LAND AT BLYTHE BRIDGE,
STAFFORDSHIRE

WRITTEN SCHEME OF INVESTIGATION (V3)

Project Number 18-05

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Land at Blythe Bridge, Staffordshire

Land to the south-east of Blythe Bridge

A50 Blythe Bridge Bypass,

Staffordshire.

WRITTEN SCHEME OF INVESTIGATION

By
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Version: v3	**Version Date:** 03.10.2018	

for

St. Modwen Homes
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Longbridge
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Land to the south-east of Blythe Bridge, A50 Blythe Bridge Bypass, Staffordshire
Written Scheme of Investigation for St. Modwen Homes
Planning application no: (SMD/2017/0512)
NGR: SJ 396575 340501
Archaeological Contractor: Centre of Archaeology
Document Number: R9051-STU-18-00-RP-G-0002

1 INTRODUCTION

1.1 The Centre of Archaeology, Staffordshire University was commissioned by St Modwen Homes to undertake a Written Scheme of Investigation for an archaeological evaluation on land to the south-east of Blythe Bridge in advance of a proposed residential development with associated access, landscaping and infrastructure.

1.2 This document describes the programme of work required to undertake an archaeological investigation at the above site. It forms the written scheme of investigation for the work, which is a requirement of the Full Permission for Development issued by Staffordshire Moorlands District Council (May 2005). Any variation in the scope of work would be agreed with the County Archaeologist, Staffordshire County Council before implementation. This project design follows the general requirements as set out in the Chartered Institute for Archaeologists; *Standards and Guidance for Archaeological Field Evaluation* (CIfA 2014).

1.3 A planning application (Planning application reference no. SMD/2017/0512) has been submitted to Staffordshire Moorland District Council for the proposed residential development of land to the south-east of Blythe Bridge.

1.4 As the proposed development site is of possible archaeological significance an archaeological evaluation was recommended by the County Archaeologist, Staffordshire County Council. This is in accordance with government advice contained with NPPF (National Planning Policy Framework; Department for Communities and Local Government 2012).

1.5 This document outlines the archaeological evaluation which will be carried out during this project. Any variation in the scope of work will be agreed with the Staffordshire County Council Historic Environment Team before implementation.

2 SITE DESCRIPTION AND LOCATION

2.1 The site is located to the south-east of Blythe Bridge adjacent to the A50 Blythe Bridge Bypass and south of the A521, and is centred on NGR SJ 396575 340501 (**Fig. 1**).

2.2 The proposed development site measures approximately 280m by 275m. The proposed development site covers a total area of approximately 55,000 square metres (5.5 hectares) and is centred on NGR SJ 396575 340501 (**Fig. 2**). The site slopes down gently from c.178m above

ordnance Datum (AOD) in the north to c.170m AOD in the south. The site forms part of the northern valley side of the River Blythe.

2.3 The present character of the site is a roughly triangular area consisting of pasture fields and Stone House Farm. All the fields are relatively level and only very slight traces of linear features relating to former cultivation are noted. A large pond is present in the north-east of the area. The field boundaries comprise large mature hedges with trees. The site is bounded on the northwest by the A521 beyond which is the main settlement of Blythe Bridge. The A50 runs past the western edge of the site. A small number of houses are located on Woodlands Lane which is located on the south east of the site. The nearest watercourse is the River Blythe which lies c.3400m to the south-west at its nearest. A former quarry, now in-filled with vegetation, is located to the east of the site.

2.4 There are no designated archaeological assets (Scheduled Monuments, Registered Battlefields or Historic Parks and Gardens) within the site, or within a 1km radius of the site.

3 GEOLOGY

3.1 The underlying solid geology consists of Siltstone, Mudstone and Sandstone of Tarporley Siltstone Formation. Superficial deposits of Devensian Diamicton Till are also recorded (British Geological Survey online 2017).

3.2 Soils within the study site are identified as 'Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils' (Cranfield University Soilscapes online 2017).

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 The land being developed is located to the south-east of Blythe Bridge, adjacent to the A50 Blythe Bridge bypass. Comprehensive information is available in the Archaeological Desk-Based Assessment undertaken by CgMs Heritage (CgMs, July 2017). For ease of reference, a short summary of the available information is repeated here.

4.2 ***Previous Archaeological Investigations*;** No previous invasive archaeological investigations of the study site have been undertaken. The site lies within zone BFHECZ 2, -south east of Blythe Bridge in the Staffordshire Moorlands Historic Environment Character Assessment (Staffordshire County Council (SCC) 2010). This assessment identified a moderate to low potential for previously undiscovered archaeological remains within this zone due to the proximity of the Roman road (the current Uttoxeter road to the north.

4.3 One further event recorded in the wider area is a geophysical survey and excavation (HER EST2457), conducted over the projected course of the Roman road within Blythe Bridge c.1km to the west of the study site (Wilocock and Gee 1965).

4.4 ***Prehistoric (Palaeolithic – Iron Age);*** One artefact of archaeological significance is known to have been recovered from within the site. The chance discovery of a perforated stone axe hammer is recorded in the HER (HER MST574, HEA 77774). A further perorated stone axe hammer has also been recovered from Draycott in the Moors approximately 800m to the east of the site. These prehistoric axe hammers confirm a presence in the area at the time although they are likely to have derived from casual loss or discard rather than intensive prehistoric activity.

4.5 There are no recorded topographic features of cropmarks within the LiDAR data to suggest prehistoric occupation within, or in close proximity to, the site. This general absence of Prehistoric evidence from within the site area and wider landscape may be due to continued intensive farming which has been undertaken or as a result of negligible surviving archaeological evidence.

4.6 ***Roman;*** No Roman evidence has been recorded from within the site. However, in the wider landscape, the historic course of the Roman road between Little Chester, Rochester and Chesterton (HER MST1222, HEA 1061222) is thought to have been the modern Uttoxeter Road c.100m to the north of the site (Wardle, 2002). The proximity of the site to this Roman road suggests an increased potential for previously undiscovered Roman evidence, likely to comprise unstratified finds related to peripheral roadside activity.

4.7 ***Saxon-Early Medieval;*** No Saxon or Early-Medieval evidence has been recorded from within the site. However, in the wider landscape, a 7th century AD pendant was discovered in Forsbrook (HER MST1674, HEA 77770) approximately 790m to the north. The nearest settlements to the site recorded in the Domesday book (1086 AD) were at Forsbrook (HER MST2452, MST3636) approximately 860m to the north and Draycot in the Moors, approximately 1.4km to the east (Gelling 1981, Williams and Martin 1992). The distance of the site to these settlements suggest that it is unlikely that there is previously undiscovered Saxon and Early Medieval evidence within the site area.

4.8 ***Medieval;*** No medieval evidence has been recorded from within the site. In terms of settlement evidence, Forsbrook remained the nearest settlement to the site during the Medieval period. Blythe Bridge which is located approximately 1km to the north-west was first recorded in the late 15th century (SCC 2010). The former open field system which reflects strip fields and ridge and furrow cultivation is located approximately 320m to the north of the site area (HER HST1660, HST1875).

4.9 The site is located in an area away from the main medieval settlements and is therefore likely to have been used for agricultural purposes. Slight linear earthworks are observable in the LiDAR data suggestive of medieval or later cultivation.

4.10 ***Post-medieval and Modern.*** No Post-medieval or modern has been recorded from within the site. A number of Post-medieval farmsteads, mills, water meadows and other built heritage assets are known to exist in the wider landscape around the site. The site is depicted in numerous cartographic sources rom the 18th century onwards. These can be used to show that the site and its surrounding landscape has been agricultural in character continually throughout this period. Post-medieval evidence is expected to limited to traces of cultivation and possible unstratified finds which may be present as a result of agricultural practices.

5 AIMS AND OBJECTIVES

5.1 The principal aim of the evaluation is to determine the character, extent, date, state of preservation and the potential significance of any buried remains.

5.2 More specific aims are to:

- Determine the location, character, extent, date, state of preservation and the potential significance of any buried remains.
- Identify, record and fully investigate previously unrecorded archaeological evidence across the site in order to update the HER.

- Ensure that an appropriate degree of sampling is achieved from secure deposits which will inform our understanding of the site and area. The details of this strategy will be agreed with the County Archaeologist as and when such features are encountered.
- Secure the recording and assessment of suitable palaeoenvironmental deposits associated with archaeological features where these are encountered during groundworks.
- Secure analysis, conservation and long-term storage of ay artefactual. Ecofactual material recovered from the site.

6 METHODOLOGY

6.1 The proposed development area covers approximately 5.5 hectares (55,000 sqm).

6.2 ***Geophysical Survey;*** Prior to evaluation, a geophysical magnetometry survey will be undertaken across the development site (see Appendix 1 and 2 for specification and risk assessment). The purpose of this geophysical survey will be to inform on the presence or absence, character, extent and in some cases, apparent relative phasing of buried anomalies, in order to make an assessment of their merit in the appropriate context. The results will lead to formulation of a strategy for further archaeological investigation within the larger programme of research.

6.3 The programme of preliminary geophysical survey will be designed and enacted in suitable areas to assess the potential for subsurface archaeological remains within the site and to determine the most suitable locations for the archaeological evaluation trenches. Following the completion of the geophysical survey, a report will be produced describing the chosen technique(s), survey location and extents results and interpretations of those results. This report will form the basis and advise discussion of the location of intrusive archaeological investigations, in the form of evaluation trenches.

6.4 ***Evaluation Trenches;*** It is anticipated that a total of twenty trenches (50m x 2m) will be excavated across the site totalling 2,000m² which provides approximately a 4% sample of the total area (figure 3). The number and length of trenches is subject to variation depending on the results of the geophysical survey and site constraints. All variations will be agreed with the County Archaeologist for Staffordshire County Council prior to implementation.

6.5 Trenches will be located to be regularly spaced over the whole area and over possible anomalies identified by geophysical survey. The locations, orientations, dimensions and density will be determined prior to project implementation. The trial-trenches will be surveyed-in using a GPS or other appropriate survey instruments and located on the Ordnance Survey National Grid.

6.6 All topsoil and modern overburden will be removed using a 360° wheeled mechanical excavator with a toothless ditching bucket, under direct archaeological supervision, down to the top of the uppermost archaeological horizon or the subsoil. Subsequent cleaning and excavation will be by hand. Due to Health and Safety considerations, the trenches will not be excavated beyond a safe working depth unless suitable measures such as stepping or battering of trench edges have been taken.

6.7 The removed soil will be temporarily stored adjacent to the opened investigation area; a minimum of a 1m- wide space will be maintained between the banks of soil and the edge of the opened area to prevent slippage of the soil back into the trenches.

6.8 A representative sample of archaeological features and deposits will be manually sample excavated. This is done to sufficiently define their character and to obtain suitable dating evidence using the following strategy;

- 50% of pits under 1.5m or postholes
- 25% of pits over 1.5m including a complete section
- 20% sample of linear/ curvi-linear features under 5m in length
- 10% sample of linear/ curvi-linear features over 5m in length

6.9 Archaeological deposits will not be completely excavated unless it is deemed unavoidable. The depth of archaeological deposits across the site will be assessed, although the full length of every trench will not be necessarily excavated down to natural.

6.10 If significant archaeology is present, then a site meeting will be called with the County Archaeologist for Staffordshire County Council to discuss mitigation strategy, this may result in further excavation. This will be supplement to the original project and will require further discussion and agreement with the landowner.

6.11 Should the scale or nature of features and/or deposits require it, further appropriate field staff and specialists will be made available to segment the investigating archaeologist(s).

6.12 All stratigraphic sequences will be recorded, even where no archaeology is present. Features will be planned at a scale of 1:20 or 1:50, and sections drawn of all cut features and significant vertical stratigraphy at a scale of 1:10. All drawings will be done using a 6H pencil on permatrace. The site and the drawings will be tied to Ordnance Survey National Grid using a hand held GPS (Leica Zeno 20) and an optical level if required. The hand held GPS will use the SmartNet system which is specified as having 1mm accuracy. Should the required phone network for this equipment fail then the site will be located using a differential GPS base and rover system (Leica GS10 with a CS15 controller) (Metric Survey Specifications for Cultural Heritage. Historic England, 2015). Spot height data to record relative heights will be taken using an optical level on all features, deposits and significant artefacts.

6.13 A comprehensive written record will be maintained using a continuous numbered context system on *pro-forma* cards. Deposit, feature, structure and trench recording forms will all be used, each will be cross-referenced with one another and checked by a project manager upon completion. The colour, composition, inclusions, compaction, clarity of interface, dimensions and method of excavation will be recorded for each deposit. Where possible the type, shape, sides, profile orientation dimensions and method of excavation will be recorded for each feature. The relationship between each deposit/feature will be interpreted. A stratigraphic matrix will be compiled during excavation along with on-site interpretations.

6.14 The written records and scale plans will be supplemented by photographs using 10.2MP digital photography. Photographs will be taken of each trench. The photographs will include important deposits, features and sections. Photographs will also be taken of *in situ* artefacts and working shots. Each photograph will include a suitable scale and north arrow. This record will be supported by an index and site plan of shot locations.

6.15 Should potentially significant deposits, remains or artefacts be uncovered during the archaeological evaluation, the appropriate Scientific Advisor for Historic England will be consulted prior to excavation and recovery.

6.16 Buried soils and sediment sequences will be inspected and recorded on site where appropriate. Examination of soil sediments conformed to guidelines set out in *Geoarchaeology: using earth sciences to understand the archaeological record* (Historic England, 2015).

6.17 Upon discovery of waterlogged or suitable stratified deposits such as those with good organic preservation (or charcoal rich soils), these will be sampled for retrieval and assessment of the preservation conditions and potential for analysis of biological remains. The environmental sampling policy follows the guidelines contained in the Centre of Archaeology *Fieldwork Manual* and *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2011). Provision will be made for the bulk sampling of a wide range of contexts for potential assessment and analysis for plant and animal micro/macro fossils and soils/sediments. These bulk samples will be 20 litres in size, although this will be dependent on the volume of the context.

6.18 Sampling strategies for wooden structures conformed to guidelines set out in *Waterlogged wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood*. (Brunning, 1996). Where suitable deposits exist they will be sampled for dendrochronological dating evidence in line with *Dendrochonology: guidelines on producing and interpreting dendrochronological data* (English Heritage 2004a).

6.19 Where there is evidence for industrial activity, samples will be taken to identify macroscopic technological residues in accordance with *Archaeometallurgy* (English Heritage 2001) and *Science for Historic Industries* (English Heritage 2006).

6.20 While buried human remains are not anticipated on this site, should they be encountered work will halt and the area of the discovery will be cordoned off. The coroner and the County Archaeologist for Staffordshire County Council will be consulted and the opportunity for a site meeting explored. Where the archaeological recording and excavation of human remains is warranted, a licence will first be obtained from the Ministry of Justice. Any such remains will be treated with due respect and will be removed from site for appropriate assessment in accordance with relevant standards and guidance.

6.21 Lifting of human skeletal remains will be kept to the minimum which is compatible with an adequate evaluation. Burials will be recorded in situ and subsequently lifted, washed, marked and packed to standards compatible with *Excavation and post-excavation treatment of cremated and inhumed human remains* (McKinley and Roberts 1993). Excavation of human remains confirms with advice provided in *Church Archaeology: its care and management* (Council for the Care of Churches 1999), *Human bones from Archaeological Sites* (English Heritage 2004) and in *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England* (English Heritage 2005).

6.22 Were there to be any discovery of artefacts regarded as treasure, any such discovery will halt works, the area will be cordoned off and the Coroner, Staffordshire Portable Antiquities Scheme Finds Liaison Officer and the County Archaeologist for Staffordshire County Council will be consulted and a site meeting arranged at the earliest opportunity. Where such finds are of

sufficient significance, a separate WSI will be prepared by the appointed archaeological organisation to cater for the excavation, recording and careful lifting of appropriate evidence forms.

6.22 Any finds recovered will be recorded and their location noted on a site plan at a relevant scale. The finds will be retained, recorded and discussed within the report and recommendations made for further conservation. A discard strategy for all artefacts will be arranged with the accessioning museum before the start of the works (Selection, Retention and Dispersal of Archaeological Collections, Guidelines for use in England, Northern Ireland, Scotland and Wales (Society of Museum Archaeologists, 1993). Any recording, marking and storage materials will be of archive quality. All artefacts will be marked with museum code and context number compatible with the recipient museum.

6.23 Where necessary, artefact processing and conservation will be undertaken at the Centre of Archaeology, Staffordshire University. Items requiring conservation will be undertaken immediately. Finds will be appropriately packaged and stored under optimum conditions, as detailed in the publication First Aid for Finds (1998). The artefacts and physical archive will be stored in the Centre of Archaeology's on site archive room prior to deposition at the receiving museum.

6.24 The full site archive will include all artefactual remains recovered from the site. The site archive will be prepared according to guidelines set down in the Guidelines for the Preparation of Excavation Archives for Long-term Storage (UKIC, 1990) the *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists, 2001) and Standards in the Museum Care of Archaeological collections (Museum and Art Galleries Commission, 1992). The paper archive will be deposited with the appropriate repository subject to permission from the landowner.

7 METHODOLOGY (ADDENDUM)

7.1 As part of the enabling works for the Phase 1 development the construction of a temporary haul road is proposed. This proposed route (Figure 4) goes through open land on phase two land. The haul road would be in place prior to the formation of the proposed S278 access from the A521. The haul road is to be accessed from the current Uttoxeter Road and for a short stretch continue along the existing Woodlands Road. The haul road would then run parallel to Woodlands Road for a length of approximately 200m. It is planned to be approximately 3.5m in width with two 6m passing points at the north eastern and south western ends. Overall an area of approximately 900 square metres would need to be stripped in order to complete this Haul Road.

7.2 The archaeological desk based assessment undertaken for the site notes that in this area there is some low potential for prehistoric archaeology and medium potential for Roman archaeology. This is due in particular to the proximity of the former Roman Road which linked Littlechester to Chesterton. The proposed haul road runs closer to this Roman Road than the evaluation trenches and therefore this offers the increased possibility for identifying Roman remains.

7.3 At the south western end of the haul road it is proposed that a pond be filled in and built upon. This pond is shown on the 1839 Tithe map and there may be potential to recover paeleoenvironmental evidence from the waterlogged deposits once drained. Mitigation should take this into account once further detail is submitted.

7.4 Two alternative methodologies for archaeological mitigation are proposed, a Strip, Map and Record methodology and a Watching Brief methodology. Both are described below.

7.5 **Strip Map and Record Methodology**

7.6 All topsoil and modern overburden will be removed using a JCB type mechanical excavator with a toothless ditching bucket, under direct archaeological supervision, down to the top of the uppermost archaeological horizon or the subsoil.

7.7 After the overburden and modern features are recorded and removed (if present), the investigation area will cleaned by hand in order to define any features or structures.

7.8 The entire investigation area will then be cleaned, photographed and planned before any excavation works are undertaken.

7.9 A meeting with the County Archaeologist for Staffordshire County Council will be arranged upon discovery of archaeological features upon which further mitigation strategies will be discussed and implemented.

7.10 The sampling strategy for excavation will remain in line with that of the evaluation outlined in section 6.

7.11 If archaeology is located of a significance beyond that which might have been anticipated before the development began, development shall cease where they might be disturbed in order that provision for their adequate recording or preservation may be made. Consultation with Staffordshire County Council to discuss mitigation strategy will be arranged, this may result in further excavation. This will be supplement to the original project and will require further discussion and agreement with the landowner. Contingency provisions shall be made within the programme of works for this.

7.12 **Watching Brief Methodology**

7.13 The watching brief will include the monitoring of the stripping of the topsoil across the development area for the haul road along with any intrusive trenches necessary for the laying of drainage trenches.

7.14 Any archaeological features identified in the course of these excavation works will be sample excavated with the objectives of recovering dating evidence and determining depth of stratigraphy and establishing what the future sampling strategy will be.

7.15 All topsoil and modern overburden will be removed using a JCB type/360 tracked mechanical excavator with a toothless ditching bucket, under direct archaeological supervision, down to the top of the uppermost archaeological horizon or the subsoil. The spoil heaps will also be examined for archaeological material. Subsequent cleaning and excavation will be undertaken stratigraphically and by hand. A representative sample of archaeological features and deposits will be manually sample excavated.

7.16 The sampling strategy for excavation will remain in line with that of the evaluation outlined in section 6.

7.17 If archaeology is located of a significance beyond that which might have been anticipated before the development began, development shall cease where they might be disturbed in order that provision for their adequate recording or preservation may be made. Consultation with

Staffordshire County Council to discuss mitigation strategy will be arranged, this may result in further excavation. This will be supplement to the original project and will require further discussion and agreement with the landowner. Contingency provisions shall be made within the programme of works for this.

8 STAFFING

8.1 The project will be managed and directed for the Centre of Archaeology by Kevin Colls MIFA and supervised in the field by a suitably qualified and experienced archaeological supervisor William Mitchell assisted by an experienced site assistant.

8.2 Specialist staff will be, where appropriate:

Prehistoric pottery	David Mullins	Freelance Specialist
Prehistoric flint	Barry Bishop	Freelance Specialist
Roman pottery	Jane Evans	Freelance pottery specialist
Roman pottery	Jane Timby	Freelance pottery specialist
Samian pottery	Felicity Wild	Freelance pottery specialist
Saxon, medieval and post-medieval pottery	Stephanie Rátkai	Honorary Research Associate and Finds Researcher, University of Birmingham
Medieval and post-medieval pottery	Chris Cumberpatch	Freelance Specialist
Post-medieval pottery and glass	Leigh Dodd	Freelance Specialist
Ceramic building material (CBM), tile	Phil Mills	Freelance Specialist
Vessel glass	Cecily Cropper	Freelance specialist
Clay tobacco pipe	Dr David Higgins	Freelance Specialist
Coins, brooches	Dr Roger White	University of Birmingham
Iron, leather	Quita Mould	Freelance finds specialist
General finds	Jon Goodwin	Finds specialist, Senior Planning Officer, Stoke On Trent City Council
Animal bone	Matilda Holmes	Freelance archaeozoologist
Human bone	Dr Caroline Sturdy	Staffordshire University

	Colls	
Archaeo-geomorphology	Dr Andrew Howard	Freelance specialist
Palynology		Trent and Peak Archaeology
Archaeobotany		Trent and Peak Archaeology
Entymology	Dr David Smith	University of Birmingham
Charcoal and wood	Rowena Gale	Freelance Specialist
Dendrochronology	Dr Robert Howard	Nottingham Tree Ring Dating Laboratory
Archaeometallurgy	Anthony Swiss	Freelance specialist
	Rod MacKenzie	Freelance specialist
	Jane Cowgill	Freelance specialist
Glass residues	Dr David Dungworth	English Heritage

9 REPORT

9.1 A report will be produced for the archaeological evaluation. On completion of the fieldwork post-excavation work for each phase, including finds processing/ conservation, analysis and primary research, will be undertaken. A site archive will be compiled and an illustrated report will be prepared.

9.2 This report would be in the format required by the *Management of Archaeological Projects 2* (English Heritage 1991) and *Management of Research Projects in the Historic Environment* (English Heritage 2006, 2008) guidelines as appropriate, to include:

1) Summary
2) Description of the archaeological background
3) Method
4) A narrative description of the results and discussion of the evidence, set in their local, regional and national research context, supported by appropriate plans, sections and photographs
5) Summary of the geophysical survey, finds and environmental evidence
6) Specialist assessments of the finds and environmental evidence
7) Impact assessment and recommended mitigation strategy.

9.3 An archive deposition statement will be included in the rear of the final report. This will clearly identify and quantify in tabular form all the above aspects of a site archive, detailing their ultimate deposition location and the proposed date of their deposition.

9.4 The written report will be made publicly accessible, as part of the Staffordshire Sites and Monuments Record within six months of completion. Two copies of the report will be lodged with the County Archaeologist, Staffordshire County Council. A digital copy on CD-ROM will be provided. A summary report may be submitted for inclusion in a local archaeological journal or similar. If the results are considered of regional or national importance it may be appropriate to publish the

report in a regional or national archaeological journal or other suitable publication outlet including digital online reports.

9.5 On completion of the report the appropriate OASIS (Online Access to the Index of archaeological investigations) form will be completed and the report will be submitted to the Archaeological Data Service (ADS).

10 ARCHIVING

10.1 A site code and accession number will be attained from the relevant accepting museum prior to the commencement of fieldwork.

10.2 The full site archive will include all artefactual and/or ecofactual remains recovered from the site. Staffordshire County Council Historic Environment Record will be furnished with a hard and digital copy of the final report for inclusion in the HER. The site archive(paper records, digital records and finds) will be deposited with the accepting museum, in this case the Potteries Museum in Stoke on Trent subject to permission from the landowner.

10.3 Preparation and deposition of the site archive, from both evaluation and excavation will be undertaken with reference to the Staffordshire and Stoke-on-Trent guidelines and to *Guidelines for the Preparation of Excavation Archives for Long-Term Storage* (Walker 1990) and *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown, revised 2011).

10.4 The site archive will include all: copies of correspondence relating to fieldwork

- any survey or specialist reports
- site notebooks/diaries
- original photographic records and registers
- original drawing records and registers (plans, sections, elevations)
- original context records
- artefacts, ecofacts and any other sample residues
- original finds records
- original sample records
- a summary account of the context record
- a summary of the artefact record
- a summary of the environmental record:
- all relevant digital and meta data
- draft reports
- a copy of the final report/ publication

11 TIMETABLE

11.1 At least one weeks notice of the start of fieldwork will be given to the County Archaeologist, Staffordshire County Council. Review/ monitoring meetings will be arranged during the fieldwork.

Geophysical Survey is anticipated to be undertaken in the first week of September 2018.

Subsequent to this evaluation trenches will be excavated during September 2018 directly followed by specialist reports and report preparation to be completed mid October 2018.

11.2 Timetable to be confirmed.

12 PROFESSIONAL STANDARDS

12.1 The Centre of Archaeology is a registered organisation with the Chartered Institute for Archaeologists. All project staff will adhere to the Code of Conduct of the Chartered Institute for Archaeologists. The project will follow the requirements set down in the Standard and Guidance for Archaeological Field Evaluation (CIfA revised 2014).

12.2 Any human remains encountered will be initially left *in situ* and covered. In the event that human remains need to be removed this will be carried out under the terms of a Ministry of Justice Licence and adhering to relevant environmental health regulations.

12.3 All finds which may constitute 'treasure' under the Treasure Act, 1997 will be removed to a safe place and reported to the local Coroner. If removal is not possible on the same working day as discovery, appropriate security arrangements will be provided to keep the finds safe from theft.

12.4 The geophysical survey will adhere to the Chartered Institute for Archaeologists Standard and Guidance for Archaeological Geophysical Survey (CiFA 2014).

13 HEALTH AND SAFETY

13.1 A detailed risk assessment (and method statement when appropriate) will be prepared prior to the commencement of fieldwork.

13.2 All current health and safety legislation, regulations and guidance will be complied with. The excavation will conform to the *Workplace (Health, Safety and Welfare) Regulations 1992, Management of Health and Safety at Work Regulations 1999,* and *Construction (Design and Management) Regulations 2007* and any other health and safety legislation where appropriate. Work will be carried out in accordance with guidelines laid out in the *Staffordshire University health and Safety Manual* and *Health & Safety in Field Archaeology Manual* (SCAUM 2007).

14 REFERENCES

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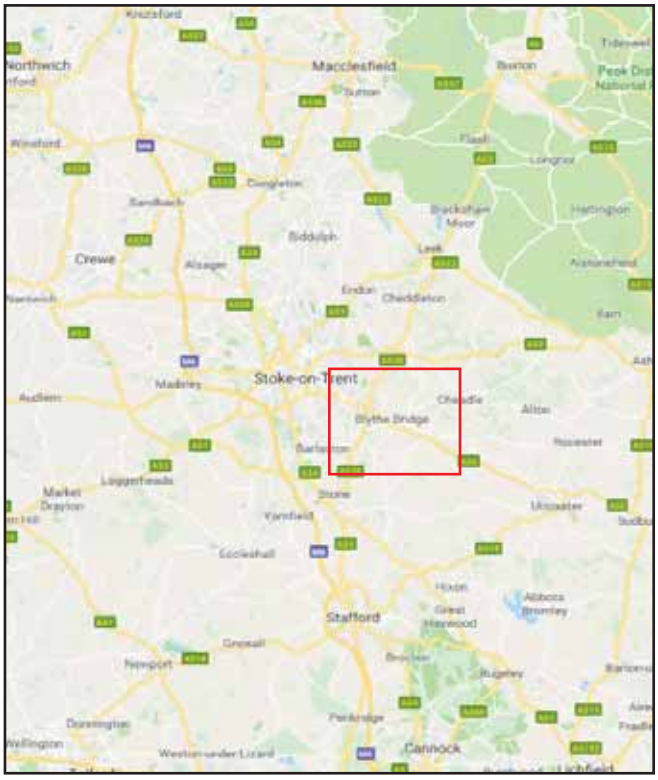
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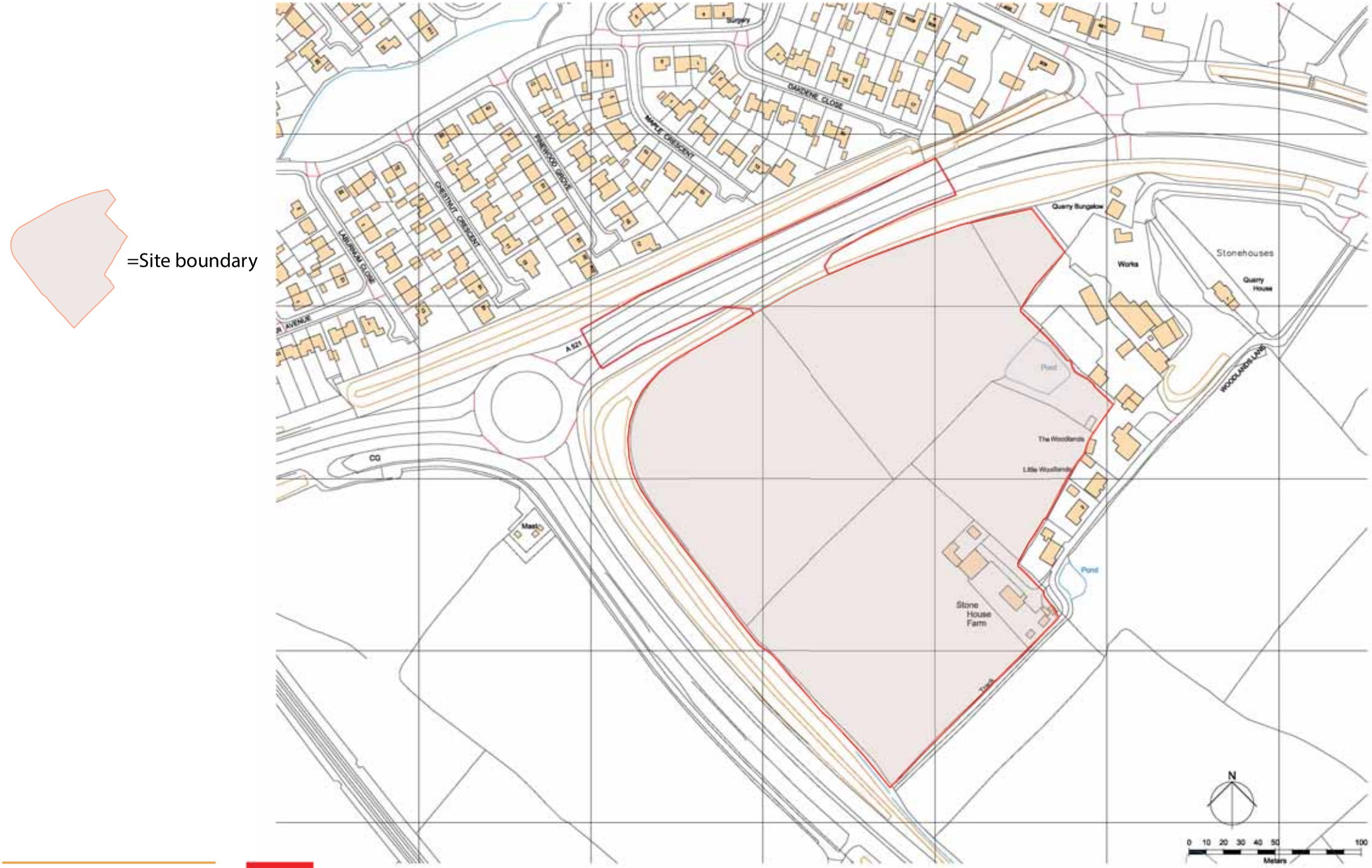




CENTRE OF ARCHAEOLOGY

STAFFORDSHIRE UNIVERSITY

Figure 1 - Site location plan
(Reproduced from Google Open Sources)
DN: R9051-STU-18-00-DR-G-0001



CENTRE OF ARCHAEOLOGY

STAFFORDSHIRE UNIVERSITY

Figure 2 - Site boundary plan
DN: R9051-STU-18-00-DR-G-0002



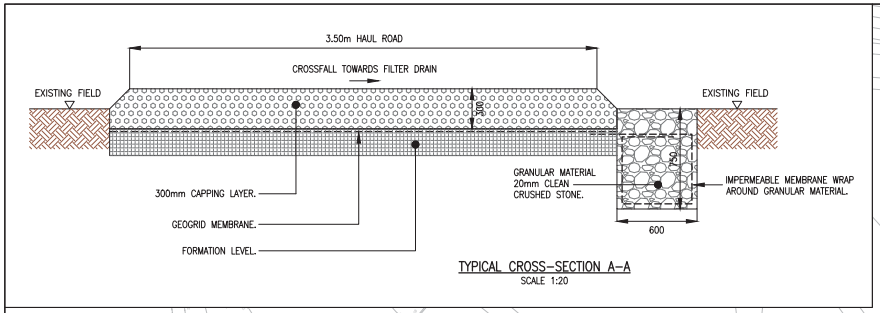
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	396653.245	340632.415
Tr3	396622.073	340627.859
	396591.327	340592.828
Tr4	396639.323	340606.374
	396598.472	340571.343
Tr5	396577.503	340623.515
	396536.757	340588.590
Tr6	396567.449	340598.115
	396600.557	340557.060
Tr7	396545.259	340581.005
	396578.200	340539.730
Tr8	396485.759	340579.777
	396518.991	340538.820
Tr9	396488.193	340562.209
	396447.553	340527.178
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	396454.115	340499.555
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Tr12	396482.663	340507.149
	396515.604	340465.874
Tr13	396459.248	340475.399
	396492.453	340434.256
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	396651.382	340515.963
Tr15	396629.316	340532.314
	396662.653	340491.039
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	396648.683	340476.593
Tr17	396558.351	340448.263
	396517.393	340413.180
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	396542.635	340408.576
Tr19	396600.102	340440.802
	396633.281	340399.845
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	396599.150	340370.793
Tr21	396542.164	340389.949
	396575.289	340348.886

0 50m

= 50 x 2m Evaluation trench

CENTRE OF ARCHAEOLOGY

Trench location plan
(Reproduced from Google Open Sources)
DN: R9051-STU-18-00-DR-G-0003



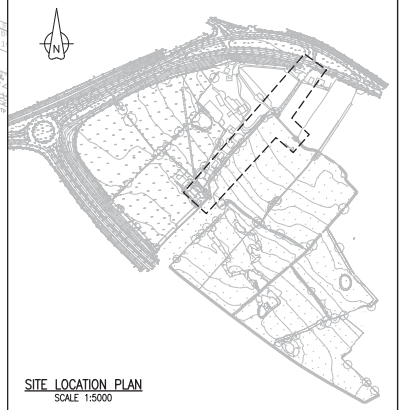
TYPICAL CROSS-SECTION A-A
SCALE 1:20

GENERAL ARRANGEMENT PLAN
SCALE 1:500

NOTES

A1

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS:
   - BMP DRAWING No. 12629-200 (SITE LOCATION PLAN).
   - BMP DRAWING No. 12629-201 (RED-LINE BOUNDARY PLAN).



SITE LOCATION PLAN
SCALE 1:5000

KEY:

- STRETCH OF EXISTING WOODLANDS LANE TO BE USED FOR HAUL ROUTE.
- PROPOSED CONSTRUCTION OF NEW HAUL ROAD.
- EXISTING P.R.O.W.
- PROPOSED HERAS FENCING.
- PROPOSED HERAS FENCING WITH DEBRIS NETTING.
- PROPOSED FILTER DRAIN / FRENCH DRAIN.
- PROPOSED MANNED & GATED VEHICULAR ACCESS.
- PROPOSED PEDESTRIAN GATE.
- PROPOSED PEDESTRIAN REFUGE AREA.
- PROPOSED SITE SECURITY / BANKSMAN STATION.
- PROPOSED SITE SECURITY / BANKSMAN HUT.

FOR INFORMATION

Rev	Date	Description	By	Chkd By

Revision Schedule

Project Title
BLYTHE BRIDGE, STOKE-ON-TRENT

Drawing Title
HAUL ROAD FOR PHASE 1 -
GENERAL ARRANGEMENT PLAN & CONSTRUCTION DETAILS

Drawn by	Checked by	Project Engineer
K.M.	G.L.	G.L.

Date	Scale	Project No	Drawing No	Rev
SEPT 2018	AS SHOWN	12629	202	-

BAYNHAM MEIKLE
Consulting Structural & Civil Engineers
8 Meadow Road, Edgbaston, Birmingham B17 8BU
Tel: 0121 434 4100 Fax: 0121 434 4073 Email: admin@bm-p.co.uk

Risk Assessment for Archaeological Projects

Project:	**Land at Blythe Bridge, Staffordshire**	**Version:**	**V1a**	**Date of Issue:**	**07/09/2018**

Project Location:	**Land to the south-east of Blythe Bridge, A50 Blythe Bridge Bypass, Staffordshire**
Project Description:	Archaeological Evaluation
Prepared by:	William Mitchell
Project Manager:	Kevin Colls
Project Leader:	William Mitchell
Site dates:	September 24th – October 3rd 2018

Part 1: Introduction and Objectives

1 This document is intended to set down a listing of those Health and Safety Regulations and Operating Procedures which are applicable to archaeological field work undertaken by the Centre of Archaeology based at Staffordshire University. The attention of all Centre of Archaeology staff is directed to this Policy Document.

2 It is the Centre of Archaeology's policy to comply with the requirements of the Health and Safety at Work Act, the Management of Health and Safety at Work regulations and all Regulations and Codes of Practice made under the Act which affect the archaeological operations of operations.

3 It is the Centre of Archaeology's policy to comply with all Staffordshire University policies and procedures regarding Health and Safety including the Faculty of Science Code of Practice for Safety in Fieldwork 1999 – reviewed 2010.

4 Regulation of the Management of Health and Safety at Work regulations requires that the Centre of Archaeology will make a suitable and relevant assessment of the risks to their staff, students and volunteers and to inform them of any risks and the action required to reduce said risks.

5 It is the Centre's policy to perform all fieldwork in the safest possible manner. The health and safety of staff and those possibly affected by the operations is the responsibility of Centre's management.

6 It is the duty of the management to prevent injury or ill health to its members of staff; this may include the provision of additional training and supervision. However it is also the duty of each member of fieldwork participants to exercise personal responsibility for their own safety and that of others.

7 This risk assessment will focus on identification of the hazards present, and an estimate of the risks involved in archaeological fieldwork (Part 4). **Your attention is drawn to the identification of the hazards present, and an assessment of the particular risks applicable to this specific fieldwork outlined in Parts 4 and 5.** Adequate resources will be made available to ensure the reduction of risks to a minimum.

This document attempts to define the risks that may be encountered by:

1. **Staff of the Centre of Archaeology during fieldwork**
2. **Placement students of Staffordshire University during fieldwork**
3. **Authorised and unauthorised visitors**
4. **The general public and project volunteers.**

Copies of this document are supplied to members of the field staff, their contractors and to archaeological monitors (District and County Councils).

This document has been prepared in consultation with the Health and Safety Unit of Staffordshire University

Part 2: Responsibility

It is the responsibility of the Project Managers and on-site Project Leaders to ensure that all staff using tools, equipment and materials supplied for work, are made aware of any relevant information and instructions which may have been provided by the manufacturer or supplier (hire equipment) in order to comply with rules set out under Section 6 of the Health and Safety at Work Act and of the Control of Substances Hazardous to Health Regulations (COSHH).

It is the responsibility of all staff to take reasonable care for their own health and safety on site, and to promote safe working practices for themselves, their colleagues and those of any visitors or members of the general public engaged during fieldwork.

Exchange of information on possible risks of other contractors and sub-contractors is the responsibility of all members of staff, any relevant information should be passed directly to the Project Manager or on-site Supervisor.

2.1 Personal Protective Equipment

All Centre of Archaeology staff are issued with hard hat, protective boots and high visibility jacket. This should be worn on all sites where machinery and plant are in operation or there is a risk of items falling from above. If site contamination is anticipated through the risk assessment they will be issued with protective gloves and clothing as appropriate.

2.2 Certification and First Aid

All Centre of Archaeology Project Leaders act as appointed persons and are first aid trained according to approved St. Johns Ambulance training or equivalent. An appointed person trained in first aid and adequate equipment for the use in the event of first aid, will be on all sites of two or more people.

2.3 Reporting Accidents

All accidents or near misses will be reported following Staffordshire University guidelines.

Part 3: Risks and Controls Applicable to Archaeological Fieldwork

The following risk assessment outlines the risks associated with the archaeological fieldwork project outlined above and the control methods that are required to be in place to ensure the safety of all employees, students and volunteers.

Risks should be classified as;

- **High Risk**
- **Moderate Risk**
- **Low Risk**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Vehicles and Driving Road traffic accident, injury to personnel. Driving while tired (for example at the end of a working day), or under the influence of drugs or alcohol can be hazardous to driver, passengers and pedestrians	All	Accident, vehicle collision	Allow drivers a short rest break at the end of the working day before driving home. Drivers should aim to stop for a break of 15 minutes for every 2 hours of driving. Check areas of off-road terrain before driving across them to see that they are safe to cross. In general when driving off road drive slowly and in low gear. Do not drive if feeling tired or unwell. Drivers cannot answer phones- even if handsfree. Driving under the influence of drugs or alcohol is illegal staff will face disciplinary action or dismissal for doing so during working hours.	**Low**	**No further action, although supervisor needs to be vigilant.**
Working Alone Staff working alone can be vulnerable	Field staff working alone	Injury, accident	Staff working alone must carry a mobile phone, which is fully charged and turned on at all times. Regular contact must be maintained with the project leader.	**High**	**Where there is intermittent phone signal, contact with the project manager must be kept.**
Site Access Access to a site from the public highway may involve crossing traffic or pedestrian routes.	Field staff, visitors and volunteers	Injury	Care must be taken when either arriving in a vehicle or on foot.	**Moderate**	**No further action required above standard control measures**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Site Movement Access to working areas on site can involve crossing difficult terrain.	Field Staff, visitors and volunteers	Injury	In order to provide safe access and egress to all working areas gradients should be shallow, and pathways as wide as possible. Where there is a danger of slipping hazards, adequate handholds should be provided. Walkways should be free from trip hazards, and obstacles. Where boards are used for access for people or equipment adequate support is required and planks must be kept clean and free from mud.	**Low**	**No further action required above standard control measures**
Heavy plant and machinery Working in the vacinity of excavators, JCBs, cranes and dumpers	Field staff, visitors and volunteers	Injury	Where heavy plant and machinery is present on the site, PPE must be worn at all times and the work must be assisted by a banksman. Areas of machine activity will be cordoned off with no public or volunteer access.	**High**	**Reviewed during operation and amended if necessary for unforeseen dangers.**
Heavy lifting Tools, equipment, samples	Field Staff, visitors and volunteers	Injury	Tools must be maintained and serviced regularly. Operators must have competency certificates if required. Heavy lifting should not be attempted without the necessary precautions, equipment and a banksman.	**Low**	**No further action required above standard control measures**
Deep holes	Field Staff and visitors	Injury	Excavations to be kept shallow to avoid the dangers of collapse. Deep features past safe limits (approximately 1.2m depending on ground conditions) would need shoring	**Moderate**	**Reviewed during operation and amended if necessary for unforeseen dangers.**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Safe Working Space Uneven and/or slippery surfaces Trip hazards Careless use of surveying equipment. Hazards from falling materials.	Field Staff, visitors and volunteers	Injury	The site must be kept tidy and free from hazards such as carelessly placed tools, finds-boxes, trays, rubbish and other obstacles. Paths and thoroughfares across the site must be kept free of obstacles at all times. Grid pegs should be coloured with protective caps should be placed on metal grid pegs to eliminate the risk of foot injury from treading on them. A safe working space should have sufficient room for workers to effectively use hand tools such as picks and shovels without risk of injuring each other.	**Low**	**No further action required above standard control measures**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Soil Contamination Heavy metals, soil or animal bourne diseases.	Field Staff, visitors and volunteers	Illness	Disposable Gloves/ Gloves should be worn when in contact with contaminated soil or potentially contaminated soil. Extra care should be taken with washing hands before meals and at the end of the day. Hands and fingers should not be placed near mouths after working with soil. All cuts should be covered with a suitable plaster to prevent contamination. All staff are required to have a current tetanus inoculation by their contract of employment in line with advice regarding hazards from sharp objects. HSE advisory card *Leptospirosis: are you at Risk* (IND(G)84(L)) are issued to all new staff in order to make them aware of the risks posed by contaminated water within archaeological sites.	**Moderate**	**Reviewed during operation and amended if necessary for unforeseen dangers.** **This is especially relevant if human remains are encountered.**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Use of hand tools Mattocks, spades, picks, wheelbarrows, sieves, small tools	Field staff, visitors and volunteers	Injury	Care to be taken should the need for small tool use arise. 'Tool talk' to be provided at the beginning of the project or at induction of new volunteers. PPE to be worn at all times including steel capped boots and a hard hat around moving machinery. Gloves should be worn when working with the sieves as fingers are liable to become trapped. Space should be given to allow workers to use hand tools in a safe manner. Tools should be stacked away neatly when not in use, where they will not form a trip hazard. Tools and equipment should be checked and maintained each day. Anything which is defective should be removed until it can be repaired or replaced.	**Moderate**	**Reviewed during operation and amended if necessary.**
Damage to services Cables and pipes for water, gas, electricity, fibre optic etc	Field staff, visitors and volunteers	Injury	Main contractor/ client to make archaeological supervisor aware of any services within the area of machine activity. Service plans to be present on site. Local service providers contacted prior to the commencement of the project.	**Low**	**Reviewed during operation and amended if necessary for unforeseen dangers.**

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Weather	Field staff, visitors and volunteers	Injury	Appropriate clothing and footwear should be worn in relation to the type of weather. Long-sleeved shirts and sun-cream should be worn in sunny periods due to exposure to ultraviolet radiation. Waterproofs in wet weather. If inclement weather is encountered, alternative activities will be undertaken.	**Low**	**Reviewed during project, amended if necessary**
Glass and sharp objects	Field staff, visitors and volunteers	Injury	Glass and sharp objects should be handled with care and with gloves. Care should be taken when kneeling and crouching is preferable.	**Low**	
Knowledge of the safely procedures	Field staff, visitors and volunteers	Injury	All participants will be briefed on emergency procedures at the beginning of the project. Site supervisor will have the responsibility for supplying a mobile phone. Nearest hospital with an accident and emergency identified from the outset of the project.	**Low**	**Reviewed during operation and amended if necessary for unforeseen dangers.**
Medication	Field staff, visitors and volunteers	Injury	The supervisor should be made aware of the medical history of the participants. Appropriated medication should be made available for the duration of the project, participants must be responsible for their own medication.	**Low**	

Step 1: What are the Hazards?	Step 2: Who might be harmed and how?		Step 3: Control Measure Undertaken		
	Who	**Risk**	**Standard Control Measure**	**Rating**	**Further Action Necessary**
Great Crested Newt Habitats	Great Crested Newts	Injury/ death/ destruction of Habitats	There is a Great Crested Newt buffer zone established by Natural England present within southern portion of the site. Details of the buffer zone will be passed to all site contractors. Permission has been sought and granted to undertake the geophysical work across the site. Further invasive archaeological and development work will require a licence from Natural England.	**Low**	**Should any newts be observed on the site during the geophysical and archaeological trenching work advice will be immediately sought from Natural England.**

Step 5: Review Date

24th September 2018

Site Health and Safety Induction Register

Project Code	
Project Manager	
Site Name	

I have read the contents of the above risk assessment and I have received a health and safety induction which I understand and will adhere to and have been provided with PPE where appropriate. If a volunteer I confirm that I have an up to date tetanus inoculation.

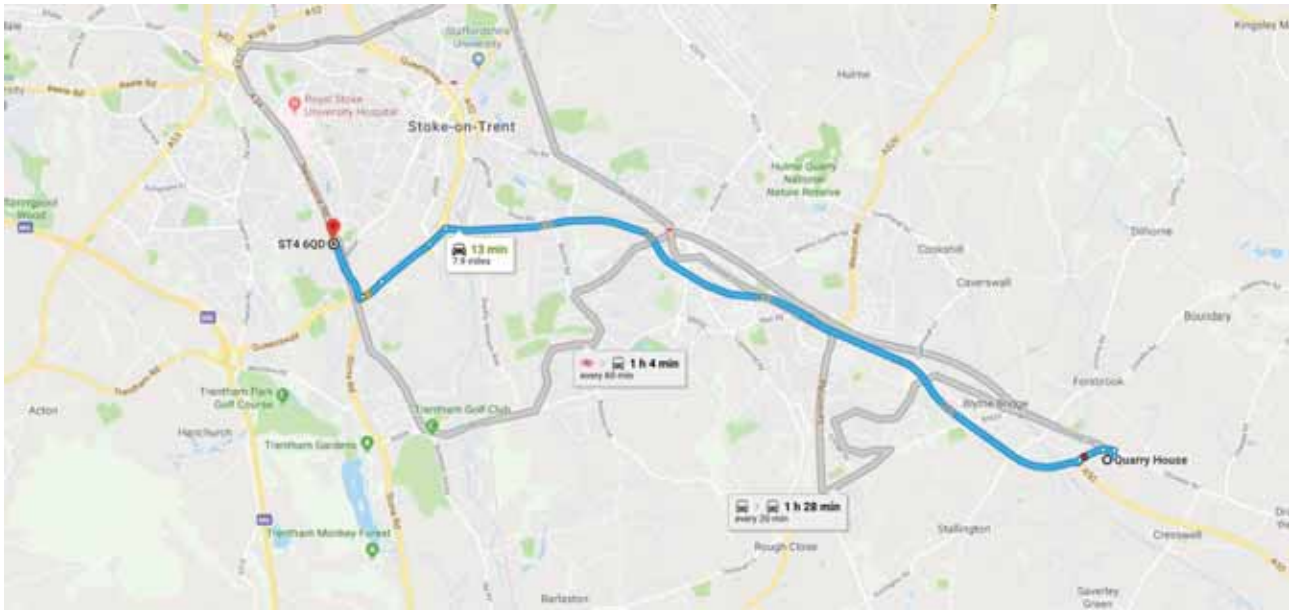
NAME	**DATE**	**STAFF** **VOLUNTEER** **VISITOR**	**DECLARATION** (**Please Sign**)

Figure 1-Site Location



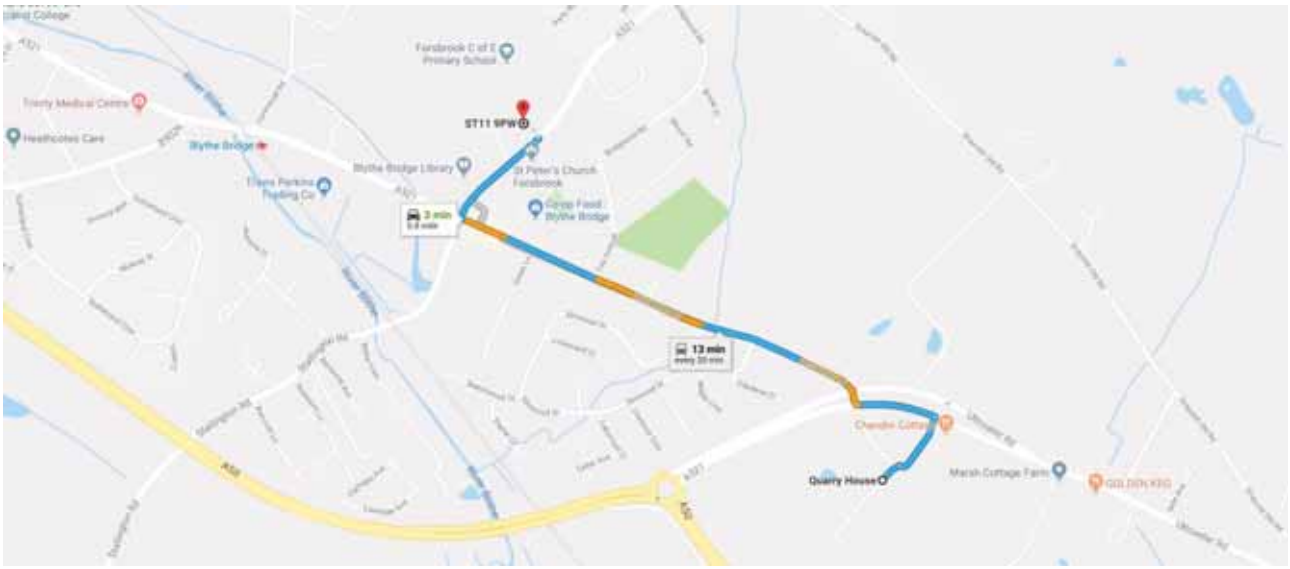
The site is accessed via Woodlands Lane, off Uttoxeter Road, ST11 9ND

Figure 2- Nearest Hospital



The nearest hospital is City General Hospital- University Hospitals of West Midlands, Stoke, ST4 6QG.

Figure 3- Welfare Facilities



Where welfare facilities are not available on site, staff will use local public amenities.
When working in remote locations, hand gel/ wipes and water carrier will be carried at all times.
The nearest public toilets are Cheadle Road, Blythe Bridge ST11 9PW.

RISK ASSESSMENT METHOD STATEMENTS FOR GEOPHYSICAL SURVEY

GEOPHYSICS FOR ARCHAEOLOGY & ENGINEERING

Blythe Bridge, Staffordshire

Client
Staffordshire University

Ref. No.
E14267

Date
August 2018

SUMO Geophysics Ltd
Cowburn Farm
Market Street
Thornton
Bradford
BD13 3HW
T: 01274 835016

SUMO Geophysics Ltd
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Upper Hook Road
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T: 01684 592266

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www.sumoservices.com

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1 INTRODUCTION, SITE LOCATION AND DESCRIPTION

2 SURVEY OBJECTIVES & SELECTION OF GEOPHYCALTECHNIQUE

3 CRITERIA FOR SELECTION OF THE GEOPHYSICAL METHOD

4 SITE WORK METHODOLOGY

5 REPORTING AND ARCHIVING

6 STAFFING

7 WORKING PRACTICES AND STANDARDS

8 HEALTH AND SAFETY

9 SITE SPECIFIC RISK ASSESSMENT

10 INSURANCES

Appendix A STANDARD RISK ASSESSMENT

Appendix B COSHH Documents

Surveyors:

	Signature
	Signature
	Signature
	Signature

Prepared By	Signature	Date	Approved By	Signature	Date
Amanda Dawson		*16/08/18*	*Adam Clark*		*16/08/18*

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1 INTRODUCTION, SITE LOCATION

1.1 **SUMO Geophysics Ltd** on behalf of **SUMO Services Ltd** has been contracted to carry out a geophysical survey.

1.2 This survey forms part of the programme of pre-determination archaeological works required by the County Archaeologist relating to a planning application.

1.3 The site consists of 5ha at Blythe Bridge, Staffordshire, ST11 9ND (See Figure 1)

1.4 The site work will take place on xxxx.

1.5 Preliminary results will be available within a week after completion of fieldwork.

1.6 Final report is typically available 3 weeks after completion of fieldwork.

2 SURVEY OBJECTIVE (S)

2.1 To determine the presence/absence of archaeological features. The results of the survey will inform the requirement and scope for further archaeological investigation.

3 CRITERIA FOR THE SELECTION OF THE GEOPHYSICAL METHOD

3.1 Solid geology: Chester Formation – Sandstone and Conglomerate, Interbedded. (BGS 2018).

3.3 Detailed magnetic survey has been selected as the most suitable technique for this site as it can detect a wide range of features including those that may be associated with Iron Age enclosures and medieval settlement such as ditches, land boundaries and agricultural features. It is also fast and more suited to prospection over large survey areas

There are no Scheduled Monuments on the site thus Scheduled Monument Consent is not required.

4 SITE METHODOLOGY

4.1 A temporary grid system will be established over the site and marked out using wooden pegs or canes. The location of the grid will be set out using a RTK GPS system theoretically accurate to some 0.01m and referenced to OS co-ordinates.

4.2 **Hand Held:** Data will be collected using a Bartington Grad 601-2. The instrument consists of two paired sensors (see below) and readings are logged at 0.25m centres along traverses 1.0m apart across 30m grids. The collection of data at 0.25m centres provides an appropriate methodology balancing cost and time with resolution as per Historic England guidelines.

4.3 **Sensors:** Two sensors mounted 1m vertically apart and very accurately aligned to nullify the effects of the earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background

4.4 The readings are logged consecutively into the data logger which in turn is daily downloaded into a portable computer whilst on site. At the end of each job, data are transferred to the office for processing and presentation.

5 REPORTING AND ARCHIVING

5.1 The report for the survey will comprise a written section describing the background to the survey, the methodologies used and a discussion of the results. The text will be illustrated using plots of the results using CAD to overlay the results and interpretations over the base mapping. The format for these drawings will either be A3 or A1 depending on the size and configuration of the survey areas.

5.2 Processing of the data will be carried out using the specialist software ***Anomaly*** and ***GeoSub,*** sometimes ***Geoplot***. This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'equalising' the background levels with respect to adjacent traverses (Zero mean traverse). 'Despiking' is very occasionally performed to remove the anomalies resulting from small iron objects often found on agricultural land but this practice is not favoured as it creates a ‘false’ dataset. Once the basic processing has levelled the background it is then possible to carry out further processing including de-stagger and interpolation to emphasise the archaeological or man-made anomalies.

5.3 The presentation of the CAD drawings will include:

- a general location plan
- detailed site location showing the grid position
- grey scale plots of the minimally processed and processed data
- Interpretation plot showing anomalies identified

5.4 As a minimum the report will contain;

- Non-technical summary
- Introductory statement

- Aims and purposes of the evaluation
- Methodology
- Results, including a confidence rating for the results and their interpretation
- Conclusion
- Plans/plots, including interpretive plans of the results
- References

5.5 The archaeological DBA, if provided, will be consulted, along with historic mapping of the survey area to inform the interpretation of anomalies located during the survey. The degree of uncertainty pertaining to influences drawn from the results will also be discussed.

5.6 The full report will be uploaded to the OASIS database with a 12 month release delay unless informed otherwise.

6 STAFFING

6.1 Site work will be carried out by an appropriate number of field teams (led by an Experienced Team Leader) to complete the work within the given timescale. The Team will be co-ordinated from designated offices personnel, where the first point of contact for the client and site team will be:

Bradford Office	Jon Tanner	01274 835016	jon.tanner@sumoservices.com
Upton Office	Rebecca Davies	01684 592266	Rebecca.davies@sumoservices.com
Team Leader	TBC		

7 WORKING PRACTICES AND STANDARDS

7.1 All site work and reporting will be carried out in accordance with the latest guidance documents issued by Historic England (EH 2008) (then English Heritage), the Chartered Institute for Archaeologists (CIfA 2014), the European Archaeological Council (EAC 2016)

7.2 **SUMO Geophysics Limited** is a **Registered Organisation** and as such is committed to upholding the standards and policies set out by the **Chartered Institute for Archaeologists**.

7.3 **SUMO Geophysics Ltd** (through its parent company **SUMO Services Ltd**) is a member of the **EuroGPR Association**

8 HEALTH AND SAFETY

8.1 Colin Carnachan, Company Secretary is the responsible post holder for Health & Safety matters; **SUMO** also employ an external Health & Safety advisor who can be consulted if necessary.

8.2 All **SUMO** team leaders are first-aid trained, with all our field operatives part of a rolling programme of first-aid training.

8.3 All **SUMO** field teams are equipped with mobile phones for use in an emergency.

8.4 In the event of an emergency the team will immediately stop work and report the incident to the relevant emergency services and **SUMO** head office. If it is safe to do so they will administer first-aid and render assistance to any emergency teams on site.

8.5 **SUMO** will monitor the general safety arrangements and will communicate any further requirements / short falls to the client.

8.6 **SUMO** site personnel will be equipped with full Personal Protective Equipment (PPE).

8.7 In the event of an Accident: all **SUMO** site operatives are trained to Appointed Persons standard and all vehicles carry first aid kits. In the event of a serious injury/accident dial 999.

8.8 In case of minor injury the closest **A & E Hospital** – see Figure 2

8.9 **Welfare Facilities** – see Figure 3

8.10 **Emergency Contacts**
In the event of an accident staff to report in accordance with Sumo Ltd's Health and Safety Policy and in accordance with RIDDOR.

Name	Company	Role	Telephone
Colin Carnachan	SUMO Services Ltd	Managing Director	02392 415020
Simon Haddrell	SUMO Geophysics Ltd	Operations Director	01684 592266
Rebecca Davies	SUMO Geophysics Ltd	Project Officer	01684 592266
Jon Tanner	SUMO Geophysics Ltd	Project Manager	01274 835016
TBC	SUMO Geophysics Ltd	On site Team Leader	xxxxxxx
Kevin Colls	Staffordshire University	Client	01782 294037

9 INSURANCES

9.1 **SUMO** carry a limit of £10 million Employers liability insurance.

9.2 **SUMO** carry a limit of £10 million Public liability insurance and Products liability insurance.

9.3 **SUMO** carry a limit of £10 million Professional Indemnity insurance

Figure 1
Site Location



Figure 2
Nearest Hospital

City General Hospital – University Hospitals of North Midlands, ST4 6QG

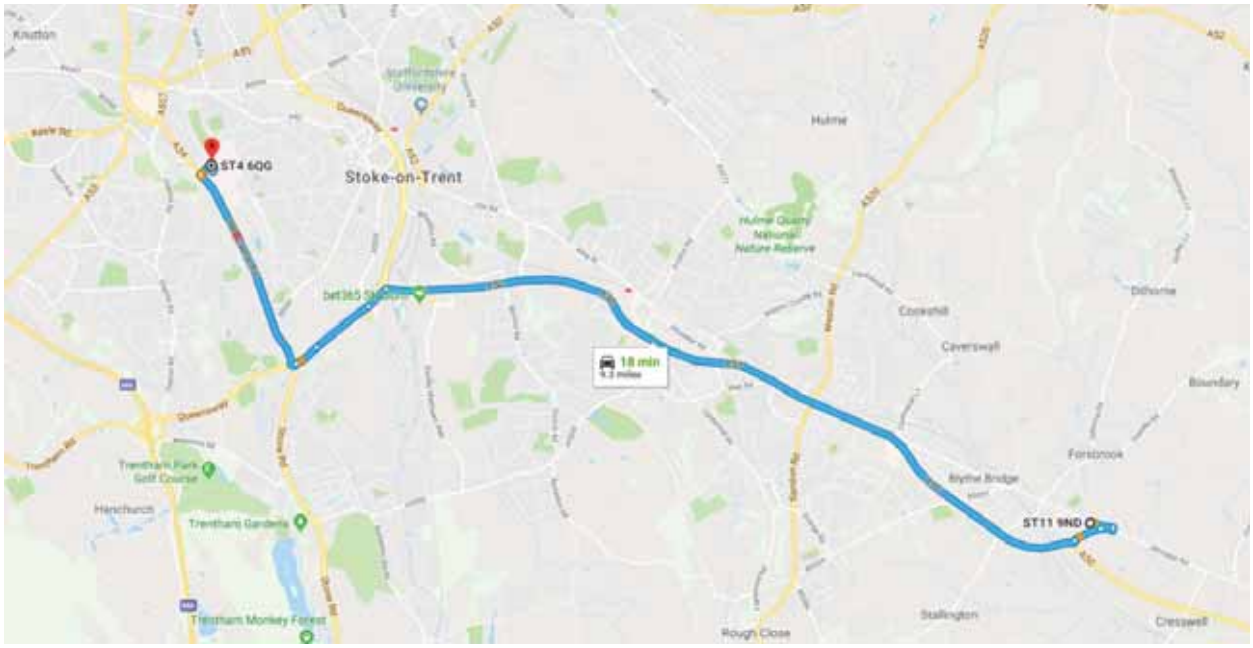
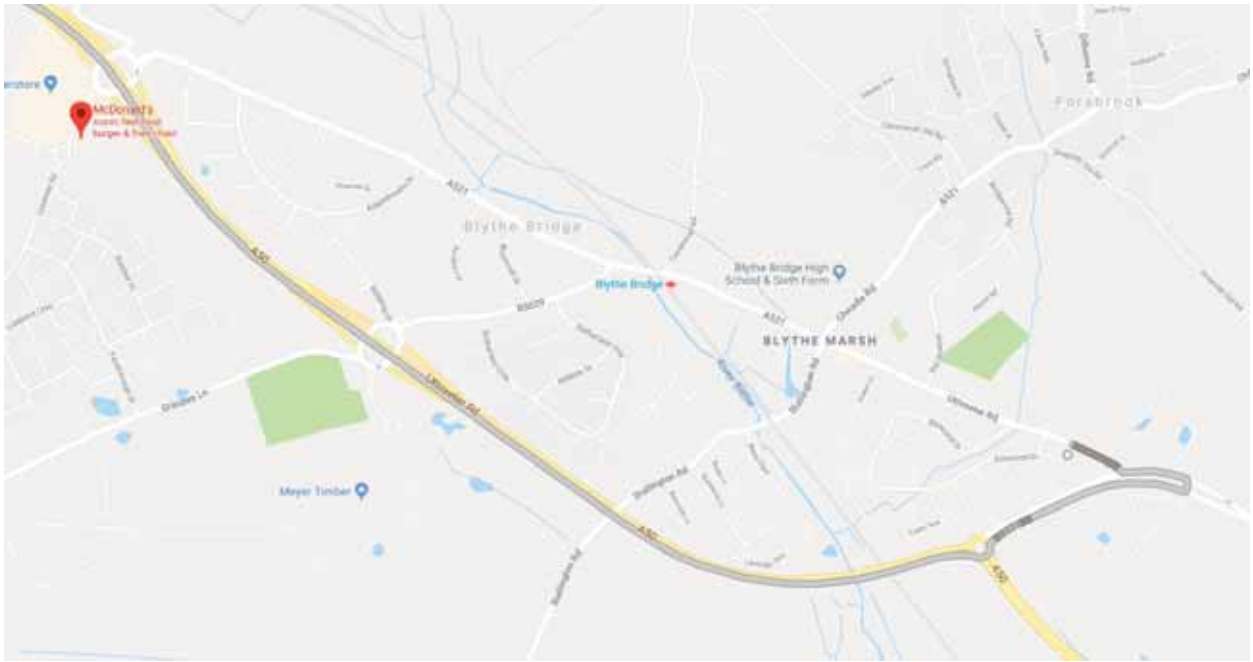


Figure 3
Welfare Facilities

Surveyors will use client site facilities only with prior permission. In the event that welfare facilities are not available at the site, then staff will use local public amenities.

Hand gel / wipes / water carrier for hand washing at remote locations must be carried at all time. The team Leader is responsible for re-stocking these when away from the office.

The closest public amenities are at: McDonald's, ST3 7WA.



Appendix A – STANDARD RISK ASSESSMENT

Activity	Hazard	Persons at Risk	Uncontrolled Risk			Control Measures	Residual Risk		
			P	S	R		P	S	R
Driving	Road traffic accident, injury to personnel.	Driver, passengers, other road users.	2	4	8	Close all doors before moving vehicle. Do not drive tired or unwell. Swap driver if you feel tired or unwell. Drivers cannot answer phones – even hands free. When destination is reached park vehicle off main road, preferably along access track or inside field gate. If not possible then wear high visibility jackets when attending vehicle. Do not park vans near slopes / ditches because of risk of falls into and out of van.	1	4	4
Freeing stuck or broken down vehicles.	Muscular / skeletal injuries from pushing vehicles	Driver, passengers, other road users.	1	3	6	Close all doors and secure vehicle payload before attempting to move vehicle. Never pull vehicle towards you. Check for other live traffic, wear high visibility jacket.	1	3	6
Setting out survey grids	Tripping caused by tapes /ropes /cables	Site staff	4	1	4	Keep site tidy and clear trip hazards when no longer in use. Mark hazards with cones.	3	1	3
Setting out survey grids	Inserting pegs	Site staff	1	2	2	Wear gloves.	1	2	2
Cart survey Unloading / Loading cart from vehicle	Muscular / skeletal injuries from moving equipment and incorrect lifting	Site Staff	3	4	12	Always work in pairs, remove all loose items from the van before moving cart out of/ into van. Lift with knees, do not step out of van while lifting cart. Ensure area outside rear of van is clear and free from holes in ground or other hazards. Avoid loading unloading on a slope or beside / on the edge of a road	3	3	9
Cart survey Lifting over gate or fence	Muscular / skeletal injuries from moving equipment and incorrect lifting	Site Staff	3	4	12	Avoid if possible. Pass over gates/fences in pieces and construct in the field. Do not lift a fully constructed cart over fences or gates that are above waist height. Lift with knees. Work in pairs across the fence in order to keep weight close to the body whilst lifting.	3	3	9
Cart survey Setting-up instrument	Muscular / skeletal injuries from moving equipment	Site Staff	3	4	12	Always work in pairs, use remote buttons, lift with legs, and communicate lift. Stop if difficulty encountered. Perform over good ground conditions. Only turn over when changing sites or significant drift has occurred and is not rectified by initial setup.	2	3	6
Cart survey Surveying	Muscular / skeletal injuries from moving equipment	Site Staff	3	3	9	Wear gloves if hand strain experienced. Take frequent breaks as required. Performing basic sports stretching exercises at the start and end of the day will minimise the risk of general muscle strain. Ensure axles are sufficiently lubricated, if wheels are loose tighten the collars and fixings. Replace wheels and axles as wear dictates. Consider using a pulling harness. If resistive force increases, consider two-person pull with regular breaks. Do not survey if the resistive force from crop or similar is too great.	2	3	6
Cart survey Surveying (Poor ground conditions)	Muscular / skeletal injuries from moving equipment	Site Staff	4	3	12	As Cart survey - Surveying. Further: As preference survey along line of agricultural work, remove build-up of mud at regular intervals. If ground conditions are too poor stop survey with cart and continue with Grad 601-2 if possible.	3	3	9
Cart survey	Muscular / skeletal	Site Staff	4	3	12	As Cart survey - Surveying. Further: If possible survey across the gradient			9

Surveying (Poor conditions – slopes)	injuries from moving equipment					in conditions such as pasture. On crop it is generally best to survey in line with the cultivation but if on steep slopes consider cross-slope data collection. Perform cart change-overs in middle of traverse on to break-up the uphill leg into smaller chunks. If slope is too steep do not survey.	3	3	
Lifting heavy equipment.	Muscular / skeletal injuries due to incorrect lifting	Site staff	2	4	8	Manual Handling Training. Use correct lifting practise. Arrange site layout to establish unloading area close to the work. Good lighting, firm footing and are required to minimize risk of injury. Seek assistance from other operatives using safe manual handling training (If in doubt over safe lifting and mechanical aids not possible abort operation and report to Contracts Manager). *Manual handling regulations1992.* *Personal Protective Equipment at Work Regulations 1992*	1	4	4
Working on site	Aggressive members of public / land owners/ farm workers.	Site staff	3	4	12	Ensure access is agreed with land owners in advance. Leave site if requested by land owner Be polite at all times. Avoidance of eye contact with potentially angry/annoyed members of public. Use non-threatening means of communication. Do not reply to (negative) comments.	2	3	6
Working on site	Injury from climbing fences/gates	Site staff	2	4	8	Use designated stiles. Climb with caution and ensure the structures are weight bearing.	1	4	4
Working on site	Livestock / animals / pets	Site staff	5	1	5	Livestock should be moved or secured away from site team. If they are unable to be moved do not approach or antagonise animals. If livestock behave in a threatening manor leave site and inform client.	5	1	5
Working on site	Leptospirosis	Site staff	1	5	5	Ensure all broken skin is covered with waterproof dressings each day. Change dressings as and when they ae no longer sufficient for use. Water proof dressings are provided in all company vehicles. Provide anti-bacterial hand wash in all company vehicles.	1	5	5
Working on site	Contaminated Land. Inhalation or ingestion of harmful substances. Poisoning, allergies, skin complaints from fertilizers, insecticides and other sprayed substances.	Site staff	2	5	10	Liaise with farmer/landowner. Do not work in or adjacent to fields where fertilizers or insecticides are in use or have recently been used.	1	5	5
Working on site	Ticks	Site staff	1	4	4	All staff must wear long trousers.	1	4	4
Working on site	Slips, trips & falls.	Site staff	4	1	4	Wear correct PPE. Do not leave trailing cables in walk routes.	3	1	3
Working on site	Foot injury from sharps in ground	Site staff	2	4	8	Wear correct PPE of non-magnetic boots.	2	3	6
Working on site	Vehicle exhaust inhalation	Site staff	2	5	10	Do not load/unload vehicle with engine on.	1	5	5
Working on site	Injury from moving plant / site traffic	Site staff	2	5	10	Wear hi-visibility jackets. Obey client traffic rules on site.	1	5	5
Working on site	Mis-identification of substances	Site staff	2	5	10	Do not store substances in unmarked containers. Where possible store in container supplied by manufacturer, if not possible then clearly label new container with contents and instructions for use. Ensure all company vehicles carry COSHH data sheets with any hazardous substance.	1	5	5

Charging equipment	Overloading sockets with battery chargers	All staff, other B&B guests	1	5	5	Use sockets provided. Do not use additional multi-gang extensions.	1	5	5
Working on site	Fire from battery/ acid leak	Site staff, other workers, public.	1	4	4	Ensure cables are connected properly and have no visible defects. Do not let cable free terminals touch. Ensure battery is stored upright and is not liable to other falling objects. Keep away from sources of ignition and flammable substances.	1	4	4
Using spray paint	Inhalation of paint fumes	Site staff, other workers, public.	2	5	10	Use chalk or crayon as alternative. If not possible, hold spray paint facing downwind and away from people. Do not use inside or in areas without adequate ventilation. Carry COSHH data sheet in vehicle.	1	5	5
Working on sites open to others	Grazes & contusions / muscular & skeletal injuries from slips, trips & falls on site equipment/plant and/or open inspection chambers	Survey Team Members / Site Personnel / Clients / Public	2	2	4	Establish main work areas and notify site personnel of activities being undertaken and dangers. Correct and careful parking. Use of hazard warning lights where applicable. Use signage and barriers to close off around open chambers and never leave open chambers unattended	1	2	2
Working on “Live” construction sites	Crushing / impact / muscular / skeletal injuries from collisions with vehicles, site plant or machinery	Survey Team Members / Site Personnel	3	4	12	Correct use of Traffic Management where applicable. Wearing appropriate High Visibility and Personal Protective Equipment clothing. *Requirements of Workplace Regulations 1992.* *New Roads & Street Works Act 1991 / Traffic Management Act 2004*	2	3	6
Working on Noisy Construction Site	Damage to hearing due to expose to loud/constant noise	Survey Team Members	3	3	9	Correct ear PPE to be worn at all times as appropriate for the sound and frequency levels. *Sound solutions, techniques to reduce noise at work HSG138.reducing noise at work. Guidance on the noise at work regulations 1989.*	1	3	3
Working in a Power Station	Potential for explosion/death/burns etc	Survey Team Members/Site Personnel	3	4	12	Gas monitors are to be worn at all times during works on live gas sites, especially when using potentially sensitive equipment such as digital cameras/laser measures. If alarm sounds at any point work should cease immediately. Operatives are to navigate to the nearest emergency exit and then follow established site procedure “Hazardous Area” mapping for the site should be made available to all operatives.	2	3	6
Working Outdoors Sunny weather	Exposure to Ultraviolet Radiation	Survey Team Members	3	2	6	Staff Awareness Training as part of induction (toolbox talks) Suitable clothing, hats & tinted safety specs supplied. Lip Balm & Sunscreen minimum factor 15SPF funded. Water supplied.	1	2	2
Working Outdoors (Winter)	Slips, trips and falls due to snow/ice, high Winds, restricted visibility, failing light / darkness	Survey Team Members	3	3	9	Training and due care. Correct footwear. Suitable clothing. Kinetic lifting techniques. Supplementary lighting.	2	3	6
Working near deep water	Hypothermia, drowning from slips, trips and falls	Survey Team Members	3	2	6	Always work as minimum of 2 man team when within 3m of water. Floatation aids. Use of guards, barriers, signs.	1	2	2

Dynamic Risk Assessment

What are the hazards?	Who might be harmed?	What are you already doing to mitigate?	What further action is needed?	Who should take action?	When should it be completed?	Completed?

Completed by:		Signature:		Date:		

HAZARD ANALYSIS AND RISK ASSESSMENT FORM MATRIX

Probability of Occurrence: (Vertical Axis)

1 = Very unlikely
2 = Unlikely
3 = Possible
4 = Foreseeable

Severity of Hazard: (Horizontal Axis)

1 = Minimal - Superficial injuries or illness/localised effects
2 = Minor - More serious effects/fairly limited extent
3 = Significant - Major injuries or ill health/possibility of several casualties
4 = Severe/Fatal - Widespread with far reaching effects

4 x 1 = Medium	**4 x 2 = High**	**4 x 3 = Very High**	**4 x 4 = CRITICAL**
3 x 1 = Low	**3 x 2 = Medium**	**3 x 3 = High**	**3 x 4 = Very High**
2 x 1 = Very Low	**2 x 2 = Low**	**2 x 3 = Medium**	**2 x 4 = High**
1 x 1 = Trivial	**1 x 2 = Very Low**	**1 x 3 = Low**	**1 x 4 = Medium**

Risk Rating

Probability (**P**) x Severity (**S**) = Risk (**R**)

On completion of the Assessment further action may need to be taken if the Residual Risk is still unacceptable: (i.e. if Residual Risk is 8 or above – (High)

Appendix B – COSHH Documents

COSHH ASSESSMENT

I. Worsfold

Ref: SUMO/COSHH/A001/Ver 3 **Date:** 30/04/2016

Process & materials	Marking out with aerosol spray paint
Trade names	Linemarker

Risk to Health

HAZARD	RISK
HIGHLY FLAMMABLE	LOW
IRRITANT	LOW

Hazardous contents	1,2,4-Trimethylbenzene, 1-Methoxy 2- Propanol, 2-Methoxy-1-Methylethyl Acetate, Acetone, Butane, Butyl Acetate, Dimethyl Ether, IsoButane, ethyl Methacrylate, Propane, Solvent Naphtha (Petroleum), Light Aromatic

Route of exposure: Skin ✓ Eyes ✓ Inhaling ✓ Swallowing ✓ Cuts etc. ✓

Maximum Exposure Limit/Occupational Exposure Standard: See material safety data sheet

Uses: Marker paint used externally

Handling Precautions

Works methods	Sprayed from aerosol canister onto surface to be marked
Controls	Keep canister upright, only spray away from persons, and if there a wind stand upwind. Use of spray should be prohibited if a source of ignition is close by, and under no circumstances should smoking be allowed when using the spray. Care should be taken not too pierce the canister and empty cans disposed of carefully.

Protective Equipment:

Equipment	EN Type	
Goggles	EN 166 B349	Where risk of eye contact
Gloves	EN 388	

Risk Estimate

Risk to health adequately controlled if the above handling precautions are in force: ✓

Risk to health requires above precautions and further action as detailed after: ☐

COSSH action required		**Safety actions**
Handling precautions in place	✓	
Maintenance of controls	☐	
Monitoring of exposure	☐	

COSHH ASSESSMENT

Ref: SUMO/COSHH/A001/Ver 5 **Date: 30/04/2016**

Process & materials	Marking out with aerosol spray paint	
Information to staff	✓	COSHH Assessment
Written instructions used		
Training	✓	On induction
Health surveillance	✓	Field Managers to carry out site audits
Other controls		

Further Information

First Aid arrangements	Eyes	Remove contact lens (if applicable), Wash with copious amounts of water for at least 15 minutes Seek medical attention if discomfort continues
	Skin	Wash with soap or mild detergent and water Seek medical attention if discomfort continues
	Inhalation	Move to fresh air at once Seek immediate medical assistance
	Ingestion	DO NOT INDUCE VOMITING Rinse mouth thoroughly with water Seek medical attention if discomfort continues
Fire Precautions	Keep away from sources of ignition May explode in a fire Extinguish with Powder, Water Spray, Fog or Mist	
Storage	Store away from heat source, protect from direct sunlight in a well ventilated location	
Transport	Transport upright in position within storage boxes in vehicle	
Spillage	Extinguish all ignition sources/Ventilate area/let evaporate before	
Waste Disposal	Return empty / used canisters for disposal	
Further information contact	Blue Diamond, Clayfields Industrial Estate, Tickhill Road, Balby, Doncaster, DN4 8QG Tel: 01302 310 113 Fax: 01302 310 114	

FOR FULL DETAILS OF THIS PRODUCT REFER TO THE MANUFACTURE'S MATERIAL SAFETY DATA SHEET

Blue Diamond STL
Clayfields Industrial Estate,
Tickhill Road, Doncaster,
South Yorkshire, DN4 8QG.
Tel: Doncaster (01302) 310113

TEMPORARY LINE MARKER SPRAY
PRODUCT SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND USES

PRODUCT NAME: Temporary Line Marker Spray
PRODUCT TYPE: A hand-held pre-pressurised aerosol.
SPECIFIED USE: Short term washable line or spot marking

2. COMPOSITION INFORMATION

HAZARDOUS INGREDIENTS	CAS NO	INDEX	CLASS/ RISK	RANGE
Methoxy-2-Propanol	107-98-2	203-539-1	R10	20-40%
Ethanol	64-17-5	200-578-6	R11	10-30%
Butane	106-97-8	203-448-7	F+, R12	10-30%
Propane	74-98-6	200-827-9	F+, R12	10-30%
Other non-hazardous components	(includes water, colour and base)			5-15%

3. HAZARD IDENTIFICATION / SAFETY PRECAUTIONS

THIS IS AN AEROSOL PRODUCT - USE ONLY IN WELL-VENTILATED AREAS.
The contents are **FLAMMABLE** and maybe **HARMFUL** by deliberate prolonged inhalation or ingestion.
Hydrocarbon propellant is an asphyxiant if there is insufficient ventilation. This would constitute abuse of the product.
ALWAYS WASH HANDS AFTER USE. Repeated exposure may cause skin dryness or cracking.
KEEP IN A SAFE PLACE AWAY FROM CHILDREN.
FLAMMABLE - pressurised container. Protect from sunlight and do not expose to temperatures exceeding 50 degrees C. Do not spray onto a naked flame or any incandescent material, hot surface or unprotected electrical equipment.
DO NOT BREATHE SPRAY MIST. Vapours may cause drowsiness and dizziness.
DO NOT SPRAY NEAR EYES. Irritating to eyes.
ALWAYS READ CONTAINER WARNINGS.

4. FIRST AID MEASURES

INHALATION: Asphyxiation by butane will precede any toxicological effects of the active elements. Remove the patient to fresh air and treat symptomatically.

SKIN CONTACT: Wash with soap and water. Mild irritation may occur. Repeated contact may cause skin dryness and cracking.

EYE CONTACT: **NEVER USE AEROSOLS NEAR EYES/MUCOUS MEMBRANES.** Flush with copious quantities of water. Seek medical advice. Product is classified as irritating to eyes.

INGESTION: Unlikely. May cause nausea and discomfort. Carry out a gastric lavage to reduce discomfort. The contents would tend to be absorbed by the body with no significant effects, particularly in these concentrations. Treat symptomatically. Seek medical advice and show the container.

5. FIRE FIGHTING MEASURES

Pressurised aerosols should not be exposed to temperatures exceeding 50° C. Above this, containers may explode and the resultant flammable mixture will burn to produce CO2.
Use water to cool undamaged stock only. Avoid contamination of the water courses where damaged stock is leaking.
EXTINGUISHING MEDIA: CO2, BCF, dry powder, sand or earth.
For larger fire use foam, water fog or spray, avoiding contamination.

Partners: J & R West
VAT Reg. No. 381 3533 68

Blue Diamond STL
Clayfields Industrial Estate,
Tickhill Road, Doncaster,
South Yorkshire, DN4 8QG.
Tel: Doncaster (01302) 310113

POSITIVE PRESSURE BREATHING APPARATUS SHOULD BE USED.

6. ACCIDENTAL RELEASE MEASURES.

INITIAL SPILLAGE WOULD BE FLAMMABLE. Spillage is unlikely in large quantities with an aerosol product. Keep damaged containers away from sources of ignition and in well ventilated areas
Environment. In the concentrations within 1-1000 cans the components would not present an environmental hazard as most of the product would quickly evaporate, leaving only the residue.
Cleaning. In small quantities any liquid should be absorbed into a suitable media, such as sand and disposed of safely. The residue should be washed away with soapy water.

7. HANDLING AND STORAGE.

Handling. Handle carefully. In general handling aerosols should not be considered as hazardous.
Storage. Always store aerosols away from sources of heat, including direct sunlight and in dry conditions. Avoid extremes of temperature and moisture. A stable, cool, dry ambient environment is most suitable. Avoid contamination with other products.
The containers will not last indefinitely even when stored in a cool dry area, they should be inspected periodically during long-term storage. Note container warnings.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Supplier recommends 600ppm total hydrocarbon based on composition. As with all aerosols, the products should only be used in well-ventilated areas, but responsible use is not potentially harmful.
Respiratory protection. If ventilation is not possible, then suitable respiratory protection is essential if there is a risk of solvent vapour concentrations. Use organic/inorganic vapour filters. Vapours may cause drowsiness or dizziness.
Hand Protection. Repeated exposure may cause skin cracking or dryness, gloves may be required.
Eye Protection. AVOID SPRAYING NEAR EYES. Irritating to eyes. If there is a risk of eye contact wear glasses, goggles or face-shield.
Skin Protection. Repeated exposure may cause skin cracking or dryness, covering of exposed skin may be required.
In general the aerosol product is a convenient and safe method of supply. Only in continuous or repeated usage conditions should personal protective measures be required or exposure controls considered.

9. PHYSICAL AND CHEMICAL PROPERTIES

As the product is an aerosol, it is an aerosol container with no potential properties, provided the container warnings are observed. Details apply to the liquid phase of the product only (propellant gas will evaporate immediately):

Appearance:	Colourless liquid
Odour:	ammonia
pH:	Not applicable.
Boiling Point:	>100°C
Melting Point:	<-10°C
Flash Point:	>30°C
Flammability:	Highly flammable liquid.
Autoflammability:	Not known
Explosive properties:	None
Oxidising Properties:	None
Vapour Pressure:	unknown
Relative density:	0.845kg/m3
Solubility:	soluble in water

Partners: J & R West
VAT Reg. No. 381 3533 58

Blue Diamond STL
Clayfields Industrial Estate,
Tickhill Road, Doncaster,
South Yorkshire, DN4 8QG.
Tel: Doncaster (01302) 310113

10. STABILITY AND REACTIVITY

The container is inherently stable under instructed conditions for a reasonable period of time (at least 24-36 months).
AVOID extremes of temperature, including direct sunlight and extreme freezing. Avoid exposure to moisture, which may cause container deterioration and pH, where acidity may damage container integrity. Avoid sudden impacts, which may damage container integrity.
Avoid contact with water, acids, high temperatures.
Container corrosion may occur with time and damaged containers should be disposed of before any danger is evident.
Flammable, liquid contents should be considered generally not reactive.

11. TOXICOLOGICAL INFORMATION

THIS IS DESIGNED FOR EXTERNAL USE ONLY.
Essentially, when used in this aerosol form, there are no potential toxic effects. The data is as follows:
Used correctly in aerosol form, all components can be considered to have a low order of toxicity (LD50 oral rat 500mg/kg, skin 3000mg/kg). Deliberate inhalation may cause severe pulmonary and breathing difficulty, dizziness, drowsiness (narcosis) and headaches (but this is unlikely in normal usage), and would constitute abuse.
Skin and eye irritation may result from continued exposure to vapours when used in areas of poor ventilation, or when working in close proximity to the spray for prolonged periods, and suitable steps should be taken to avoid such conditions.
BUTANE/ PROPANE The Occupational Exposure Standard is 600ppm (1430 mgm)
ETHANOL Oral rat LD50 7060mg/kg
1-METHOXY-2-PROPANOL
May cause irritation, redness and pain to eyes & skin. Vapours are irritating to respiratory tract, disagreeable to breathe above 100ppm because of odour. Eye, nasal & throat irritation will occur before CNS effects, which occur at 1000ppm. Headache, dizziness & incordination may occur. If ingested, may cause irritation to gastrointestinal tract, symptoms include nausea, vomiting & diarrhea.

12. ECOLOGICAL INFORMATION

This relates to the contents only, see Disposal.
The product will evaporate quickly to the air. A colourless liquid , easily absorbed, will evaporate leaving minimal residue. The residue will present no other significant hazards, with no dangerous products arising from degradation.
Mobility will be fast.
Degradation will be relatively slow though ultimately almost complete.
Accumulation is unlikely once physical breakdown commences.
Short and long term effects should not be considered significant. Very short term damage to aquatic and soil organisms may occur in large spillage (1000+ containers) though this should disperse quickly (especially if absorbent material is used). No effects on plants or animals are indicated. There is no ozone depletion, ozone creation or global warming potential. Water treatment plants would not be affected by small to medium volumes of this material.

13. DISPOSAL CONSIDERATIONS

The container should be totally discharged and disposed of as hazardous waste. **SEE CONTAINER WARNINGS.** I.e. do not puncture or incinerate/burn, even after use. Dried material is non-hazardous.

14. TRANSPORT INFORMATION

UN NUMBER: UN 1950 IMDG page 9022/2120
HAZARD CLASS: 9 Miscellaneous Dangerous Goods. 2.1 For Sea Transport.
UK TRANSPORT DESCRIPTION: FLAMMABLE AEROSOLS (capacity less than 1 litre).
UK TRANSPORT CLASSIFICATION: MISCELLANEOUS GOODS

Partners: J & P West VAT Reg. No. 381 3533 58

Blue Diamond STL
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Tel: Doncaster (01302) 310113

(Note: ADR-for road transport in UK aerosols are classified as non-hazardous-treat as Class 9. For sea or air transport these goods should be classified as Class 2.2 (non-flammable aerosols). This is because more than 50% by weight of the cointents are non-flammable).

15. REGULATORY INFORMATION

The COSHH Regulations apply in the UK.
The CHIP Regulations apply in the UK.
The Environmental Protection Act Regulations apply in the UK.
SYMBOLS: F+, Protect from sunlight and do not expose to temperatures exceeding 50 degrees C. Do not pierce or burn, even after use. Do not spray onto a naked flame or any incandescent material. (aerosol safety phrases).
RISK/SAFETY PHRASES:

F	Highly flammable
Xi	Irritant
C	Corrosive
N	Dangerous for the environment
R10	Flammable
R11	Highly flammable
R12	Extremely flammable
S (2)	Keep out of reach of children.
S7	Keep container tightly closed.
S16	Keep away from sources of ignition – no smoking.
S24	Avoid contact with skin.

16. OTHER INFORMATION

This is an aerosol product and should be used carefully.
It represents no greater dangers than any other aerosol product and all regulations applicable are general industry guidelines.
The information included is all that available for the component products at this time.
The information contained herein is based upon the current state of our knowledge.
SINCE THE STORAGE, APPLICATION AND DISPOSAL OF THESE PRODUCTS IS NOT WITHIN THE CONTROL OF THE COMPANY. IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFETY IN TERMS OF ALL ASPECTS RELATING TO THEIR PRODUCTS. THE COMPANY ACCEPTS NO LIABILITY FOR AND MAKES NO CLAIMS REGARDING THE USES, QUALITIES OR COMPONENTS OF THIS PRODUCT WHICH MAY VARY FROM COUNTRY TO COUNTRY.

ALWAYS OBSERVE ALL CONTAINER AND DATA SHEET WARNINGS
ALWAYS READ THE LABEL BEFORE USE.
February 20, 2004

Partners: J & R West
VAT Reg. No. 381 3533 58

COSHH ASSESSMENT



I. Worsfold

Ref: SUMO/COSHH/A002/Ver 4 **Date: 30/04/2016**

Process & materials	Biological Hazard - Sharps
Trade names	

Risk to Health

HAZARD	RISK
HARMFUL	LOW

Hazardous contents: Organic and non organic sharps

Route of exposure: Skin ☑ Eyes ☑ Inhaling ☐ Swallowing ☐ Cuts etc. ☑

Maximum Exposure Limit/Occupational Exposure Standard: n/a

Uses: n/a

Handling Precautions

Works methods:
Where sharps are likely, wear appropriate personal protective equipment
Do not touch / pick up sharps

Controls:
Before staring work cover all cuts and grazes with waterproof dressings
Wash with soap or mild detergent and water before eating, drinking
Do not rub or touch eyes or mouth before washing hands
Remove any clothing that may have been contaminated

Protective Equipment

Equipment	EN Type
Gloves	EN 388

Risk Estimate

Risk to health adequately controlled if the above handling precautions are in force ☑

Risk to health requires above precautions and further action as detailed after ☐

COSSH action required		Safety actions
Handling precautions in place	☑	Wear gloves at all times
Maintenance of controls	☑	Site audits checking for compliance
Monitoring of exposure	☐	

COSHH ASSESSMENT

Ref: SUMO/COSHH/A002/Ver 4 **Date: 30/04/2016**

Process & materials	Biological Hazard - Sharps	
Information to staff	✓	COSHH Assessment
Written instructions used		
Training	✓	On induction
Health surveillance	✓	Field Managers to carry out site audits
Other controls		

Further Information

First Aid arrangements	Eyes	Remove contact lens (if applicable), Wash with copious amounts of water for at least 15 minutes Seek medical attention if discomfort continues
	Skin	Cover all cuts and grazes with waterproof dressings Wash with soap or mild detergent and water Seek medical attention if discomfort continues
	Inhalation	n/a
	Ingestion	n/a
Fire Precautions	n/a	
Storage	Any sharps picked up to be kept in a secure lidded container for disposal off site	
Transport	To be kept in a secure lidded container	
Spillage	n/a	
Waste Disposal	To be taken off site for disposal	
Further information contact		

COSHH ASSESSMENT



I. Worsfold

Ref: SUMO/COSHH/A003/Ver 4 **Date: 30/04/2016**

Process & materials	Anywhere rodents are present - Rat Urine
Trade names	

Risk to Health

HAZARD	RISK
HARMFUL	LOW

Hazardous contents Micro-organisms - Leptospirosis (Weils Disease)

Route of exposure

Skin	Eyes	Inhaling	Swallowing	Cuts etc.
☐	☑	☐	☑	☑

Maximum Exposure Limit/Occupational Exposure Standard

n/a

Uses n/a

Handling Precautions

Works methods

Wear gloves at all times when lifting / moving materials from the ground
Wear goggles where risk of splashing
Do not disturb standing water

Controls

Before staring work cover all cuts and grazes with waterproof dressings
Wash with soap or mild detergent and water before eating, drinking
Do not rub or touch eyes, mouth or nose before washing hands
Remove any clothing that may have been contaminated
Clean off tools if contaminated
Seek medical attention if you suffer any flu like symptoms

Protective Equipment

Equipment	EN Type	
Goggles	EN 166 B349	Where risk of splashing
Gloves	EN 388	

Risk Estimate

Risk to health adequately controlled if the above handling precautions are in force ☑

Risk to health requires above precautions and further action as detailed after ☐

COSSH action required		**Safety actions**
Handling precautions in place	☑	Wear gloves at all times
Maintenance of controls	☑	Site audits checking for compliance
Monitoring of exposure	☐	

COSHH ASSESSMENT

Ref: SUMO/COSHH/A003/Ver 4 **Date: 30/04/2016**

Process & materials	Anywhere rodents are present - Rat Urine	
Information to staff	✓	COSHH Assessment
Written instructions used		
Training	✓	Toolbox talks
Health surveillance	✓	Field Managers to carry out site audits
Other controls		

Further Information

First Aid arrangements	Eyes	Remove contact lens (if applicable), Wash with copious amounts of water for at least 15 minutes
	Skin	Cover all cuts and grazes with waterproof dressings Wash with soap or mild detergent and water
	Inhalation	n/a
	Ingestion	Wash with soap or mild detergent and water before eating, drinking
Fire Precautions	n/a	
Storage	n/a	
Transport	n/a	
Spillage	n/a	
Waste Disposal	n/a	
Further information contact		

COSHH ASSESSMENT

Ref: SUMO/COSHH/A004/Ver 4 **Date: 30/04/2016**

I. Worsfold

Process & materials Diluting and applying tracing dye to drain

Trade names Monument Fluorlscein Drain Tracing Dye

Risk to Health

HAZARD	RISK
TOXIC	LOW
HARMFUL	LOW
IRRITANT	LOW

Hazardous contents: Non Toxic, bio-degradable

Route of exposure: Skin ✓ Eyes ✓ Inhaling ☐ Swallowing ✓ Cuts etc. ✓

Maximum Exposure Limit/Occupational Exposure Standard: n/a

Uses: To trace run of drain

Handling Precautions

Works methods: Tracing dye powder dissolved in a suitable container and then poured into drain

Controls: Keep container tightly closed. Store in cool, well ventilated area

Protective Equipment

Equipment	EN Type
Goggles	EN 166 B349
Gloves	EN 388

Risk Estimate

Risk to health adequately controlled if the above handling precautions are in force ✓

Risk to health requires above precautions and further action as detailed after ☐

COSSH action required **Safety actions**

Handling precautions in place	✓	
Maintenance of controls	✓	COSHH assessment
Monitoring of exposure	☐	

COSHH ASSESSMENT

Ref: SUMO/COSHH/A004/Ver 4 **Date: 30/04/2016**

Process & materials	Diluting and applying tracing dye to drain	
Information to staff	✓	Briefing
Written instructions used	✓	Risk Assessment
Training		
Health surveillance		
Other controls		

Further Information

First Aid arrangements	Eyes	Remove contact lens (if applicable), Wash with copious amounts of water for at least 15 minutes Seek medical attention if discomfort continues
	Skin	Wash with soap or mild detergent and water
	Inhalation	Move to fresh air at once
	Ingestion	Rinse mouth thoroughly with water Seek medical attention
Fire Precautions	Extinguish with Water Spray, foam dry powder, carbon dioxide	
Storage	Keep container tightly closed. Store in cool, well ventilated area	
Transport	In secure containers	
Spillage	Wash area with cold water, use absorbent material such as sand	
Waste Disposal	Dilute only in prescribed dilution ratio	
Further information contact	Monument Tools Ltd, Restmor Way, Hackbridge, Wallington, Surrey, SM6 7AH Tel: 020 8288 1100 Fax: 020 8288 1108	

FOR FULL DETAILS OF THIS PRODUCT REFER TO THE MANUFACTURE'S MATERIAL SAFETY DATA SHEET