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J TOMLINSON LIMITED

PROPOSED CARE HOME, ST ANDREWS ROAD, MALVERN

ARCHAEOLOGICAL EVALUATION REPORT

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J TOMLINSON LIMITED

**PROPOSED CARE HOME, ST ANDREWS ROAD, MALVERN (FORMER MALVERN QINETIQ
TECHNOLOGY COLLEGE)**

ARCHAEOLOGICAL EVALUATION REPORT

MARCH 2021

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DESK BASED ASSESSMENTS
ARCHAEOLOGICAL EVALUATION
ARCHAEOLOGICAL EXCAVATION
GEOPHYSICAL SURVEY
TOPOGRAPHIC AND LANDSCAPE
SURVEY
HISTORIC BUILDING RECORDING
EIA AND HERITAGE CONSULTANCY

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EXECUTIVE SUMMARY

Wardell Armstrong LLP was commissioned by Harris Irwin Associates, on behalf of J Tomlinson Limited to undertake an Archaeological Evaluation of land in the western part of the former Malvern QinetiQ Technology College, St Andrews Road, Malvern, WR14 3PS.

The investigations were required to investigate the potential for archaeological remains ahead of a proposed development comprising the demolition of existing buildings and re-development to comprise 310 dwellings and a 66-bed care home facility, and associated infrastructure; for which a planning application has been granted by Malvern Hills District Council.

Previous archaeological works for this Site have included an archaeological desk-based assessment and an historic building record, which covered the whole site of the former Malvern Technology Centre, extending to the east of the present Site. All standing buildings related to the former Malvern Technology Site were recorded, including those recently demolished within the Site. An archaeological trial trench evaluation was undertaken within the wider site to the east, which identified three areas of archaeological potential, although these did not extend to land within the Site.

Given the unknown potential for archaeological remains within the Site, the Local Planning Authority, Malvern Hills District Council imposed a condition on the planning permission requiring a programme of Archaeological Evaluation by Trial Trenching.

The Evaluation was undertaken according to a scope and Written Scheme of Investigation agreed with the Archaeology and Planning Advisor at Malvern Hills District Council. It comprised the excavation of three trenches.

Trench 1 was devoid of archaeological interest. Trench 2 revealed the footings of the former WW2 buildings. Trench 3 revealed a tree bole, a field drain and a gully, all of which produced artefact finds of Victorian date. The results of the evaluation suggest truncation of original ground levels, most likely associated with the construction of the former military base and no other remains of archaeological interest were encountered.

1 INTRODUCTION

1.1 Circumstances of the Project

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Harris Irwin Associates, on behalf of J Tomlinson Limited (hereafter referred to as 'the Client') to undertake an archaeological evaluation at land in the western part of the former Malvern QinetiQ Technology College, St Andrews Road, Malvern, WR14 3PS (hereafter referred to as 'the Site'). The Site is centred on National Grid Reference (NGR) 378220, 244700 (BM12128-003).

1.1.2 Planning consent, with conditions, has been granted by Malvern Hills District Council (MHDC) for the demolition of existing buildings and re-development within the former Technology College site (hereafter referred to as 'the wider application site') to comprise: 310 dwellings (Use Class C3) (including 20% provision of affordable housing) and a 66-bed care home facility (Use Class C2), to include a new access junction onto Longridge Road; Upgraded access arrangements to St Andrews Road; The principal road bisecting the Site between St Andrews Road and Longridge Road; Internal roads, footpaths and cycleways; Car parking; Public open space, including formal and informal play areas; Landscaping, boundary treatments and green infrastructure; Sustainable drainage systems; and related works including earthworks, remediation, tree clearance, utilities service diversion, connections and ancillary structures (Planning Reference: Ref. 18/01088/FUL). The Site currently considered includes the proposed care home, on land to the east of St Andrews Road and north of the road between St Andrews Road and Longridge Road.

1.1.3 Due to the unknown potential for archaeology within the development Site, Condition 6 was attached, which states:

(A) No development shall take place until a programme of archaeological work, including a Written Scheme of Investigation, has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions; and:

- 1) The programme and methodology of site investigation and recording, including the recording of buildings to be demolished (Level III in accordance with the Historic England guidelines).
- 2) The programme for post investigation assessment.
- 3) Provision to be made for analysis of the site investigation and recording.
- 4) Provision to be made for publication and dissemination of the analysis and records of the site investigation.
- 5) Provision to be made for archive deposition of the analysis and records of the site

investigation.

6) Nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation.

(B) The development shall not be occupied until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under condition (A) and the provision made for analysis, publication and dissemination of results and archive deposition has been secured.

Reason: To ensure that any archaeological remains are preserved and properly recorded in accordance with Policies SWDP 6 and 24 of the South Worcestershire Development Plan and the requirements of paragraphs 189 and 199 of the National Planning Policy Framework.

1.1.4 The definition of an archaeological field Evaluation is '*a limited programme of non-intrusive and / or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present field evaluation defines their character, extent, quantity and preservation, and enables an assessment of their worth in a local, regional, national and international context as appropriate*' (ClfA 2020).

1.1.5 The project conformed to a Written Scheme of Investigation (WSI; WA, 2021) prepared in consultation with Aidan Smyth, the Archaeology and Planning Advisor for MHDC (via email : dated 20 January 2021). This is in line with government advice as set out in Section 16 of the National Planning Policy Framework (DCMS, 2019).

1.1.6 In addition, the archaeological Evaluation by Trial Trenching conforms to the guidelines and standards laid down in the following documents:

- *Standard and Guidance for an Archaeological Evaluation*, Chartered Institute for Archaeologists: Reading (ClfA 2020a);
- *Code of Approved Conduct for the Regulation of Arrangements in Field Archaeology*, Chartered Institute for Archaeologists: Reading (ClfA 2020b);
- *Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*, Chartered Institute for Archaeologists: Reading (ClfA 2020c); and
- *Management of Archaeological Research Projects in the Historic Environment (MoRPHE)*, Historic England: London (HE 2015).
- *WA Technical Manual for field archaeology* (WA 2017)

2 BACKGROUND

2.1 Location and Geological Context

2.1.1 The Site is located in the southern extent of the town of Malvern, south of the Barnard's Green area and c. 5.5km west of the River Severn on an east facing slope. The Site is bounded to the west by St. Andrew's Road, to the south by residential dwellings fronting Arosa Drive, to the east by the larger development site and to the north by Fraser Close with Malvern Technology Centre beyond (Drawing BM12128-001).

2.1.2 The Site encompasses a roughly rectangular piece plot of land, measuring c. 0.6 hectares. It comprises areas of hardstanding and the remains -at ground level -of a complex of disused WWII and later buildings. The ground is situated at a height of c.80m AOD (Above Ordnance Datum) where adjacent to St Andrews Road.

2.1.3 The underlying geology is mapped as Mercian Mudstone (Sidmouth Formation), formed approximately 228 to 250 million years ago in the Triassic Period. This was overlain by head deposits of clay, silt, sand and gravel, formed up to 3 million years ago in the Quaternary Period (BGS 2021).

2.2 Archaeological and Historical Background

2.2.1 An archaeological desk-based assessment (WA 2018) was produced on the known archaeological and historical background of the area covered by the planning application -the 'wider application site' -and a 1km study area.

2.2.2 Subsequent to the planning condition, an historic building record (HBR-001; WA, 2020a) was been made of all standing buildings related to the former Malvern Technology Centre, including those recently demolished within the Site, as indicated above.

2.2.3 An archaeological trial trench evaluation (MQT-A; Report BM11422-0006; WA, 2020b) was undertaken within the wider application site to the east, which identified three areas of archaeological potential, one of which was recorded via a watching brief on initial groundworks (MQT-B) and two were subject to open area excavation (MQT-C; MQT;D) (Report BM11422-0009; WA, 2020c). The Roman artefactual assemblage from the excavation was of sufficient archaeological significance for further analysis

to be required, which is ongoing. What follows is a brief overview of these documents; for more information please refer to the original reports.

2.2.4 *Prehistoric (up to 42AD)*

2.2.5 No prehistoric remains were identified during fieldwork within the larger site (discussed above). However, within the far northern edge of the larger site, two previous archaeological investigations have revealed a Bronze Age ditch (Worcestershire County Council Archaeology Service; WCCAS, 2000a) and evidence for a possible Bronze Age to early Iron Age industrial site, comprising pottery and burnt stone (HER reference WSM45207) (WCCAS, 2002). These features were found in association with Romano-British activity.

2.2.6 In addition, a single prehistoric lithic was found during investigations at Chase High School, to the east of the Site (WCCAS, 2000b).

2.2.7 Some 675m to the north-west of the Site, the HER records a drove road, which could have its origins in the late Iron Age period (HER reference WSM32075).

2.2.8 Given the general potential for prehistoric remains in the surrounding area, but lack of such remains during previous field evaluation to the east and truncation within the site caused by previous development; unknown prehistoric remains were not expected to be present within the Site.

2.2.9 *Romano-British (42 to 410AD)*

2.2.10 Archaeological excavation some 95m to the east of the Site, in the wider application site (Area 12), identified the remains of potentially three phases of Roman activity on the northern peripheries of a settlement between the 1st to 3rd centuries, including two ditches which would have created a driveway leading off-site to the north-west.

2.2.11 The excavation area further to the east, some 275m from the Site (Area 19) recorded the south-east corner of a settlement enclosure, from which a large boundary ditch extended southwards for 80m before terminating. Pottery recovered from the excavation was dated to the late 1st to early 4th centuries, although with the vast bulk of the assemblage from the 2nd to 3rd centuries. The typology and volume of pottery attests to a production site within the vicinity likely to the north-east.

2.2.12 Within the far north of the wider application site, previous fieldwork recovered a large quantity of Roman pottery, tile, a coin and a brooch fragment during stripping (HER reference WSM45207). A small number of intercutting early Roman gully-ditches were

also identified. The large number of Roman tiles found suggests the existence of a substantial building nearby.

2.2.13 Adjacent to the east of the wider application site, well-preserved deposits comprised 1st to late 3rd century AD Romano-British occupation layers, a yard surface, a boundary ditch, and a pit containing evidence of metalworking activity (HER reference WSM15577). The ceramic assemblage recovered included domestic pottery as well as mould fragments, which were provisionally identified as copper working waste. Significant environmental evidence was also recovered, notably edible fruit stones and parasite eggs from human waste, the latter providing the first direct dietary evidence from the Roman period in the county.

2.2.14 The previous fieldwork investigations have revealed clear evidence for Romano-British settlement within the wider application site and surrounding area. The focus of the settlement was clearly concentrated to the east of the wider application site, although extended within it. The possibility for any remains within the current Site therefore depends on the level of truncation to original ground levels caused by previous development, where these survive in 'islands' in the wider application site; therefore, it was considered that there is a medium potential for further remains of this date within the Site.

2.2.15 *Early Medieval (c.410 to 1066AD)*

2.2.16 There are no early medieval HER heritage assets recorded within the Site, wider application site or surrounding search area. As such, the potential for unknown early medieval remains is very low.

2.2.17 *Medieval (c.1066 to 1540AD)*

2.2.18 The HER records medieval ridge and furrow, visible on historic aerial photographs, within the northern part of the wider application site, in the same area where the Romano-British activity is recorded (HER reference WSM45207).

2.2.19 The majority of the medieval HER heritage assets within the wider area comprise areas of ridge and furrow cultivation, which illustrates the historically agricultural nature of this area. In addition, there is a lane and trackway (HER references WSM48316 and

WSM11754) and a boundary bank (HER reference WSM49890), which have their origins in the medieval period.

2.2.20 The medieval place name of Barnard's Green, located 400m north of the Site, is recorded on the HER (HER reference WSM24398). The name likely derives from the family of Bernard mentioned in 1275.

2.2.21 The medieval evidence is sparse and mostly related to the agricultural use of the land. It was therefore considered that there is low potential medieval activity to survive within the Site, which would be most likely to be related to agricultural land use.

2.2.22 Post-medieval (c.1540AD to present)

2.2.23 The HER records that the Site and wider application site was developed as the Naval Basic Training Establishment during the Second World War (HER references WSM42821, WSM69538, WSM42813, WSM29424 and WSM17187).

2.2.24 Previously to this development the land use was primarily agricultural in nature. The First Edition Ordnance Survey (OS) map (1888), shows that the GWR Worcester, Malvern & Hereford Branch Railway had been constructed to the west of the Site (HER reference WSM31668), and Poolbrook to the east of the Site contained more houses than the present. Land within the Site was in agricultural use.

2.2.25 The Second Edition OS map (1904) shows a building labelled as 'College Sanatorium', part of Malvern College adjacent to St Andrews Road. Three additional buildings were shown to the south of 'College Sanatorium', also within the Site, on the 1927 Edition OS map. They were most likely also associated with the college.

2.2.26 The 1938 OS map identifies the Site as in use as playing fields, most likely associated with Malvern College.

2.2.27 It was not until 1941 that the Site was extensively built-on when it was taken over and developed as part of HMS Duke as an inland navel basic training 'ship' (HER reference WSM25017). It was disbanded in 1946.

2.2.28 In 1953, Telecommunications Research Establishment (TRE), who during the Second World War had established themselves at Malvern College, moved permanently to the Site. At this time, it merged with the Army Radar Establishment to form the Radar Research Establishment (RRE), later the Royal Radar Research Establishment. In 1976 this was merged with the Signals Research and Development Establishment to form the Royal Signal and Radar Establishment (RSRE). The Site later became known as DRE

(Defence Research Establishment) Malvern, followed by DERA (Defence and Evaluation Research Agency) Malvern. In 2000, it was privatised and became known as Qinetiq (HER references WSM42821, WSM69538, WSM42813, WSM29424 and WSM17187).

2.2.29 Presently, the Site is disused and the former buildings have been demolished.

2.2.30 The potential for unknown post-medieval remains was considered to be low.

3 AIMS AND OBJECTIVES

3.1.1 The purpose of the archaeological Evaluation was to investigate the potential of the archaeological resource and, where present, to characterise and date it. This information is to be used to help MHDC come to an informed decision on the requirement for any further archaeological work, should it be required, and the methodologies to be employed.

3.1.2 The general aims of the evaluation were to:

- determine the presence or absence of buried archaeological remains within the Site;
- determine the character, date, extent and distribution of any archaeological deposits revealed as well as their potential significance;
- determine levels of disturbance to any archaeological deposits from previous development of the Site, including Second World War development, re-purposing as a technology college and extensive services installation;
- determine the likely impact on any archaeological deposits as a consequence of the proposed development; and
- disseminate the results of the fieldwork through an appropriate level of recording.

4 METHODOLOGY

4.1 Documentary Research

4.1.1 An archaeological desk-based assessment was prepared (WA 2018), which set out the known archaeological and historical background of the Site, and provided an assessment of the significance of all known and potential heritage assets up to 1km from the development area.

4.2 Archaeological Evaluation

4.2.1 In accordance with discussions held between WA and Aidan Smyth, acting on behalf MHDC a scheme of archaeological Evaluation by Trial Trenching has been designed to satisfy the stated objectives of the project as set out under Section 3 of the WSI (WA 2021).

4.2.2 The Evaluation comprised the excavation of 3 trenches, 2 measuring 30m in length by 1.8m in width, and a 'T' shaped trench measuring 21m and 10m long by 1.8m wide, across the proposed development of c. 0.6 hectares representing a 3% sample by area of the overall Site. The trenches were placed to include sample trenches across the extent of the Site including limits of the development, road frontage, and former building locations, allowing for site logistics such as access routes, possible obstructions and service locations. Trench 1 had to be moved 10m to the west to allow for the access/egress of the wider application site by other contractors.

4.2.3 In advance of the fieldwork WA ensured that all reasonable measures were taken to identify any constraints and had obtained information from the Client on the presence of services, any ecological constraints, the presence of Public Rights of Way, the presence of contaminated land or any other risks to health and safety.

4.2.4 Immediately prior to all excavation works conducted by WA a Cable Avoidance Tool (C.A.T) was used to determine the presence or absence of electrical cables in the locations intended for excavation.

4.2.5 Once opened, the trenches were left open to allow for weathering and differential drying to maximise the potential identification of archaeological features and deposits. All plan and section surfaces were examined for potential archaeology.

4.2.6 Trench 1 was shortened and reshaped to a 'T' shaped trench (to allow for the full sample rate) due to the presence of demolition debris to the west and to keep access

to the Site in the east. The east-west span of the trench was 21m and north-south 10m.

4.2.7 Deposits considered not to be significant were removed by a 360° tracked mechanical excavator fitted with a toothless ditching bucket, under close archaeological supervision. The trial trenches were subsequently cleaned by hand and all possible features were inspected for their potential, selected deposits were excavated by hand to retrieve artefactual material and palaeoenvironmental samples. All features were to be excavated and recorded according to professional standards using the format set out in the WA excavation manual (WA 2017).

4.2.8 All finds encountered were retained on site and returned to the office where they were identified, quantified and dated to period. A *terminus post quem* was then produced for each stratified context and the dates used to help determine the broad date phasing for the site. On completion of the fieldwork, the finds were cleaned and packaged according to standard guidelines (CIfA 2020c). Please note, the following categories of materials will be discarded after a period of 6 months following the submission of this report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):

- where unstratified;
- modern pottery;
- material that has been assessed as having no obvious grounds for retention.

4.2.9 On completion of the investigations the evaluation trenches were reinstated by replacing the excavated material and compacting it using the mechanical excavator.

4.3 Investigation and Sampling Strategy

4.3.1 Archaeological features were sampled sufficiently to characterise, date them and determine their significance, i.e. 10% of fills of linear features and 50% of pit fills.

4.4 Recording

4.4.1 Archaeological deposits and features were recorded according to accepted professional standards and sufficient data were recorded to allow for a full characterisation of the context and its relationships to be made and allow for future studies to query and compare the dataset with confidence.

4.4.2 Archaeological contexts were recorded and numbered individually on pro-forma context sheets. In addition, a further, more general record of the work comprising

descriptions and discussions of the archaeology was maintained as appropriate. Context sheets were primarily filled in by the archaeologist who excavated the feature/deposit.

- 4.4.3 All features were recorded using a Trimble TSC3 GPS unit with sub-centimetre accuracy with each point recorded in relation to the OSGB36 geod model and coded to an internal database to provide a dataset that records feature type, context number, associated drawing numbers and any other feature specific information that was relevant. The plan provides a three-dimensional geo-referenced visual representation of the archaeology present. In addition, features that required more detailed illustration were undertaken by hand in relation to a feature specific geo-referenced baseline tied into the national grid and drawn at an appropriate scale on polyester based drafting film and labelled in relation to a site-specific drawing register.
- 4.4.4 A full-digital photographic record of the work was kept. All images were taken using a digital SLR camera with a suitable megapixel resolution. The photographic record is regarded as part of the Site archive and the digital files will be labelled appropriately and cross-referenced in relation to a site-specific photography register.

4.5 **Finds recovery and processing**

- 4.5.1 All artefacts recovered during the course of the archaeological Evaluation are the property of the landowner/Client. They are suitably bagged, boxed and marked in accordance with the *Standards and Guidance for the Collection, Conservation and Research of Archaeological Materials* (CIFA 2014c) and the *Standard and Guide to Best Practice for Archaeological Archiving in Europe* (Perrin et al. 2014). The archive will be prepared for deposition in line with the standards and guidance of the Worcestershire Museums Service.
- 4.5.2 All artefacts revealed were recovered regardless of date so that the provisional dating of as many contexts as possible could be ascertained. In circumstances where the quantity of finds present precluded total recovery then a representative sample was, and this noted on the context sheet, such as the 4m deep backfilled post-medieval waste deposit exposed in Trench 18, from which a representative sample of the artefacts was recovered.
- 4.5.3 On completion of the project, modern material, unstratified remains and objects that have been assessed as having no obvious grounds for retention will be discarded after a period of six months, unless there is a specific request to retain them. The Hive, of

Worcestershire Museums Service, implements the Chartered Institute for Archaeologists Sample and Retention Tool Kit; a methodology for artefact and ecofact retention will be drafted in consultation with the Hive and based upon our in-house specialists' recommendations on assessment of any/all material recovered.

4.5.4 The primary archive records will clearly state how all artefact assemblages have been recovered, sub-sampled and processed.

4.6 **Palaeoenvironmental Sampling**

4.6.1 A structured programme of palaeoenvironmental sampling appropriate to the specific aims of the project was implemented as necessary, although given the results of the evaluation no samples were taken forward for processing and analysis.

4.7 **The Archive**

4.7.1 A full professional archive has been compiled in accordance with Worcestershire Museums Service and the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited with Worcestershire Museums Service, with copies of the report sent to MHDC and Worcestershire HER. The original archive can be accessed using the unique project identifier WSM72211.

4.7.2 WA supports the **Online Access to the Index of Archaeological Investigations (OASIS)** project. This project aims to provide an online index and access to the extensive and expanding body of grey literature, created as a result of developer funded archaeological work. As a result, details on the findings of this project will be made available by WA as part of this national project. The project can be accessed under the unique project identifier: **wardella2-500810**.

5 ARCHAEOLOGICAL EVALUATION RESULTS

- 5.1.1 The archaeological Evaluation by Trial Trenching was undertaken between 8th and 11th of February, with 3 trenches excavated across the proposed development area (see Drawing No. BM12128 - 002). The trenches were placed as specified in the Methodology (Section 4).
- 5.1.2 Results are detailed below by trench, deposit numbers are given in **(parenthesis)** and cut numbers are given in **[square brackets]**.
- 5.1.3 **Trench 1:** Trench 1 was situated at the southern extent of the site. The trench layout was altered to a “T” shape, to accommodate site access. Originally intended to run 30m E-W, it measured 21m E-W and 10m N-S.
- 5.1.4 The natural substrate **(103)**, was a friable, light-mid brownish yellow, silty clay, containing moderate-abundant stone inclusions and rare fine rooting. This was overlain by sub soil **(102)**: a mid-dark reddish-brown silty-sandy clay, buried garden soil; which was sealed by **(101)**, a spread of disturbed material from the demolition of a building to the west. Subsoil **(102)** was cut by **[108]** and sealed by a thin layer of bitumen **(104)**. These deposits were overlain by a layer of made ground sub-base comprising of an abundance of assorted yellow stone **(105)**, in turn overlain by a grey, hard core road stone **(106)**, and sealed by the present tarmac surface **(107)**.
- 5.1.5 No archaeological features were present within this trench.
- 5.1.6 **Trench 2:** Trench 2 was situated in the far western extent of the site, within the foundations of the WW2 building and surrounded by demolition debris and rubble. This was aligned NNW-SSE.
- 5.1.7 The natural substrate **(201)** was a friable, mid-dark, reddish-brown silty clay containing rare, small stone inclusions. This was cut by: a land drain **[202]**, filled with a dark grey silty clay **(203)**; and a service cable trench **[204]**, filled with a yellow sand **(205)**. The natural substrate was overlain by made ground consisting of assorted gravel **(206)**; and sealed by of the current thin tarmac surface **(207)**.
- 5.1.8 Trench 2 was extended by 2m x 2m at its NNW end to investigate potential linear features. However, these were confirmed as natural striations within the substrate.
- 5.1.9 No archaeological features were identified within this trench.
- 5.1.10 **Trench 3:** Trench 3 was positioned at the northern extent of the site, and was aligned 30m NW-SE. A machine sondage was implemented at the north-western end of the

trench to a depth of 2m to investigate the variation in natural substrate, which was somewhat unclear due to the positioning of a land drain. and the sondage demonstrated the variation of the natural substrate.

5.1.11 Trench 3 contained several layers, the majority of which were contemporary with the construction of the car park. The natural substrate **(301)** was a mid-dark reddish-brown silty clay; however, visible changes in geology were clear throughout the trench and various natural striations were detected within all 3 trenches. Overlying the natural substrate was a thin layer of bitumen **(302)**, in turn overlain by two layers of hard core of a larger grade **(303)** and smaller grade **(304)**; and the current tarmac surface **(305)**. This was consistent with deposits found in Trench 1.

5.1.12 Three modern features were investigated at the south-eastern end of Trench 3. These included two narrow, shallow, linear gullies **[307]** and **[309]** and a tree bole **[310]**. Gully **[309]** was aligned E-W and contained a single fill **(308)**; a soft greyish-brown clay with frequent flecks of chalk and charcoal, containing CBM, a clay pipe stem and a fragment of white glazed pottery suggestive of a 19th to early 20th century date. Gully **[309]** was cut by gully **[307]**, aligned N-S, which contained a single fill **(306)**; a soft, greyish-brown silty clay, with frequent sub-angular stone inclusions, and containing charcoal and Fe. Tree Bole **[310]** was shallow and irregular at the base. It contained single fill **(311)** which consisted of a friable, dark greyish-brown silty clay with rare, assorted, stone inclusions and abundant, small, ironized inclusions along with rooting. Modern finds including a clay pipe fragment, a piece of green glass, several pieces of slag and iron were recovered from the fill. The colour of the fill appeared to be caused by the remnants of the felled tree roots. It was also stained by the overlying bitumen layer **(302)** which sealed this, and contexts **(306)** and **(308)**.

Another land drain in the north-west end of the trench which was observed at a depth below 1.2m with a ceramic pipe. This was not fully recorded due to the depth below safe working parameters.

6 FINDS ASSESSMENT

6.1 Introduction

6.1.1 A total of 11 artefacts and ecofacts, weighing 133g, was recovered from three contexts during the archaeological investigation at St Andrews Road, Malvern, Worcestershire (centred on NGR SP 378220 244700) (Table 1). Artefacts and ecofacts comprised pottery, clay tobacco pipe, iron, industrial waste, glass and animal bone (Tables 2-7). The finds were recovered from a tree-bole [310], a land drain [309] and a gully [307]. The artefacts and ecofacts are all of late post-medieval (Victorian) to modern date. With the exception of the iron, the artefacts and ecofacts were in good condition overall with edges and surfaces displaying little evidence of post-depositional damage.

6.1.2 The artefacts and ecofacts were retained with the archive.

6.2 Methodology

6.2.1 The material was cleaned prior to examination; this was either through washing robust material, such as pottery and glass, while metal artefacts were left to air-dry then dry-brushed.

6.2.2 All finds were dealt with according to the recommendations made by Watkinson & Neal (1998) and to the Chartered Institute for Archaeologists (CIfA) *Standard and guidance for the collection, documentation, conservation, and research of archaeological materials* (2020). All artefacts have been boxed according to material type and conforming to the deposition guidelines recommended by Brown (2011) and EAC (2014). Recording guidelines also follow material published by the Society for Museum Archaeologists (2020a-d). The project has the unique identifier **WA 2021 / BM12128 / MQT-E / WSM72211**.

6.2.3 The material archive has been assessed for its local, regional, and national potential in line with the archaeological research framework for the West Midlands (Watt 2011).

6.3 Late Post-medieval to Modern Pottery

6.3.1 A single sherd of late post-medieval (Victorian) to modern pottery, weighing 1g, was recovered from fill (308) of land drain [309] (Table 2). The sherd is in good condition with clean edges and unabraded surfaces.

6.3.2 The pottery was examined with a x10 hand lens and recorded according to published national guidelines (PCRG, SGRP & MPRG 2016). The pottery used mnemonic codes when they could be identified; this was undertaken using material published by MOLA

(2015) and the Worcestershire online ceramics database when possible (WCO 2021).
The codes appear in parenthesis below.

6.3.3 A minimum of one vessel is present comprising a single body sherd.

6.3.4 The only fabric type present is a type of plain refined white earthenware (REFW, Fabric 85).

6.3.5 The body sherd likely originated from a jar.

6.3.6 A broad date of late 19th (Victorian) to modern is attributed to this sherd.

6.3.7 No further analysis is recommended.

6.4 **Clay Tobacco Pipe**

6.4.1 Two fragments of plain clay tobacco pipe stem, weighing 5g, were recovered from fill (308) of land drain [309] and from fill (311) of tree-bole [310] (Table 3).

6.4.2 The artefacts are of late 19th century (Victorian) date.

6.4.3 No further analysis is recommended.

6.5 **Glass**

6.5.1 Two fragments of glass, weighing 15g, was recovered from fill (306) of gully [307] and fill (311) of tree bole [310] (Table 4). The shards are in good condition.

6.5.2 The artefacts include a dark green bottle glass shard and a piece of clear molten glass; the latter may comprise bonfire material.

6.5.3 The artefacts are of late post-medieval (Victorian) to modern date.

6.5.4 No further analysis is recommended.

6.6 **Fe**

6.6.1 A single small iron nail fragment, weighing 1g, was recovered from fill (306) of gully [307] (Table 5).

6.6.2 The artefact is of late post-medieval (Victorian) to modern date.

6.6.3 No further analysis is recommended.

6.7 **Industrial Waste**

6.7.1 Four fragments of industrial waste, weighing 101g, were recovered from fill (311) of tree-bole [310] (Table 6). The fragments are in good condition.

6.7.2 The fragments likely comprise lightweight slaggy material of probable late post-

medieval (Victorian) to modern date.

6.7.3 The very small quantity of industrial waste is not indicative of metal-working or smithing activity either on the site or in its environs.

6.7.4 No further analysis is recommended.

6.8 Ecofacts (Animal Bone)

6.8.1 A single animal tooth, weighing 10g, was recovered from fill (308) of land drain [309] (Table 7). The tooth is in good condition with intact enamel surfaces.

6.8.2 Guidelines adhered to for zooarchaeological analysis include 'Animal Bones & Archaeology: recovery to archive (Baker & Worley 2019) plus reference material from Schmid (1972), Serjeantson (1996), Hillson (1992) and Ruscillo (2006). The author's in-house skeletal reference collection and technical manual were also used to aid identification of species. The material was also assessed on its potential for age estimation, sex determination and measurements for withers heights. Butchery marks, gnaw-marks and pathologies / trauma were also observed and recorded.

6.8.3 A single individual is present and comprises an adult bovine (*Bos taurus*).

6.8.4 No butchery marks, pathologies or rodent / canine gnawing was observed.

6.8.5 While it is not possible to assign a chronological period to animal bone via visual examination, their recovery in conjunction with late post-medieval (Victorian) to modern artefacts would indicate that they are of contemporary date. The cattle tooth may have originated on the site through casual loss.

6.8.6 No further analysis is recommended.

6.9 Statement of Potential and Recommendations

6.9.1 The presence of artefacts and ecofacts of late post-medieval (Victorian) to modern date, while providing of domestic activity of this period at the site and in its environs, is of low archaeological significance overall.

6.9.2 Further analysis of this assemblage will not contribute to archaeological research frameworks for the West Midlands (Watt 2011).

7 SYNTHESIS

- 7.1.1 WA was commissioned by the Client to undertake an archaeological evaluation using of land in the western part of the former Malvern QinetiQ Technology College, St Andrews Road, Malvern, WR14 3PS, following earlier fieldwork in the wider application site to the east.
- 7.1.2 The Evaluation was required pursuant to Condition 6 on planning consent for the redevelopment of the Site, which has been granted by Malvern Hills District Council. The Evaluation comprised three trenches, equating to a 3% sample of the Site by area.
- 7.1.3 Trench 1 (Plate. 1) contained no remains of archaeological interest and comprised modern made ground relating to the current carpark and former building, now demolished. This is likely to have previously been gardens, due to the observation of a buried soil (Plate. 2)(Drawing BM12128 – 004).
- 7.1.4 Trench 2 (Plate. 3) contained the foundations of the demolished buildings and associated services in the south-east of the trench (Plate. 4)(BM12128 – 004). Striations in the natural substrate were observed and investigated in the northern end of the trench. No remains of archaeological interest were encountered.
- 7.1.5 Trench 3 (Plate. 5) (BM12128 – 005) revealed late post-medieval (Victorian) likely agricultural features, comprising a land drain [307] (Plate. 7)(BM12128 – 004), cutting a gully [309] (Plate. 8; Plate. 9)(BM12128 – 005) (). The fill of the land drain (306) produced a single piece of glass and a small iron nail fragment of Victorian date. The fill of the gully (308) contained the tooth of an adult bovine, a clay pipe stem and a single fragment of Victorian pottery. A tree bole [310] (Plate. 10) was also investigated and contained a clay pipe stem, four fragments of slag and glass, within its fill (311).
- 7.1.6 The presence of artefact finds of late post-medieval (Victorian) date is likely attributed to the proximity of houses and gardens along St. Andrews Road, presumably backing on to agricultural land.
- 7.1.7 The formation of deposits, with modern made ground directly overlying the natural substrate over part of the Site, suggests large-scale truncation of original ground levels within the Site, presumably as part of the development of the former military base.
- 7.1.8 The western part of the Site is heavily truncated by construction and services, and to the south and west by levelling for the carpark. Levels also appear to have been reduced in the north-west for the construction of the carpark; however, some late

post-medieval agricultural features survive. These are of very low archaeological significance. No further archaeological investigation is warranted within the Site

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APPENDIX 1: TRENCH DESCRIPTIONS

Trench 1

Length: 21m (E-W) 10m (N-S) Width: 1.8m

Orientation: "T" trench (E-W) & (N-S)

Average Depth: 0.62m Maximum Depth: 0.65m

Context Number	Context Type	Description	Dimensions	Interpretation
(101)	Layer	Mixture of rubble and debris, dark brown soil with some rooting (10%)	Thickness: 0.15m Depth from surface: 0m	Top Soil: Rubble and debris most likely from demolition of WW2 building. Possibly buried garden soil.
(102)	Layer	Friable, mid-dark reddish brown, silty/ sandy clay. Moderate rooting (20%), rare stone inclusions (5-10%)	Thickness: 0.32m Depth from surface: 0.15m	Sub Soil.
(103)	Layer	Friable, light-mid brownish yellow, silty clay. Moderate- abundant stone inclusions (30-40%), rare fine rooting (5%).	Thickness: 0.14m Depth from surface: 0.47m	Natural: Similar across site with varying changes in colour and natural striations consisting of assorted gravel sizes. Same as (301) and (201)
(104)	Layer	Thin bitumen layer.	Thickness: 0.03m Depth from surface: 0.47m	Thin layer of bitumen – part of carpark.
(105)	Layer	Made ground – sub base, yellowy stone, assorted sizes (max size approximately 10cm)	Thickness: 0.18m Depth from surface: 0.29m	Made ground consisting of yellowy stone rubble as part of car park.
(106)	Layer	Grey hard core road stone (assorted shapes and sizes)	Thickness: 0.16m Depth from surface: 0.13m	Hard core layer as part of car park.
(107)	Layer	Tarmac	Thickness: 0.13m Depth from surface: 0m	Tarmac layer at surface of car park.
(108)	Cut	Modern truncation.	Thickness / Depth 0.53m	Cut for construction of carpark. Cuts (101) (102) and (103)

Trench 2

Length: 30m (Extended on NNW end by 2m NNW and 2m ENE) Width: 1.8m

Orientation: NNW-SSE

Average Depth: 0.79 m Maximum Depth: 1.10m

Context Number	Context Type	Description	Dimensions	Interpretation
(201)	Layer	Friable, mid-dark reddish-brown silty clay. Rare small stone inclusions (2%)	Thickness: 0.50m Depth from surface: 0.15m	Natural: Similar across site with varying changes in colour and natural striations consisting of assorted gravel sizes. Same as (301) and (103)
[202]	Cut	Cut of land drain	Thickness: 0.27m Depth from surface: 0.30m	Cut of land drain. Modern truncation.
(203)	Fill	Fill of cut for land drain. Dark grey-black silty clay.	Thickness: 0.27m Depth from surface: 0.30m	Fill of cut for land drain.
[204]	Cut	Cut for cable	Thickness: 0.05m Depth from surface: 0.50m	Cut for cable. Modern truncation.
(205)	Fill	Yellow sand	Thickness: 0.05m Depth from surface: 0.50m	Fill of cut for cable.
(206)	Layer	Assorted Gravel – mixed medium to small.	Thickness: 0.28m Depth from surface: 0.02m	Made ground. Modern.
(207)	Layer	Thin layer of tarmac	Thickness: 0.02m Depth from surface: 0m	Tarmac. Modern.

Trench 3

Length: 30m Width: 1.8m Orientation: NW-SE
 Average Depth: 1.31m Maximum Depth: 2m

Context Number	Context Type	Description	Dimensions	Interpretation
(301)	Layer	Mid-dark reddish-brown silty clay. Slight change in geology throughout TR3 (some bands of natural stoney gravel)	Thickness: 0.10m (taken from rep sec) Depth from surface: 0.75m	Natural: Similar across site with varying changes in colour and natural striations consisting of assorted gravel sizes. Same as (201) and (103).
(302)	Layer	Dark stabilization layer - Bitumen	Thickness: 0.05m Depth from surface: 0.32m	Thin layer of bitumen – part of car park construction.
(303)	Layer	Hard core – large grade	Thickness: 0.45m Depth from surface: 0.28m	Hard core – part of made ground for carpark.
(304)	Layer	Hard core – smaller grade	Thickness: 0.20m Depth from surface: 0.08m	Hard core – part of made ground for car park.
(305)	Layer	Tarmac	Thickness: 0.08m Depth from surface: 0m	Tarmac surface – Car park.
(306)	Fill	Soft, greyish-brown, silty clay, frequent sub angular stone inclusions. Contained charcoal and Fe. Sample #300.	Thickness: 0.25m	Fill of [307]
[307]	Cut	Cut of gully / land drain. Aligned N-S	Thickness: 0.25m	Cut of gully/ land drain. Cuts (308)
(308)	Fill	Soft grey/brown clay, containing frequent flecks of chalk and charcoal. Finds: CBM and clay pipe stem. Sample #301	Thickness: 0.12m	Fill of [309]. Cut by [307].
[309]	Cut	Cut of E-W aligned linear/ land drain.	Thickness: 0.12m	Cut of land drain.

Context Number	Context Type	Description	Dimensions	Interpretation
[310]	Cut	Cut of tree bole	Thickness: 0.10m	Cut of tree bole containing modern finds. Possibly associated with the WW2 building.
(311)	Fill	Friable, dark greyish-brown silty clay. Rare, assorted stone inclusions (3%). Abundant, small ironized inclusions (40%). Rooting. Contained modern finds: clay pipe, glass, slag and iron).	Thickness: 0.10m	Fill of tree bole – possibly rooting mixed with bitumen staining along with remanence of fell tree roots.

APPENDIX 2: IMAGES



Picture Taken:
08/02/2021

Plate
No. 1

Title: Trench 1. Photo taken from E.



Picture Taken:
08/02/2021

Plate
No. 2

Title: North Facing Rep Sec of Trench 1 (BM12128 – 004)

Client: Harris Ervin

Project: St Andrews Road, Malvern

Project Number: BM12128





Picture Taken:
10/02/2021

Plate
No. 3

Title: Trench shot of TR2. Photo taken from SSE. X2 1m scale.



Picture Taken:
10/02/2021

Plate
No. 4

Title: East-North-East Facing Rep Sec of Trench 2 (BM12128 – 004)

Client: Harris Ervin

Project: St Andrews Road, Malvern

Project Number: BM12128





Picture Taken:
09/02/21

Plate
No. 5

Title: Trench 3



Picture Taken:
09/02/21

Plate
No. 6

Title: South West Facing Rep Sec of Trench 3 (BM12128 – 004)



Client: Harris Ervin

Project: St Andrews Road, Malvern

Project Number: BM12128



Picture Taken:
09/02/2021

Plate
No. 7

Title: North East Facing Section of [307] (BM12128 – 004)



Picture Taken:
09/02/2021

Plate
No. 8

Title: East Facing Section of [309] (BM12128 – 005)



Client: Harris Ervin

Project: St Andrews Road, Malvern

Project Number: BM12128



Picture Taken:
09/02/2021

Plate
No. 9

Title: South Facing Section of Relationship Slot for [307] and [309]
(BM12128 – 005)



Picture Taken:
09/02/2021

Plate
No. 10

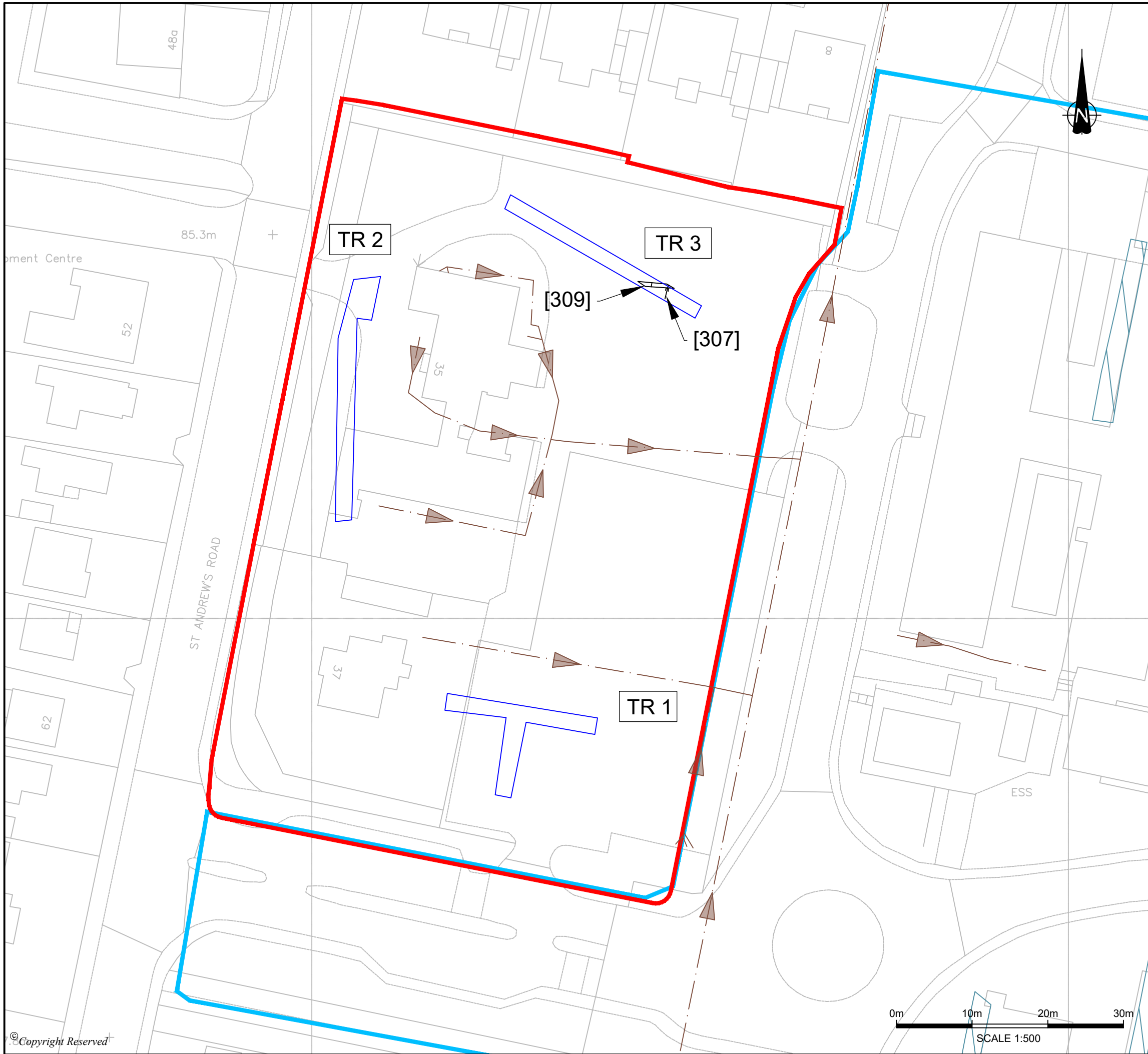
Title: East Facing Section of [310]. Photo taken from E.

Client: Harris Ervin

Project: St Andrews Road, Malvern

Project Number: BM12128

APPENDIX 3: FIGURES



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	INDICATIVE TRENCH LOCATIONS
	2020 TRIAL TRENCHES
	2020 EXCAVATION

A	First issue	22/03/21	RA	RJ	RJ
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REVISION	DETAILS	DATE	DRN	CHKD	APPD
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DRAWING TITLE
**ON SITE
TRENCH LOCATION PLAN**

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

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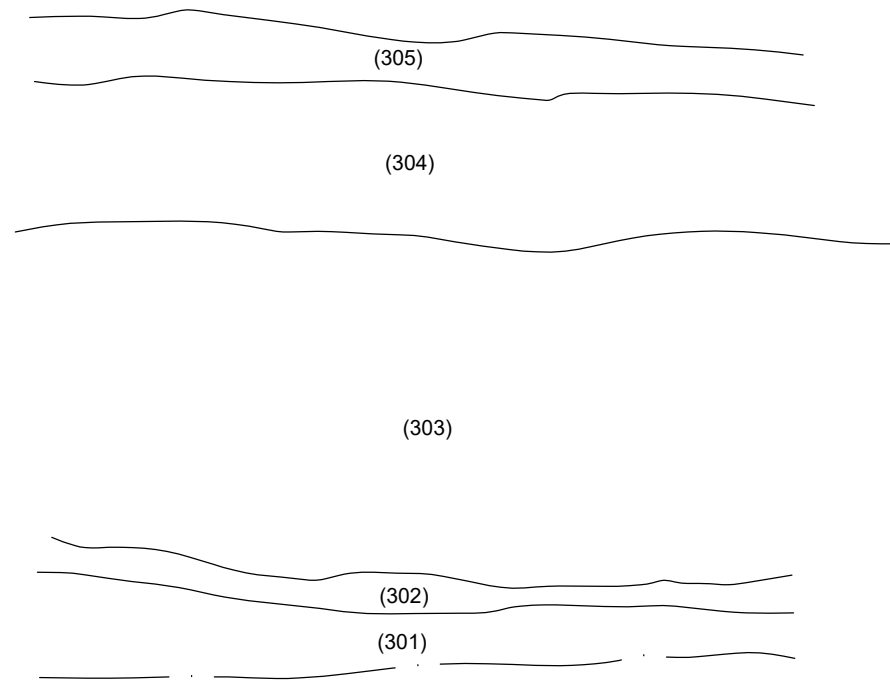
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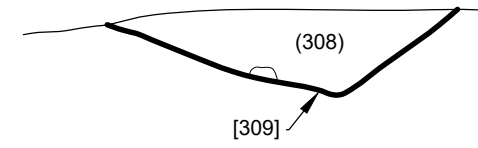
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-  DEPOSIT LINE
-  LIMIT OF EXCAVATION
-  TRENCH LIMIT
-  PROJECTION LINE
-  STONES
-  ROOTS
-  GRASS



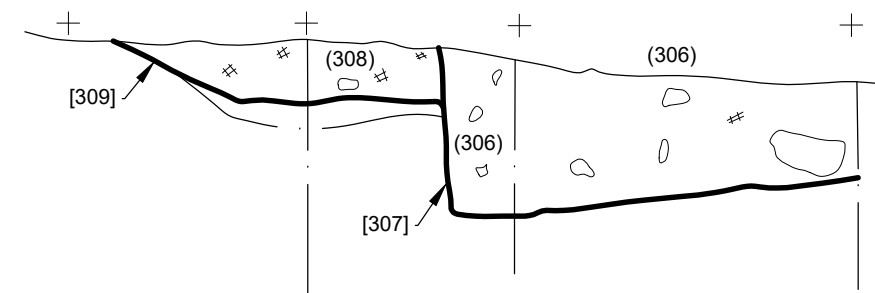
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SCALE 1:10



EAST FACING SECTION OF [309]
SCALE 1:10



WRAPAROUND SECTION RELATIONSHIP SLOT OF [307] AND [309]
SCALE 1:10



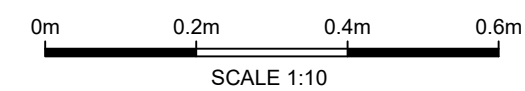
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		DETAILS				

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		APPROVED BY	RJ

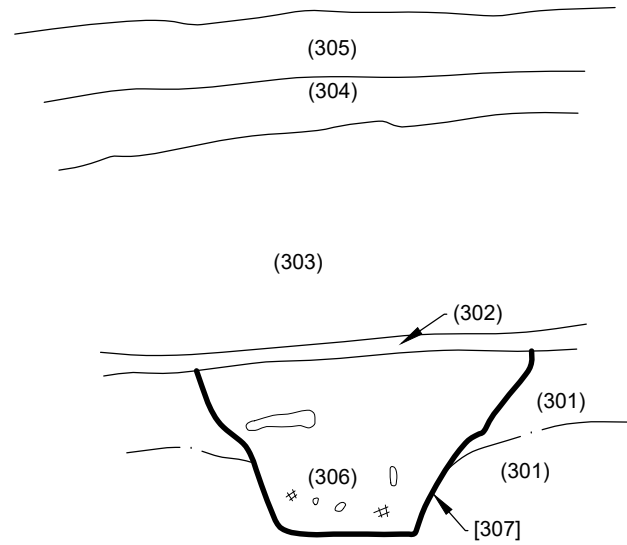


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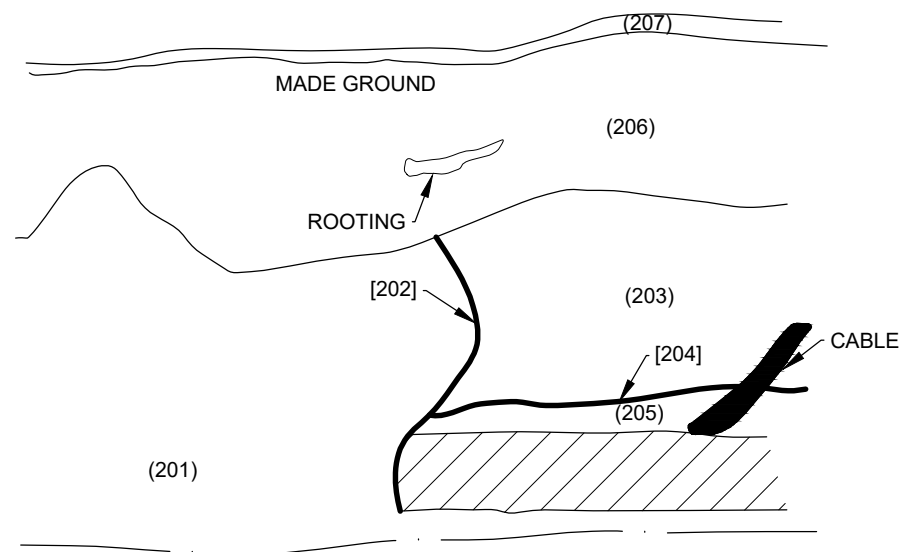
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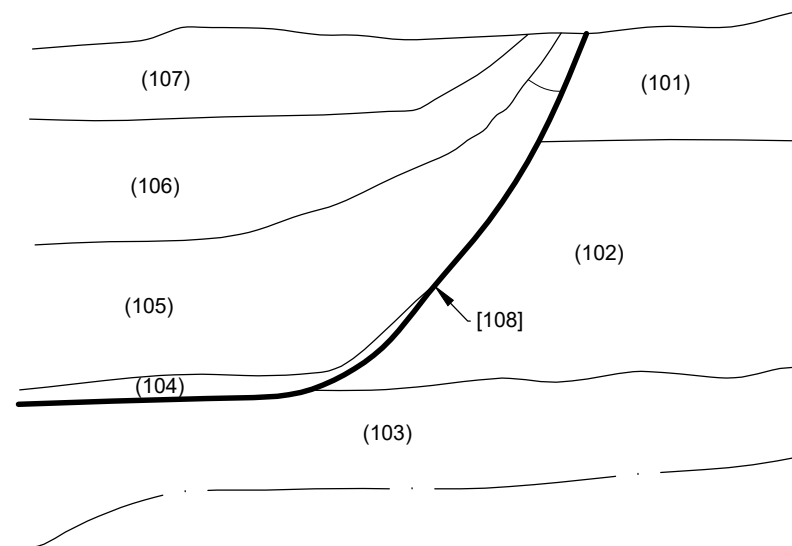
NORTHEAST FACING SECTION OF [307]
SCALE 1:10



EASTNORTHEAST FACING SECTION OF TRENCH 2
SCALE 1:10



NORTH FACING REPRESENTATIVE SECTION OF TRENCH 1
SCALE 1:10



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REFERENCE

- CUT LINE
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- LIMIT OF EXCAVATION
- TRENCH LIMIT
- PROJECTION LINE
- STONES
- ROOTS
- GRASS

A	First issue	22/03/21	RA	RJ	RJ
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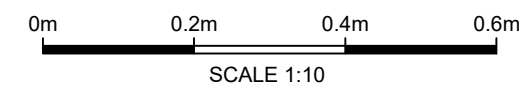
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