1EW02 Enabling Works – Area South

Interim Report for trial trenching at 18 inch pipe – spur, 450NB Pipeline Diversion (007) Fulmer to Haste Hill

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Signature					

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CSjv Review and Acceptance Decal

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Reviewed/Accepted by (signature) [redacted]	Print Name: SCARBACOME CSJV Package Manager Name	Position: Package Mgr	Date: 29-Aug-19
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1 Introduction

1.1 General Introduction

1.1.1 A team from MOLA Headland Infrastructure (MHI) has undertaken an archaeological evaluation at the Fulmer to Haste Hill 450NB HP Pipeline Diversion (007) on behalf of the main contractor for HS2 Area South Enabling Works Costain Skanska (CSjv). The evaluation by means of trial trenching was designed to provide a 4% sample of the available area; c.3.8ha; c. 1.9ha for the eastern section and c. 1.9ha for the western section of the run.

1.1.2 Trenches were positioned to provide a representative sample of the available areas; there was no pre-existing information on potential archaeological remains on which to target trenches.

1.1.3 Trial trenching was undertaken in accordance with a Project Plan (Doc no: 1EW02-CSJ-EV-PLN-S002-000002) as far as possible within logistical and safety constraints on site. This document contains further information on the aims and objectives of the evaluation and contribution to GWSI: HERDS Specific Objectives as well as on the specific site constraints and design of the location of the trenches.

1.1.4 The initial project plan included the excavation of 24 trenches and 76 topsoil samples. Due to a number of logistical factors, including underground and overhead services, only 14 of the trenches could be excavated, along with 42 topsoil samples.

1.1.5 The following summary is an interim report on the results of the trial trenching. A full assessment report that includes a finds assessment and an evaluation of the contribution to specific research objectives is in preparation. The results of the trial trenching will also feed into the preparation of the design for the main mitigation phase.

2 Results

2.1 Summary of trenches

2.1.1 Below is a table indicating the trenches which were excavated, and those which were not. Th table includes their actual widths, lengths and depths.

Table 1 Summary of excavated trenches

Tr No	Tr Length	Tr Width	Max Trench Depth	Excavated / not excavated / modified	Deposits / featur encountered
Tr001	NA	NA	NA	Not excavated, located over existing gas pipe	NA
Tr002	NA	NA	NA	Not excavated, located over existing gas pipe	NA

Tr No	Tr Length	Tr Width	Max Trench Depth	Excavated / not excavated / modified	Deposits / features encountered
Tr003	NA	NA	NA	Not excavated, located over sewer/water pipe	NA
Tr004	10.00m	1.90m	0.40m	Excavated, location & length modified because of sewer/water pipe	Modern topsoil 0.40m thick
Tr005	30.00m	1.90m	0.50m	Excavated, moved to avoid overhead power lines	Natural horizon was an orange grey clay, 0.20m of orange silty clay subsoil 0.30m of dark brown topsoil
Tr006	30.00m	1.90m	0.50m	Excavated, moved to avoid overhead power lines	Natural was an orange grey clay 0.20m of orange silty clay subsoil 0.30m of dark brown topsoil.
Tr007	30.00m	1.90m	0.80m	Excavated	Natural soil horizon was a mottled grey yellow clay Tree throw (context [19]) Context [22] was a layer of small to medium charcoal pieces and burnt 'fire cracked' flint Context [21] contained some burnt 'fire cracked' flint in a brown silty clay matrix. Six circular features context numbers fills:[23] to [28], cuts:[31] to [36] Thick layer of colluvium (context [18]) 0.30m of topsoil
Tr008	30.00m	1.90m	0.40m	Excavated	steril◦ range colluvium natural

Tr No	Tr Length	Tr Width	Max Trench Depth	Excavated / not excavated / modified	Deposits / features encountered
					two linear features orientated north-south and one small post hole 0.10m colluival subsoil 0.30m of topsoil
Tr009	30.00m	1.90m	0.50m	Excavated	natural horizon in the trench was an orange clay, with bands of gravel 0.20m of orange silty clay subsoil 0.30m of dark brown topsoil
Tr010	NA	NA	NA	Not excavated due to proximity to badger set	NA
Tr011	30.00m	1.90m	0.50m	Excavated, moved to avoid badger set. Location outside of site, used to evaluate pond location	The natural horizon in the trench was an orange grey clay. 0.10m of orange silty clay subsoil 0.40m of dark brown topsoil.
Tr012	30.00m	1.90m	0.50m	Excavated	The natural horizon in this trench was an orange grey clay. 0.20m of orange silty clay subsoil 0.30m of dark brown topsoil
Tr013	30.00m	1.90m	0.40m	Excavated, moved to avoid modern bank	The natural horizon in this trench was an orange grey clay. 0.10m of orange silty clay subsoil 0.30m of dark brown topsoil.
Tr014	30.00m	1.90m	0.40m	Excavated	The natural horizon was an orange grey clay.

Tr No	Tr Length	Tr Width	Max Trench Depth	Excavated / not excavated / modified	Deposits / features encountered
					six possible stake holes and a circular pit 0.10m of orange silty clay subsoil and 0.30m of dark brown topsoil.
Tr015	30.00m	1.90m	0.40m	Excavated	The natural horizon was an orange grey clay. 0.10m of orange silty clay subsoil 0.30m of dark brown topsoil.
Tr016	30.00m	1.90m	0.70m	Excavated, moved to avoid overhead power lines	The natural horizon was an orange grey clay. 0.40m of banded colluvium. 20m of dark brown topsoil
Tr017	NA	NA	NA	Not excavated due to proximity to overhead power lines	NA
Tr018	NA	NA	NA	Not excavated due to proximity to overhead power lines	NA
Tr019	30.00m	1.90m	0.70m	Excavated	The natural horizon was a mottled orange yellow grey clay. 0.35m of orange silty clay colluvium and 0.25m of dark brown topsoil.
Tr020	15.00m	1.90m	1.00m	Excavated, location & length modified as trench fell inside Murphy's (Central Section) work area	The natural horizon was a mottled orange yellow grey clay. 0.60m of orange silty clay colluvium. 0.30m of dark brown topsoil

Tr No	Tr Length	Tr Width	Max Trench Depth	Excavated / not excavated / modified	Deposits / features encountered
Tr021	NA	NA	NA	Not excavated as inside Murphy's (Central Section) work area	NA
Tr022	NA	NA	NA	Not excavated as inside Murphy's (Central Section) work area	NA
Tr023	NA	NA	NA	Not excavated as inside Murphy's (Central Section) work area	NA
Tr024	NA	NA	NA	Not excavated as inside Murphy's (Central Section) work area	NA

2.2 Summary of trenches with no archaeology

2.2.1 Trench 4, Trench 5, Trench 6, Trench 9, Trench 11, Trench 12, Trench 13, Trench 15, Trench 16, Trench 19 and Trench 20 were all blank and contained no archaeology. The depths of the horizons encountered are listed in Table 1.

2.2.2 Trenches 4 and 16 contained the remains of modern ceramic field drains.

2.2.3 Trenches 11 and 12 contained the remains of ridge and furrow.

2.2.4 Trench 13 contained the remains of a geotechnical pit.

2.3 Summary of trenches with archaeology

Trench 7 summary

2.3.2 Trench 7 was located in the west of site, orientated northeast-southwest. The northern half of the trench was on the southern slope heading towards the stream. The southern half of the trench was on a plateau of land.

2.3.3 The natural soil horizon was a mottled grey yellow clay, interpreted on site as sterile alluvium.

2.3.4 In the northern end of the trench, cut into the natural horizon, was a large irregular feature interpreted as a tree throw (context [19]). This was up to 3m north-south and extended beyond the edges of the trench. It was up to 0.10m deep and filled within orange sandy silt. A series of flint flakes were retrieved from the fill.

Image 1 Photograph of tree throw [19], facing west.

2.3.5 In the centre of the trench, at the break of slope in the topography, was two large spreads containing burnt flint and flakes, and six potential stake holes. The lower deposit (context [22]) was a layer of small to medium charcoal pieces and burnt 'fire cracked' flint. The spread was up to 6.50m north south and extended beyond the edges of the trench. This spread was up to 0.10m thick, the surface was at a maximum surface height of 38.70m OD, 0.70m below ground level.

2.3.6 Above this was a further deposit of material (context [21]) which contained some burnt 'fire cracked' flint in a brown silty clay matrix. Within this were identified a small collection of microltihs. This deposit extended 8.60m north-south and beyond the edges of the trench. Thi was up to 0.20m thick and a maximum surface height of 38.75m OD, 0.60m below ground l vel.

2.3.7 Both of these deposits were sampled; a slot 0.20m wide was excavated against the eastern section and the deposits separated and placed into sample buckets.

Image 2 West facing section in Trench 7, showing the burnt flint horizon [22], the brown silt horizon [21], colluvium subsoil [18] and the topsoil.

2.3.8 Below the deposits were six circular features filled with the burnt flint and charcoal of deposit [22] (context numbers fills: [23] to [28], cuts: [31] to [36]). They were up to 0.20m deep and were 0.10m to 0.20m in diameter. They had straight steep sides, and terminated at a rounded point. Whilst thought to possibly be the remains of tree roots, there is also the possibility these are stake holes. These features were recorded, and their fills 100% sampled so the interpretation can be considered further during the final report.

Image 3 Pre-excavation photo of potential stakes holes (contexts [31] to [36]), facing north

2.3.9 Initial interpretations of these deposits and holes could either be occupation debris with associated stakes holes, or hill wash with infilled tree root holes (based on the location of the accumulation at the base of the southern slope). If hill wash, the material is still significant as it indicates activity at the top of the hill just to the north of Trench 7.

2.3.10 Deposit [22] was sealed by a thick layer of colluvium (context [18]) which also contained a number of flint flakes. This was up to 0.30m thick, thinning to 0.10m thick towards the top of the slope at the north of the trench.

2.3.11 The whole trench was sealed by 0.30m of topsoil.

Trench 8 summary

2.3.12 Trench 8 was located in the west of the site, orientated east-west. The trench was located mid-way down a south facing slope towards the stream.

2.3.13 The trench was machined to a sterile orange colluvium horizon as features a[illegible]e to be confirmed) Mesolithic flint flakes were found at this level. Cut into this horizon were two linear features orientated north-south and one small post hole. The linears (contexts cuts: [11] & [13] fills: [8] & [10]) were shallow with rounded bases, up to 0.8om across and 0.[illegible] m deep. They were filled with an orange brown sandy silt containing fragments of (date to be confirmed) Iron Age pottery.

Image 4 Photograph of the south facing section of linear [11]

2.3.14 The post hole (contexts cut [9] fill [8]) was 0.30m north-south by 0.20m east-west and 0.20m deep. It was filled with an orange brown silty clay, and contained flint flakes.

2.3.15 Sealing these features was a thin band (up to 0.10m thick) of colluival subsoil, and this in turn was sealed by 0.30m of topsoil.

Trench 14 summary

2.3.16 Trench 14 was located in the east of the site, running northwest-southeast. The natural horizon was an orange grey clay.

2.3.17 In the centre of the trench cut into the natural were a six possible stake holes and a circular pit. These were all filled with a similar material to the sub soil, and contained fragments of (date to be confirmed) Iron Age pottery. It is also possible these were the remains of a bush or small tree, but were recorded due to the finds contained within. These were overl n by 0.10m of orange silty clay subsoil and 0.30m of dark brown topsoil.

Image 5 Photograph of Trench 14 looking north, showing stake holes and circular pit.

2.4 Topsoil sample summary

2.4.1 The initial Project Plan outlines that top soil sampling will be done on the trenches in order to determine potential for prehistoric buried landscapes. The guidance indicates the topsoil should be sampled by excavating 20 (no.) pits of 0.5m² per ha. The evaluation area measures 3.8ha, which means that 76 topsoil samples were planned to be taken (38 on each site of Harvil Road), and that the samples would be sieved and checked for any flints and other finds.

2.4.2 When arriving on site, and after attempts being made with the first trench, it became apparent the topsoil was too waterlogged and had a too high clay content to sieve. As such the test pits and sieves were abandoned. A visual scanning search was conducted of all the topsoil on each trench. The machine excavator was used to spread out the topsoil so it could be searched. Each trench was divided into three, and test pit numbers were assigned to any finds retrieved from each section.

2.4.3 In the majority of the fields the deposition of the topsoil seemed very recent and produced only modern material. A few flints were retrieved from the topsoil and retained.

2.5 Future potential, further work and final report

2.5.1 The full evaluation report is currently in preparation. The finds and soil samples need to be processed and assessed, and combined with the initial site interpretation.

2.5.2 The site will have good potential for significant archaeology, if the flint material is proved to be Prehistoric (Mesolithic to Iron Age). The additional information from the initial finds and environmental assessment may be able to clarify the interpretation of the features and deposits.

2.5.3 The HERDS document highlights that Mesolithic activity is known in the Colne Valley, however that primary contexts for flints are rare (section 5.3.10). As such the flint recovered from the site requires further detailed investigation to try to determine whether the burnt deposit is in situ or not. If this material has washed down the hill, it is likely a primary location is still within the site boundary.

2.5.4 When planning future works on the site particular attention must be given to the potential Mesolithic activity in the west, to the north of the stream (around trenches 7 and 8). Further investigation is likely to be needed, either prior to or during any further site stripping. The archaeological horizons are close to the current ground surface which is very wet and soft, and any heavy plant movement in the area could damage the archaeology beneath. As such mitigation may also be required for non-intrusive works which requires plant movement across the area.

2.5.5 A full consideration of how the results of the evaluation contributed to the specific HERDS research objectives as set out in the Project Plan for the evaluation is currently in progress and will be reported on in the final evaluation report. Initial observations can be found in Table 2.

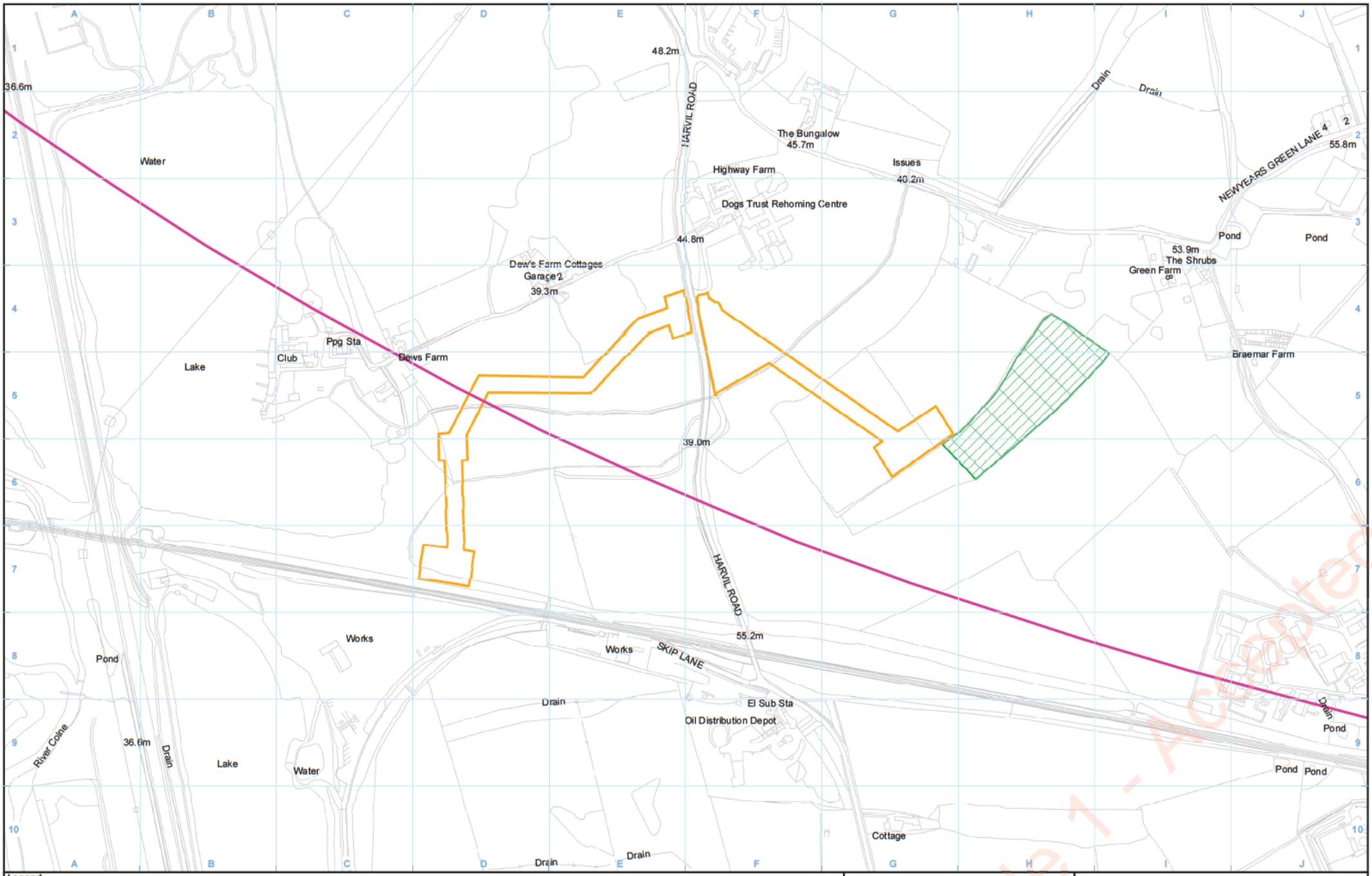
Table 2 Contribution to Specific Objectives

Specific Objective	Contribution
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.	The evaluation has highlighted the potential for Mesolithic occupation activity in the possible occupation deposit in TR007. Further work needs to be completed on the finds and environmental samples to help determine an interpretation for this deposit.
KC11: Does the high density of prehistoric settlement evidence in the Colne Valley reflect a genuine focus of activity or does it reflect a bias in the archaeological record?	The trial trench evaluation will clarified that there is prehistoric activity in the area, and that this survives intact under various depths of colluvial material.
KC14: Enhance existing understanding of the Late Upper Palaeolithic- Early Mesolithic transition through investigation of sites in the Colne Valley and other locations along the route.	Further work is required on the collected flints to define the dating of the material.
KC15: Can we identify regional patterns in the in the form and location of Late Bronze Age and Iron Age settlements	This is not possible from this evaluation.

across the route, and are there associated differences in landscape organisation and enclosure?	
KC17: What evidence is there for regionality in the mortuary rites of the Late Bronze Age and Iron Age, and how does that alter over time?	This is not possible from this evaluation.
KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?	This is not possible from this evaluation.
KC24: To what extent are the patterns of settlement, landholding and enclosure in West London and the Colne Valley in the Iron Age and Romano-British period determined by those established in the Bronze Age?	This is not possible from this evaluation.
KC34: Undertake research and investigation into medieval manorial complexes. What was their origin, development and impact on the landscape?	The presence of ridge and furrow in Tro12 and Tro11 provides evidence for field management and use during the medieval and post medieval periods.

Appendix 1 Draft figures interim report

Final figures are in progress and will be submitted as part of final report for trial trenching at the 18 inch pipe-spur 450NB Pipeline Diversion (1EW02-CSJ-EV-REP-S002-000019 P01).



Legend

- Site outline
- HS2
- Ancient woodland

Map Number: tbc

Map Name: FIG. 1 SITE LOCATION

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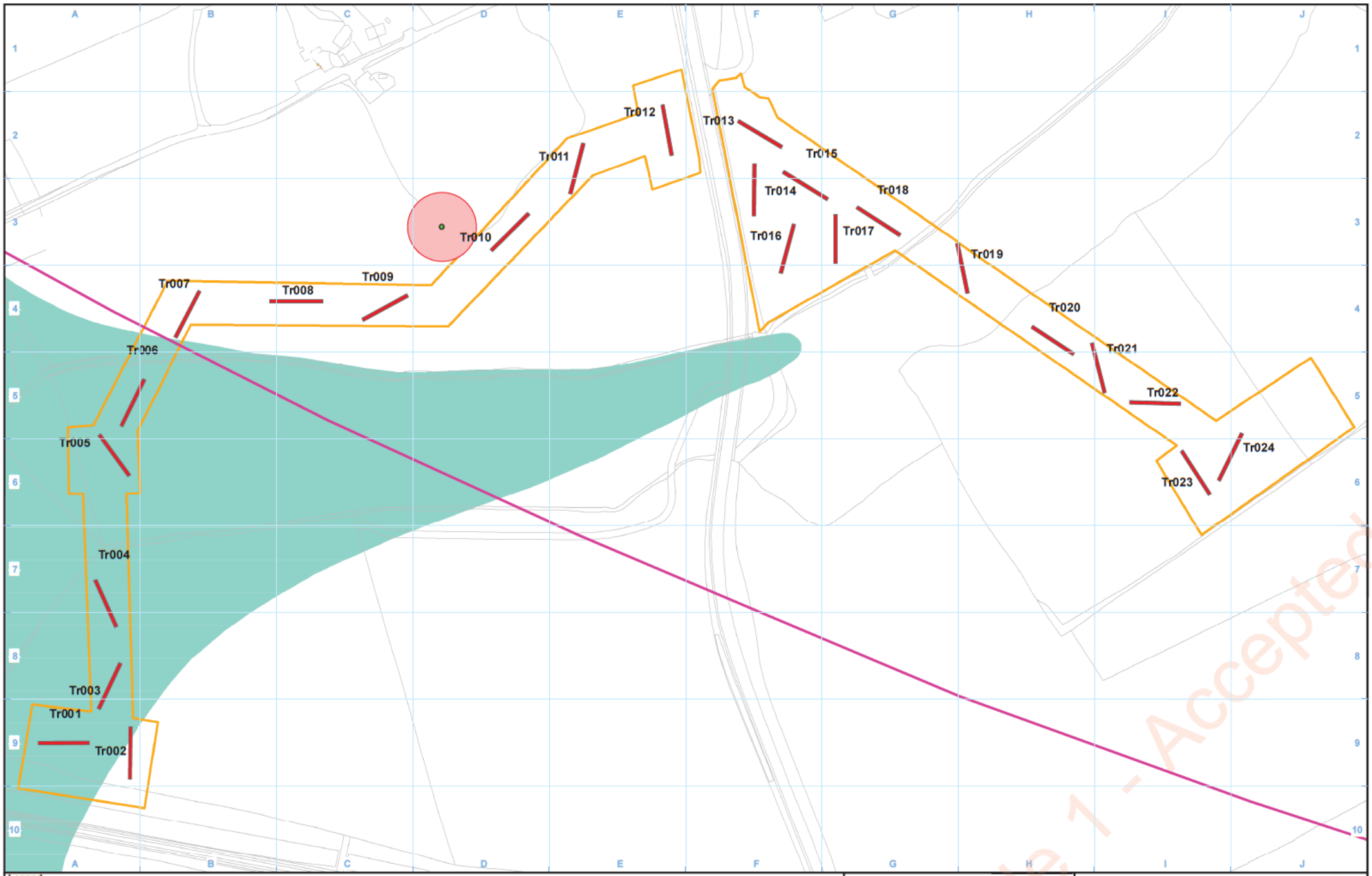
Doc Number: -tbc

Date: 23/03/18



Legend

- Site outline
- HS2
- badger sett
- exclusion zone around badger sett
- 18th Trial Trenches
- Alluvium from BGS DiGMapGB 10k

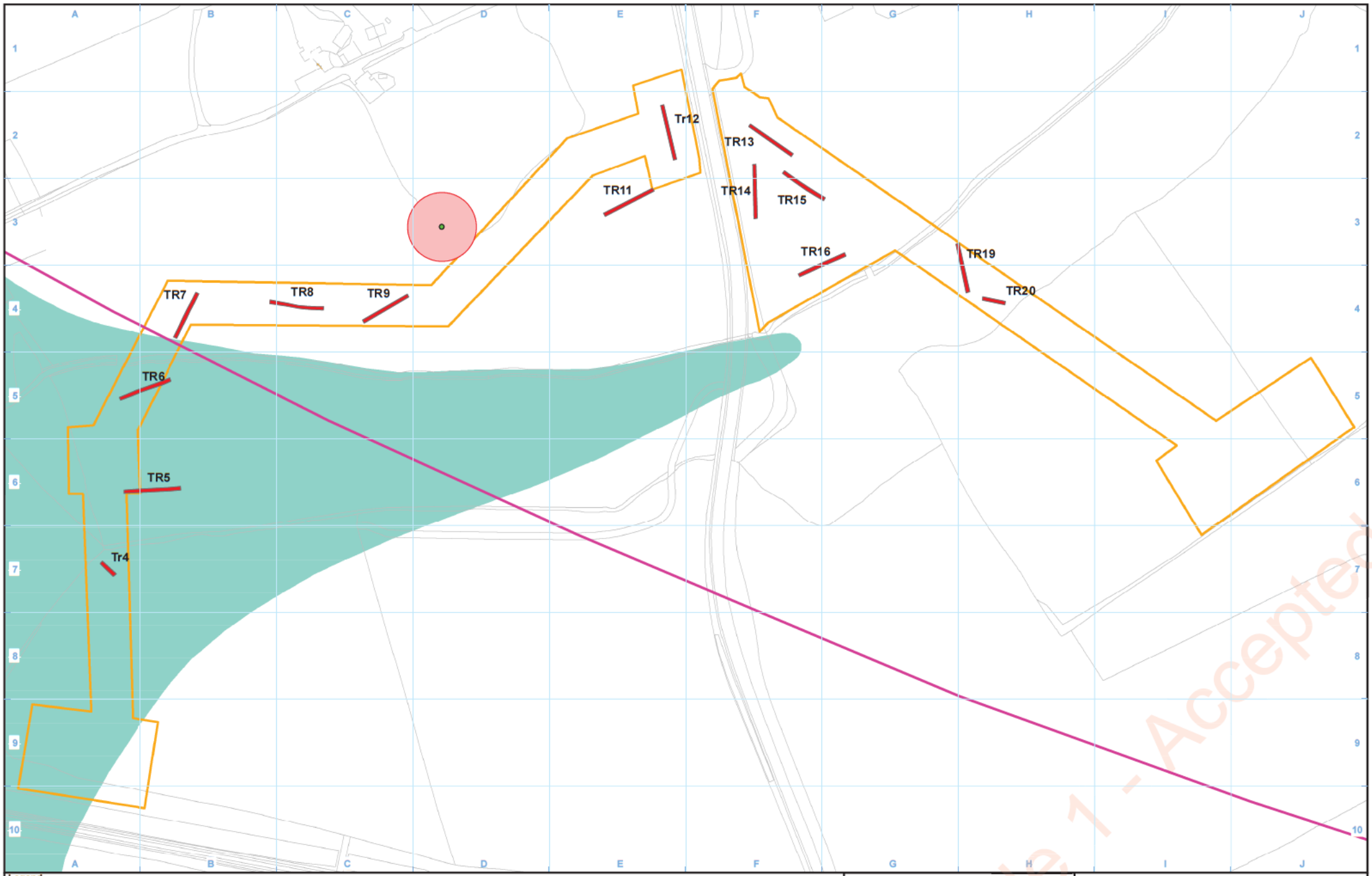
Map Number: tbc

Map Name: FIG. 2 ORIGINAL TRENCH LOCATION

Scale at A3: 1:2,000

Doc Number: -tbc

Date: 24/05/18



Legend

- Site outline
- HS2
- badger sett
- exclusion zone around badger sett
- 18th Trial Trenches
- Alluvium from BGS DiGMapGB 10k

Map Number: tbc

Map Name: FIG. 3 ACTUAL TRENCH LOCATION

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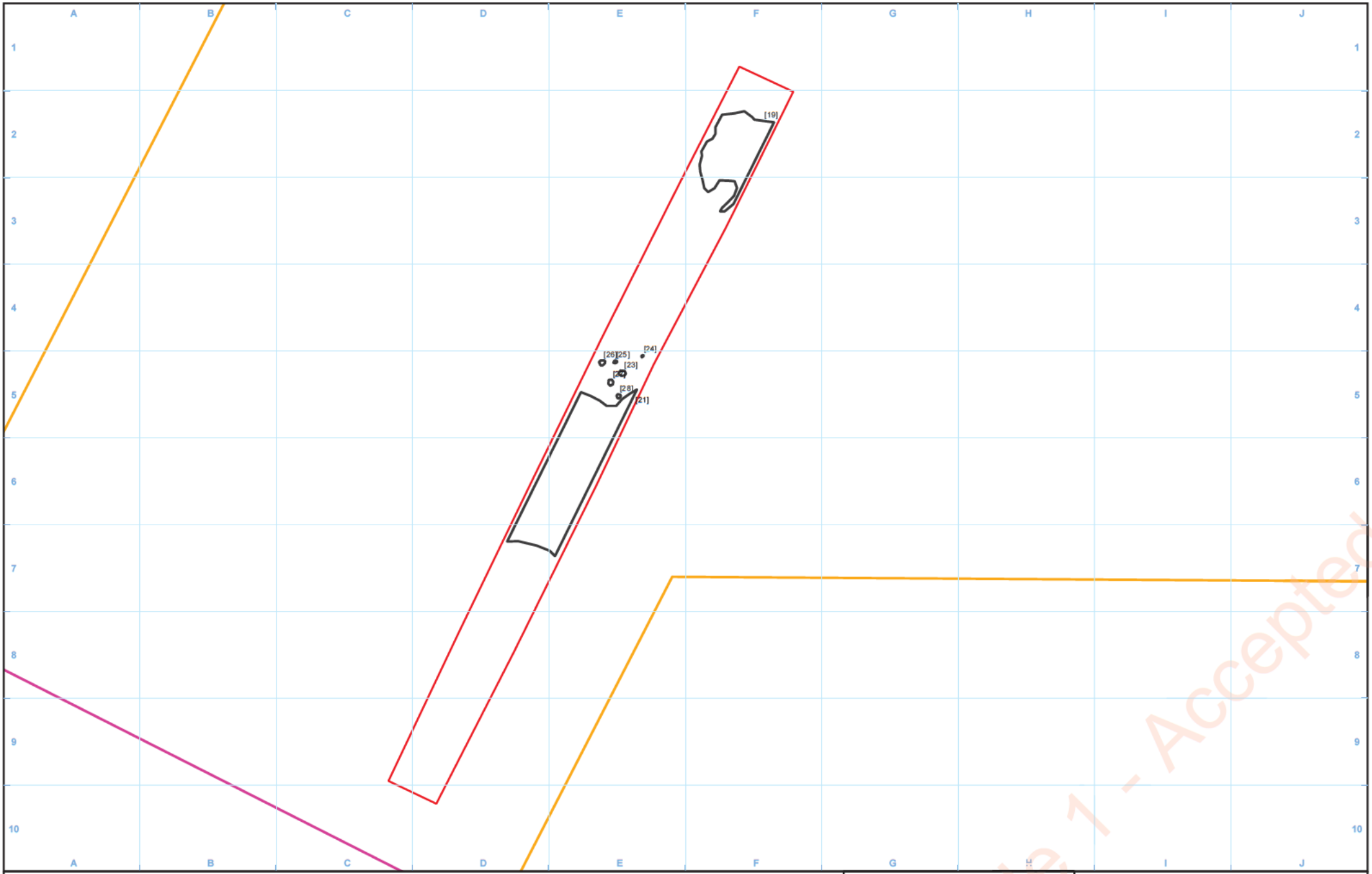
Doc Number: -tbc

Date: 24/05/18



Legend

- HS2
- Site outline
- archaeological feature
- Trial trench

Map Number: tbc

Map Name: Fig 4 Plan of Trench 007

Scale at A3: 1:125

Metres 0 1 2 3 4

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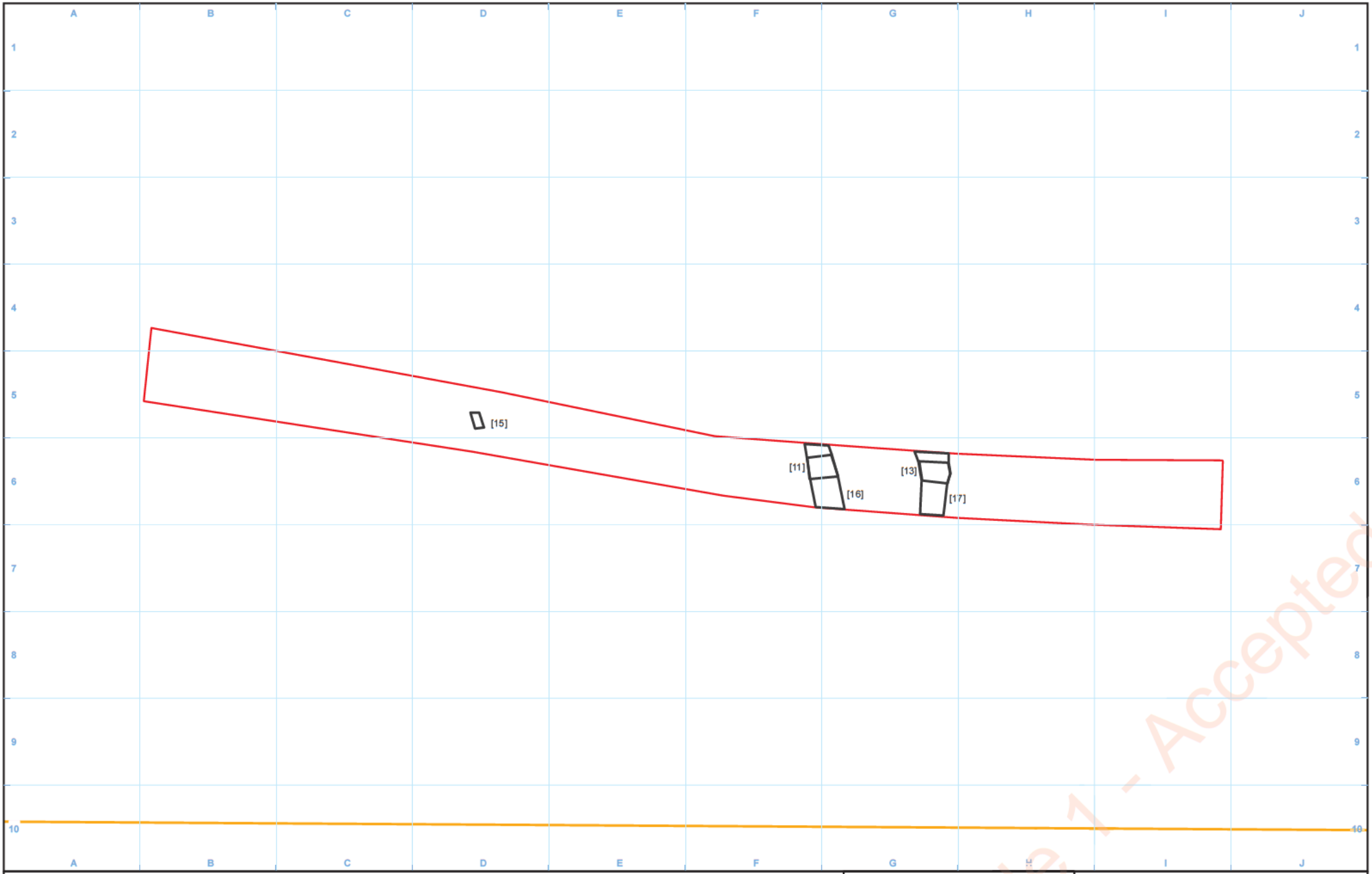
Doc Number: -

Date: 15/08/19



Legend

- Site outline
- archaeological feature
- Trial trench

Map Number: tbc

Map Name: Fig 5 Plan of Tr nch 008

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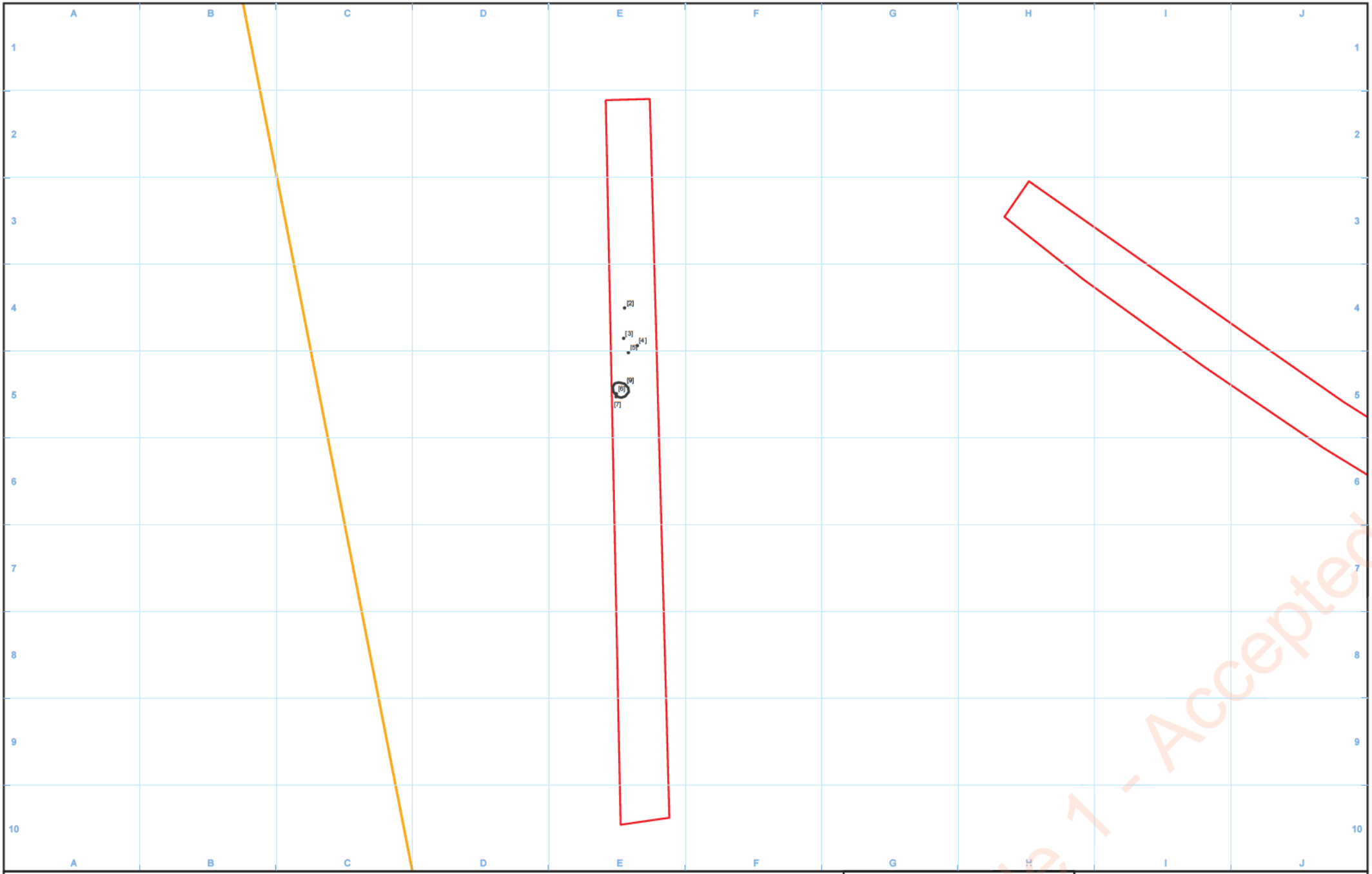
Scale at A3: 1:100

0 1 2 3 4 Metres

Doc Number: -

Date: 15/08/19



Legend

- Site outline
- archaeological feature
- Trial trench

Map Number: tbc

Map Name: Fig 6 Plan of Tr nch 014

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