measured gas emission rates to generic 'Traffic Lights'.

11.1.4 The 'Traffic Lights' include 'Typical Maximum Concentrations' provided for initial screening purposes and risk-based Gas Screening Values (GSVs) for considering situations where the 'Typical Maximum Concentrations' are exceeded.

11.1.5 The 'Traffic Lights' have been related to appropriate remedial measures, which can be applied to conventional residential developments.

11.2 Monitoring Results

11.2.1 Soil-gas monitoring installations were constructed in WS1, WS5 and WS9 as shown on the borehole records included in Appendix C and monitoring has been carried out six occasions between 23 September 2020 and 5 January 2021. The results of the soil-gas monitoring are presented in Appendix C and are summarised in Table 10 (in terms of maximum gas concentrations recorded):

Well	Methane (% v/v)	Carbon Dioxide (% v/v)	Flow Rate (l/hr)	Methane GSV (l/hr)	Carbon Dioxide GSV (l/hr)	Characteristic Situation: BS8485 (2015+A1:2019)		NHBC Traffic Lights	
						CH_4	CO_2	CH_4	CO_2
WS1	0.0	1.5	0.0	n/a	0.0016	CS1	CS1	Green	Green
WS5	0.0	7.0	0.1	n/a	0.007	CS1	CS2	Green	Amber 1
WS9	0.0	3.4	0.0	n/a	0.0034	CS1	CS1	Green	Green

Table 10: Summary of Soil-Gas Monitoring Results

11.2.2 No methane was recorded during the monitoring programme.

11.2.3 Steady state carbon dioxide levels ranged from 1.1 to 7.0 % by volume (v/v) during the monitoring programme.

11.2.4 A maximum positive gas flow of 0.1 l/hr has been recorded and ambient atmospheric pressures ranged from 984 to 1013 mb during the monitoring programme.

11.3 Risk Assessment and Protection Strategy Recommendations

11.3.1 For a 'Characteristic Situation 1' and NHBC 'Green' classification, the 'Typical Maximum Concentrations' for methane (1 % v/v) has not been exceeded throughout the monitoring programme.

11.3.2 For a 'Characteristic Situation 1' and NHBC 'Green' classification, the 'Typical Maximum Concentrations' for carbon dioxide (5 % v/v) has been exceeded in WS5 throughout the monitoring programme.

11.3.3 To provide a further detailed level of assessment, Gas Screening Values (GSV) have also been determined (see Table 10). The GSV is calculated by multiplying the maximum gas concentration recorded in a particular borehole and the maximum borehole flow rate recorded across the site and is then used to determine the level of gas protection necessary to protect future users of the proposed development.

11.3.4 From the monitoring results for carbon dioxide, a maximum GSV of 0.007 l/hr has been calculated, which is below the NHBC GSV of 0.78 l/hr for carbon dioxide for a 'Green' classification and below the GSV of 0.07 l/hr for a CS1 classification.

11.3.5 The GSV calculated from the monitoring results are indicative of a 'Green' classification; however, in view of the presence of Made Ground in the north and east of the site and as the 'Typical Maximum Concentration' for carbon dioxide for a 'Green' classification has been consistently exceeded in WS5, it is recommended that the gas risk classification is increased to 'Amber 1'/CS2 in the north and east of the site.

11.3.6 An 'Amber 1' classification requires low-level gas protection measures to be incorporated into plots using a gas resistant membrane and ventilated sub-floor void to create a permeability contrast to limit the ingress of gas into buildings. The gas protection measures should be installed as prescribed in BRE 414 and ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours.

11.3.7 The installation of the gas protection measures will need to be verified in accordance with guidance given in BS8485 (2015+A1:2019).

11.3.8 The ground conditions encountered in the previously undeveloped south-west of the site comprised topsoil overlying natural granular Glaciofluvial Deposits and as the soil-gas monitoring results are consistently indicative of a 'Green' classification, gas protection is not considered necessary.

11.3.9 Radon protection is not required for the proposed development at the site.

11.3.10 It is recommended that the gas protection strategy is agreed with the Local Authority and NHBC/warranty provider in advance of any development works starting on site.

12. RISK EVALUATION AND REMEDIAL ACTION PLAN

12.1 Risk Evaluation

12.1.1 Following risk assessment utilising data from the intrusive investigation, Table 11 identifies the remaining pollutant linkages have been identified as being of concern in terms of the redevelopment of the site:

Source	Pathway	Target
Elevated levels of lead, PAH and asbestos in near-surface Made Ground in the east of the site.	Dermal contact	Site user: female child 0-6 years
		Site construction worker
	Ingestion	Site user: female child 0-6 years
		Site construction worker
	Consumption of home-grown vegetables grown in Made Ground	Site user: female child 0-6 years
	Ingestion of soil attached to home-grown vegetables	Site user: female child 0-6 years
	Dermal contact with dust derived from Made Ground	Site user: female child 0-6 years
	Ingestion of dust derived from Made Ground	Site user: female child 0-6 years
	Direct contact	Water supply pipework
Hazardous ground gases (carbon dioxide) associated with on-site Made Ground	Gas flow into buildings via ducts or service entries	Site user: female child 0-6 years

Table 11: Remaining Pollutant Linkages

12.1.2 Based on the identified pollutant linkages, as summarised above, remediation works will be required to facilitate redevelopment and provide a platform that is 'suitable for use'.

12.1.3 Further details with respect to the viable pollutant linkages that need to be addressed and the proposed outline remediation methodology are provided in the following sections.

12.1.4 It is recommended that this report is submitted to the Local Authority and NHBC/warranty provider for approval in advance of any construction works starting on site.

12.2 Soil Contamination – Human Health

12.2.1 Future site users should be considered as targets by physical contact, ingestion and dust inhalation associated with potentially contaminated soil beneath gardens. For housing with private gardens, root uptake by vegetation of any contamination present in the near surface soils also needs to be considered.

12.2.2 With regard to the presence of elevated lead, PAH and localised asbestos, it is considered that a potential pollutant linkage exists with the future end users by ingestion (dust and soil), inhalation (dust and soil), consumption of vegetables (and soils attached to vegetables) and direct dermal contact.

12.2.3 To address the remaining pollutant linkages to future site users from elevated lead, PAH and localised asbestos in the near-surface Made Ground, it is recommended that allowance is made for the provision of a blinding layer of clean imported soil in garden areas where Made Ground is present to act as a physical barrier between site users and the Made Ground.

12.2.4 The drawing entitled 'Clean Cover Requirements' shows the area where clean cover is likely to be required based on the current layout and is included as Drawing No. 20213/3 in Appendix A.

12.2.5 No specific remedial action is required in the south-west of the site; however, strict controls must be put in place to avoid contaminating the 'clean' areas of the site when excavating, moving or stockpiling Made Ground.

12.2.6 The composition and thickness of the cover layer would need to be agreed with the relevant regulators in advance of any works starting on site; however, at this stage we would suggest allowing for the following minimum thicknesses:

- private rear garden areas: 600 mm (nominally 150 mm topsoil; 450 mm subsoil);
- front gardens and soft landscaped areas: 300 mm (typically 150 mm topsoil; 150 mm subsoil).

12.2.7 The topsoil and natural soil in the south-west of the site would be suitable for re-use in gardens where clean cover is required and should be stripped carefully and stockpiled separately to avoid cross-contamination.

12.2.8 The clean cover proposals are based on professional experience of similar sites but have also been based on guidance and design methods given in the BRE document *"Cover Systems for Land Regeneration"* (2004) which is considered appropriate for this site. Clean cover in back gardens is set at 600 mm to take account of possible double digging.

12.2.9 Placement of the clean cover layer will require independent validation and verification and these requirements are set out below.

12.2.10 All soil imported onto site for use in the gardens will need to undergo validation testing. The testing regime and site acceptance criteria below are based on soil from a 'greenfield' source: however, if a recycled product was to be used further tests, such as asbestos, may be required:

Determinand	Maximum Allowable Concentration (mg/kg)
Arsenic	37
Asbestos	Not present
Cadmium	22
Chromium	910
Copper	2400
Cyanide	34
Lead	200
Mercury	170
Nickel	130
Polyaromatic Hydrocarbon Compounds	LQM/CIEH S4ULs for PAH compounds
Phenol	420
Selenium	350
Total Petroleum Hydrocarbons	LQM/CIEH S4ULs for aliphatic/aromatic carbon ranges
Zinc	3700

Table 12: Chemical Criteria for Clean Cover

12.2.11 In addition, any topsoil materials should be free from large stones and deleterious materials based on the guidance presented in BS 3882:2015.

12.2.12 The testing outlined above should be carried out at an independent UKAS accredited laboratory and certification results made available in advance of any clean cover materials and/or topsoil being imported onto site to confirm that they are suitable for use. All materials imported onto site for use in the cover layer will also need to be sampled and tested after placement to validate the pre-importation test results.

12.2.13 In terms of provision of clean cover, once appropriate certification has been provided and the clean soils have subsequently been placed in the required areas, the thickness of placed soil will require validation.

12.2.14 This is best achieved either by inspecting the soils during placement or by inspecting trial holes dug through the placed soil. A validation engineer should attend site to record the thickness of placed blinding layers in all plots.

12.2.15 In the event that the validation testing reveals that the clean cover materials are not compliant then the materials will be removed and replaced with a suitable alternative before a final validation certificate is issued to the regulators

12.2.16 On completion, a verification report will be prepared to provide independent certification that appropriate works have been completed. This document will include the following information:

- photographic records to demonstrate compliance with the remediation strategy;
- testing of import materials to confirm suitability for use;
- validation of the thickness of cover layer placed in garden areas;
- certification and validation of imported materials.

12.2.17 The verification report will also be submitted to all relevant parties for approval.

12.3 Soil Contamination – General Considerations

12.3.1 The contaminated Made Ground represents no plausible pollutant linkage beneath plots or hardstanding. It is not considered necessary to remove any Made Ground from site to enable construction of the clean cover layer; however, any Made Ground that is taken off site would need to be taken to a suitably licensed tip under duty of care documentation.

12.3.2 During the redevelopment of the site, construction workers are likely to be in direct contact with the near-surface soils and appropriate Health and Safety measures will need to be implemented based on the findings of this investigation. With respect to the presence of Made Ground containing asbestos fibres, no specific remediation to protect construction workers is considered necessary; however, it is recommended that suitable personal protective equipment (PPE) should be used in line with the groundworkers risk assessment, which should take into account of the presence of asbestos fibres in the soils. Additionally, where excavation into the Made Ground occurs appropriate precautions to limit the spread of potentially asbestos containing materials or asbestos fibres becoming airborne should be taken. This should include, but may not be limited to, damping down of soils during and after excavation.

12.3.3 Neighbouring site users may be potentially exposed to residual contamination through generation of dust through site redevelopment activities. This is an acute exposure risk and is manageable by implementing an appropriate construction management plan; for example, dust suppression removes the potential pollutant linkage.

12.3.4 Should any areas of previously unidentified potentially contaminated soil be encountered during future site construction works, we would recommend consultation with Georisk to ensure that our recommendations continue to apply. Any potentially contaminated soils would need to be left in situ pending further assessment.

12.3.5 It is recommended that this report is submitted to the Local Authority and NHBC for approval in advance of any construction works starting on site.

12.4 Contamination – Soil Gas

12.4.1 As set out in Section 11.3, an 'Amber 1'/CS2 classification has been recommended to address soil-gas risk to plots in the north and east of the site where Made Ground is present, which based on the current layout is shown on Drawing No. 20213/4 entitled 'Gas Protection Requirements' in Appendix A.

12.4.2 This will require gas protection measures to be incorporated into the affected plots using a carbon dioxide resistant membrane and ventilated sub-floor void to create a permeability contrast to limit the ingress of gas into buildings. The gas protection measures should be installed as prescribed in BRE 414 and ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours.

12.4.3 The installation of the gas protections measures will need to be verified in accordance with guidance given in CIRIA C735.

12.4.4 It is recommended that the gas protection strategy is agreed with the Local Authority and NHBC/warranty provider in advance of any development works starting on site.

12.5 Soil Contamination – Water Supply Pipes

12.5.1 Based on the results of this investigation, it is considered that standard PE/PVC pipe laid in trenches with clean gravel surround should be suitable for the proposed development.

12.5.2 It is recommended that a copy of this report is supplied to utility companies to confirm these recommendations prior to any irrecoverable works being undertaken.

13. ENGINEERING CONSIDERATIONS

13.1 Foundation Design

13.1.1 This investigation has identified topsoil/subsoil and/or Made Ground to depths typically up to 1.5 m begl overlying medium dense to dense granular Glaciofluvial Deposits. Deeper Made Ground was recorded locally in TP5 and WS1 to depths of at least 2.5 m and 2.7 m begl respectively. WS1 was put down in the north of the site and the deep Made Ground is believed to be represent the infilled basement of the former Boreatton Arms Hotel that was demolished in 1974. TP5 is outside the area of new built development.

13.1.2 The proposed development is to comprise traditional low-rise housing and following site preparatory works, it is considered that strip/trench fill foundations extending through any Made Ground (where present) into competent medium dense Glaciofluvial Deposits should be viable for much of the proposed development.

13.1.3 The near-surface Glaciofluvial Deposits are considered non-shrinkable and; therefore, tree influence would not be of concern. A minimum founding depth of 0.6 m (provided a minimum 300 mm penetration into the competent Glaciofluvial Deposits is achieved) should be adopted in accordance with NHBC guidance.

13.1.4 For strip/trench fill foundations placed in competent medium dense Glaciofluvial Deposits, an allowable bearing pressure of 150 kN/m^2 is considered appropriate for these materials with total settlements not anticipated to exceed 25 mm.

13.1.5 Foundation excavations should be inspected by qualified personnel and any soft or loose materials that are encountered should be removed and replaced with compacted granular fill or lean mix concrete.

13.1.6 In the north of the site, the infilled basement/cellar of the former Boreatton Arms Hotel was encountered in WS1 and Made Ground was recorded to a depth of at least 2.7 m begl. Further investigation is recommended in this area to determine the most appropriate foundation solution and, if deep trench fill, is not considered viable, an alternative approach such as piling would need to be adopted.

13.2 Floor Slabs

13.2.1 In the north and east of the site, as the thickness of Made Ground exceeds 0.6 m and to comply with NHBC guidance on soil-gas risk, it is recommended that a suspended floor slab with underfloor void is adopted for the proposed development.

13.2.2 In the south-west of the site, natural granular material was encountered beneath the topsoil and a suspended floor slab design (cast in situ or 'beam and block' with underfloor void) could be utilised or, providing all topsoil was removed and replaced to level with engineered granular fill, a ground bearing slab could be used.

13.3 Buried Concrete Requirements

13.3.1 For the near-surface soils, water soluble sulphate testing results (expressed as SO_4 in a 2:1 water:soil extract) ranged from <0.01 to 0.17 g/l with pH values of 7.2 to 9.3. Following the guidance given in the BRE Special Digest 1 (2005) and assuming '*mobile*' groundwater conditions for a '*brownfield*' site, the Aggressive Chemical Environment for Concrete (ACEC) classification has been determined. These results indicate a Design Sulphate Class of DS-1 and an ACEC class of AC-1 apply at the site.

13.4 Road/Pavement Design

13.4.1 Final road and pavement levels are not known at this stage. Recompacted CBR laboratory testing on one sample of Glaciofluvial Deposits gave a result of 11%; however, for preliminary design purposes, the following long-term equilibrium CBR values are recommended for the various near-surface materials present at the site:

- Made Ground: 2 %;
- Glaciofluvial Deposits: 5 %.

13.4.2 The proposed formation should be proof rolled and caution must be exercised to ensure that any soft/loose areas identified within the formation are excavated and filled with suitably compacted granular fill. Once road alignments and levels have been finalised, in situ CBR tests should be undertaken to allow detailed design of road formations to be made.

13.4.3 The near surface soils have the potential to be disturbed by weathering and site traffic. Suitable working methods should therefore be employed to avoid this and therefore reduce the potential to create volumes of unsuitable fill material.

13.5 Excavations

13.5.1 Conventional mechanical excavation should be readily achievable to depths of at least 4.0 m begl.

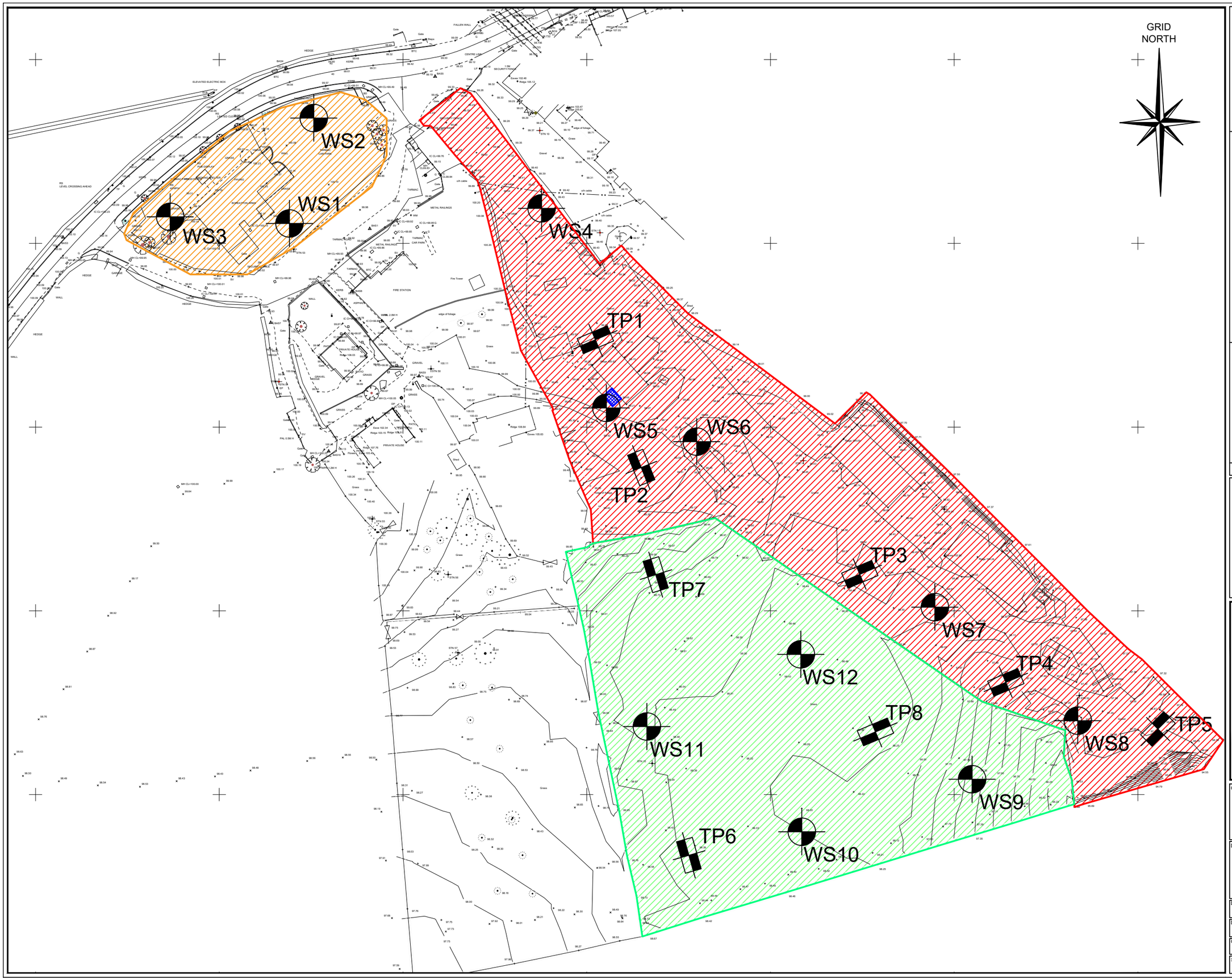
13.5.2 Shallow excavations may require temporary support due to the instability recorded during the fieldwork; see Section 9.6 above.

13.5.3 Care should be taken to limit the exposure of any excavation prepared to receive concrete, which may cause deterioration and a reduction in bearing capacity. Foundation excavations should be inspected by qualified personnel and any soft or loose materials that are encountered should be removed and replaced with compacted granular fill or lean mix concrete.

13.5.4 The findings of this investigation indicate that significant water ingress is unlikely to occur in temporary excavations; however, any localised seepage should be controllable by sump pumping.

APPENDIX A
DRAWINGS

Drawing No.	Drawing Title
20213/1	Exploratory Hole Location Plan
20213/2	Extent of Made Ground
20213/3	Clean Cover Requirements
20213/4	Gas Protection Requirements



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This drawing is to be read in conjunction with all development drawings, and designers risk assessments.

This drawing must not be scaled. Work to figured dimensions only.

KEY

WS1	Dynamic Percussive Sampling Borehole
TP1	Trial Pit
	Former Pub Site
	Stonemasons Yard
	Greenfield Area
	Fuel Storage Tank

Rev	Date	Description	Initials

Client

SHINGLER GROUP LIMITED

georisk MANAGEMENT

Summit Point, Summit Crescent, Smethwick, Birmingham B66 1BT
t. 0121 553 4044, f. 0121 553 1112
www.georisk-uk.com, email. enquiries@georisk-uk.com

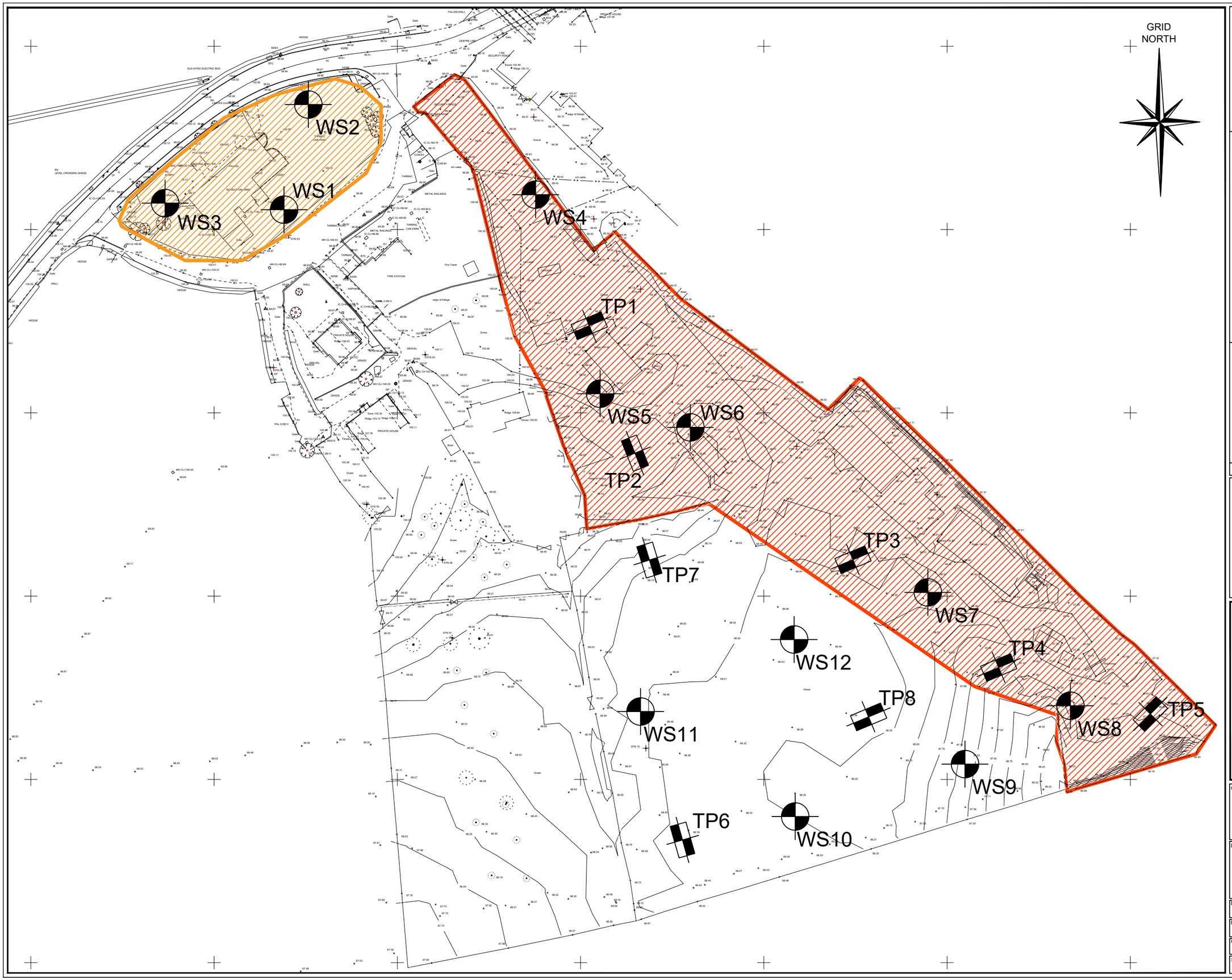
Contract

STATION ROAD, BASCHURCH

Drawing Title

EXPLORATORY HOLE LOCATION PLAN

Drawing Status	FINAL		
Drawn By	AEB	Date	25/09/20
Checked/Approved	AMG	Date	25/09/20
Scale	NTS	Drawing Number	20213/1



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KEY

WS1 — Dynamic Percussive Sampling Borehole

TP1 — Trial Pit

Approximate Extent of Made Ground Associated with Former Railway Land

Approximate Extent of Made Ground Associated with Former Boreatton Arms

Rev	Date	Description	Initials

Client

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STATION ROAD, BASCHURCH

Drawing Title

EXTENTS OF MADE GROUND

Drawing Status	FINAL		
Drawn By	AEB	Date	21/10/20
Checked/Approved	AMG	Date	21/10/20
Scale	NTS	Drawing Number	20213/2

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KEY

WS1	Dynamic Percussive Sampling Borehole
TP1	Trial Pit
	Plots requiring clean cover

Rev	Date	Description	Initials

Client

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STATION ROAD, BASCHURCH

Drawing Title

CLEAN COVER REQUIREMENTS

Drawing Status	FINAL		
Drawn By	AEB	Date	21/10/20
Checked/Approved	AMG	Date	21/10/20
Scale	NTS	Drawing Number	20213/3

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KEY

WS1	Dynamic Percussive Sampling Borehole
TP1	Trial Pit
	Plots requiring gas protection

Rev	Date	Description	Initials

Client

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Contract

STATION ROAD, BASCHURCH

Drawing Title

GAS PROTECTION REQUIREMENTS

Drawing Status	FINAL		
Drawn By	AEB	Date	27/10/20
Checked/Approved	AMG	Date	27/10/20
Scale	NTS	Drawing Number	20213/4

APPENDIX B
HISTORICAL MAP EXTRACTS

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry
Gravel Pit
Sand Pit
Clay Pit
Shingle
Refuse Heap
Sloping Masonry
Flat Rock
Marsh
Reeds
Osiers
Rough Pasture
Furze
Wood
Mixed Wood
Brushwood
Orchard
Fir
Ford
Stepping Stones
Ferry
Waterfall
Lock
Trig. Station
507 Altitude at Trig. Station
B.M.325·9 Bench Mark
342 Surface Level
Arrow denotes flow of water
Antiquities (site of)
Cutting
Embankment
Railway crossing Road
Level Crossing
Road crossing Railway
Railway crossing River or Canal
Road over single stream
Road over River or Canal
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit
Active Quarry, Chalk Pit or Clay Pit
Rock
Boulders
Cliff
Slopes
Top
Roofed Building
Glazed Roof Building
Sloping Masonry
Archway
Non-Coniferous Tree (surveyed)
Coniferous Tree (surveyed)
Non-Coniferous Trees (not surveyed)
Coniferous Trees (not surveyed)
Orchard Tree
Scrub
Bracken
Coppice, Osier
Reeds
Marsh, Saltings
Rough Grassland
Heath
Culvert
Direction of water flow
Bench Mark
Antiquity (site of)
Cave Entrance
Triangulation Station
Electricity Pylon
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

Cliff
Slopes
Top
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Positioned Boulder
Scree
Non-Coniferous Tree (surveyed)
Coniferous Tree (surveyed)
Non-Coniferous Trees (not surveyed)
Coniferous Trees (not surveyed)
Orchard Tree
Scrub
Bracken
Coppice, Osier
Reeds
Marsh, Saltings
Rough Grassland
Heath
Culvert
Direction of water flow
Triangulation Station
Antiquity (site of)
Electricity Transmission Line
Electricity Pylon
Bench Mark
Buildings with Building Seed
Roofed Building
Glazed Roof Building
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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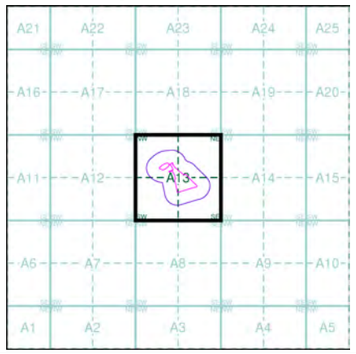
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Shropshire	1:2,500	1881	2
Shropshire	1:2,500	1901	3
Ordnance Survey Plan	1:2,500	1974	4
Additional SIMs	1:2,500	1988	5
Large-Scale National Grid Data	1:2,500	1994	6
Historical Aerial Photography	1:2,500	2000	7

Historical Map - Segment A13



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Order Details

Order Number: 254688440_1_1
Customer Ref: 20213
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Site Area (Ha): 2.23
Search Buffer (m): 100

Site Details

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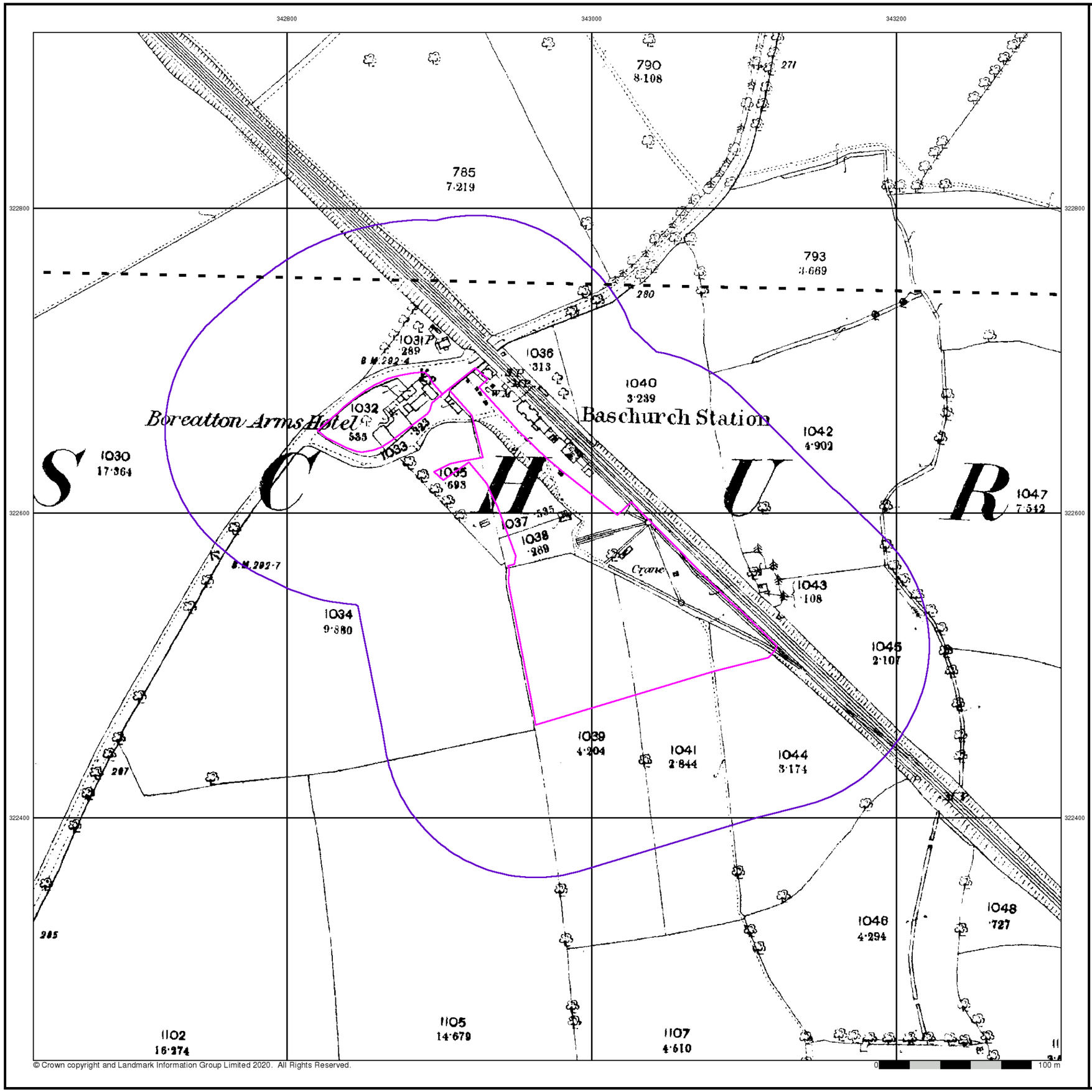

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Shropshire

Published 1881

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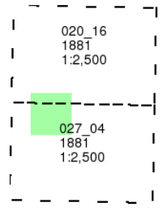

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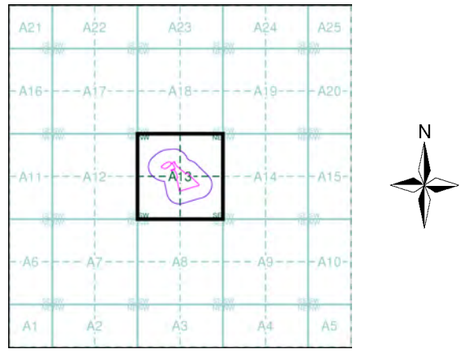

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Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	100

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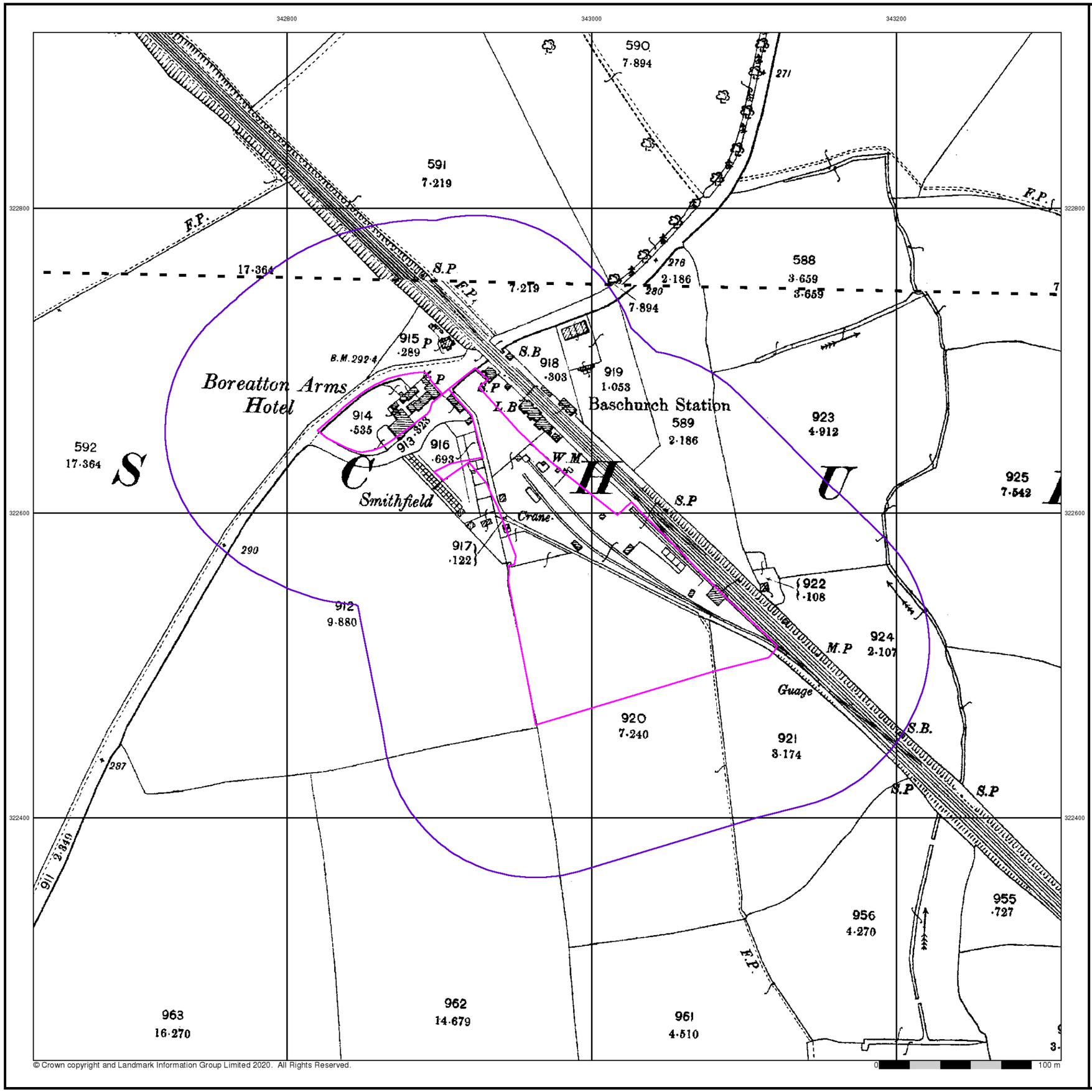

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Shropshire

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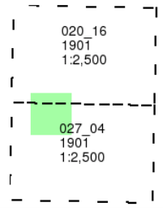

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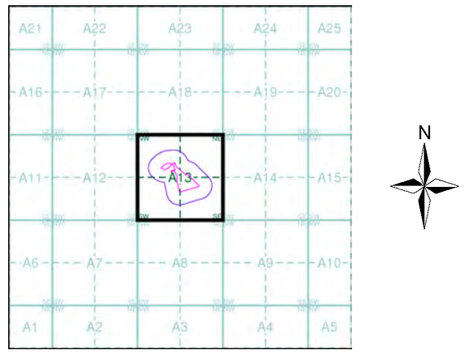

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Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	100

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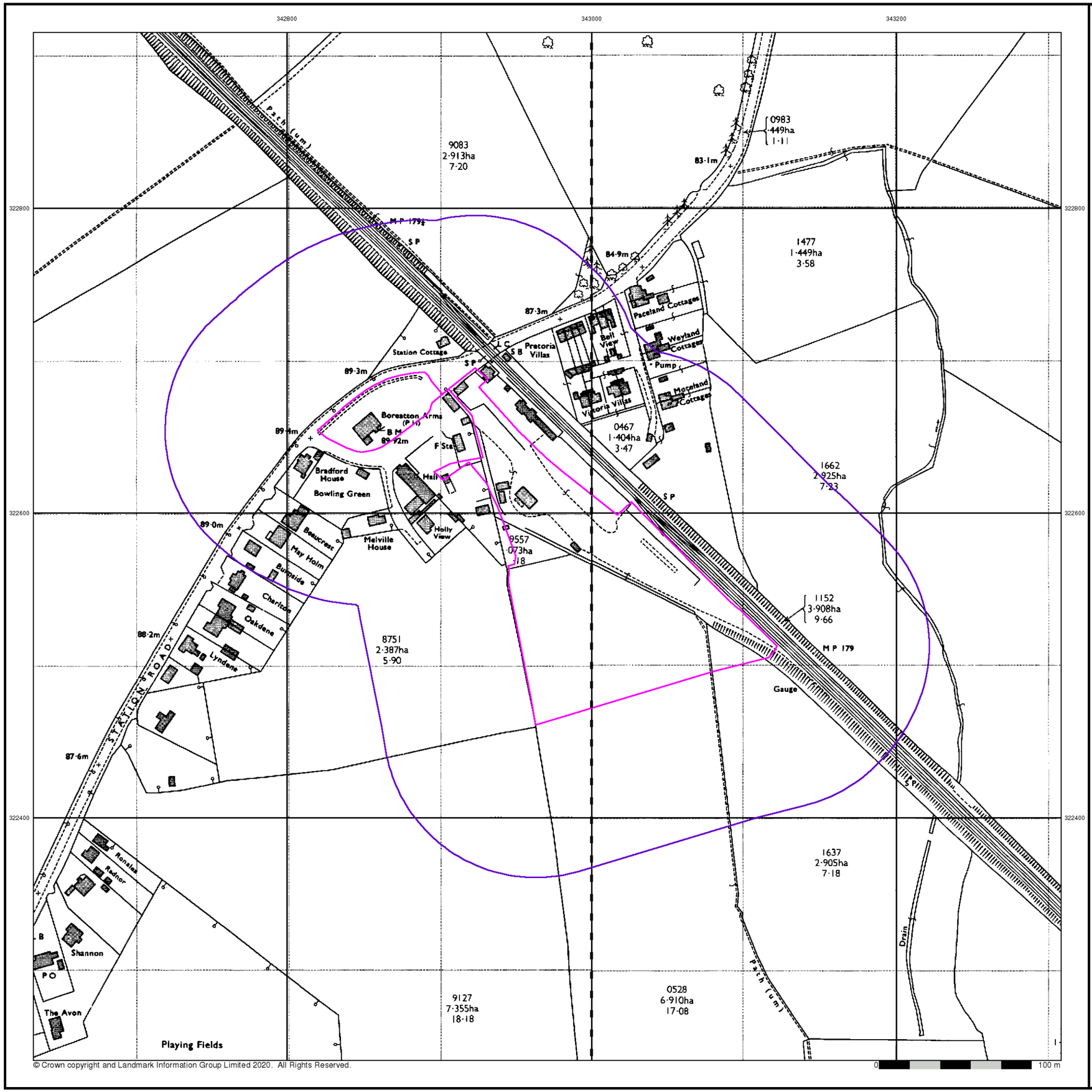

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Ordnance Survey Plan
Published 1974
Source map scale - 1:2,500

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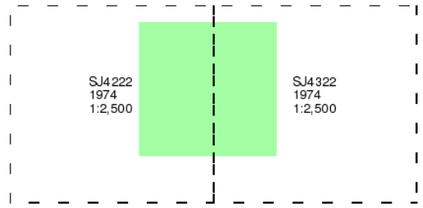

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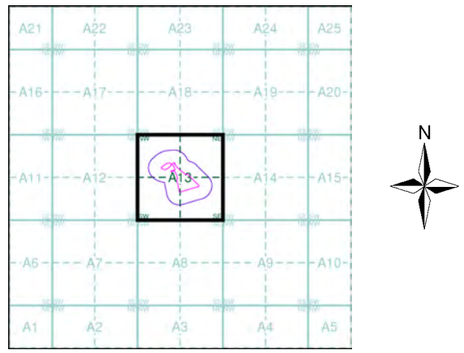

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Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	100

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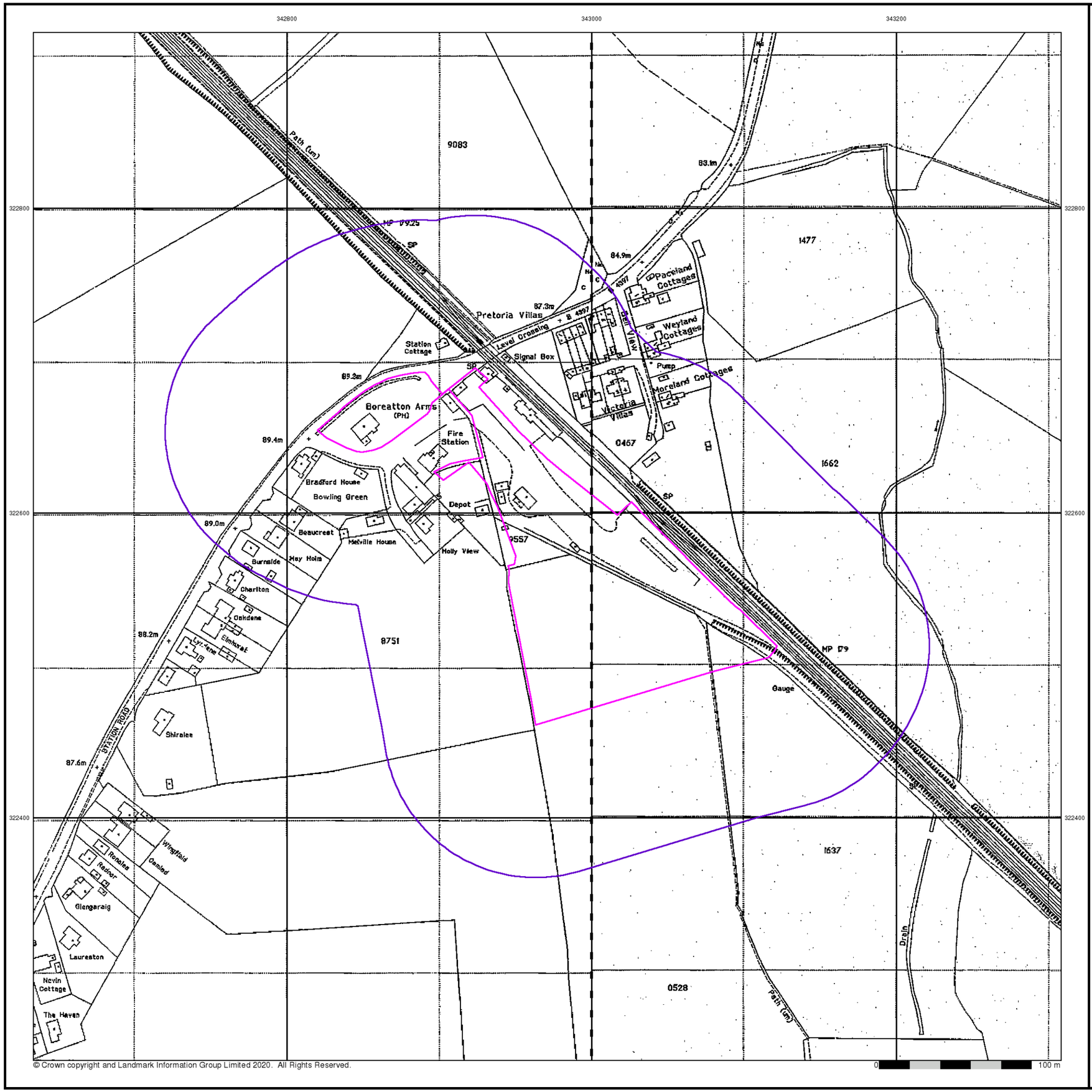

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0 100 m

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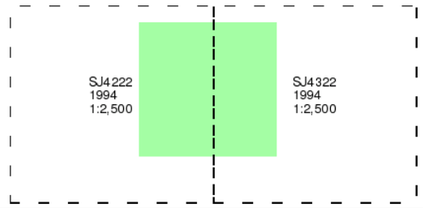
Large-Scale National Grid Data

Published 1994

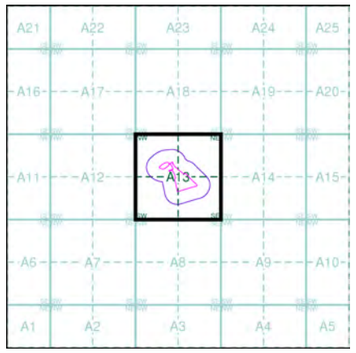
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	100

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Sloping Masonry
Pylon
Electricity Transmission Line
Pole
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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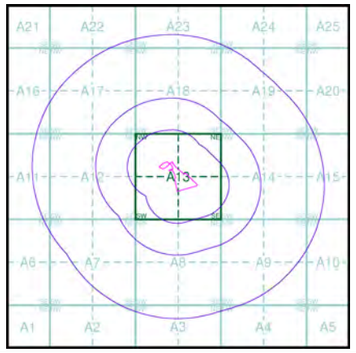
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Shropshire	1:10,560	1884	2
Shropshire	1:10,560	1902	3
Ordnance Survey Plan	1:10,000	1954	4
Ordnance Survey Plan	1:10,000	1982	5
10K Raster Mapping	1:10,000	2000	6
10K Raster Mapping	1:10,000	2006	7
VectorMap Local	1:10,000	2020	8

Historical Map - Slice A



N

Order Details

Order Number: 254688440_1_1
Customer Ref: 20213
National Grid Reference: 342970, 322580
Slice: A
Site Area (Ha): 2.23
Search Buffer (m): 1000

Site Details

Land off Station Road, Baschurch, Shrewsbury, SY4 2BQ

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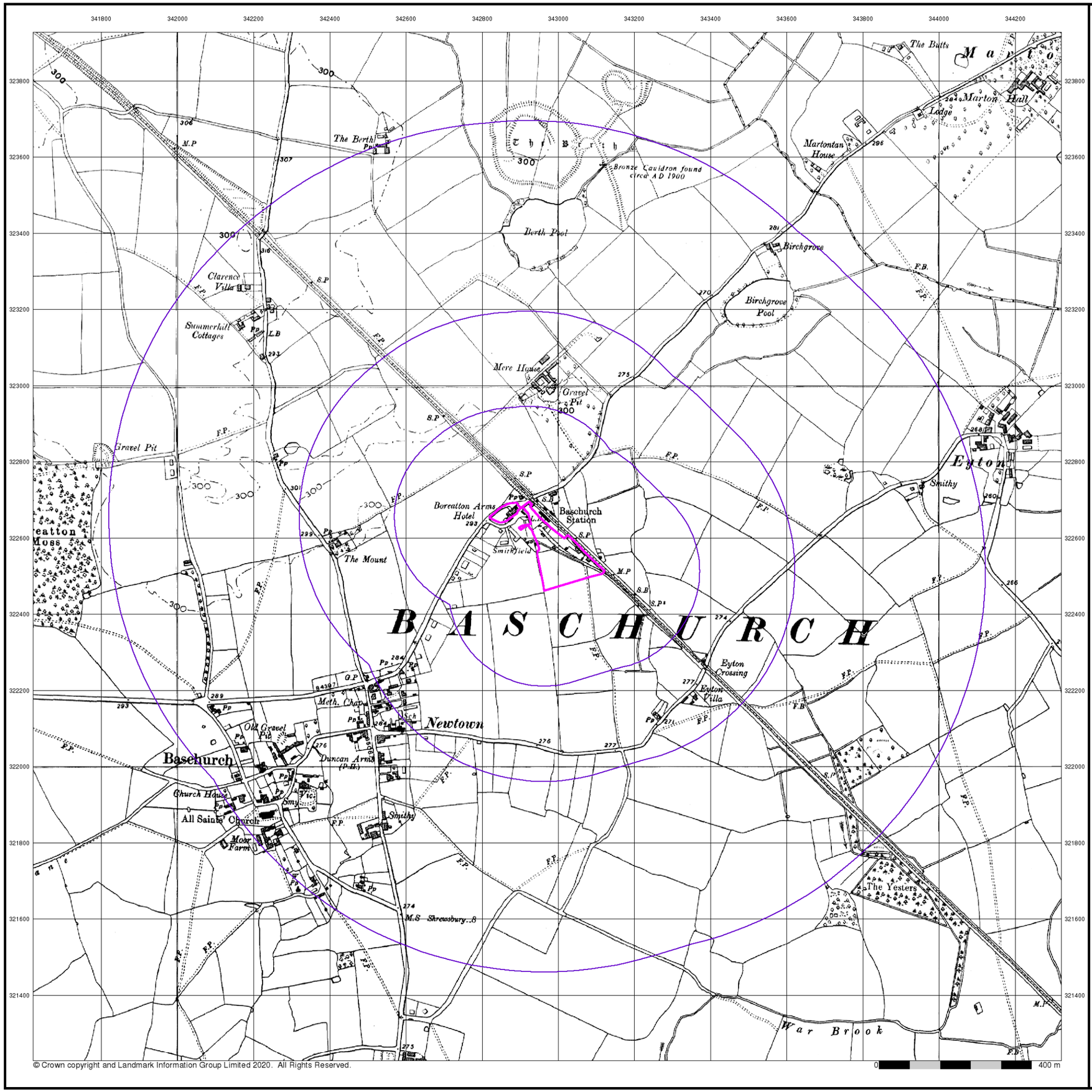

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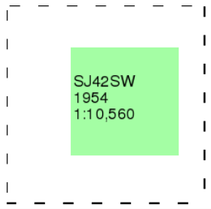
Ordnance Survey Plan

Published 1954

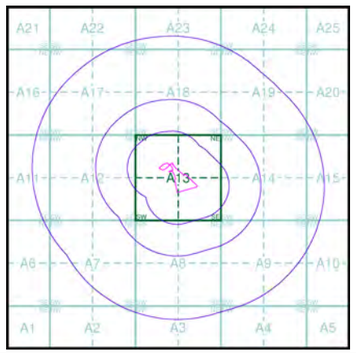
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	1000

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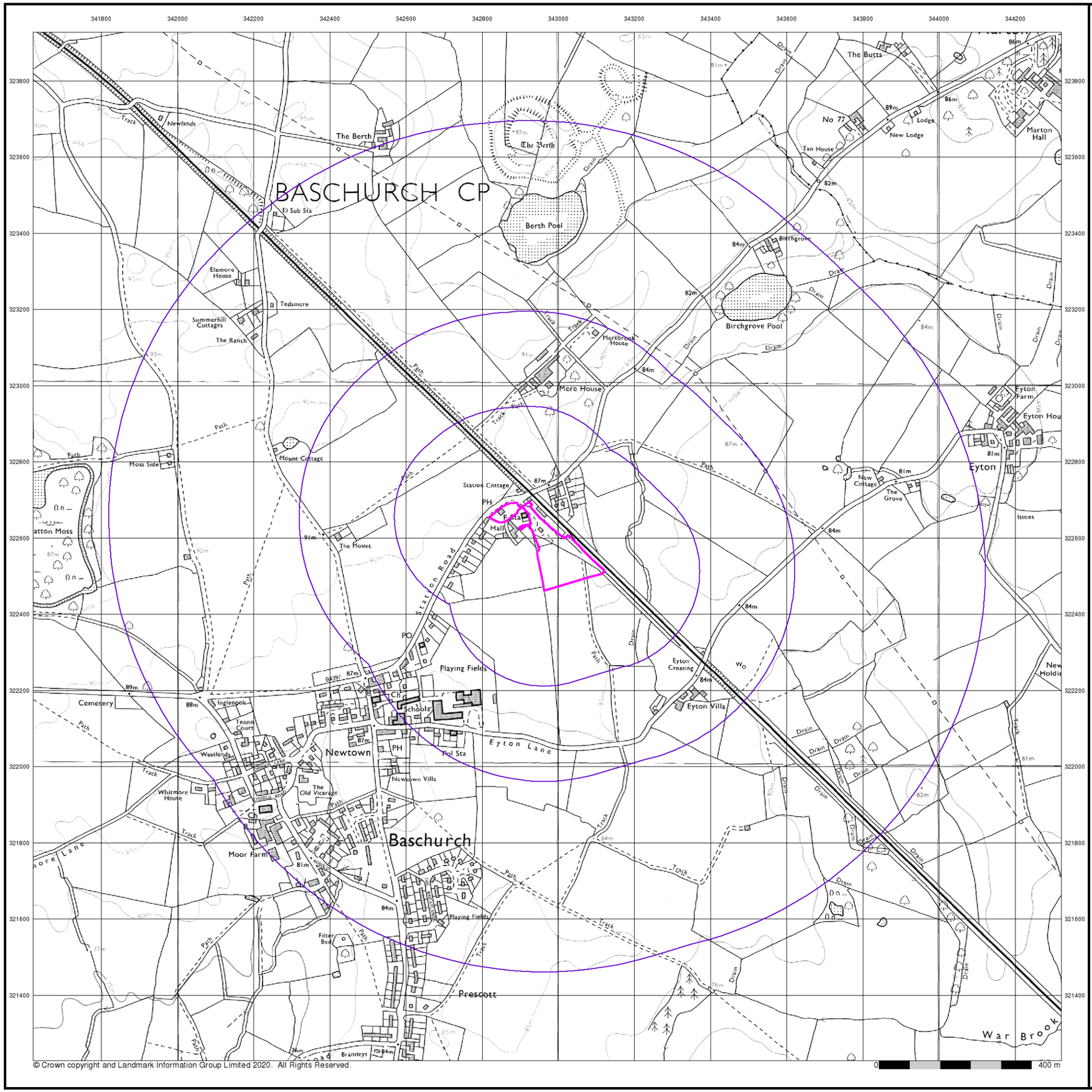

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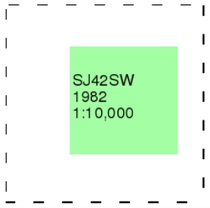
Ordnance Survey Plan

Published 1982

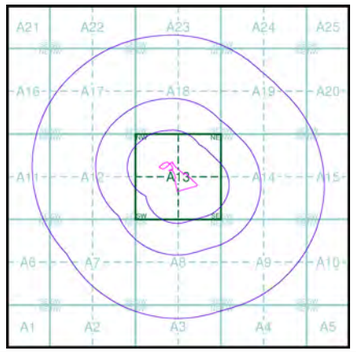
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	1000

Site Details

Land off Station Road, Baschurch, Shrewsbury, SY4 2BQ

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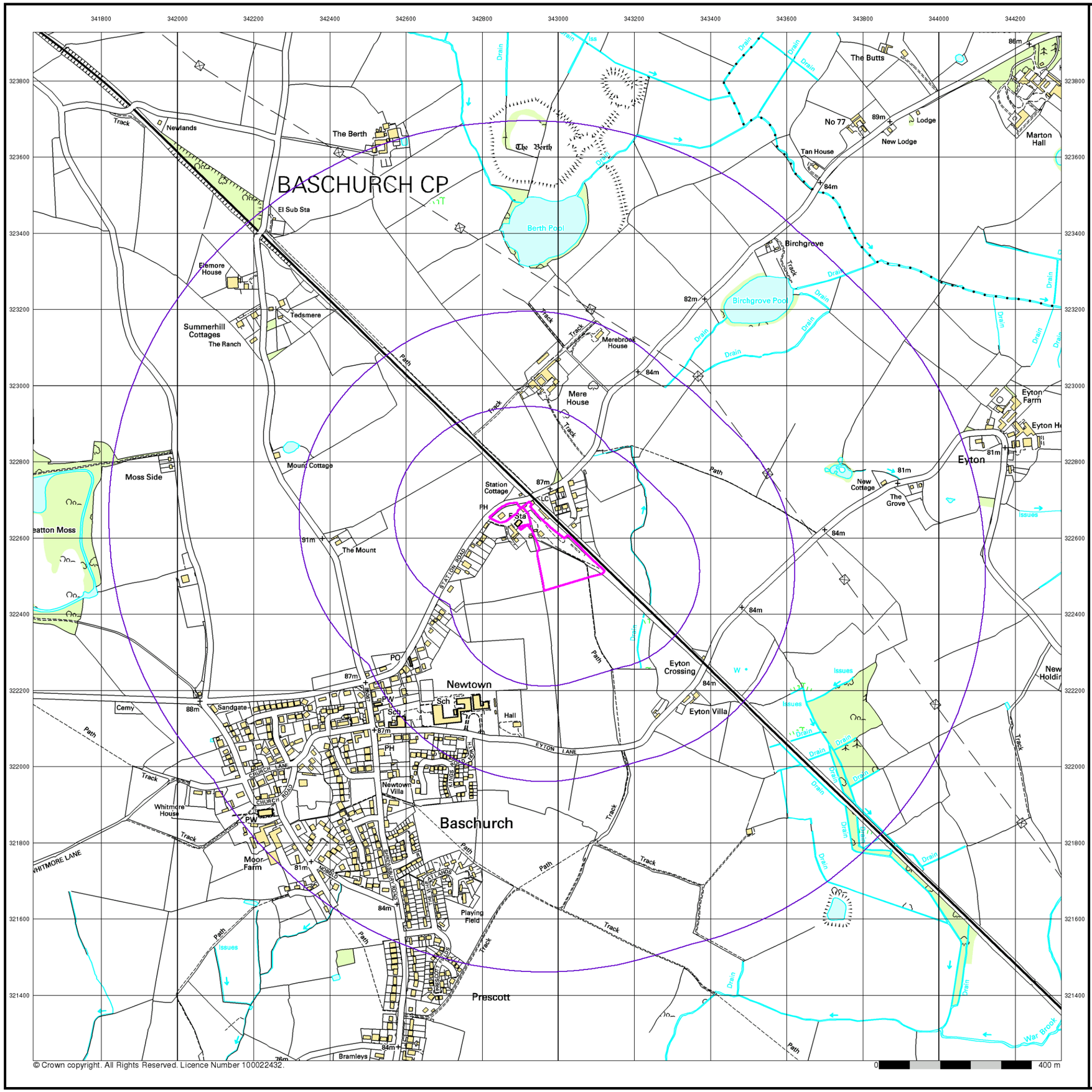

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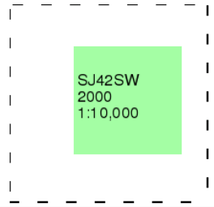
10k Raster Mapping

Published 2000

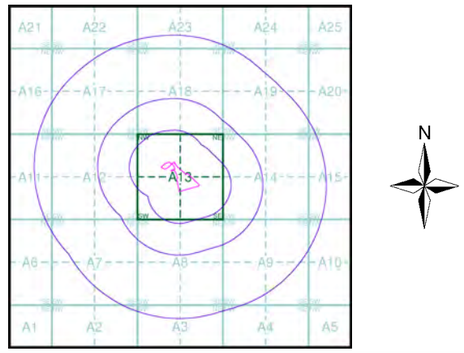
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	1000

Site Details

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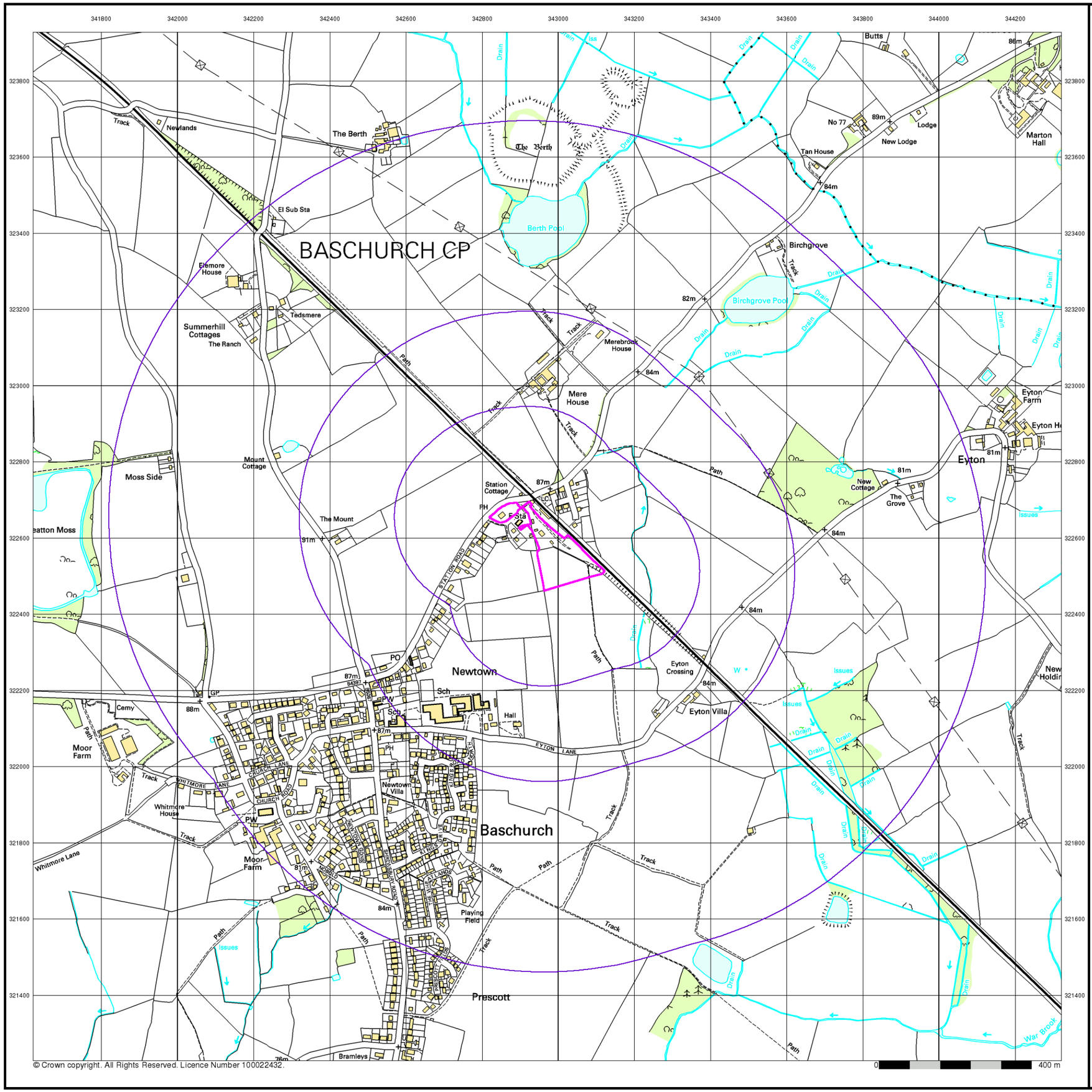

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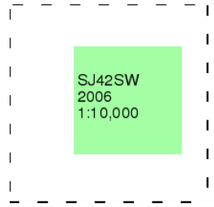
10k Raster Mapping

Published 2006

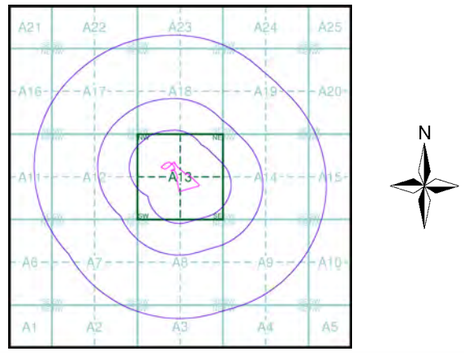
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	1000

Site Details

Land off Station Road, Baschurch, Shrewsbury, SY4 2BQ

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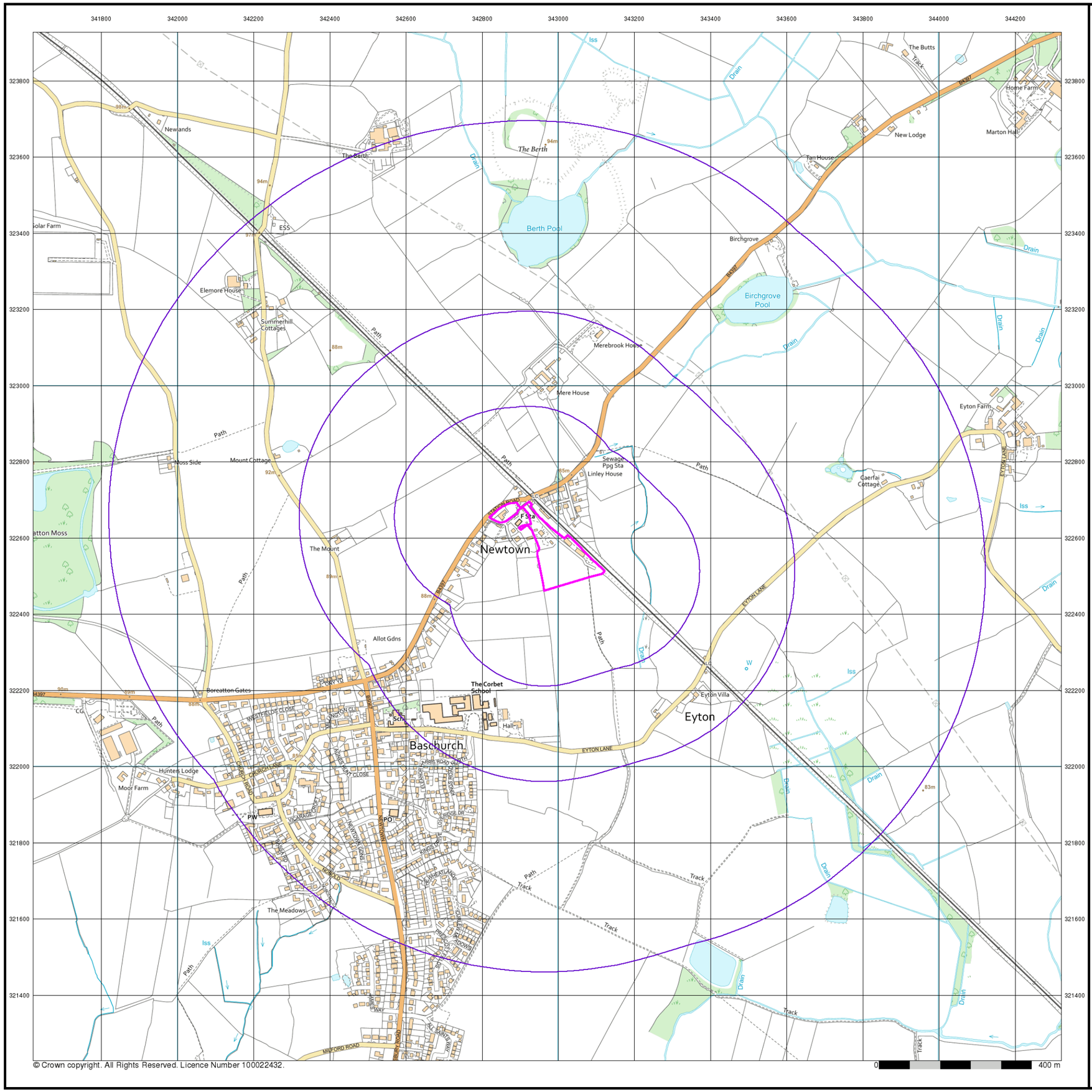

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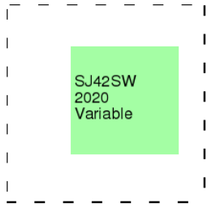
VectorMap Local

Published 2020

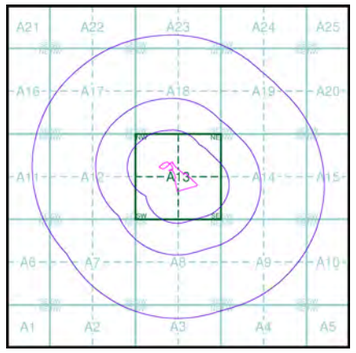
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



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Order Details

Order Number:	254688440_1_1
Customer Ref:	20213
National Grid Reference:	342970, 322580
Slice:	A
Site Area (Ha):	2.23
Search Buffer (m):	1000

Site Details

Land off Station Road, Baschurch, Shrewsbury, SY4 2BQ

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APPENDIX C
EXPLORATORY HOLE RECORDS

Georisk Management Ltd.
Tel: 0121 553 4044
email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS1**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.10			Tarmac.
					0.30			MADE GROUND: Grey gravel of igneous rock.
		0.40	D1					MADE GROUND: Light grey gravelly sand. Gravel is angular to subangular, fine to coarse sandstone and concrete.
					0.75			MADE GROUND: Loose to medium dense grey and yellowish brown sandy angular to subrounded, fine to coarse gravel of sandstone and occasional brick.
		1.00	CPT	N=2 (1,2/1,0,0,1)				
		2.00	CPT	N=19 (4,2/6,5,4,4)				
					2.70			Medium dense brown gravelly SAND. Gravel is subangular to rounded, fine to medium quartzite, sandstone and igneous rock. (GLACIOFLUVIAL DEPOSITS)
		3.00	CPT	N=12 (4,6/4,3,2,3)				
		4.00	CPT	N=13 (4,3/3,3,3,4)	4.00			End of Borehole at 4.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Gas and groundwater monitoring point installed on completion.

Georisk Management Ltd.
Tel: 0121 553 4044
email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS2**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.10			Tarmac.
					0.25			MADE GROUND: Yellowish brown sandy angular to subangular, medium to coarse gravel of sandstone and occasional brick.
		0.30	D1		0.50			MADE GROUND: Greyish brown clayey gravelly sand. Gravel is angular to subrounded, fine to medium brick, ash and quartzite.
					0.75			Brown slightly clayey silty slightly gravelly fine sand. Gravel is subrounded to rounded, fine to medium quartzite. (SUBSOIL)
		1.00 1.00	D2 CPT	N=17 (2,2/4,3,5,5)				Medium dense becoming dense at 3.0 m begl brown slightly clayey gravelly SAND. Gravel is subangular to rounded, fine to coarse mudstone, quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=17 (5,5/4,5,4,4)				
		3.00	CPT	N=50 (10,10/50 for 265mm)	3.00			End of Borehole at 3.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS3**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Hole Type**
Station Road, Baschurch	20213		WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.10	D1					Grass over dark brown silty slightly gravelly sand. Gravel is subrounded, fine to medium quartzite.
					0.20			(TOPSOIL)
					0.25			MADE GROUND: Grey gravel of igneous rock.
					0.45			MADE GROUND: Yellowish brown slightly sandy angular to subangular, medium to coarse gravel of sandstone.
		0.60	D2		0.70			MADE GROUND: Greyish brown clayey silty slightly gravelly sand. Gravel is subangular to rounded, fine to medium ash, quartzite and calcareous nodules.
		1.00	CPT	N=26 (2,4/7,7,6,6)	1.00			Brown slightly clayey silty slightly gravelly fine sand. Gravel is subrounded to rounded, fine to medium quartzite. (SUBSOIL)
		1.20	D3		1.50			Medium dense light brown gravelly fine SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=19 (7,5/5,4,4,6)				Medium dense brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite, mudstone and sandstone. Occasional slightly clayey pockets. (GLACIOFLUVIAL DEPOSITS)
		3.00	CPT	N=17 (4,3/4,4,4,5)				
		4.00	CPT	N=24 (5,5/5,5,6,8)	4.00			End of Borehole at 4.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS4**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Hole Type**
Station Road, Baschurch	20213		WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.20	D1		0.40			MADE GROUND: Greyish brown and black slightly silty gravelly sand. Gravel is angular to subrounded, fine to medium igneous rock and occasional ash and brick.
					0.80			MADE GROUND: Brown and occasional grey slightly clayey silty sand with occasional subrounded, fine to medium gravel of quartzite.
		1.00	CPT	N=15 (2,3/3,4,4,4)				Medium dense becoming dense at 4.0 m begl brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse sandstone and quartzite. Occasional clayey pockets. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=19 (4,4/4,4,4,7)				
		2.70	CPT	N=50 (13,12/50 for 275mm)	2.70			End of Borehole at 2.70 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS5**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.35			MADE GROUND: Brown sandy angular to subangular, fine to coarse gravel of sandstone.
		0.50	D1					MADE GROUND: Black and grey ashy gravelly sand. Gravel is angular to subangular, fine to coarse ash, coal, vitreous slag, brick, quartzite and ceramic.
		1.00	CPT	N=22 (3,4/5,5,6,6)	1.00			Medium dense brown gravelly fine to medium SAND. Gravel is subangular to rounded, fine to coarse quartzite, sandstone and igneous rock. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=17 (4,4/4,4,4,5)				
		3.00	CPT	N=15 (4,4/2,3,4,6)				
		4.00	CPT	N=25 (4,5/5,6,7,7)	4.00			End of Borehole at 4.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Gas and groundwater monitoring point installed on completion.

Georisk Management Ltd.
Tel: 0121 553 4044
email: enquiries@georisk-uk.com
www.georisk-uk.com

Borehole No. **WS6**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 10-09-2020 - 10-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.20	D1					MADE GROUND: Black ashy gravelly sand. Gravel is angular to subrounded, fine to medium ash, clinker and quartzite.
					0.40			MADE GROUND: Grey subangular cobbles of clinker.
					0.50			Brown gravelly SAND. Gravel is subangular to rounded, fine to coarse sandstone and quartzite. (GLACIOFLUVIAL DEPOSITS)
		1.00	CPT	N=13 (2,3/3,3,3,4)	1.00			Medium dense brown fine to medium SAND. (GLACIOFLUVIAL DEPOSITS)
		1.20	D2					
					1.50			Medium dense brown slightly clayey gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=15 (4,4/4,4,3,4)				
		3.00	CPT	N=13 (5,5/3,3,4,3)				
					3.50			Medium dense brown slightly gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		4.00	CPT	N=21 (8,6/5,5,5,6)	4.00			End of Borehole at 4.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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email: enquiries@georisk-uk.com
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Borehole No. **WS7**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.40	D1					MADE GROUND: Grass over light brown slightly sandy angular to subangular, medium to coarse gravel and cobbles of sandstone.
		1.00	CPT	N=16 (2,4/4,4,4,4)	1.00			Medium dense brown gravelly fine to medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		1.50	D2					
		2.00	CPT	N=17 (3,3/2,4,6,5)				
					2.70			Dense greyish brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		3.00	CPT	50 (13,15/50 for 220mm)	3.00			End of Borehole at 3.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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Borehole No. **WS8**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Hole Type**
Station Road, Baschurch	20213		WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND: Grass over yellowish brown slightly sandy angular to subangular, fine to coarse gravel and cobbles of sandstone and occasional igneous rock. Sampler refused at 1.0 m begl on buried sandstone block.
					1.00			End of Borehole at 1.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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Borehole No. **WS9**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Samples & In Situ Testing			Depth (m)	Stratum Description
Depth (m)	Type	Results		
0.10	D1			Grass over dark brown slightly silty slightly gravelly sand. Gravel is subangular to subrounded, fine to medium quartzite and sandstone. (TOPSOIL)
			0.30	Light brown slightly silty slightly gravelly fine sand. Gravel is subangular to rounded, fine to medium quartzite. (SUBSOIL)
			0.70	Orangish brown lightly cemented slightly clayey slightly gravelly medium SAND. Gravel is subangular to rounded, fine to medium quartzite. (GLACIOFLUVIAL DEPOSITS)
1.00	CPT	N=37 (4,4/9,9,9,10)	1.00	Medium dense brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite and igneous rock. (GLACIOFLUVIAL DEPOSITS)
2.00	CPT	N=24 (6,4/4,4,8,8)		
3.00	CPT	N=14 (4,4/5,4,3,2)		
			3.50	Medium dense orangish brown medium SAND with rare subrounded, fine to medium gravel of quartzite. (GLACIOFLUVIAL DEPOSITS)
4.00	CPT	N=16 (3,4/4,4,4,4)	4.00	End of Borehole at 4.00 m

Remarks: Groundwater not encountered during drilling.
Gas and groundwater monitoring point installed on completion.

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Borehole No. **WS10**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								Grass over dark brown slightly clayey silty fine sand with occasional subrounded, fine to medium gravel of mudstone and quartzite. (TOPSOIL)
					0.30			Brown silty slightly gravelly sand. Gravel is subrounded, fine to medium quartzite. (SUBSOIL)
					0.60			Medium dense light brown gravelly fine to medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and igneous rock. (GLACIOFLUVIAL DEPOSITS)
		1.00	CPT	N=19 (3,3/4,5,5,5)				
					1.60			Medium dense brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite and igneous rock. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=20 (6,6/5,5,5,5)				
		3.00	CPT	N=32 (7,7/6,7,9,10)				
		4.00	CPT	N=34 (9,9/9,9,8,8)	4.00			End of Borehole at 4.00 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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Borehole No. **WS11**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								Grass over dark brown silty slightly gravelly sand. Gravel is subrounded, fine to medium quartzite. (TOPSOIL)
					0.40			Medium dense light brown gravelly fine to medium SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
		1.00	CPT	N=16 (5,6/4,4,4,4)				
					1.60			Dense brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
		2.00	CPT	N=39 (8,7/7,7,12,13)				
		2.40	CPT	N=50 (14,14/15,16,16,3)	2.40			End of Borehole at 2.40 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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Borehole No. **WS12**

Project Name Station Road, Baschurch	**Project No.** 20213	**Co-ords:** -	**Hole Type** WLS
Equipment: Dynamic Percussive Sampling Rig		**Level:** -	**Scale** 1:25
Client: Shingler Homes Limited		**Dates:** 11-09-2020 - 11-09-2020	**Logged By** AEB

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								Grass over dark brown silty slightly gravelly sand. Gravel is subrounded, fine to medium quartzite. (TOPSOIL)
					0.40			Medium dense becoming dense below 2.9 m begl brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
		1.00	CPT	N=20 (5,5/4,5,5,6)				
		2.00	CPT	N=22 (7,7/5,6,5,6)				
		2.45	CPT	N=19 (6,6/4,4,5,6)				
		2.90	CPT	N=38 (7,8/8,8,10,12)				
		3.55	CPT	50 (13,14/50 for 220mm)	3.55			End of Borehole at 3.55 m
			Type	Results				

Remarks: Groundwater not encountered during drilling.
Backfilled with arisings on completion.

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Trial Pit No. TP1

Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Station Road, Baschurch	20213	Level: -	09/09/2020

Equipment: Tracked excavator	Dimensions: -	Scale
	Depth: 2.70 m	1:25
Client: Shingler Homes Limited		Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.20	D1					MADE GROUND: Grass over grey and black ashy gravelly sand. Gravel is angular to subangular, fine to coarse brick, ash and occasional sandstone.
				0.40			Orangish brown lightly cemented slightly clayey gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone.
				0.60			(GLACIOFLUVIAL DEPOSITS) Orangish brown gravelly cobbly medium SAND. Gravel is subangular to rounded, fine to medium quartzite and sandstone. Occasional pockets of clayey gravelly sand. (GLACIOFLUVIAL DEPOSITS)
	1.10	D2					
				2.70			End of Trial Pit at 2.70 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 0.6 m begl.

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Trial Pit No. **TP2**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Date**
Station Road, Baschurch	20213	**Level:** -	09/09/2020

Equipment: Tracked excavator	**Dimensions:** -	**Scale**
	Depth: 2.60 m	1:25
Client: Shingler Homes Limited		**Logged By** AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.30	D1					MADE GROUND: Grass over brown and black ashy gravelly sand. Gravel is angular to subangular, fine to coarse brick, ash and clinker. Occasional cobbles of clinker and brick.
	0.50	B2					
	0.90	D3		0.85			Orangish brown lightly cemented slightly clayey gravelly SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
				1.00			Orangish brown gravelly SAND. Gravel is subangular to rounded, fine to coarse sandstone and quartzite. Occasional cobbles. (GLACIOFLUVIAL DEPOSITS)
	2.00	D4					
				2.60			End of Trial Pit at 2.60 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 1.0 m begl.

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Trial Pit No. TP3

Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Station Road, Baschurch	20213	Level: -	09/09/2020

Equipment: Tracked excavator	Dimensions: -	Scale
	Depth: 2.60 m	1:25
Client: Shingler Homes Limited		Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.40	D1		0.70			MADE GROUND: Brown and grey slightly clayey gravelly sand. Gravel is angular to subangular, fine to coarse brick, quartzite and occasional ash.
	1.20	D2		2.60			Light brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse sandstone and quartzite. Occasional cobbles. (GLACIOFLUVIAL DEPOSITS)
							End of Trial Pit at 2.60 m

Type | Results

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 0.7 m begl.

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Trial Pit No. TP4

Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Station Road, Baschurch	20213	Level: -	09/09/2020

Equipment: Tracked excavator	Dimensions: -	Scale
	Depth: 2.70 m	1:25
Client: Shingler Homes Limited		Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.20	D1					MADE GROUND: Grass over brown sandy gravelly cobbles and boulders of sandstone. Gravel is angular to subangular, fine to coarse sandstone and occasional brick.
				1.00			MADE GROUND: Brown slightly clayey silty sand. Gravel is subangular to rounded, fine to coarse quartzite.
	1.20	D2					
				1.50			Orangish brown slightly clayey gravelly SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
	2.00	D3					
				2.70			End of Trial Pit at 2.70 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 1.5 m begl.

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Trial Pit No. TP5

Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Station Road, Baschurch	20213	Level: -	09/09/2020

Equipment: Tracked excavator	Dimensions: -	Scale
	Depth: 2.50 m	1:25
Client: Shingler Homes Limited		Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.30	D1					MADE GROUND: Grey and black ashy gravelly sand. Gravel is angular to subangular, fine to coarse ash, brick, pottery, shale, vitreous slag and occasional rags, plastic and metal fragments.
				0.80			MADE GROUND: Black ashy slightly gravelly sand. Gravel is angular to subangular, fine to medium brick, ash and occasional concrete. Occasional cobbles and boulders of concrete.
	1.50	D2					
				2.30			MADE GROUND: Brown slightly clayey silty fine sand with occasional subangular to rounded, fine to medium gravel of quartzite.
				2.50			End of Trial Pit at 2.50 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 0.8 m begl.

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Trial Pit No. **TP6**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Date**
Station Road, Baschurch	20213	**Level:** -	09/09/2020

Equipment: Tracked excavator

Dimensions: -
Depth: 2.60 m

Scale 1:25

Client: Shingler Homes Limited

Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.20	D1		0.40			Grass over dark brown slightly clayey silty fine sand with occasional subrounded, fine to medium gravel of mudstone and quartzite. (TOPSOIL)
	0.50	D2		1.20			Light brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and occasional sandstone. Occasional cobbles and boulders. (GLACIOFLUVIAL DEPOSITS)
	1.60	D3		2.60			Light brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and occasional sandstone. Occasional cobbles and boulders. (GLACIOFLUVIAL DEPOSITS) End of Trial Pit at 2.60 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 0.4 m begl.

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Trial Pit No. TP7

Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Station Road, Baschurch	20213	Level: -	09/09/2020

Equipment: Tracked excavator

Dimensions: -

Depth: 2.60 m

Scale 1:25

Client: Shingler Homes Limited

Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.10	D1					Grass over dark brown slightly clayey silty fine sand with occasional subrounded, fine to medium gravel of mudstone and quartzite. (TOPSOIL)
				0.35			Light brown gravelly cobbly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
	0.60	B2					
				0.90			Light brown gravelly medium to coarse SAND. Gravel is subangular to rounded, fine to coarse quartzite. (GLACIOFLUVIAL DEPOSITS)
	1.00	D3					
				2.60			End of Trial Pit at 2.60 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 0.9 m begl.

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Trial Pit No. **TP8**
Sheet 1 of 1

Project Name	**Project No.**	**Co-ords:** -	**Date**
Station Road, Baschurch	20213	**Level:** -	09/09/2020

Equipment: Tracked excavator

Dimensions: - Depth: 2.40 m

Scale 1:25

Client: Shingler Homes Limited

Logged By AEB

Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
	0.15	D1					Grass over dark brown slightly clayey silty fine sand with occasional subrounded, fine to medium gravel of mudstone and quartzite. (TOPSOIL)
				0.30			
	0.40	D2					Brown silty slightly gravelly sand. Gravel is subangular to rounded, fine to medium quartzite. (SUBSOIL)
				0.60			
	1.30	D3					Loose light orangish brown gravelly fine to medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. Occasional cobbles and boulders. (GLACIOFLUVIAL DEPOSITS)
				1.50			
	2.00	D4					Orangish brown gravelly medium SAND. Gravel is subangular to rounded, fine to coarse quartzite and sandstone. (GLACIOFLUVIAL DEPOSITS)
				2.40			End of Trial Pit at 2.40 m
		Type	Results				

Remarks: Groundwater not encountered during excavation.
Backfilled with arisings on completion.

Stability: Slight spalling of pit walls below 1.5 m begl.

APPENDIX D
SOIL-GAS AND GROUNDWATER MONITORING RESULTS

Soil-Gas and Groundwater Monitoring Results

Monitoring Visit No.		**1**	Date	23/09/2020			Barometric Pressure (mb) -					990		
Weather Conditions:			Overcast											
Surface Ground Conditions:			Damp											
Ambient Concentration (% Volume):			**Bal:**	79.1	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	20.8	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow Rate**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**		
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	-	0.0	1.5	-	-	-	0.0	1.4	-	-	19.3	0.0	-0.06
WS5	Dry	-	0.0	7.0	-	-	-	0.0	7.0	-	-	13.0	0.0	-0.06
WS9	Dry	-	0.0	2.8	-	-	-	0.0	2.8	-	-	19.1	0.0	-0.06

Monitoring Visit No.		**2**	Date	06/10/2020			Barometric Pressure (mb) -					984		
Weather Conditions:			Raining											
Surface Ground Conditions:			Damp											
Ambient Concentration (% Volume):			**Bal:**	78.7	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	21.2	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow Rate**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**		
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	-	0.0	1.5	0	0	-	0.0	1.5	0	0	19.2	0.0	-0.09
WS5	Dry	-	0.0	5.5	0	0	-	0.0	5.5	0	0	13.4	0.0	-0.02
WS9	Dry	-	0.0	2.1	0	0	-	0.0	2.1	0	0	19.1	0.0	0.05

Monitoring Visit No.		**3**	Date	20/10/2020			Barometric Pressure (mb) -					986		
Weather Conditions:			Overcast											
Surface Ground Conditions:			Dry/Damp											
Ambient Concentration (% Volume):			**Bal:**	79.0	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	20.9	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow Rate**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**		
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	-	0.0	1.4	1	0	-	0.0	1.4	0	0	19.2	0.0	0.12
WS5	Dry	-	0.0	6.6	0	0	-	0.0	6.5	0	0	12.1	0.0	-0.02
WS9	Dry	-	0.0	3.3	0	0	-	0.0	3.1	0	0	18.0	0.0	0.03

Equipment Used: Geotechnical Instruments (GI) and Solinst	**Notes**
GI - GA5000 Gas Concentration/Atmospheric Pressure GI - GA5000 Borehole Gas Flow Rate/Borehole Pressure Solinst combined dip meter and interface meter - Groundwater Level (GWL)	(m) bgl - metres below ground level

georisk MANAGEMENT	**Job Title:** Station Road, Baschurch	**Job No:** 20213
	Client: Shingler Homes Limited	**Table Number:** 1

Soil-Gas and Groundwater Monitoring Results

Monitoring Visit No.		**4**	Date	26/11/2020			Barometric Pressure (mb) -					1010		
Weather Conditions:			Sunny and cloudy											
Surface Ground Conditions:			Damp											
Ambient Concentration (% Volume):			**Bal:**	78.0	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	21.8	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**	**Rate**	
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	-	0.0	1.3	-	-	-	0.0	1.3	-	-	20.2	0.0	-0.02
WS5	Dry	-	0.0	6.3	-	-	-	0.0	6.3	-	-	13.8	0.0	0.00
WS9	Dry	-	0.0	3.4	-	-	-	0.0	3.4	-	-	18.3	0.0	-0.05

Monitoring Visit No.		**5**	Date	10/12/2020			Barometric Pressure (mb) -					987		
Weather Conditions:			Overcast											
Surface Ground Conditions:			Wet											
Ambient Concentration (% Volume):			**Bal:**	78.5	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	21.2	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**	**Rate**	
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	0	0.0	1.1	-	-	0	0.0	1.1	-	-	19.6	0.0	-0.22
WS5	Dry	0	0.0	6.0	-	-	0	0.0	6.0	-	-	13.7	0.0	0.02
WS9	Dry	0	0.0	3.2	-	-	0	0.0	3.1	-	-	18.6	0.0	0.01

Monitoring Visit No.		**6**	Date	04/01/2021			Barometric Pressure (mb) -					1013		
Weather Conditions:			Cloudy											
Surface Ground Conditions:			Damp											
Ambient Concentration (% Volume):			**Bal:**	78.0	**CH_4:**	0.0	**CO_2:**		0.1			**O_2:**	21.7	
Monitoring Point	Gas Concentration												Gas Flow	
		Highest					**Steady**					**(Lowest)**	**Gas Flow**	**Relative Pressure**
Ref:	**GWL**	**CH_4**		**CO_2**	**CO**	**H_2S**	**CH_4**		**CO_2**	**CO**	**H_2S**	**O_2**	**Rate**	
	(m) bgl	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**% lel**	**% v/v**	**(%)**	**ppm**	**ppm**	**(%)**	**litre/hr**	**mb**
WS1	Dry	-	0.0	1.1	0	0	-	0.0	1.1	0	0	20.2	0.0	-0.24
WS5	Dry	-	0.0	5.5	0	0	-	0.0	5.5	0	0	14.0	0.1	-0.05
WS9	Dry	-	0.0	3.1	0	0	-	0.0	2.8	0	0	18.9	0.0	-0.07

Equipment Used: Geotechnical Instruments (GI) and Solinst	**Notes**
GI - GA5000 Gas Concentration/Atmospheric Pressure GI - GA5000 Borehole Gas Flow Rate/Borehole Pressure Solinst combined dip meter and interface meter - Groundwater Level (GWL)	(m) bgl - metres below ground level

georisk MANAGEMENT	**Job Title:** Station Road, Baschurch	**Job No:** 20213
	Client: Shingler Homes Limited	**Table Number:** 2

APPENDIX E
CHEMICAL TEST RESULTS

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

2183

Amended Report

Report No.:	20-24612 & 20-24614		
Initial Date of Issue:	21-Sep-2020	**Date of Re-Issue:**	21-Sep-2020
Client	Georisk Management Limited		
Client Address:	Summit Point Summit Crescent Industrial Est Smethwick Birmingham B66 1BT		
Contact(s):	Alex Bichard Mark Gill		
Project	20213 Station Road, Baschurch		
Quotation No.:		**Date Received:**	15-Sep-2020
Order No.:	20213	**Date Instructed:**	15-Sep-2020
No. of Samples:	25		
Turnaround (Wkdays):	5	**Results Due:**	21-Sep-2020
Date Approved:	21-Sep-2020		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited				**Chemtest Job No.:**	20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24612
Quotation No.:				**Chemtest Sample ID.:**	1064068	1064069	1064070	1064071	1064072	1064073	1064074	1064075
				Sample Location:	TP1	TP2	TP3	TP4	TP5	TP6	TP6	TP7
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.20	0.30	0.40	0.20	0.30	0.20	0.50	0.10
				Date Sampled:	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020
				Asbestos Lab:	LIVERPOOL	LIVERPOOL	LIVERPOOL	LIVERPOOL	LIVERPOOL			
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A	-	-	-	-	-			
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected			
ACM Detection Stage	U	2192		N/A	-	-	-	-	-			
Asbestos by Gravimetry	U	2192	%	0.001								
Total Asbestos	U	2192	%	0.001								
Moisture	N	2030	%	0.020	12	14	9.6	9.0	13	14	4.4	11
Stones and Removed Materials	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
pH	U	2010		4.0	9.4	8.9	8.7	8.9	8.5	7.5	8.1	7.5
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	1.1	4.2	1.4	< 0.40	3.2	0.95	0.42	0.82
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.090	0.17	0.023	0.029	0.072	< 0.010	< 0.010	0.010
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Arsenic	U	2450	mg/kg	1.0	18	11	24	6.1	21	8.3	7.0	6.9
Cadmium	U	2450	mg/kg	0.10	0.75	0.76	1.0	0.18	0.84	0.29	0.17	0.24
Chromium	U	2450	mg/kg	1.0	21	17	24	12	25	17	14	15
Copper	U	2450	mg/kg	0.50	62	52	47	37	200	22	11	12
Mercury	U	2450	mg/kg	0.10	0.38	0.51	0.36	< 0.10	0.26	< 0.10	0.14	0.15
Nickel	U	2450	mg/kg	0.50	36	31	29	23	37	17	17	13
Lead	U	2450	mg/kg	0.50	220	260	210	36	250	43	17	33
Selenium	U	2450	mg/kg	0.20	0.46	0.64	0.82	< 0.20	0.59	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	380	210	370	96	240	75	42	56
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0				< 1.0			
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0				< 1.0			
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	3.4				5.5			
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	3.1				4.2			
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	7.9				9.4			
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	8.6				11			
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	35				79			
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	4.3				4.7			
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	62				110			
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0				< 1.0			
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0				< 1.0			
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	2.7				4.2			
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	4.3				6.7			
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	16				20			
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	34				52			
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	170				410			
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	19				27			

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24612
Quotation No.:			**Chemtest Sample ID.:**		1064068	1064069	1064070	1064071	1064072	1064073	1064074	1064075
			Sample Location:		TP1	TP2	TP3	TP4	TP5	TP6	TP6	TP7
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.20	0.30	0.40	0.20	0.30	0.20	0.50	0.10
			Date Sampled:		09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020
			Asbestos Lab:		LIVERPOOL	LIVERPOOL	LIVERPOOL	LIVERPOOL	LIVERPOOL			
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	250				520			
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	310				630			
Naphthalene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	2700	mg/kg	0.10	4.5	4.3	5.9	1.2	2.8	< 0.10	< 0.10	< 0.10
Anthracene	U	2700	mg/kg	0.10	1.2	1.1	2.3	0.39	1.0	< 0.10	< 0.10	< 0.10
Fluoranthene	U	2700	mg/kg	0.10	7.7	7.8	16	2.1	8.4	< 0.10	< 0.10	< 0.10
Pyrene	U	2700	mg/kg	0.10	8.1	7.2	17	2.2	9.4	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	2700	mg/kg	0.10	4.5	3.7	8.9	1.0	4.2	< 0.10	< 0.10	< 0.10
Chrysene	U	2700	mg/kg	0.10	4.9	3.8	7.7	1.2	5.3	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	7.7	4.3	13	1.4	7.0	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	3.2	2.0	5.2	0.58	2.9	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10	5.6	3.2	9.7	0.98	4.1	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	4.5	2.1	6.8	0.74	2.8	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	1.6	0.92	2.2	0.37	1.2	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	4.6	2.4	6.9	0.90	2.8	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	58	43	100	13	52	< 2.0	< 2.0	< 2.0
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24614	20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064076	1064077	1064078	1064079	1064080	1064081	1064097	1064098
			Sample Location:		TP8	TP8	WS1	WS2	WS3	WS4	WS5	WS6
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.15	0.40	0.40	0.30	0.10	0.20	0.50	0.20
			Date Sampled:		09-Sep-2020	09-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020
			Asbestos Lab:				LIVERPOOL	LIVERPOOL		LIVERPOOL	LIVERPOOL	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A			-	-		Fibre bundle	-	
Asbestos Identification	U	2192	%	0.001			No Asbestos Detected	No Asbestos Detected		Amosite	No Asbestos Detected	
ACM Detection Stage	U	2192		N/A			-	-		Stereo Microscopy	-	
Asbestos by Gravimetry	U	2192	%	0.001						<0.001		
Total Asbestos	U	2192	%	0.001						<0.001		
Moisture	N	2030	%	0.020	11	6.2	22	9.3	20	6.3	11	11
Stones and Removed Materials	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	
pH	U	2010		4.0	7.2	7.6	9.3	8.5	7.2	8.6	9.1	
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.67	< 0.40	< 0.40	0.69	1.0	0.87	1.0	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	0.016	0.020	0.034	0.036	0.079	
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.6	
Arsenic	U	2450	mg/kg	1.0	9.8	4.0	9.7	4.9	5.4	11	14	
Cadmium	U	2450	mg/kg	0.10	0.30	< 0.10	0.11	0.22	1.1	0.52	0.78	
Chromium	U	2450	mg/kg	1.0	19	10	9.9	14	14	23	21	
Copper	U	2450	mg/kg	0.50	17	8.3	7.0	15	17	62	70	
Mercury	U	2450	mg/kg	0.10	0.10	< 0.10	< 0.10	< 0.10	0.14	0.10	1.9	
Nickel	U	2450	mg/kg	0.50	18	12	12	16	16	27	36	
Lead	U	2450	mg/kg	0.50	43	13	31	37	56	71	860	
Selenium	U	2450	mg/kg	0.20	0.20	< 0.20	< 0.20	< 0.20	0.23	0.46	0.64	
Zinc	U	2450	mg/kg	0.50	73	34	42	65	150	140	240	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0						< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0						< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0						1.4	< 1.0	4.4
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0						1.5	< 1.0	4.2
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0						3.3	< 1.0	9.2
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0						3.0	< 1.0	10
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0						21	< 1.0	49
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0						2.8	< 1.0	8.7
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0						33	< 5.0	86
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0						< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0						< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0						< 1.0	< 1.0	4.1
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0						1.8	< 1.0	6.4
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0						4.7	< 1.0	22
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0						14	4.1	59
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0						100	32	370
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0						13	< 1.0	33

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24612	20-24612	20-24612	20-24612	20-24612	20-24612	20-24614	20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064076	1064077	1064078	1064079	1064080	1064081	1064097	1064098
			Sample Location:		TP8	TP8	WS1	WS2	WS3	WS4	WS5	WS6
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.15	0.40	0.40	0.30	0.10	0.20	0.50	0.20
			Date Sampled:		09-Sep-2020	09-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020	10-Sep-2020
			Asbestos Lab:				LIVERPOOL	LIVERPOOL		LIVERPOOL	LIVERPOOL	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0						140	36	490
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0						170	36	580
Naphthalene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.91	
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.77	
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.48	
Fluorene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.91	
Phenanthrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.8	5.1	
Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.9	1.3	
Fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	5.8	7.9	
Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	7.1	6.9	
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.8	3.5	
Chrysene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4.0	3.8	
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	6.1	4.1	
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.5	1.8	
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4.3	3.0	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.2	1.9	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.1	1.2	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.0	2.0	
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	47	46	
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	0.43	< 0.30	< 0.30	

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24614	20-24614	20-24614	20-24614	20-24614	20-24614	20-24614	20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064099	1064100	1064101	1064102	1064103	1064104	1064105	1064106
			Sample Location:		WS7	TP1	TP2	TP3	TP4	TP6	TP7	TP8
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.40	1.10	0.90	1.20	2.00	1.60	1.00	1.30
			Date Sampled:		11-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020
			Asbestos Lab:									
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A								
Asbestos Identification	U	2192	%	0.001								
ACM Detection Stage	U	2192		N/A								
Asbestos by Gravimetry	U	2192	%	0.001								
Total Asbestos	U	2192	%	0.001								
Moisture	N	2030	%	0.020	8.2	7.9	7.9	5.5	6.6	4.8	4.0	4.0
Stones and Removed Materials	N	2030	%	0.020	< 0.020							
pH	U	2010		4.0	9.0	8.9	8.7	8.9	8.7	8.9	8.4	8.3
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.53							
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	0.038	0.028	0.013	0.017	< 0.010	< 0.010	< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50							
Arsenic	U	2450	mg/kg	1.0	2.9							
Cadmium	U	2450	mg/kg	0.10	0.12							
Chromium	U	2450	mg/kg	1.0	10							
Copper	U	2450	mg/kg	0.50	13							
Mercury	U	2450	mg/kg	0.10	< 0.10							
Nickel	U	2450	mg/kg	0.50	20							
Lead	U	2450	mg/kg	0.50	21							
Selenium	U	2450	mg/kg	0.20	< 0.20							
Zinc	U	2450	mg/kg	0.50	42							
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0								
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0								
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0								
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0								
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0								
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0								
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0								
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0								
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0								
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0								
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0								
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0								
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0								
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0								
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0								
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0								
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0								

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24614	20-24614	20-24614	20-24614	20-24614	20-24614	20-24614	20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064099	1064100	1064101	1064102	1064103	1064104	1064105	1064106
			Sample Location:		WS7	TP1	TP2	TP3	TP4	TP6	TP7	TP8
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.40	1.10	0.90	1.20	2.00	1.60	1.00	1.30
			Date Sampled:		11-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020	09-Sep-2020
			Asbestos Lab:									
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0								
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0								
Naphthalene	U	2700	mg/kg	0.10	< 0.10							
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10							
Acenaphthene	U	2700	mg/kg	0.10	< 0.10							
Fluorene	U	2700	mg/kg	0.10	< 0.10							
Phenanthrene	U	2700	mg/kg	0.10	< 0.10							
Anthracene	U	2700	mg/kg	0.10	< 0.10							
Fluoranthene	U	2700	mg/kg	0.10	0.80							
Pyrene	U	2700	mg/kg	0.10	0.69							
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10							
Chrysene	U	2700	mg/kg	0.10	< 0.10							
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10							
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10							
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10							
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10							
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10							
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10							
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0							
Total Phenols	U	2920	mg/kg	0.30	< 0.30							

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064107
			Sample Location:		WS2
			Sample Type:		SOIL
			Top Depth (m):		1.00
			Date Sampled:		10-Sep-2020
			Asbestos Lab:		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type	U	2192		N/A	
Asbestos Identification	U	2192	%	0.001	
ACM Detection Stage	U	2192		N/A	
Asbestos by Gravimetry	U	2192	%	0.001	
Total Asbestos	U	2192	%	0.001	
Moisture	N	2030	%	0.020	7.5
Stones and Removed Materials	N	2030	%	0.020	
pH	U	2010		4.0	8.6
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.014
Cyanide (Total)	U	2300	mg/kg	0.50	
Arsenic	U	2450	mg/kg	1.0	
Cadmium	U	2450	mg/kg	0.10	
Chromium	U	2450	mg/kg	1.0	
Copper	U	2450	mg/kg	0.50	
Mercury	U	2450	mg/kg	0.10	
Nickel	U	2450	mg/kg	0.50	
Lead	U	2450	mg/kg	0.50	
Selenium	U	2450	mg/kg	0.20	
Zinc	U	2450	mg/kg	0.50	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	

Results - Soil

Project: 20213 Station Road, Baschurch

Client: Georisk Management Limited			**Chemtest Job No.:**		20-24614
Quotation No.:			**Chemtest Sample ID.:**		1064107
			Sample Location:		WS2
			Sample Type:		SOIL
			Top Depth (m):		1.00
			Date Sampled:		10-Sep-2020
			Asbestos Lab:		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	
Naphthalene	U	2700	mg/kg	0.10	
Acenaphthylene	U	2700	mg/kg	0.10	
Acenaphthene	U	2700	mg/kg	0.10	
Fluorene	U	2700	mg/kg	0.10	
Phenanthrene	U	2700	mg/kg	0.10	
Anthracene	U	2700	mg/kg	0.10	
Fluoranthene	U	2700	mg/kg	0.10	
Pyrene	U	2700	mg/kg	0.10	
Benzo[a]anthracene	U	2700	mg/kg	0.10	
Chrysene	U	2700	mg/kg	0.10	
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.10	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	
Total Of 16 PAH's	U	2700	mg/kg	2.0	
Total Phenols	U	2920	mg/kg	0.30	

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

APPENDIX F
GEOTECHNICAL TEST RESULTS

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Tested in Accordance with: BS 1377-4: 1990: Clause 7

Client:	Georisk Management Limited	Client Reference:	20213
Client Address:	Summit Point, Summit Crescent, Smethwick, Birmingham, B66 1BT	Job Number:	20-29792
		Date Sampled:	09/09/2020
		Date Received:	14/09/2020
Contact:	Alex Bichard	Date Tested:	24/09/2020
Site Address:	Station Road, Baschurch	Sampled By:	Client- AEB

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

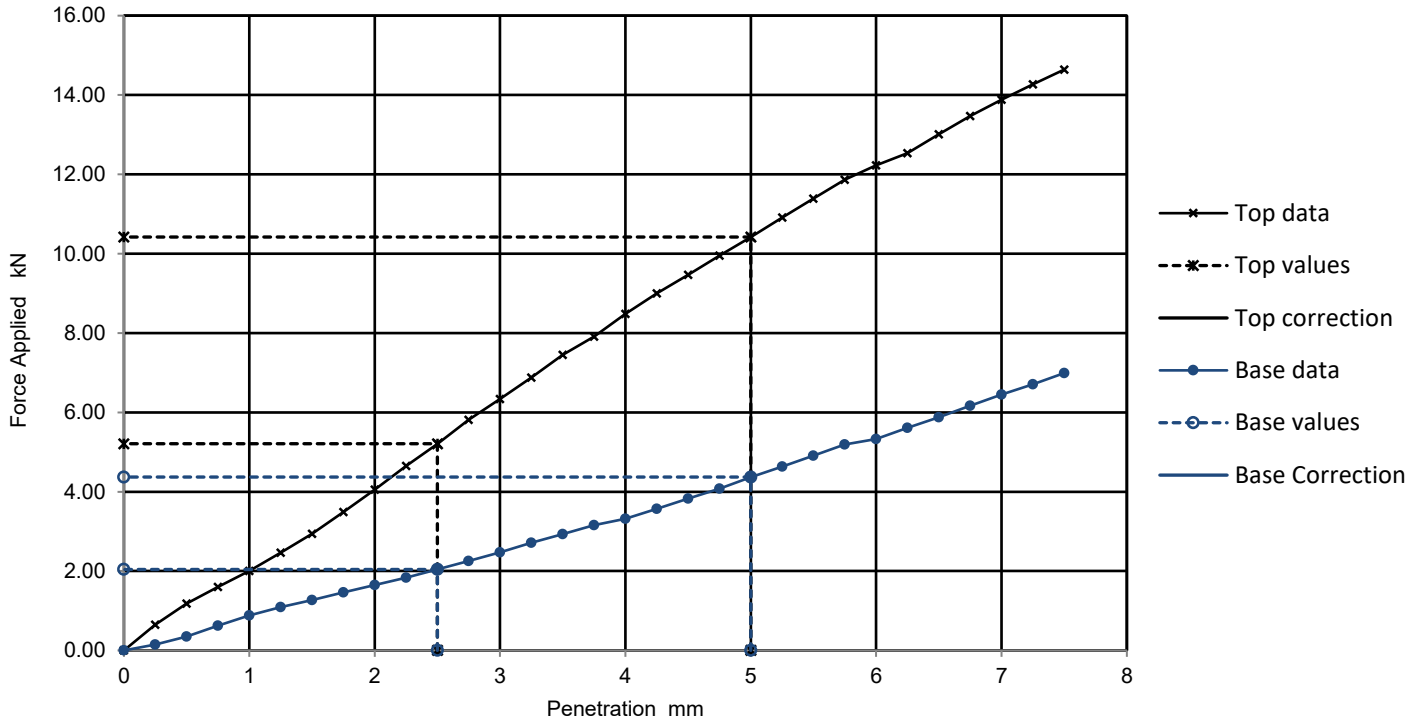
Laboratory Reference:	1618861	Depth Top [m]:	0.60
Hole No.:	TP7	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Yellowish brown very gravelly SAND		

Specimen Preparation:

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 4.5kg rammer	Period of soaking	days
		Time to surface	days
		Amount of swell recorded	mm
Material retained on 20mm sieve removed	34 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.14	Mg/m3	Surcharge applied	8	kg
	Dry density	2.05	Mg/m3		4.9	kPa
	Moisture content	4.3	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	39.0	52.0	52.0		4.2
BASE	No	15.0	22.0	22.0		4.7

Remarks:

Test/ Specimen specific remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2

Signed: Szczepan Bielatowicz
PL Deputy of Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

 Date Reported: 28/09/2020 **GF 108.15**

APPENDIX G
ENVIROCHECK SUPPORTING INFORMATION

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
254688440_1_1

Customer Reference:
20213

National Grid Reference:
342970, 322580

Slice:
A

Site Area (Ha):
2.23

Search Buffer (m):
1000

Site Details:

Land off Station Road
Baschurch
Shrewsbury
SY4 2BQ

Client Details:

Mr M Gill
Georisk Management Limited
Summit Point
Summit Crescent Industrial Estate
Smethwick
Birmingham
B66 1BT

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Hazardous Substances	-
Geological	17
Industrial Land Use	22
Sensitive Land Use	25
Data Currency	26
Data Suppliers	32
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Contents

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents					
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 2				2
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2		Yes		
Pollution Incidents to Controlled Waters	pg 2				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 2				1
Water Abstractions	pg 2				(*26)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 9	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 10	1	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 10		3	2	40

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 16	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 16			2	1
Potentially Infilled Land (Water)	pg 16				1
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 17	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 17	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 20			2	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability	pg 21	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 21	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 21		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 21		Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 21	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 21	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 21	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 22		1	2	7
Fuel Station Entries	pg 22				1
Points of Interest - Commercial Services	pg 22			2	7
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 23		1		2
Points of Interest - Public Infrastructure	pg 23		2		1
Points of Interest - Recreational and Environmental	pg 24				4
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Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 25	1			1
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	0	1	342900 322650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (N)	0	1	342967 322577
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	12	1	343050 322600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	13	1	343100 322577
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	79	1	343200 322577
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	100	1	343200 322450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	129	1	342700 322700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	129	1	343250 322577
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	135	1	342850 322350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	183	1	343300 322577
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	271	1	343100 322900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	331	1	343250 322850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	353	1	343100 323000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	380	1	343150 323000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	424	1	343050 323100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (NE)	439	1	343300 322950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	450	1	343200 323050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	455	1	342950 323150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	456	1	342900 323150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	464	1	342400 322850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	488	1	342700 322050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Local Authority Pollution Prevention and Controls** Name: Church Road Garage Location: Church Road, Baschurch, SHREWSBURY, Shropshire, SY4 2AF Authority: Shropshire Council, Environmental Health Department Permit Reference: WO/92/0001/V1 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	848	2	342282 321956
1	**Local Authority Pollution Prevention and Controls** Name: WJ Smith Location: Church Road, Baschurch, SHREWSBURY, Shropshire, SY4 2EF Authority: Shropshire Council, Environmental Health Department Permit Reference: WO/92/0001 Dated: 15th September 1994 Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A7NW (SW)	849	2	342293 321941
	Nearest Surface Water Feature	A13NE (E)	91	-	343191 322600
2	**Pollution Incidents to Controlled Waters** Property Type: Miscellaneous Premises: Unknown Location: Location Description Not Available Authority: Environment Agency, Midlands Region Pollutant: Oils - Unknown Note: Amenity Affected Incident Date: 30th April 1996 Incident Reference: 2500189 Catchment Area: Severn Catchment : Perry Receiving Water: Watercourse Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	988	3	342400 321650
3	**Substantiated Pollution Incident Register** Authority: Environment Agency - Midlands Region, West Area Incident Date: 24th August 2011 Incident Reference: 916699 Water Impact: Category 3 - Minor Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Contaminated Water: Firefighting Run-Off Pollutant: Inert : Other Pollutant: Oils And Fuel: Gas And Fuel Oils	A12SW (W)	819	3	342017 322497
	Water Abstractions Operator: Mr C P Timmis Licence Number: 18/54/03/0060 Permit Version: 100 Location: Moor Farm Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Moor Farm Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 2nd May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SW (SW)	1010	3	342200 321800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr L W Gough Licence Number: 18/54/03/0186 Permit Version: 100 Location: Fenemere Manor - Land Drains Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Fenemere Manor Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 21st January 1991 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	1025	3	343750 321700
	Water Abstractions Operator: Mr J Kent Licence Number: 18/54/03/0127 Permit Version: 100 Location: Eyton Farm Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Eyton Farm Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th February 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15NW (E)	1053	3	344100 322900
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0207/1 Permit Version: 2 Location: Prescott Baschurch, Shropshire - War Brook Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Area At Prescott Baschurch, Shropshire Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 12th June 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (S)	1155	3	343450 321400
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0207/1 Permit Version: 1 Location: Prescott Baschurch, Shropshire - War Brook Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Area At Prescott Baschurch, Shropshire Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 21st June 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (S)	1155	3	343450 321400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0207 Permit Version: 1 Location: Prescott Baschurch, Shropshire - War Brook Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Area At Prescott Baschurch, Shropshire Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 25th May 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (S)	1155	3	343450 321400
	Water Abstractions Operator: Mr L W Gough Licence Number: 18/54/03/0186 Permit Version: 100 Location: Fenemere Manor - War Brook Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Fenemere Manor Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 21st January 1991 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NE (SE)	1378	3	343850 321340
	Water Abstractions Operator: Mr L W Gough Licence Number: 18/54/03/0171 Permit Version: 100 Location: Fenemere Manor Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Fenemere Manor Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 10th March 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15NE (E)	1507	3	344600 322800
	Water Abstractions Operator: Mr L W Gough Licence Number: 18/54/03/0171 Permit Version: 100 Location: Fenemere Manor Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Fenemere Manor Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 10th March 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SE (E)	1557	3	344600 323000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: C M Allin Licence Number: 18/54/03/0194 Permit Version: 100 Location: Garden Cottage,Boreatton - B/Hole Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land @ Garden Cottage,Boreatton - B/Hole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 9th February 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1608	3	341250 323000
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0184 Permit Version: 100 Location: Prescott, Shropshire - River Perry Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Prescott, Shropshire - R Perry Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 3rd October 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2SW (SW)	1693	3	342180 320960
	Water Abstractions Operator: Mrs C Niddrie-Davies Licence Number: 18/54/03/0203 Permit Version: 100 Location: Milford Mill - River Perry Authority: Environment Agency, Midlands Region Abstraction: Private Non-Industrial Amenity: Lake And Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Milford Mill Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st March 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1715	3	341920 321100
	Water Abstractions Operator: Shropshire Farm Institute Licence Number: 18/54/03/0148 Permit Version: 100 Location: Walford Pool Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford Pool Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 14th October 1968 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1866	3	343100 320600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: R G Pugh Licence Number: 18/54/03/0169 Permit Version: 101 Location: Walford College - Walford Pool Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1876	3	343200 320600
	Water Abstractions Operator: R G Pugh Licence Number: 18/54/03/0169 Permit Version: 101 Location: Walford College - Walford Pool Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1876	3	343200 320600
	Water Abstractions Operator: Governors Of Walford College Licence Number: 18/54/03/0169 Permit Version: 100 Location: Walford College - Walford Pool Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1876	3	343200 320600
	Water Abstractions Operator: Governors Of Walford College Licence Number: 18/54/03/0169 Permit Version: 100 Location: Walford College - Walford Pool Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1876	3	343200 320600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: K & R Jones Licence Number: 18/54/03/0052 Permit Version: 100 Location: Great Western Farm Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Great Western Farm Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th May 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21NW (NW)	1957	3	341400 324000
	Water Abstractions Operator: Mr D H Hockenhull Licence Number: 18/54/03/0031 Permit Version: 100 Location: The Leasows Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Leasows Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 21st February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1961	3	344800 321500
	Water Abstractions Operator: R G Pugh Licence Number: 18/54/03/0169 Permit Version: 101 Location: Walford College - War Brook Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1975	3	343200 320500
	Water Abstractions Operator: R G Pugh Licence Number: 18/54/03/0169 Permit Version: 101 Location: Walford College - War Brook Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1975	3	343200 320500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Governors Of Walford College Licence Number: 18/54/03/0169 Permit Version: 100 Location: Walford College - War Brook Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1975	3	343200 320500
	Water Abstractions Operator: Governors Of Walford College Licence Number: 18/54/03/0169 Permit Version: 100 Location: Walford College - War Brook Authority: Environment Agency, Midlands Region Abstraction: Schools and Colleges: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Walford College - Walford Pool/War Brook Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1975	3	343200 320500
	Water Abstractions Operator: G & A Whiston Licence Number: 18/54/03/0137 Permit Version: 100 Location: Lower Fenemere Farm - Borehole Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Lower Fenemere Farm - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st August 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1982	3	345100 322400
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0182 Permit Version: 101 Location: Milford, Little Ness - River Perry Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Milford, Little Ness - R Perry Authorised Start: 01 March Authorised End: 30 September Permit Start Date: 12th June 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SW (SW)	2000	3	341480 321120

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: J Warner & Son Licence Number: 18/54/03/0182 Permit Version: 100 Location: Milford, Little Ness - River Perry Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Milford, Little Ness - R Perry Authorised Start: 01 March Authorised End: 30 September Permit Start Date: 12th May 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SW (SW)	2000	3	341480 321120
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A13SW (N)	0	4	342967 322577
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: Low	A13SE (E)	0	4	343000 322577
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: Low	A13SE (SE)	0	4	343000 322551

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A13SW (S)	0	4	342964 322561
	Groundwater Vulnerability - Soluble Rock Risk Classification: Very Significant Risk - High Possibility	A13SE (E)	0	4	343000 322577
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13SW (N)	0	4	342967 322577
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (S)	0	4	342964 322561
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (N)	0	4	342967 322577
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
4	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 484.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (E)	91	5	343191 322600
5	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SE (SE)	151	5	343226 322403
6	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 106.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	205	5	343092 322814
7	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	289	5	343195 322840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 249.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18SE (NE)	464	5	343281 322994
9	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 384.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SW (NE)	559	5	343385 323036
10	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	587	5	343613 322190
11	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 88.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	633	5	343653 322170
12	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	633	5	343653 322170
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 104.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	634	5	343558 322051
14	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 55.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NE (E)	662	5	343725 322783
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	663	5	343613 322067
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	693	5	343576 321987

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	697	5	343586 321991
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	697	5	343586 321991
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NE (E)	703	5	343775 322773
20	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 196.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Birchgrove Pool Catchment Name: Severn Primacy: 1	A19SW (NE)	709	5	343445 323179
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	710	5	343693 322092
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 375.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NW (SE)	724	5	343639 322006
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	731	5	343660 322017
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	746	5	343714 322059
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 2	A9NE (SE)	746	5	343714 322059

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	762	5	343717 322037
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 105.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	765	5	343726 322044
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	765	5	343726 322044
29	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 151.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Berth Pool Catchment Name: Severn Primacy: 1	A18NE (N)	777	5	343002 323468
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 510.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18NW (N)	786	5	342908 323481
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 44.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NE (E)	789	5	343866 322772
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SW (SE)	806	5	343606 321867
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 531.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Berth Pool Catchment Name: Severn Primacy: 1	A18NE (N)	814	5	343046 323500
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SE (SE)	857	5	343668 321850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	858	5	343767 321947
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 44.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	858	5	343767 321947
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 477.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SE (SE)	873	5	343670 321831
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SW (NE)	882	5	343637 323242
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SW (NE)	882	5	343637 323243
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NW (NE)	883	5	343625 323256
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NW (NE)	886	5	343628 323256
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 216.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NW (NE)	889	5	343632 323257
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 152.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9NE (SE)	897	5	343782 321905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SE (NE)	902	5	343712 323196
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 89.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SE (SE)	925	5	343787 321869
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 326.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A7SE (SW)	934	5	342427 321698
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SE (SE)	995	5	343803 321786
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A9SE (SE)	995	5	343803 321785

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: North Shropshire District Council - Had landfill data but passed it to the relevant environment agency		0	6	342967 322577
	Local Authority Landfill Coverage Name: Shropshire County Council - Has supplied landfill data		0	7	342967 322577
49	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A18SE (N)	350	-	343109 322992
50	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A18SE (NE)	445	-	343206 323038
51	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A7NW (SW)	787	-	342278 322075
52	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A7SE (SW)	792	-	342540 321792

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SW (N)	0	1	342967 322577
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	0	1	342967 322500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	0	1	343000 322500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (N)	0	1	342967 322577
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	0	1	343000 322551
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: <15 mg/kg	A13NE (NE)	41	1	343077 322645
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A13SE (E)	42	1	343161 322500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	97	1	343192 322591
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (N)	305	1	342967 323000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (NE)	380	1	343149 323000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	461	1	342967 322000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NE (S)	463	1	343000 322000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A14SW (SE)	472	1	343537 322290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (N)	543	1	342882 323236
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	606	1	343000 323296
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	683	1	343500 323098
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NE (SE)	724	1	343774 322199
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	799	1	342950 323493
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	805	1	342967 323500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NW (NE)	846	1	343500 323314
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9SE (SE)	857	1	343648 321833
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A9NE (SE)	881	1	343831 321991
53	**BGS Recorded Mineral Sites** Site Name: Mere House Gravel Pit Location: Baschurch, Oswestry, Shropshire Source: British Geological Survey, National Geoscience Information Service Reference: 53568 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A18SE (N)	348	1	343103 322993
54	**BGS Recorded Mineral Sites** Site Name: Mere House Gravel Pit Location: Baschurch, Oswestry, Shropshire Source: British Geological Survey, National Geoscience Information Service Reference: 53566 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Triassic Geology: Bollin Mudstone Member Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	434	1	343194 323034
55	**BGS Recorded Mineral Sites** Site Name: Baschurch Gravel Pit Location: Baschurch, Shrewsbury, Shropshire Source: British Geological Survey, National Geoscience Information Service Reference: 53591 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	794	1	342269 322076
	BGS Measured Urban Soil Chemistry No data available				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Mining Instability Mining Evidence: Inconclusive Evaporites Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (E)	0	-	343000 322577
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	41	1	343077 322645
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	41	1	343077 322645
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Potential for Ground Dissolution Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A14NW (E)	221	1	343326 322640
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	211	1	343097 322819
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	1	342964 322561
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (N)	0	1	342967 322577

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**Contemporary Trade Directory Entries** Name: Shropshire Stone & Granite Ltd Location: Station Road, Baschurch, Shrewsbury, SY4 2BQ Classification: Stone Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (N)	14	-	342960 322665
57	**Contemporary Trade Directory Entries** Name: David Constable Location: 2, Eyton Lane, Baschurch, Shrewsbury, SY4 2JN Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	398	-	343262 322136
58	**Contemporary Trade Directory Entries** Name: United Diesel Fuel Injection Services Location: Central Garage, Station Road, Baschurch, Shrewsbury, SY4 2BB Classification: Diesel Fuel Injection Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	456	-	342570 322230
59	**Contemporary Trade Directory Entries** Name: Byway Diy Location: Newtown Baschurch, Shrewsbury, Shropshire, SY4 2AZ Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	565	-	342497 322143
60	**Contemporary Trade Directory Entries** Name: Newtown Garage Location: Baschurch, Shrewsbury, SY4 2AY Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	673	-	342580 321908
60	**Contemporary Trade Directory Entries** Name: Baschurch Cars Location: Baschurch, Shrewsbury, SY4 2AY Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	673	-	342580 321908
61	**Contemporary Trade Directory Entries** Name: G T Harper & Son Ltd Location: 8-9, Church Road, Baschurch, Shrewsbury, SY4 2EF Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	843	-	342283 321963
61	**Contemporary Trade Directory Entries** Name: Church Road Garage Location: 7, Church Road, Baschurch, Shrewsbury, SY4 2EF Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	846	-	342282 321961
61	**Contemporary Trade Directory Entries** Name: Shropshire Auto Gas Location: 7, Church Road, Baschurch, Shrewsbury, SY4 2EF Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	846	-	342282 321961
61	**Contemporary Trade Directory Entries** Name: Church Road Garage Location: 7, Church Road, Baschurch, Shrewsbury, SY4 2EF Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	879	-	342260 321935
62	**Fuel Station Entries** Name: Newtown Garage Location: Main Road , Baschurch , Shrewsbury, Shropshire, SY4 2AY Brand: Texaco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	673	-	342580 321908
63	**Points of Interest - Commercial Services** Name: All Shropshire Windscreens Location: Police House, Eyton Lane, Baschurch, Shrewsbury, SY4 2AU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	456	8	342725 322073

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**Points of Interest - Commercial Services** Name: All Shropshire Windscreens Location: Police House, Eyton Lane, Baschurch, Shrewsbury, SY4 2AU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	456	8	342725 322072
64	**Points of Interest - Commercial Services** Name: Newtown Garage Location: Baschurch, Shrewsbury, SY4 2AY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	673	8	342580 321908
64	**Points of Interest - Commercial Services** Name: Newtown Garage Location: Newtown, Baschurch, Shrewsbury, SY4 2AY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	674	8	342580 321907
65	**Points of Interest - Commercial Services** Name: Church Road Garage Location: 7 Church Road, Baschurch, Shrewsbury, SY4 2EF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	846	8	342282 321961
65	**Points of Interest - Commercial Services** Name: G T Harper Location: 7 Church Road, Baschurch, Shrewsbury, SY4 2EF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	846	8	342282 321961
65	**Points of Interest - Commercial Services** Name: Shropshire Auto Gas Location: 7 Church Road, Baschurch, Shrewsbury, SY4 2EF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	846	8	342282 321961
65	**Points of Interest - Commercial Services** Name: G T Harper & Son Ltd Location: 8-9 Church Road, Baschurch, Shrewsbury, SY4 2EF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	846	8	342281 321961
65	**Points of Interest - Commercial Services** Name: Church Road Garage Location: 7 Church Road, Baschurch, Shrewsbury, SY4 2EF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	846	8	342281 321961
66	**Points of Interest - Manufacturing and Production** Name: Shropshire Stone & Granite Ltd Location: Station Road, Baschurch, Shrewsbury, SY4 2BQ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A13NW (N)	13	8	342959 322665
67	**Points of Interest - Manufacturing and Production** Name: T H & I Ellis & Sons Location: Weston Road, Baschurch, Shrewsbury, SY4 2DE Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A22SE (NW)	995	8	342516 323619
67	**Points of Interest - Manufacturing and Production** Name: T H & I Ellis & Sons Location: Weston Road, Baschurch, Shrewsbury, SY4 2DE Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A22SE (NW)	995	8	342516 323619
68	**Points of Interest - Public Infrastructure** Name: Baschurch Fire Station Location: Fire Station, Station Road, Baschurch, Shrewsbury, SY4 2BG Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	10	8	342896 322637

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**Points of Interest - Public Infrastructure** Name: Sewage Pumping Station Location: SY4 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	232	8	343110 322835
70	**Points of Interest - Public Infrastructure** Name: Slurry Bed Location: SY4 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A22SE (N)	981	8	342584 323627
71	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	633	8	342657 321907
71	**Points of Interest - Recreational and Environmental** Name: Playground Location: Eleanor Harris Road, SY4 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8NW (SW)	641	8	342639 321908
72	**Points of Interest - Recreational and Environmental** Name: Playground Location: The Wheatlands, SY4 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	834	8	342781 321647
72	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	858	8	342776 321624

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	**Nitrate Vulnerable Zones** Name: Fenemere Eutrophic Lake Nvz Description: Eutrophic Water Source: Environment Agency, Head Office	A13SW (N)	0	4	342967 322577
74	**Nitrate Vulnerable Zones** Name: West Shropshire Description: Groundwater Source: Environment Agency, Head Office	A9NW (SE)	697	4	343586 321991

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	August 2008	Not Applicable
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	December 2008	Not Applicable
Environment Agency - Head Office	June 2020	Annually
Shropshire Council - Environmental Health Department	March 2015	Annually
North Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	October 2008	Not Applicable
Discharge Consents		
Environment Agency - Midlands Region	July 2020	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Midlands Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Midlands Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - Midlands Region	July 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	February 2007	Not Applicable
North Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Shropshire Council - Environmental Health Department	October 2014	Variable
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	September 2008	Not Applicable
Local Authority Pollution Prevention and Controls		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	February 2007	Not Applicable
North Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Shropshire Council - Environmental Health Department	October 2014	Annually
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	September 2008	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	February 2007	Not Applicable
North Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Shropshire Council - Environmental Health Department	October 2014	Variable
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	September 2008	Not Applicable
Nearest Surface Water Feature		
Ordnance Survey	June 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - Midlands Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Midlands Region	July 2015	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - Midlands Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - Midlands Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually

Data Currency

Agency & Hydrological	Version	Update Cycle
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - Midlands Region - Upper Severn Area Environment Agency - Midlands Region - West Area	July 2020 July 2020	Quarterly Quarterly
Water Abstractions Environment Agency - Midlands Region	July 2020	Quarterly
Water Industry Act Referrals Environment Agency - Midlands Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	June 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	June 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	June 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	June 2020	Quarterly
Flood Defences Environment Agency - Head Office	June 2020	Quarterly
OS Water Network Lines Ordnance Survey	June 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Midlands Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Midlands Region - Upper Severn Area	July 2020	Quarterly
Environment Agency - Midlands Region - West Area	July 2020	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Midlands Region - Upper Severn Area	July 2020	Quarterly
Environment Agency - Midlands Region - West Area	July 2020	Quarterly
Local Authority Landfill Coverage		
North Shropshire District Council (now part of Shropshire Council)	May 2000	Not Applicable
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	May 2000	Not Applicable
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	May 2000	Not Applicable
Shropshire County Council (now part of Shropshire Council) - Shropshire Records And Research Centre	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council) - Environmental Health Department	December 2002	Not Applicable
North Shropshire District Council (now part of Shropshire Council)	May 2000	Not Applicable
Oswestry Borough Council (now part of Shropshire Council) - Environmental Health Department	May 2000	Not Applicable
Shropshire County Council (now part of Shropshire Council) - Shropshire Records And Research Centre	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council)	December 2008	Not Applicable
North Shropshire District Council (now part of Shropshire Council)	February 2009	Not Applicable
Shropshire Council - Planning Department	February 2016	Variable
Shropshire County Council (now part of Shropshire Council)	March 2009	Annual Rolling Update
Oswestry Borough Council (now part of Shropshire Council)	October 2008	Not Applicable
Planning Hazardous Substance Consents		
Shrewsbury and Atcham Borough Council (now part of Shropshire Council)	December 2008	Not Applicable
North Shropshire District Council (now part of Shropshire Council)	February 2009	Not Applicable
Shropshire Council - Planning Department	February 2016	Variable
Shropshire County Council (now part of Shropshire Council)	March 2009	Annual Rolling Update
Oswestry Borough Council (now part of Shropshire Council)	October 2008	Not Applicable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	June 2020	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	July 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	June 2020	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	June 2020	Quarterly
Points of Interest - Education and Health PointX	June 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	June 2020	Quarterly
Points of Interest - Public Infrastructure PointX	June 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	June 2020	Quarterly
Underground Electrical Cables National Grid	August 2020	

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2020	Bi-Annually
Areas of Adopted Green Belt		
North Shropshire District Council (now part of Shropshire Council)	June 2020	As notified
Oswestry Borough Council (now part of Shropshire Council)	June 2020	As notified
Shrewsbury and Atcham Borough Council (now part of Shropshire Council)	June 2020	As notified
Shropshire Council - Planning Department	June 2020	As notified
Areas of Unadopted Green Belt		
North Shropshire District Council (now part of Shropshire Council)	June 2020	As notified
Oswestry Borough Council (now part of Shropshire Council)	June 2020	As notified
Shrewsbury and Atcham Borough Council (now part of Shropshire Council)	June 2020	As notified
Shropshire Council - Planning Department	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2020	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	July 2019	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	April 2019	Bi-Annually
Sites of Special Scientific Interest		
Natural England	May 2020	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	April 2019	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Shropshire Council - Environmental Health Department** Development Services, Shirehall, Abbey Foregate, Shrewsbury, Shropshire, SY2 6ND	Telephone: 0345 678 9000 Email: publicprotection@shropshire.gov.uk Website: www.shropshire.gov.uk
3	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**North Shropshire District Council (now part of Shropshire Council)** Shirehall, Abbey Foregate, Shrewsbury, Shropshire, SY2 6ND	Telephone: 0345 678 9000 Email: customer.service@shropshire.gov.uk Website: www.shropshire.gov.uk
7	**Shropshire County Council (now part of Shropshire Council) - Shropshire Records And Research Centre** Shirehall, Abbey Foregate, Shrewsbury, Shropshire, SY2 6ND	Telephone: 01743 255356 Email: customer.service@shropshire.gov.uk Website: www.shropshire.gov.uk
8	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

HERITAGE IMPACT ASSESMENT

Erection of 34 Dwellings and 6 Workshops with Associated Access onto Station Road with Open Space Areas (redesign of Phase II scheme under applications 14/02286/OUT and 17/02174/REM)

Shropshire Stone & Granite Site Phase II,
Station Road, Baschurch SY4 2BQ

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2.	Planning Policy	2
3.	The Heritage Assets	4
4.	Site Maps and Photographs	9
5.	The Proposed Scheme	13
6.	Conclusions	15

Document 1 Baschurch Conservation Area Map

Document 2 Ministry of Transport 'Report on the Collision'

1. Introduction

This report considers the Heritage Issues associated with the planning application on Land at the Shropshire Stone & Granite Site Phase II, Station Road, Baschurch SY4 2BQ for:

> Erection of 34 Dwellings and 6 Workshops with Associated Access onto Station Road with Open Space Areas (redesign of Phase II scheme under applications 14/02286/OUT and 17/02174/REM)

The application is submitted on behalf of the Shingler Homes Ltd of Hillcrest Works, Myddle, Shrewsbury SY4 3SE.

This document seeks to meet the requirements of NPPF and Local policy guidance. This defines the need to inform planning decisions which have the potential to have some impact on the character or setting of a heritage asset.

2. Planning Policy

Planning (Listed Buildings and Conservation Areas) Act 1990 at Section 66 deals with the responsibilities of local planning authorities and states that:

> 'In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

National Planning Policy Framework (NPPF) at paragraph 128 states that:

> "In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. **The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance** …"

National Planning Policy Framework (NPPF) at paragraph 132 states that:

> "When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

National Planning Policy Framework (NPPF) at paragraph 134 states that:

> Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

Policy MD13 'Historic Environment' of the Shropshire Council Local Plan states that:

> In accordance with Policies CS6 and CS17 and through applying the guidance in the Historic Environment SPD, Shropshire's heritage assets will be protected, conserved, sympathetically enhanced and restored by:
>
> 1. Ensuring that wherever possible, proposals avoid harm or loss of significance

to designated or non-designated heritage assets, including their settings.

2. Ensuring that proposals which are likely to affect the significance of a designated or non-designated heritage asset, including its setting, are accompanied by a Heritage Assessment, including a qualitative visual assessment where appropriate.

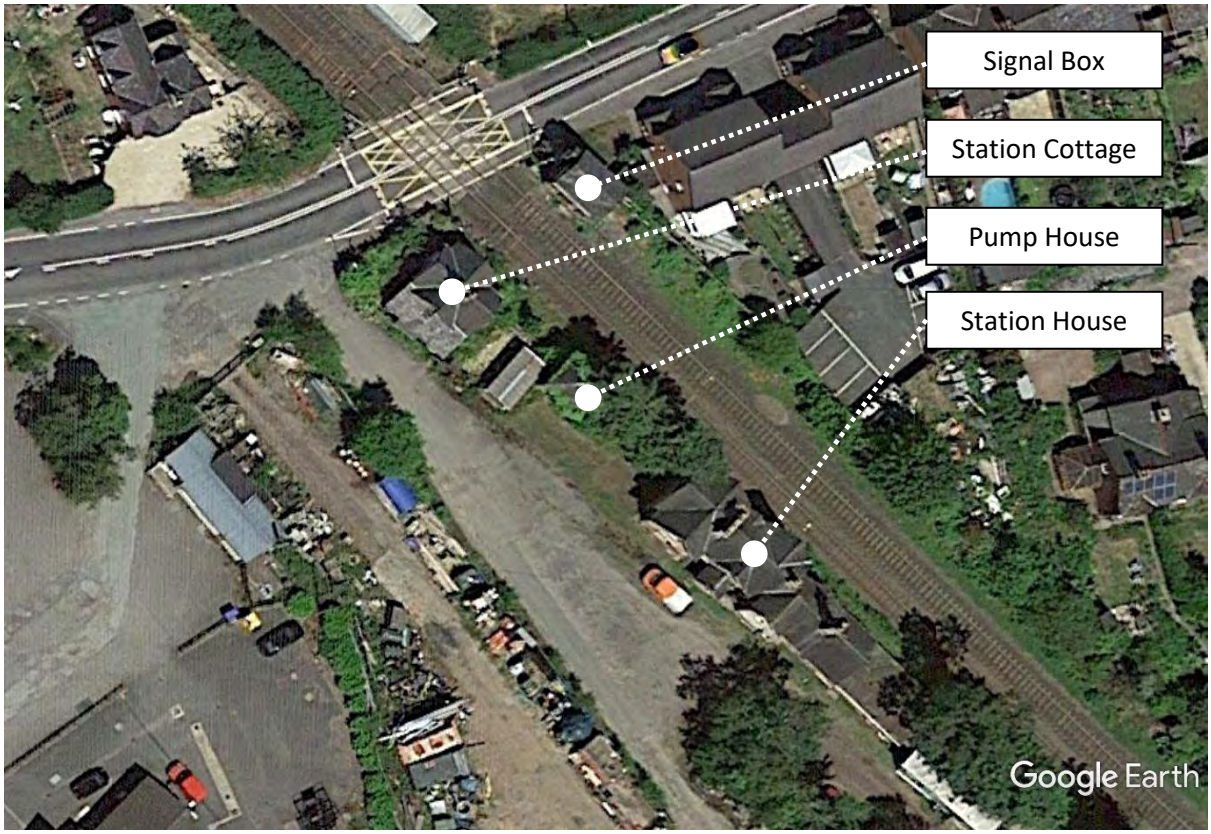
3. Ensuring that proposals which are likely to have an adverse effect on the significance of a non-designated heritage asset, including its setting, will only be permitted if it can be clearly demonstrated that the public benefits of the proposal outweigh the adverse effect. In making this assessment, the degree of harm or loss of significance to the asset including its setting, the importance of the asset and any potential beneficial use will be taken into account. Where such proposals are permitted, measures to mitigate and record the loss of significance to the asset including its setting and to advance understanding in a manner proportionate to the asset's importance and the level of impact, will be required.

4. Encouraging development which delivers positive benefits to heritage assets, as identified within the Place Plans. Support will be given in particular, to proposals which appropriately conserve, manage or enhance the significance of a heritage asset including its setting, especially where these improve the condition of those assets which are recognised as being at risk or in poor condition.

3. The Heritage Assets

An extract of the Baschurch Station Conservation Area map is attached as Document 1. The Conservation Area was designated on the 1st April 2008.

The listed buildings in the vicinity of the application site are shown in the aerial photograph below.



Station Cottage Signal Box Pump House

Station House

Signal Box

Station Cottage

Pump House

This is a significant group of Grade II Listed Buildings which provide links to the historic Great Western Railway.

The buildings particularly the Pump House and Station House have deteriorated in recent years are now run down and in need of significant investment.

The listing descriptions of these 4 buildings is shown below:

Station house
15/32 Former Baschurch Raiway Station
GV II
Railway station, now disused although part converted to domestic accommod- ation. 1848 on Shrewsbury to Chester Railway with later additions and alterations. Stuccoed red sandstone; slate roof with ornamental bargeboards and pointed finials. Gothic style. 2 storeys. Entrance side has slightly projecting gable to left, gabled half-dormer to centre and narrow gabled projection to right. Mullioned and transomed latticed windows in painted stone architraves, one on each floor to left gable, one to half-dormer and to right projection on first floor. Central gabled porch has infilled Tudor-arched doorway with hollow spandrels; mullioned and transomed windows to either side, left with cill removed and 6-panel door inserted. Prominent stuccoed stack with red brick top to right of left gable and small internal end stack to right. Single-storey range to right has similar windows and tall ridge stack to centre. Former platform side has gables to left and right of slightly recessed centre section with gabled half-dormer. Similar half-dormer to single-storey range and mulioned and transomed latticed windows throughout. Peter E. Baughan, A Regional History of the Railways of Great Britain, Vol. 11, North and Mid Wales (1980), pp. 39, 45.
Listing NGR: SJ4296022668

Pump house

15/33 Former pump house approx. - 20m north-west of former Baschurch Railway Station

GV II

Pump house, now disused. Probably 1848 on Shrewsbury to Chester Railway. Regularly coursed and dressed snecked red sandstone rubble with moulded ashlar cornice; pyramidal slate roof with pointed wooden finial. Square plan. Single storey. Segmental-headed doorway with boarded door on south-west side and tall round-arched multi-paned cast-iron window on north- east side. Interior. Inspection not possible at time of resurvey (January 1987) but said to have cast-iron hand-pump with well below. Although probably built in association with the adjacent railway, the structure is said to have been the pump house for the immediately surrounding area and to have provided piped water to the nearby fields. Peter E. Baughan, A Regional History of the Railways of Great Britain, Vol 11, North and Mid Wales (1980), pp. 39, 45. Listing NGR: SJ4294622684

Station Cottage

Former Railway House/ Crossing Keeper's Cottage

GV II

Railway crossing-keeper's cottage. Built in 1848 by the Shrewsbury and Chester Railway. The walls are rendered, probably over brick, with tiled roof and red brick stack. Two storey cottage with cruciform plan in the "picturesque" estate cottage manner. The elevation facing the railway has a Tudor arch door to the left and a central gable projecting forward. This has a canted bay with a tiled roof and a plain window over. The street gable is finished similarly; the yard gable has a window above an added lean-to; the station gable has a plain window over another. All the windows have 1990's plastic windows fitted in the existing opening. Bargeboards and spike finials to the gables. Central stack with three tall red brick diamond set flues. Interior not inspected. Baschurch station was opened in 1848 on the line between Shrewsbury and Oswestry. It was built by the Shrewsbury, Oswestrry and Chester Junction Railway, which became a component of the Shrewsbury and Chester Railway before it was opened. The architect for the company was Francis Thompson, but there is not reason to think that the cottage was designed by him. It was taken over by the Great Western Railway in 1856. The cottage housed the crossing -keeper until the signal box took over the job in 1880. Listing NGR: SJ4293322694

Signal box

Railway Signal Box 20.04.1999

GV II

Signal box and adjacent signal. 1880 for the Great Western Railway, contractors Mackenzie and Holland (type 3) refitted 1911. Red brick, timber frame and weatherboard, Welsh slate roof. Brick locking room with two arched windows with small paned cast iron frames. Horizontal boarding above with continuous glazing to the front with seven windows, each with six panes, two windows slide. One gable end has a timber stair (the lower flight removed) with a gabled porch, beside this are three windows, one of which slides; the other gable has four windows with two sliding. Bargeboards to the gables, the entrance one retains its spike finial. The rear wall is part brick where the chimney was and one window. The interior no longer contains the 25 lever locking frame which dated from 1911 or the large gate wheel. Baschurch signal box stands on the Shrewsbury and Chester Railway which opened in

1848. The line was taken over by the Great Western Railway in 1854 and it was this company which ordered the present signal box, which is a Mackenzie and Holland type 3. This type was current from the 1870's until they were taken over by Westinghouse in 1921 and was supplied to more than twenty railway companies. Adjacent to the box is the level crossing with automatic gates. Opposite is the old crossing keeper's house while the listed former station and pumphouse are also closely adjacent and the signal box has strong group value with them. Reference: The Signalling Study Group, the Signal Box A Pictorial History and Guide to Designs, OPC, 1986, pps 91-3, plate 127. Michael A. Vanns, Signalboxes, Ian Allen, 1997, p 18, plate 23. Listing NGR: SJ4294622705

It is clear that the historic focus of this part of the village centres around the train station and its associated buildings/structures which were established in the mid 19th Century.

The first of the terraced properties to the north of the station were built in the late 19th Century, with more added in the early 20th Century.

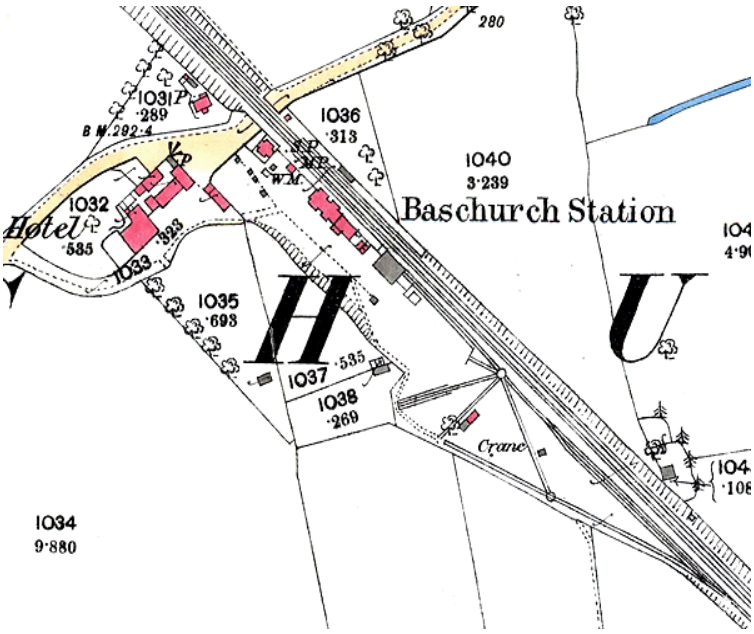
A late 19th Century cottage is located on the north western corner of the railway crossing (Station Cottage).

The more modern properties on Station Road running back towards the centre of Bacshurch were added in the middle of the 20th Century. The 'Boreatton Arms' the 'Fire Station' buildings and the Shropshire Granite and Stone manufacturing sheds and steel security fencing were added in the 20th Century and exhibit poor architectural design/detail.

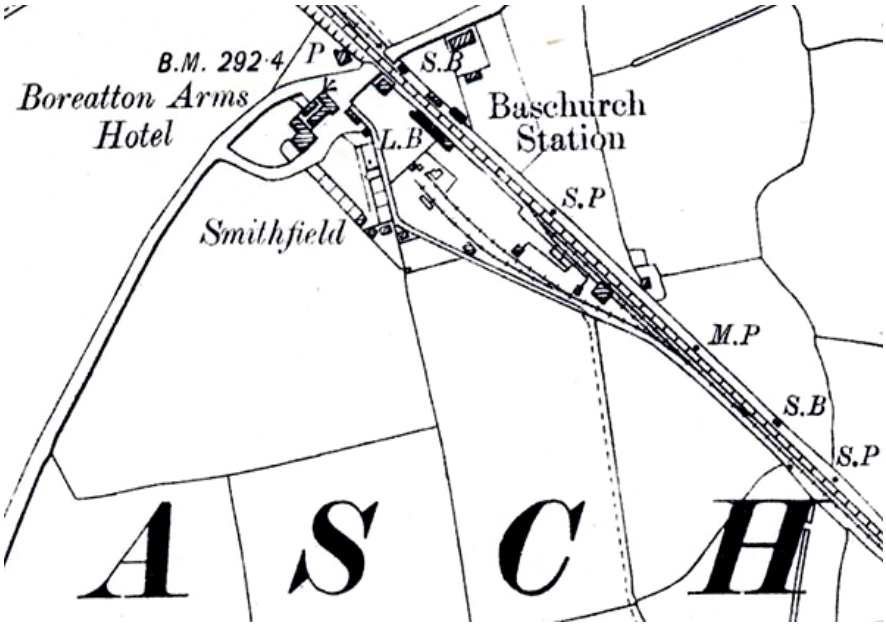
The staggered growth and development of the local area has led to the main historic core being diluted in terms of its inherent historic interest and architectural quality.

4. Site Maps and Historic Photographs

The following documents and photograph show the historic development of the site:



Map from 1881 – earliest known map record showing station buildings, crane and Boreatton Arms Hotel



Map 1900

Early 20th century – believed to be earliest photo on record- note elaborate tower to the rear of the Station which has since been reduced/removed.

Looking north up platform in 1950's note that the chimneys and tower roof truncated

Aftermath of the crash in 1961 – see Ministry of Transport 'Report on the Collision' attached as Document 2.

Looking south up platform in 1962, station in good condition despite closing to passengers two years previously

A rare view from the front taken of Station House in 1972 - note the attractive feature letterbox on the near gable that has since been removed.

Station and cottage seen from a southbound train in 1975

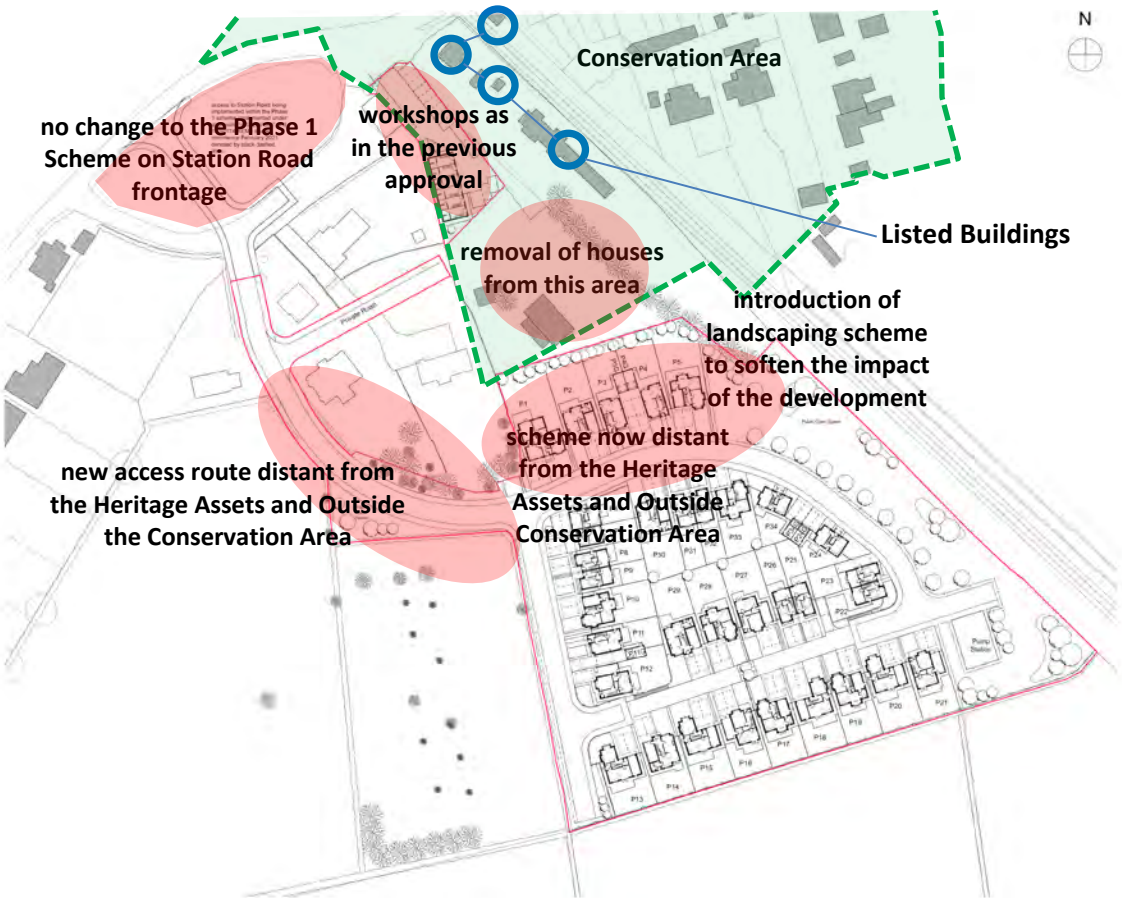
Station looking north in 2015- note the flat roofed 'extension' built in the 1960's by covering over the walled courtyard

Station House taken in 2015

5. The Proposed Scheme

This development provides the opportunity to re-establish the setting of the Heritage Assets by the introduction of a quality scheme which preserves and enhances the character of the Conservation Area and re-establishes the importance of the listed buildings in the village.

The latest scheme shown on submitted Drawing STAT02 P-006A RevA is shown in the context of the Heritage Assets below:



The scheme has been designed to minimise any impact upon the heritage assets as follows:

- The Phase 1 scheme will be implemented in accordance with the previous approvals 14/02286/OUT and 17/02174/REM

- The commercial workshop scheme has been approved under the applications 14/02286/OUT and 17/02174/REM – the current scheme retains the scale and design of the originally approved building but relocates it, to better reflect the orientation of the station buildings

- The commercial buildings and yard are to be removed as part of the overall development of the site

- The previous Phase 2 scheme closest to the Heritage Assets approved under applications 14/02286/OUT and 17/02174/REM has been removed from the scheme which retains an open setting adjacent to the Listed 'Station House'

- The scheme has been moved southwards away from the Heritage Assets which improve the character and setting of these buildings

- The new buildings have designs and materials which respect the character and setting of the Heritage Assets

- The landscaping scheme will soften the impact of the development upon the Heritage Assets to the north

- The new access route and the associated traffic will be pulled away from the Heritage Assets in order to protect the character and setting of the Heritage Assets

6. Conclusions

The proposals would result in the removal of an unattractive and unsightly stone yard and workshop buildings.

The wider development would utilise parts of the previous scheme approved under applications 14/02286/OUT and 17/02174/REM (Phase 1 closest to Station Road and the initial element of the access roadway).

The scheme would remove the residential element of the previous scheme approved under applications 14/02286/OUT and 17/02174/REM closest to the Heritage Assets.

The design and materials of the proposed new dwellings are sympathetic to the character and setting of the Heritage Assets to the north.

In heritage terms, the visual changes are positive and are not considered to cause any harm, either 'substantial' or 'less than substantial' to the character, setting or significance of the adjacent listed buildings, the Conservation Area or the wider Heritage Assets in the local area.

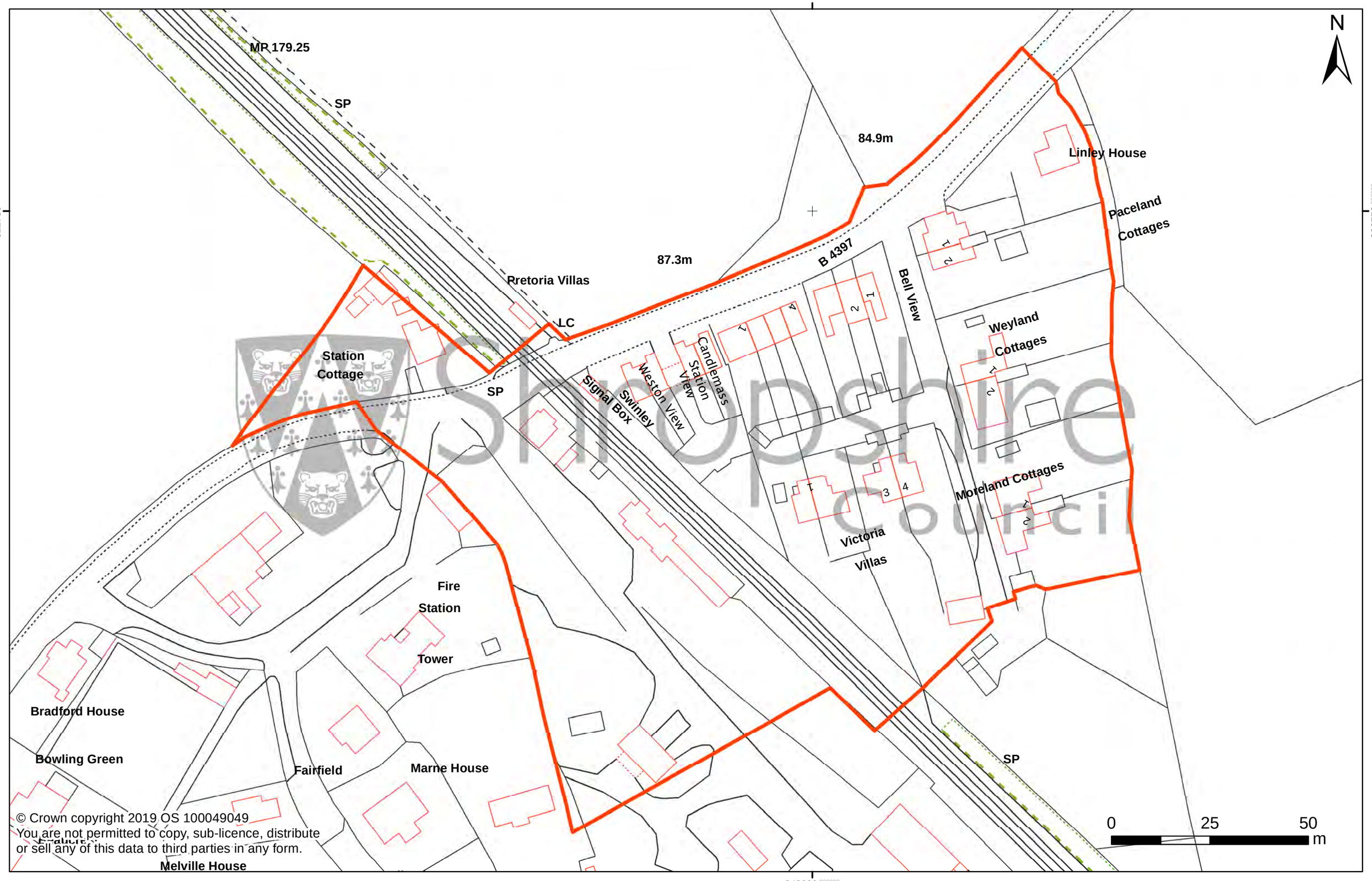
The impact on the wider village is also limited in visual terms, as the Phase 2 development is set back from the Station Road frontage and the wider Heritage Assets.

The application demonstrates that the proposals will have a neutral impact upon the setting and/or significance of the nearby Heritage Assets, especially given the context of the previous approvals 14/02286/OUT and 17/02174/REM.

The scheme meets the requirements of National Planning Policy Framework and Policies MD2 and MD13 of the Shropshire Council Local Plan which require developments to protect, conserve and enhancing the historic context and character of heritage assets, their significance and setting

Document 1

Baschurch Station Conservation Area Map



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Shropshire Council

BASCHURCH STATION CONSERVATION AREA
Designated: 01/04/2008

Historic Environment Team
Development Services

The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

Document 2

Ministry of Transport 'Report on the Collision'

MINISTRY OF TRANSPORT

RAILWAY ACCIDENT

REPORT ON THE COLLISION

which occurred on

13th February 1961

at

BASCHURCH

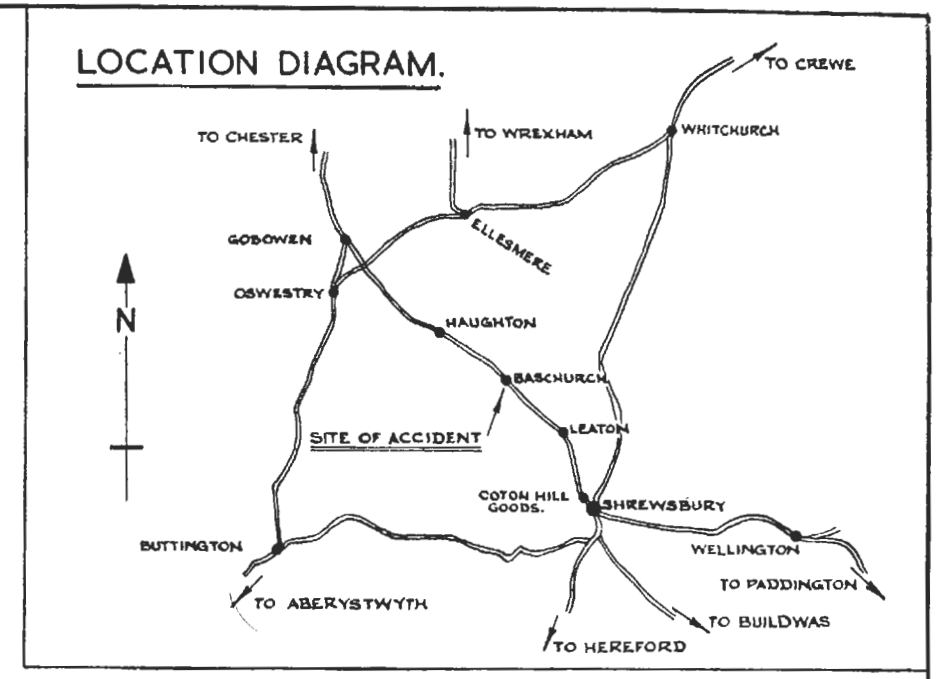
in the

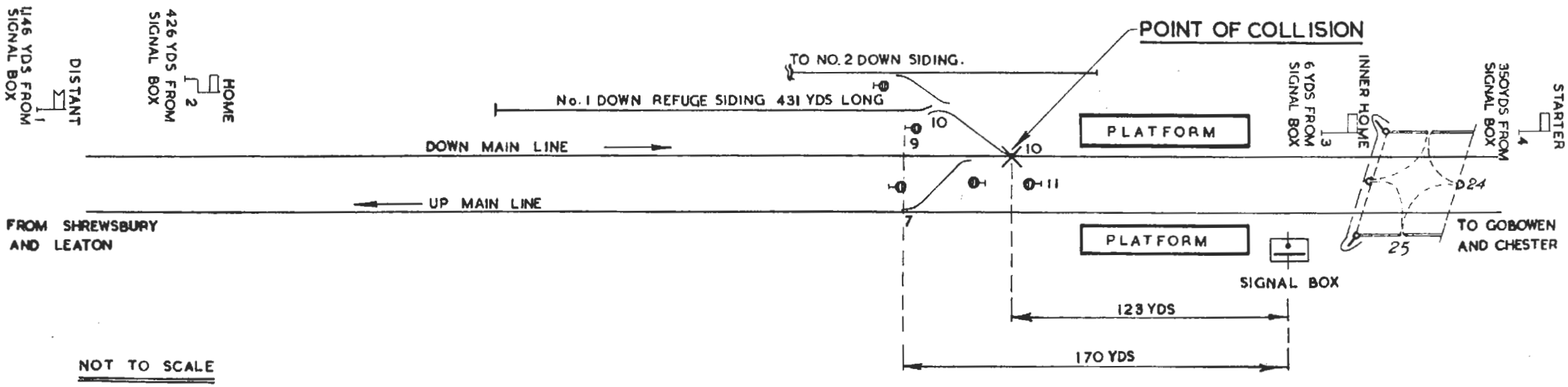
WESTERN REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE
1961

ONE SHILLING NET

SKETCH SHOWING LAYOUT OF BASCHURCH





MINISTRY OF TRANSPORT,
ST. CHRISTOPHER HOUSE,
SOUTHWARK STREET,
LONDON, S.E.1.
26th May 1961.

SIR,

I have the honour to report for the information of the Minister of Transport, in accordance with the Order dated 15th February, 1961, the result of my Inquiry into the collision that occurred at 7.35 p.m. on Monday, 13th February, 1961, at Baschurch on the main line between Shrewsbury and Chester in the Western Region, British Railways.

The 6.37 p.m. Wellington to Chester Down express passenger train had been accepted by the signalman at Baschurch under the warning arrangement, which was permissible, but he cleared the signals for it when the 6.25 p.m. Coton Hill to Saltney Down unfitted freight train, which had been shunted into the refuge siding for the passenger train to go ahead, was still partially obstructing the main line. The passenger train was travelling at 40–45 m.p.h. when its engine struck the leading vehicle of the freight train a glancing blow and then the rear end of the freight engine tender, and overturned on to the Up line between the platforms. The leading vehicle of the passenger train was a van carrying railway stores in which two storesmen were travelling, and it was thrown forward on to the Up platform alongside the engine. The next vehicle, a corridor brake second coach, was thrown partially on top of the stores van. The van caught fire and was burnt out, and the fire spread to the greater part of the passenger coach. The leading vehicle of the freight train was derailed: the coupling between it and the engine was broken and the engine was propelled forward 86 yards, and the tender was derailed. The rear coupling of the leading vehicle was also broken and the remainder of the train ran back to the buffer stop of the refuge siding.

I regret to say that the driver and fireman of the passenger train, and one of the storesmen were killed; the other storesman was seriously injured and was removed to the Royal Salop Infirmary, Shrewsbury. The driver, fireman and guard of the freight train, the guard of the passenger train, and two of the 22 passengers (one of the two was a railwayman) received slight injuries. They were taken to the Orthopaedic Hospital at Oswestry; only the passengers were detained, and they were discharged on the following morning.

Immediate requests were made for assistance and the Baschurch Fire Brigade arrived at the site within five minutes of the accident, a most commendable performance, and it was followed soon afterwards by appliances from Shrewsbury. Ambulances from Oswestry and Shrewsbury, the Baschurch and Shrewsbury Police, and an Oswestry doctor also arrived very promptly. The uninjured passengers were taken to their destinations by taxi or private car.

Breakdown equipment was ordered from Shrewsbury, Chester and Wolverhampton. Single line working was introduced on the Up line at 1.25 p.m., and normal working was resumed at 5.18 p.m. on the following day. In the meantime main line trains were diverted via Whitchurch and a bus service was introduced between Gobowen and Shrewsbury for local passengers.

The night was dark but the weather was fine, clear and calm.

DESCRIPTION

The site

1. The diagrams opposite show the location and layout of Baschurch, which lies 3¾ miles from Leaton, the next signal box to the South, and 7¾ miles north of Shrewsbury. Coton Hill goods depot, from which the freight train started its journey, is just North of Shrewsbury. All the stations between Shrewsbury and Gobowen are closed to passenger traffic. In the Down direction from Leaton towards Baschurch the line is on a rising gradient of mainly 1 in 165 for the first mile; it then falls mainly at 1 in 206 for 1¾ miles, and then rises again, at 1 in 131, for one mile to Baschurch.

2. There is a dead ended refuge siding on the Down side at Baschurch, with a trailing connection in the Down main line. It is 431 yards long and holds 58 4–wheeled wagons and an engine and brake van. It lies on a gradient similar to that on the main line, i.e. it falls away from the connection with the main line.

3. The signalling comprises standard semaphore running signals and disc shunt signals. They are controlled from a 24 lever frame in the signal box, which is situated at the North end of the Up platform. The running signals on the Down line are the distant (No. 1), the home (No. 2), the inner home (No. 3) and the starter (No. 4). The level crossing is also controlled from that box. Lever No. 10 controls the trailing points in the Down main line from the refuge siding, and the trap points (also numbered 10) in the refuge siding. The distance from the signal box to trailing

points No. 10 is 123 yards, and it is 170 yards to disc signal No. 9, controlling outward movement from the refuge siding. The switch rails of trap points No. 10 are 10 feet long. There are no track circuits on the Down line.

4. There is an intermediate block signal on the Down line between Leaton and the next box to the South.

The trains

5. The passenger train comprised a stores van, which was attached next to the engine, and four coaches, weighing a total of 149 tons. It was hauled by a Hall class engine with 4–6–0 wheel arrangement, which, with its six-wheeled tender, weighed 122 tons. The total weight of the train was therefore 271 tons. All the vehicles were lighted by electricity.

6. The stores van was built in 1907 and had a wooden body and body frame on a steel underframe. It was converted in 1954 for its present use when the wooden body sides were replaced by steel panels. It was then equipped with propane gas for heating and for cooking by the storesmen who travelled in it. It had four gas cylinders, arranged in two banks each of two cylinders carried in steel boxes mounted near the centre of the underframe. This type of cylinder is designed to carry 24 lbs. of gas in liquid form under a pressure of about 100 lbs. per sq. in. It has a closing valve and two excess flow valves, and a high pressure hose pipe with a non-return valve connects the cylinders to the gas piping which leads to the burners. The excess flow valves operate if there is a defect in the gas line and they allow the gas to leak away from the cylinder at a slow rate. There are pressure regulators which reduce the pressure of the gas at the burners to 0.4 lbs. per sq. in. Only one bank of cylinders is in service at a time and when it is exhausted a change-over manifold causes the other bank to come into service automatically.

7. The coaches were built between 1930 and 1951 and each comprised a steel panelled body on a timber body frame, mounted on a steel underframe. The leading coach which caught fire was re-painted at Swindon Works in 1958, when standard paints and varnishes with no cellulose content were used.

8. The freight train comprised 43 wagons and a 20 ton brake van, drawn by a 2800 class engine with a six-wheeled tender, weighing 115 tons. The length of the wagons was the equivalent of 46 four-wheeled vehicles. The leading vehicle was a bogie bolster loaded with steel pipes. It was 52 ft. long over headstocks; the distance between the centre of the bogies was 40 ft. and the clear distance between the rear wheels of the front bogie and the front wheels of the rear bogie was 34 ft. 6 ins.

The results of the collision

9. As already mentioned, the engine of the passenger train struck the bogie bolster wagon a sidelong blow and then hit the rear end of the engine tender; it overturned and sustained heavy and widespread damage. The body of the stores van was completely burnt out and its underframe was badly twisted; the contents were thrown out in all directions. The four propane gas cylinders were found intact. When tested later, one cylinder was found to be full with its closing valve shut, and the other three empty; all the valve gear, and the hose pipes from three cylinders, were found in good order, the pipe from the remaining cylinder having been cut through. The gas pipe line was badly damaged. The bogies were torn from under the leading passenger coach, the solebars of which were badly distorted, and the body was gutted by fire over about three-quarters of its length. The leading end of the next passenger coach was lifted off the bogie, and the body was distorted. The remaining two coaches were not derailed but they received considerable damage, mainly to the headstocks.

10. The tender of the freight train engine sustained heavy damage, the main frame being bent and the trailing wheels torn out. The leading bogie of the bogie bolster wagon was torn out and the solebars were twisted.

Rules and Regulations

11. The Instructions in the Baschurch signal box permit the signalman to accept all Down trains from Leaton under the warning arrangement, i.e. with the line clear to the home signal (signal No. 2) only and without a clear overlap.

12. Rule 50 of the British Railways Rule Book specifies the various types of hand signal to be used. It lays down that a red hand signal indicates danger and that, except for one particular purpose which does not apply in this case, it is only to be used to indicate danger.

13. Rule 69 of the Rule Book lays down that when a train has been set back from a running line into a siding, the driver must give three short blasts on the engine whistle to indicate to the signalman that the train is clear of all running lines.

Summary of Events

14. The freight train left Coton Hill at 6.52 p.m., passed Leaton at 7.15 p.m. and arrived at Baschurch, where it was to be put into the refuge siding to allow the passenger train to pass, at 7.24 p.m. It was stopped with the engine well beyond the level crossing and the brake van clear of points No. 10. The points were then reversed for the refuge siding, disc signal No. 11 was cleared, and the driver started to " set back ". Having propelled the greater part of the train into the siding he felt resistance to its movement and the train stopped. In that position, the engine was well beyond trailing points No. 10 and its leading coupled wheels were somewhere near the frog of the crossing, and the widely spaced bogies of the bolster wagon were on either side of the switches of the trap points in the refuge siding.

15. The passenger train arrived at Shrewsbury at 6.55 p.m. on time, and it left at 7.9 p.m., four minutes late, after attaching the stores van next to the engine. It arrived at Leaton at 7.22 p.m. after being checked at the intermediate block signal to the South of that box. It was accepted by the signalman at Baschurch under the warning arrangement at 7.27 p.m. and it left at 7.28 p.m., the driver having been advised that the train had been accepted under the warning arrangement.

16. The signalman at Baschurch had replaced disc signal No. 11 to danger when the freight train engine had passed it. He thought that the freight train was completely in the refuge siding and tried to replace lever No. 10 to normal. Finding that it moved without difficulty (as there was no wheel bearing against the switch rail of either the trailing points or the trap points), he assumed that the train must be wholly in the siding, and he completed the lever movement. He then closed the level crossing gates across the road and lowered all the Down signals, including the distant, for the passenger train. According to the guard, the distant was at caution when the train passed it; the home signal was at danger as the train approached it but it was then cleared, as were the inner home and starter. The driver would therefore have opened the regulator wide (it was found open after the accident) and the light train would have accelerated rapidly even on the rising gradient.

17. The freight train driver saw that the inner home and starter had been cleared. He assumed that there had been a change of plan and that his train was to go ahead of the passenger train, and that the signals had been cleared for him. He therefore opened the regulator and the train started, but it could not have travelled more than about 20 yards before the fireman shouted that something was coming. The driver closed the regulator and applied the brake, and both he and the fireman jumped off the engine just before the passenger train struck it.

Evidence

18. Guard K. F. Pike, who was in charge of the passenger train, said that he thought that the train was about 1½ coach lengths from the Baschurch home signal when it cleared, but he added that the distance may have been greater. The train then accelerated and had reached a speed which he estimated at 30–35 m.p.h. when the accident occurred. He did not know what had happened and he straight away went back along the line to protect the train.

19. Driver N. V. Barber, aged 58, with 18 years driving experience, was in charge of the freight train engine. He said that he had been told at Coton Hill that the load of the train was 43 vehicles, but had not been told its equivalent length in terms of 4-wheeled wagons. He knew that there was another freight train ahead of his train, and after leaving Coton Hill he had been checked, but not stopped, at the intermediate block signal and at Leaton. The distant signal at Baschurch was at caution and the home signal was at danger, but the latter was cleared when he sounded the engine whistle. He thought that the train would probably be side-tracked for the following passenger train to pass, and he received confirmation of this when he passed the signal box and the signalman showed him a white light. Having stopped the train, the guard gave a hand signal for him to set back. He thought the greater part of the train was in the siding when the guard signalled to him to slow down, which he did. Soon afterwards the train stopped. Barber thought that it must have reached the buffer stop; he knew that the siding held over 50 four-wheeled vehicles, but not exactly how many, and as mentioned, he did not know the length of his train.

20. Barber said that he then got down from the engine and started to walk towards the rear of his train, but he had not passed more than 4 to 5 vehicles when he turned round and saw that the inner home and the starter were clear. He therefore returned to the engine but he did not notice the disc signal No. 9, which he passed, was at danger. He then re-started the train but it had not moved far when it stopped. At the same time the fireman shouted. He thought that the passenger train engine was steaming and travelling at ordinary express train speed immediately before the collision.

21. Barber said that he had not sounded the engine whistle because the train was never fully inside the siding. He also said that he had seen no further hand signals from the signalman. He went on to say that he had jumped to the right and the fireman to the left. After the collision he made his way with difficulty to the signal box. The fire did not break out at once; when it did, it

started in a small way. B. Dilley, the fireman, generally confirmed Barber's evidence.

22. Goods Guard C. P. Catterall, who was in charge of the freight train, had been re-appointed as a goods guard on 9th February, having previously been a goods guard for two years in 1944 and 1945. He had worked over the Shrewsbury–Chester line several times during his training period, and afterwards. His statement corresponded generally with that of Driver Barber. He said that when the train was being backed into the siding the brake of the brake van was applied sufficiently to keep the buffers of the wagons together on the falling gradient. When he thought that the train was almost completely in the siding he signalled the driver to slow down and then turned his lamp towards the buffer stop to see how far away it was. He said that the train then stopped; he was adamant at first that he had not made any further application of the brake to cause it to stop, but said later that he may have done so. He stated that he knew that the siding held 58 four-wheelers and that consequently there was plenty of room in it for his train.

23. Catterall said that after the train had stopped, his brake van had moved forward about a wagon length and stopped again. Shortly after that the whole train had gravitated backwards to the buffer stop.

24. Signalman M. Williams, aged 43 years, had been a signalman for 11 years, the last four of which were at Baschurch. He had come on duty at 2 p.m. on Monday, 13th February, having been on duty from 6 p.m. on Sunday to 6 a.m. on Monday. This duty is normal rostered working and occurs once every three weeks. The following table shows the times of block signals exchanged for the movement of the Down freight train and passenger train between Leaton and Baschurch, as taken from the Baschurch signal box train register: —

Train	Block Signals			
	L.C. given	T.E.S. received	Train arrived	T.O.S. given
6.25 p.m. Freight train	7.12	7.13	7.24	7.27
6.37 p.m. Passenger train	7.27(a)	7.28		

Obstruction Danger sent in both directions at 7.35 p.m.

(a). Under the warning arrangement (3–5–5).

An Up express train passed Baschurch at 7.30 p.m.

25. Williams stated that he knew he had to shunt the freight train into the refuge siding to allow the passenger train to go ahead. He kept the distant signal at caution for the freight train and cleared the home signal (signal No. 2) only when he saw that the train was close to it. As the train approached the box he cleared signal No. 3 and he gave a white hand signal to the driver to indicate that he was to go "inside." The train drew ahead and Williams entered the time of arrival as it was passing the box; it stopped, and the guard gave a hand signal to indicate to him that it was clear of siding points No. 10. Williams therefore reversed the points and cleared the disc signal No. 11, and the train was propelled backwards into the siding.

26. When the train was nearly fully in the siding, Williams replaced disc signal lever No. 11 to normal and gave the Train out of Section, and he was offered the passenger train which he accepted under the warning arrangement; on receiving Train Entering Section he offered the train forward and it was accepted. He had opened the level crossing gates for road traffic after replacing lever No. 11, but he had already accepted the Up express and he had to close them again. Williams could not remember having heard the whistle code from the freight engine driver so he went to the window, which was open, and saw from the headlight that the train was at a stand; he thought by observation that it was completely in the siding, but he took his hand signal lamp and waved a red light towards the train three times; he then repeated that signal but he still got no acknowledgement. He therefore left the hand signal lamp showing towards the refuge siding, and as mentioned in paragraph 16, he tried the lever of points No. 10. Having found it to be free, he said he was confident that the train was completely inside the refuge siding. Consequently, he replaced the lever to normal and then cleared the signals, including the distant, for the Down express train; he was certain that the driver must have seen the distant at clear.

27. Williams said that he thought that the freight train driver might have sounded the engine whistle while the Up express was passing and that consequently he had not heard it. He thought that the freight train had been stationary for 3–4 minutes. After lowering the signals for the Down

express he saw the freight train moving out of the siding; he at once replaced all the signals to danger and, realizing that there must be a collision, he sent Obstruction Danger in both directions. After the collision he went to the site to see if he could help. He then returned to the box and called the emergency services. He said that the fire did not start at once and that, when it did break out, it was a small one which gradually increased in magnitude. There was no explosion of any kind.

28. Williams stated that freight trains are very frequently side-tracked at Baschurch and that, as a result, it is common for trains to be accepted from Leaton under the warning arrangement. He said also that he had on many occasions previously used a red hand signal for signalling to the driver of a freight train in such circumstances, although he knew that it was irregular.

29. District Inspector C. J. Daniells stated that he had examined Williams in the Rules and Regulations in 1959 and 1960, and considered that he was a responsible and efficient signalman. He was unaware that Williams was in the habit of using a red hand signal irregularly. He said that on average, 4 trains per day are placed in the refuge sidings.

30. I was unable to interview Storesman L. Moreman, who was seriously injured, until 18th May. He did not think that the express train slowed down approaching Baschurch and considered that it was travelling at its normal speed when the collision occurred. He said that after the collision he got out of the van to look for his mate. Then, after 3–4 minutes, he returned to the van and saw that a small fire had started at one end, and he thought that it was timber burning. He stated that neither the heater nor the cooker was burning when the collision occurred.

31. Mr. A. Bloomfield, Chief Officer of the Shrewsbury Fire Brigade, said that he was informed of the accident at 7.45 p.m. and he estimated that it took 15 minutes to reach the site. When he arrived he found that a large fire was burning. He stated that there is no water supply at Baschurch and that it was not until a water tender had arrived that it was possible to deal with the fire, which was then soon got under control. I asked Mr. Bloomfield if he could give an opinion as to the cause of the fire, and he replied: —

> " No, I looked and tried to determine a cause, but because of the severity of the burning it was not possible to arrive at a definite conclusion. There were several things that attracted my attention. There were inflammable stores in the van. There were matches, although they were of the safety type. That is not to say there were no other matches of the non-safety type; there were propane gas cylinders in the detached bogie of the carriage and there was evidence on one of the cylinders of rapid discharge of gas, but because it was detached and not in the part of the carriage that was on fire, it is unlikely that it caused it, and I think that under all the circumstances, and looking at the situation of the engine, there was reasonable supposition – and it is nothing more – that coals from the over-turned engine had in some way found their way to inflammable materials and set them alight. The position of the engine and the carriage that was on fire was very significant in that regard."

Mr. Bloomfield went on to say that from the nature of the flames it did not appear that oil was burning.

Conclusions

32. The cause of this accident was the failure of Signalman Williams to ensure that the freight train was completely inside the refuge siding at Baschurch before he cleared the signals for the express train. There can be no excuse for the mistake which he made. There are no track circuits on the line concerned but the distance from the signal box to the train was not great, the night was clear, and I found that, by relating the position of the engine head light (which had been alight at the time of the accident) to the position of the back light of the disc signal No. 9, it was possible to see whether a train was completely inside the siding or not. In any case, if he was in doubt he should have gone to the site and satisfied himself that the main line was clear. Williams was an experienced signalman and he should have realized that the fact that the points lever was free to move did not necessarily mean that the train was clear of the main line. He was an excellent witness and gave his evidence in a most straightforward manner. He stated that, in spite of the strenuous duty that occurs every three weeks, he was not tired, and he also said that he had no worries. He has a clear record.

33. In spite of the signalman's insistence that the driver of the express must have seen the distant signal at clear, I do not think that he did so, and he probably also saw the home signal at danger, as did the guard. If the home signal had been cleared before the express was too close to it, the train would have accelerated rapidly. There is evidence that the express engine was steaming just before the collision, and I think its speed must then have been 40–45 m.p.h.

34. I think that the freight train was stopped when it was being propelled into the refuge siding and before it was completely " inside ", by the guard applying the brake van brake unnecessarily soon and when the van was still some distance from the buffer stop. He had worked trains on that section of the line before, and he should have known that there was plenty of room in the

siding for the train. The driver of the freight train was on his way back along the train to find out why it had stopped when he saw the inner home and starting signals were clear. On returning to the engine he had to walk past the disc signal controlling movement from the siding, and it is difficult to understand how he failed to notice that it was at danger. He had not seen that signal at clear, nor had he received any hand signal from the signalman, and he had therefore no justification for assuming that the running signals had been cleared for his train and for starting to move it forward. The accident would, however, have occurred if he had not moved the train because in the position in which the engine was standing it was foul of the main line.

35. I have no doubt that the fire which broke out was the result of the shattered frame of the stores van and the goods carried in it, many of which were inflammable, coming in contact with the burning coal which had been thrown out of the overturned engine. The evidence shows that the fire started in a small way some distance from the gas cylinders and there is nothing to indicate that there was any kind of explosion of the propane gas. The excess flow valves on the cylinders were found in good order after the collision and the gas would have leaked away through the broken pipe line slowly, first from the cylinders in the bank which was in service, and then from the one cylinder, which had its closing valve open, in the other bank. The escaping gas was probably ignited by the fire but I do not consider that it added appreciably to the intensity of the fire.

Remarks

36. This human failure would not have occurred in a modern signalling installation because the line on which the freight train was standing would have been track circuited, and the occupation of the track circuit would have prevented the home signal from being cleared. There are, however, a large number of installations where there are as yet no track circuits, and a great many of them will remain so and in use for a long time. The safety of operation at such places depends to a large extent on signalmen complying with the Rules and not making foolish mistakes, such as the signalman at Baschurch made in this case. I hope that it will serve as a useful lesson generally.

37. The fact that the signalman at Baschurch used an irregular hand signal in signalling to the driver of the freight train, and used it knowing that it was irregular, had no bearing on the accident. This is, however, a malpractice which has caused accidents in the past, and it is one which should be stopped.

38. The use of the warning arrangement in the acceptance of Down trains by the signalman at Baschurch had no direct bearing on this accident, but I think it is undesirable that the backing of trains into the refuge siding should result in its being used regularly for passenger trains as well as for goods trains. I understand that a scheme has been prepared for the conversion of the refuge siding into a loop by the provision of a facing connection in the Down main line, and I hope that it will be possible for this work to be undertaken soon.

39. Propane gas is a convenient and efficient means of heating and cooking and it is used extensively in railway dining and sleeping cars. Equipment is provided to ensure that its use is safe, particularly in the event of an accident. The equipment worked correctly in this case and I am satisfied that the fact that there was a gas installation in the leading coach of the train had no bearing on the starting of the fire.

I have the honour to be,

Sir,

Your obedient Servant,

D. McMULLEN,
Colonel.

The Secretary,

Ministry of Transport.

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Environmental Noise Survey

Prepared: 23rd November 2020

Report No	21175-2-R1
Client	Shingler Group (Homes)
Site	Phase 2 Land off Station Road Baschurch SY4 2BQ

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1. Quality Management

Report Number	21175 – 2 - R1
Issue	**Revision 1** The report has been updated with the latest plans provided by the client
Prepared	23rd November 2020
Prepared By	Bill Whitfield PhD, MSc, MIOA
Authorised By	Dave Riley TechIOA

2. Limitations

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2.1.2. The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by Noise has not been independently verified by Noise, unless otherwise stated in the report.

2.1.3. The methodology adopted and the sources of information used by Noise in providing its services are outlined in this report. The work described in this report was undertaken between the 8th September 2020 and 23rd November 2020 and is based on the conditions encountered and the information available up to the said date. The scope of this report and the services are accordingly factually limited by these circumstances.

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3. Executive Summary

3.1.1. An environmental noise assessment has been carried out for Phase 2 of a proposed residential development at Land off Station Road, Baschurch, SY4 2BQ ("Proposed Development").

3.2. Measurement, Assessment and Evaluation

3.2.1. The survey was carried out to BS7445-1:2003[1] and BS7445-2:1991[2] which are covered under our UKAS Accreditation.

3.2.2. The interpretation of the data and the specification of suitable mitigation or treatment are outside the scope of our UKAS accreditation but is covered in our 17025 Quality Management System and reporting procedure.

3.3. Scope

3.3.1. This report covers all aspects of the noise survey, including:

- the identification of acoustic design criteria;
- an objective sound pressure level survey of the existing site;
- analysis of the data;
- creation of a 3D noise model; and,
- the design of any mitigation to meet the required internal noise criteria.

3.4. Results Summary

3.4.1. The facade sound insulation required to meet the guideline values from BS8233:2014 are summarised in Table 1. The glazing performance has been specified in terms of the road traffic corrected weighted sound reduction index, $R_w + C_{tr}$, and the ventilator performance has been specified in terms of the road traffic corrected element normalised level difference $D_{ne,w} + C_{tr}$.

Living rooms (Daytime)	Bedrooms (Night-time)
27dB $R_w + C_{tr}$ /33dB $D_{ne,w} + C_{tr}$	27dB $R_w + C_{tr}$ /33dB $D_{ne,w} + C_{tr}$

Table 1 – Required facade sound insulation (Glazing/Ventilator)

[1] BS7445-1:2003 "Description and measurement of environmental noise – Part 1: Description of quantities and procedures"
[2] BS7445-2:1991 "Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use"

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5. Background

5.1. Noise Policy Statement for England

5.1.1. The Noise Policy Statement for England (NPSE), published in March 2010, states the long-term vision of Government noise policy is to *"promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".*

5.1.2. This long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life;
- Where possible, contribute to the improvement of health and quality of life.

5.1.3. The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise).

5.2. National Planning Policy Framework

5.2.1. The National Planning Policy Framework (NPPF) was published on 19th June 2019 and sets out the Government's planning policies for England and how these are expected to be applied. The framework states that the planning system should contribute to and enhance the natural and local environment by:

> *"preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability".*

5.2.2. The NPPF requires that new developments be appropriate to their locations such that the effects of pollution on health have been taken into account. Planning policies and decisions should aim to:

1. avoid noise giving rise to significant adverse impacts on health and the quality of life;
2. mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development; and,
3. identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value.

5.2.3. Existing businesses near to proposed development should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

5.3. National Planning Practice Guidance

5.3.1. The National Planning Practice Guidance (PPG) is a web-based resource, launched by the Department for Communities and Local Government (DCLG) which was updated on the 22nd July 2019 to reflect the changes made to the NPPF and make it more accessible.[3]

[3] http://planningguidance.communities.gov.uk/

5.3.2. It advises on how planning can manage potential noise impacts in new development. The guidance is regularly reviewed and updated and noise is listed as a specific category. A summary of the effects of noise exposure (in terms of health and quality of life) associated with both noise generating developments and noise sensitive developments is presented within the PPG and reproduced in Table 2.

Perception	Examples of outcomes	Effect level	Action
Not noticeable	No effect	No observed effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Effect (NOEL)	No specific measures required
Lowest Observed Adverse Effect Level (LOAEL)			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very intrusive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 2 – Noise exposure hierarchy

5.3.3. There are a number of factors that determine whether a noise could be a concern to a receptor. These include: the absolute level of the noise and when it occurs, whether it is existing or new to the area, temporal characteristics, spectral content and the acoustic absorption in the area.

5.3.4. It is emphasised in the PPG that the planning process should be used to mitigate and minimise the impact of noise. This could include: engineering the noise sources to be quiet, minimising the impact of noise through layout, using conditions/obligations to restrict activities, mitigating the impact in places where noise is likely to be experienced (e.g. using facade sound insulation).

6. Introduction

6.1.1. An environmental noise assessment has been carried out for Phase 2 of a proposed residential development at Land off Station Road, Baschurch, SY4 2BQ.

6.2. Proposed Development

6.2.1. An image showing the proposed location and layout of the Proposed Development is given in Figure 1.

Figure 1 - Plan showing the location and layout of the Proposed Development

6.3. Noise Climate

6.3.1. The survey technician noted that, at the time of the survey, the noise climate was dominated by transient rail noise from the adjacent railway. The noise climate was otherwise very quiet.

7. Assessment Criteria

7.1. Local Planning Authority Criteria

7.1.1. The local planning authority, Shropshire Council ("SC"), has provided specific noise-related planning requirements for the Proposed Development. The noise-related requirements have been reproduced in Figure 2.

CONDITIONS THAT REQUIRE APPROVAL BEFORE THE DEVELOPMENT COMMENCES

2. Prior to commencement of any works on site a noise assessment shall be undertaken and report submitted to the local planning authority for approval in writing. Where mitigation is required details of mitigation shall be submitted for approval in writing. Any approved mitigation shall be carried out in full.

Reason: to protect the health and wellbeing of future residents.

Figure 2 – Noise related planning requirements provided by SC

7.2. Guideline Values

7.2.1. BS8233:2014 draws on the results of research and experience to provide information on the design of buildings that have internal acoustic environments appropriate to their function. The standard provides guideline internal values for dwellings for steady external noise sources. These have been summarised in Table 3.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35dB $L_{Aeq,16hour}$	-
Dining	Dining Room	40dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq,16hour}$	30dB $L_{Aeq,8hour}$

Table 3 – BS8233:2014 guideline values for internal ambient noise levels from steady external noise sources

7.2.2. The guideline values are issued by the World Health Organisation (WHO) and assume normal diurnal fluctuations in external noise. They are expected to be achieved based on normal annual data and not in all circumstances. For example, it is normal to exclude occasional events such as fireworks night or New Year's Eve.

7.2.3. For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$ with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In such cases, the lowest practicable levels should be achieved in external amenity areas but the development should not be prohibited.

7.3. Sleep Disturbance and L_{AFMAX}

7.3.1. The WHO give specific guidance on acceptable internal and external L_{AFMAX} levels in residential areas. Table 1 of the WHO Guidelines for Community Noise[4] requires that individual noise events inside dwellings should not regularly exceed 45dB L_{AFMAX}. BS8233:2014 states that L_{AXMAX} criteria are suitable for regular individual noise events such as scheduled aircraft and passing trains.

[4] Guidelines for Community Noise – Berglund et al – WHO: 1999

8. Survey

8.1. Measurement Locations

8.1.1. Fixed position monitoring took place at two positions to account for the likely dominant noise sources. The monitoring equipment was located 1.5m from the ground and at least 3m from the next nearest reflecting surface. The monitoring position is shown in Figure 3.

Figure 3 - Noise monitoring locations on site. ©Google Maps 2020

8.1.2. The measurement instrumentation used during the survey is detailed in the appendix. The acoustic equipment was calibrated to comply with Section 4.2 of BS7445-1:2003[5] before and after the surveys. The calibration details are also detailed in the appendix.

8.2. Meteorology

8.2.1. The weather information was noted during the survey. This is summarised in Table 4.

	8th September 2020
Roads(Wet/Dry)	Dry
Wind Speed (ms^{-1})/Direction	5 SW

Table 4 - Meteorological data noted during the survey

[5] BS7445-1:2003 "Description and measurement of environmental noise – Part 1: Guide to quantities and procedures"

8.3. Measurement and Timescale

8.3.1. Unattended monitoring was carried out on the 8th September 2020. The measurements that have been made are summarised in Table 5.

Monitoring position	Date	Type	Quantity
1	8th September 2020	Fixed/unattended	$L_{Aeq,5\text{-}min}$
2	8th September 2020	Fixed/unattended	$L_{Aeq,1\text{-}min}$, $L_{AFMAX,1\text{-}min}$

Table 5 – Measurements made at the site of the Proposed Development

8.3.2. Sound pressure measurements were subsequently averaged into hourly, daytime and night-time periods. The acoustic measurements and their interpretation have been in accordance with BS 7445: Parts 1, and 2[6]. All sound pressure levels are in dB (re 20µPa).

8.4. Results Summary

8.4.1. The fixed position external measurement results are summarised in Table 6.

8.4.2. Ordinarily, the 10th highest L_{AFMAX} sound pressure level would be reported in line with WHO guidance stating that internal levels of 45dB $_{LAMAX}$ should not be exceeded more that 10-15 times in a night to avoid sleep disturbance.[7] However, due to potential disruption to the railway timetable, the 6th highest L_{AFMAX} sound pressure level has been reported, as it is believed that the 10th highest values was not due to a rail event.

Measurement location	Daytime dB, $L_{Aeq,16hr}$	Night-time dB, $L_{Aeq,8hr}$	Night-time dB, L_{AFMAX}
1	55.2	48.0	N/A
2	57.4	55.0	85.0

Table 6 - Summary of the external sound pressure levels measured

[6] BS7445-2:1991 "Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use"
[7] WHO Guidelines for Community Noise, WHO 1999

9. 3D Noise Model

9.1.1. A 3D noise model has been constructed using SoundPLAN™ in order to predict the propagation of sound across the site of the Proposed Development. The calculation procedure has been used from CRTN[8] to predict the propagation of sound from road traffic and ISO9613-2:1996[9] for rail traffic. The model takes in to account the distance to the receiver, intervening screening, and atmospheric and ground conditions. Ordinance Survey Open Data has been used to create the existing roads and buildings. Terrain data has been taken from BlueSky Mapping.

9.1.2. The results of the model have been illustrated in noise contour maps in Figure 4, Figure 5 and Figure 6 and summarised in Table 7.

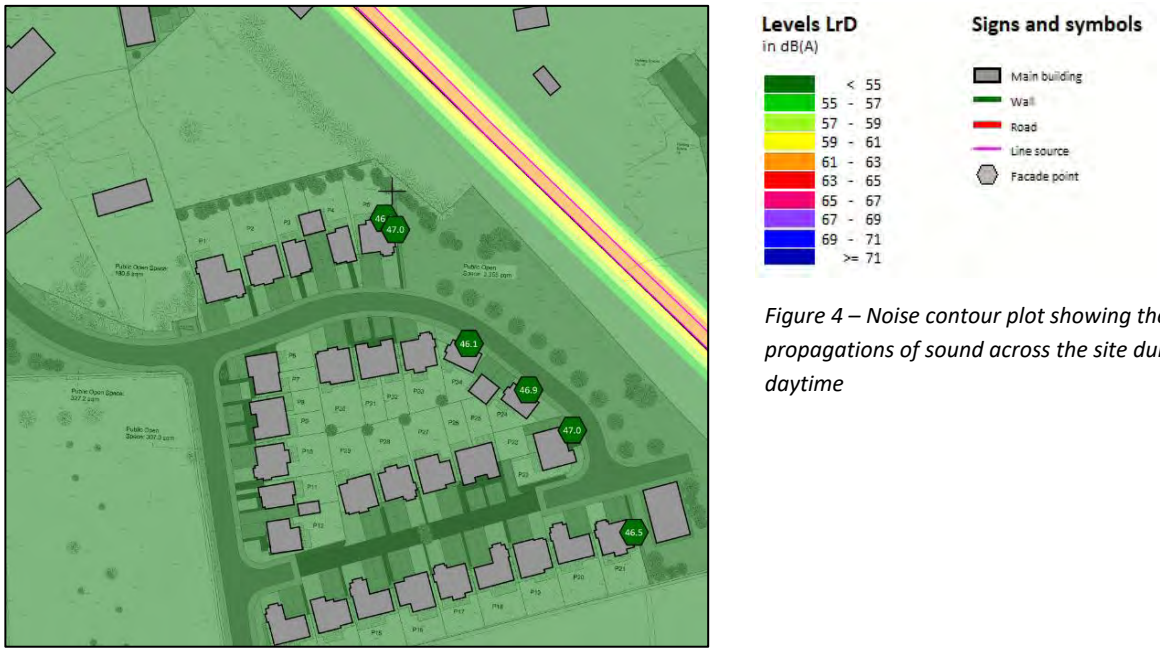


Figure 4 – Noise contour plot showing the propagations of sound across the site during the daytime

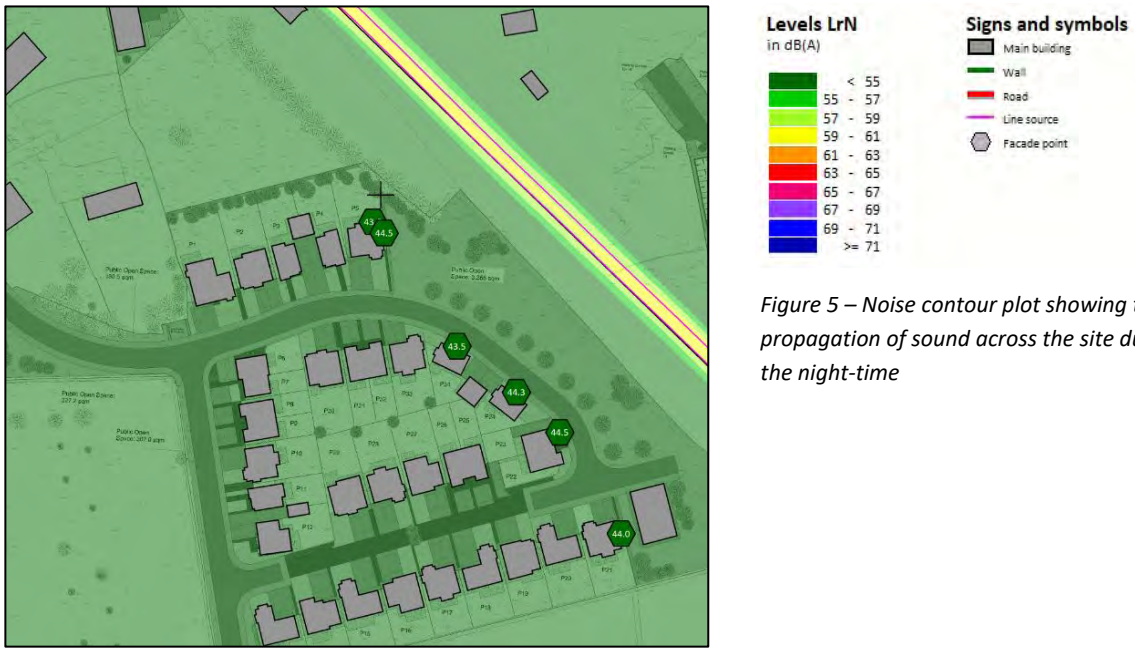


Figure 5 – Noise contour plot showing the propagation of sound across the site during the night-time

[8] Calculation of Road Traffic Noise, Department for Transport, 1988
[9] ISO9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation"

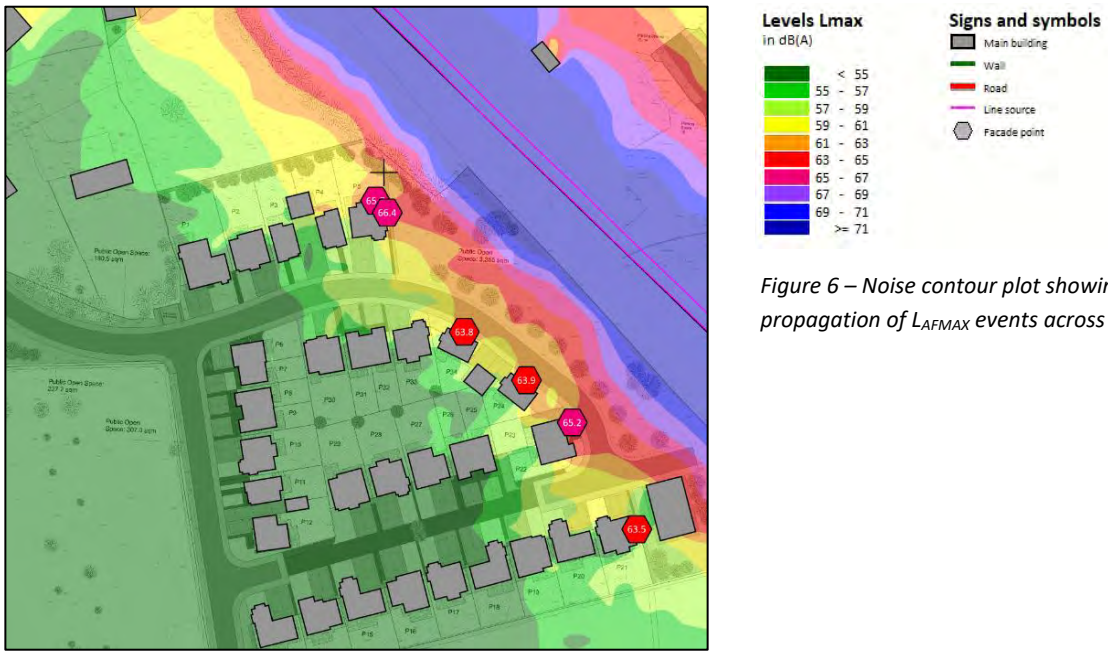


Figure 6 – Noise contour plot showing the propagation of L_{AFMAX} events across the site

Daytime dB, $L_{Aeq,16hr}$	Night-time dB, $L_{Aeq,8hr}$	Night-time dB, L_{AFMAX}
<50	<45	<70

Table 7 - Summary of the predicted façade sound pressure levels

-

10. Mitigation

10.1. Methodology

10.1.1. Based on the measured and predicted free-field sound pressure levels at the worst affected facades, the simple calculation method from BS8233:2014 has been used to determine the necessary sound reduction to meet the guideline values. Standard forms of construction are assumed such that the glazing is likely to be the lowest performing facade element.

10.2. Required Mitigation

10.2.1. The single figure glazing and ventilator performance requirements in order to achieve the internal design criteria are summarised in Table 8. The glazing performance has been specified in terms of the road traffic corrected weighted sound reduction index, $R_w + C_{tr}$, and the ventilator performance has been specified in terms of the road traffic corrected element normalised level difference $D_{ne,w} + C_{tr}$.

Living rooms (Daytime)	Bedrooms (Night-time)
27dB $R_w + C_{tr}$ /33dB $D_{ne,w} + C_{tr}$	27dB $R_w + C_{tr}$ /33dB $D_{ne,w} + C_{tr}$

Table 8 – Required facade sound insulation (Glazing/Ventilator)

10.3. Glazing and Ventilator Specifications

10.3.1. The glazing and ventilator performance has been specified based on the performance data provided by Saint-Gobain and Greenwood Airvac. These are suggested configurations and any other glazing and vent combination can be used provided it achieves the minimum performance levels given in Table 8. The recommended glazing specification is given in Table 9.

Living rooms (Daytime)	Bedrooms (Night-time)
4(12)4 Double Glazing	4(12)4 Double Glazing

Table 9 - Our recommended glazing configurations

10.3.2. The specification from Table 9 is equivalent to standard but well-sealed thermal double glazing.

10.3.3. Should penetrations be required for ventilation purposes our recommended ventilator configurations, calculated to work in conjunction with the above glazing specifications, are summarised in Table 10. The specification provides an equivalent area of at least 5000mm^2. It should be checked by a suitably qualified person that this ventilator specification meets the requirements of Approved Document F.[10]

Living rooms (Daytime)	Bedrooms (Night-time)
Greenwood Airvac 5000EA Trickle Vent	Greenwood Airvac 5000EA Trickle Vent

Table 10 - Our recommended ventilator configurations.

10.3.4. Given the assumptions in this method the information in this section should be treated as general guidance only. The acoustic performance of third party products cannot be guaranteed by noise.co.uk.

10.3.5. It should be noted that, in order to meet the internal ambient noise criteria in these areas, the windows would need to remain closed. This does not mean that windows should be fixed closed or that the internal sound pressure levels would be unacceptable to the occupants with windows open. The windows should remain openable at the future residents' discretion.

[10] Approved Document F: Means of Ventilation (2010 Edition)

10.4. Element 3: External Amenity Area Noise Assessment

10.4.1. BS8223 states that it is desirable that the external noise level for amenity spaces, such as gardens and patios, does not exceed 50dB $L_{Aeq,T}$ with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments.

10.4.2. In this situation, the measurements and predictions illustrate that the external sound pressure levels are likely to meet the guideline values. It should be noted that 3D noise modelling doesn't include the effect of any garden fences, which are likely to further reduce the sound pressure levels in gardens.

11. Conclusions

11.1.1. An environmental assessment survey has been carried out at the site of a proposed residential development at Land off Station Road, Baschurch, SY4 2BQ to determine typical ambient sound levels. The sound levels have been used to calculate the required facade sound insulation to meet the guideline internal levels from BS8233:2014.

11.1.2. Table 8 in section 10 gives the required facade sound reduction by any glazing and ventilator combination to be compliant with the guideline values.

11.1.3. It is strongly recommended that this report be passed to the local planning authority for approval prior to any works being carried out.

12. Appendix

APPENDIX A: Summary Information

Required ISO Test Report Information (cross referenced where required)			
		Measurements carried out to:	Analysed to:
A	Standards	BS 7445-1: 2003 BS 7445-2: 1991	BS 8233:2014
B	Organisation performed the measurements	noise.co.uk Ltd, The Haybarn, Newnham Grounds, Kings Newnham Lane, Bretford, Coventry, CV23 0JU.	
C	Name of Client	Shingler Group (Homes)	
D	Full site address	Land off Station Road Baschurch SY4 2BQ	
E	Date of surveys	Survey Date: 8th September 2020 - 21st September 2020	
F	Description & identification of Proposed Development	It is proposed to develop the site for residential use.	
G	Brief Description of details of Procedure & equipment	See Section 5 of this report.	

APPENDIX B: Technical Appendix

12.1.1. Measurements were made using the following equipment:

Monitoring Position	Sound Level Meter (Serial Number)	Calibrator (Serial Number)
1	Norsonic 140 (1405560)	Norsonic 1251 (33824)
2	Norsonic 140 (1405559)	Norsonic 1251 (33823)

12.1.2. The equipment has traceable calibration. The sound level meter was calibrated immediately prior to and immediately after the measurements were carried out.

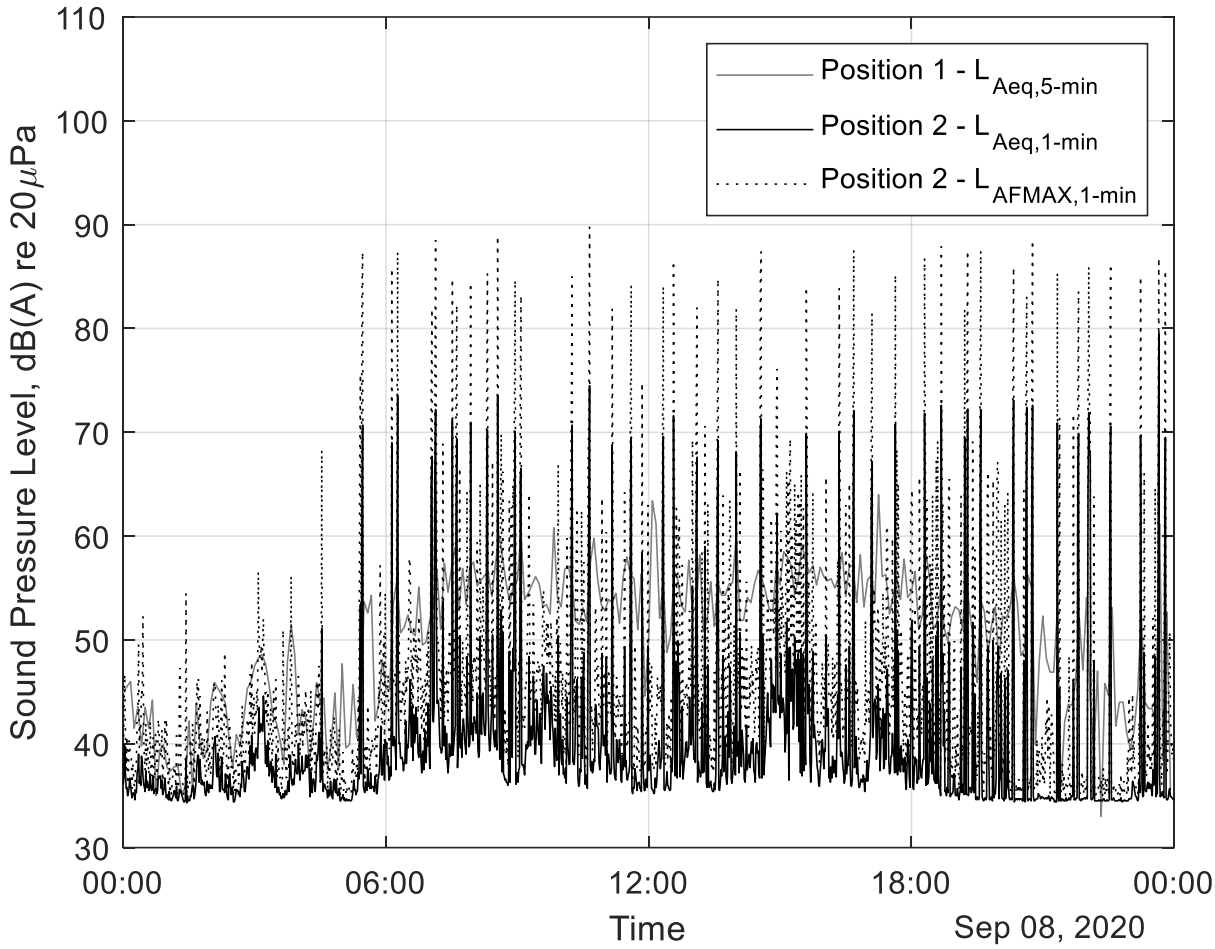
Sound Level Meter	Before	After
Norsonic 140 (1405560)	114.0 dB	114.0 dB
Norsonic 140 (1405559)	114.0 dB	114.0 dB

12.1.3. There was no adverse deviation.

APPENDIX C: Average Hourly Levels

Date	Time	$L_{Aeq,1\text{-}hour}$	
		Position 1	Position 2
08/09/20	00:00	43.0	36.3
08/09/20	01:00	39.3	35.7
08/09/20	02:00	43.7	37.0
08/09/20	03:00	47.1	38.5
08/09/20	04:00	42.5	38.5
08/09/20	05:00	48.9	53.6
08/09/20	06:00	51.8	57.3
08/09/20	07:00	55.7	60.5
08/09/20	08:00	56.6	59.1
08/09/20	09:00	56.3	51.8
08/09/20	10:00	55.5	58.7
08/09/20	11:00	54.7	55.2
08/09/20	12:00	57.1	56.3
08/09/20	13:00	54.6	55.0
08/09/20	14:00	55.5	57.5
08/09/20	15:00	57.0	52.9
08/09/20	16:00	56.2	56.7
08/09/20	17:00	57.2	55.2
08/09/20	18:00	54.1	57.7
08/09/20	19:00	52.4	58.7
08/09/20	20:00	52.6	60.2
08/09/20	21:00	48.5	56.2
08/09/20	22:00	47.6	58.8
08/09/20	23:00	51.8	62.6

APPENDIX D: Raw Data



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Notes
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B	17.02.21	Ordance Survey Licence Number added.	AT
A	29.01.21	Note regarding access through phase 1 added.	AT

Scales @ A1: **1:500**

Project No.: **STAT02**

PLANNING

Originator
SHINGLER GROUP

Project
Phase 2 Residential Development
Station Road
Baschurch

Layout Title
Site Masterplan

Client
Shingler Homes

Drawing Number

project	originator	volume	level	type	role	number	rev
STAT-02	AT					STAT02 P-006B	B

Shropshire Council: Shropshire Local Plan

Representation Form

*Please complete a separate **Part B Representation Form** (this part) for each representation that you would like to make. One **Part A Representation Form** must be enclosed with your **Part B Representation Form(s).***

*We have also published a separate **Guidance Note** to explain the terms used and to assist in making effective representations.*

Part B: Representation

Name and Organisation:	Nigel Thorns Planning Consultancy Ltd on behalf of Shingler Homes Ltd

Q1. To which document does this representation relate?

☑ Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Sustainability Appraisal of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Habitats Regulations Assessment of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

(Please tick one box)

Q2. To which part of the document does this representation relate?

Paragraph:		Policy:		Site:	KCK009	Policies Map:	Knockin

Q3. Do you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is:

	Yes:	No:
A. Legally compliant	☑	☐
B. Sound	☑	☐
C. Compliant with the Duty to Co-operate	☑	☐

(Please tick as appropriate).

Q4. Please give details of why you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

The allocation KCK009 sits comfortably within the existing pattern of development within the village of Knockin. The site is highly sustainable and will comfortably accommodate the suggested 25 dwellings.

Shingler Homes are currently seeking an option on the land with the land owners and wish to develop the site in the short term (2020/21 to 2024/25) via their existing site 'Knights Green' developed for 17 houses in 2020.

The 'Development Guidelines' will be adhered to within the necessary planning application, which will be formulated in discussion with Planning Officers.

The site is available, viable and deliverable and will be brought forward at the earliest opportunity.

(Please continue on a separate sheet if necessary)

Q5. Please set out the modification(s) you consider necessary to make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at Q4 above.

Please note that non-compliance with the duty to co-operate is incapable of modification at examination. You will need to say why each modification will make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

None

(Please continue on a separate sheet if necessary)

Please note: *In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.*

After this stage, further submissions may only be made if invited by the Inspector, based on the matters and issues he or she identifies for examination.

Q6. If your representation is seeking a modification to the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan, do you consider it necessary to participate in examination hearing session(s)?

Please note that while this will provide an initial indication of your wish to participate in hearing session(s), you may be asked at a later point to confirm your request to participate.

☐ No, I do not wish to participate in hearing session(s)

☑ Yes, I wish to participate in hearing session(s)

(Please tick one box)

Q7. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

We need not attend if there are no participants making representations against the allocation at the Examination.

However if there are participants at the Examination which seek to make representations against the site, we would wish to attend to respond and answer any questions raised

(Please continue on a separate sheet if necessary)

Please note: *The Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.*

Signature: Date: 22/02/2021

Office Use Only	Part A Reference:
	Part B Reference:

Shropshire Council: Shropshire Local Plan

Representation Form

*Please complete a separate **Part B Representation Form** (this part) for each representation that you would like to make. One **Part A Representation Form** must be enclosed with your **Part B Representation Form(s).***

*We have also published a separate **Guidance Note** to explain the terms used and to assist in making effective representations.*

Part B: Representation

Name and Organisation:	Nigel Thorns Planning Consultancy Ltd on behalf of Shingler Homes Ltd

Q1. To which document does this representation relate?

☑ Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Sustainability Appraisal of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Habitats Regulations Assessment of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

(Please tick one box)

Q2. To which part of the document does this representation relate?

Paragraph:		Policy:		Site:	BNP035	Policies Map:	Baschurch

Q3. Do you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is:

	Yes:	No:
A. Legally compliant	☑	☐
B. Sound	☑	☐
C. Compliant with the Duty to Co-operate	☑	☐

(Please tick as appropriate).

Q4. Please give details of why you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

The allocation BNP035 sits comfortably within the existing pattern of development within the village of Baschurch. The site is highly sustainable and will comfortably accommodate the suggested 20 dwellings.

Shingler Homes are currently finalising an option on the land with the land owners and wish to develop the site in the short term (2020/21 to 2024/25)

The 'Development Guidelines' will be adhered to within the necessary planning application, which will be formulated in discussion with Planning Officers.

The site is available, viable and deliverable and will be brought forward at the earliest opportunity.

(Please continue on a separate sheet if necessary)

Q5. Please set out the modification(s) you consider necessary to make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at Q4 above.

Please note that non-compliance with the duty to co-operate is incapable of modification at examination. You will need to say why each modification will make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

None

(Please continue on a separate sheet if necessary)

Please note: *In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.*

After this stage, further submissions may only be made if invited by the Inspector, based on the matters and issues he or she identifies for examination.

Q6. If your representation is seeking a modification to the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan, do you consider it necessary to participate in examination hearing session(s)?

Please note that while this will provide an initial indication of your wish to participate in hearing session(s), you may be asked at a later point to confirm your request to participate.

☐ No, I do not wish to participate in hearing session(s)

☑ Yes, I wish to participate in hearing session(s)

(Please tick one box)

Q7. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

We need not attend if there are no participants making representations against the allocation at the Examination.

However if there are participants at the Examination which seek to make representations against the site, we would wish to attend to respond and answer any questions raised

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Signature: Date: 22/02/2021

Office Use Only	Part A Reference:
	Part B Reference:

Shropshire Council: Shropshire Local Plan

Representation Form

*Please complete a separate **Part B Representation Form** (this part) for each representation that you would like to make. One **Part A Representation Form** must be enclosed with your **Part B Representation Form(s).***

*We have also published a separate **Guidance Note** to explain the terms used and to assist in making effective representations.*

Part B: Representation

Name and Organisation:	Nigel Thorns Planning Consultancy Ltd on behalf of Shingler Homes Ltd

Q1. To which document does this representation relate?

☑ Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Sustainability Appraisal of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

☐ Habitats Regulations Assessment of the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan

(Please tick one box)

Q2. To which part of the document does this representation relate?

Paragraph:		Policy:		Site:		Policies Map:	Whitchurch

Q3. Do you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is:

	Yes:	No:
A. Legally compliant	☑	☐
B. Sound	☑	☐
C. Compliant with the Duty to Co-operate	☑	☐

(Please tick as appropriate).

Q4. Please give details of why you consider the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

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The settlement boundary of the town has been amended to accommodate the allocations WHT037 and WHT044 along Chester Road. The existing (620 dwellings) and proposed (450 dwellings) Plan allocations amount to a commitment for 1,070 dwellings within Whitchurch across the Plan Period. This leaves a requirement for 530 dwellings from existing consents and additional windfall sites (1,600 target).

The amendment to the settlement boundary brings additional land within the settlement boundary of the town which will be available for windfall development.

Shingler Homes are currently seeking an option on land at Linden Court (for around 30 dwellings) to be accessed via their existing site 'The Beeches' and wish to develop the site in the short term (2020/21 to 2024/25). The site is available, viable and deliverable and will be brought forward at the earliest opportunity as windfall development to contribute to the housing target for Whitchurch.

(Please continue on a separate sheet if necessary)

Q5. Please set out the modification(s) you consider necessary to make the Regulation 19: Pre-Submission Draft of the Shropshire Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at Q4 above.

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None

(Please continue on a separate sheet if necessary)

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Signature: Date: 22/02/2021

Office Use Only	Part A Reference:
	Part B Reference: