

# LAND AT LONG ROCK

LUDGVAN

PENZANCE

CORNWALL

Results of an Archaeological Evaluation



South West Archaeology Ltd. report no. 200930



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LAND AT LONG ROCK, LUDGVAN,  
PENZANCE, CORNWALL  
RESULTS OF AN ARCHAEOLOGICAL EVALUATION

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By J. Bampton  
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Finalised: 2<sup>nd</sup> October 2020

Work undertaken by SWARCH for Westcountry Land (Long Rock) Ltd (The Client)

## SUMMARY

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*This report presents the results of an archaeological evaluation carried out by South West Archaeology Ltd. (SWARCH) on land at Long Rock, Ludgvan, Penzance, Cornwall. The site is located on the east edge of Longrock; an industrial and residential estate to the east of Penzance and immediately south of the A30. The Cornwall and Scilly Historic Landscape Characterisation (HLC) characterises the fields of the site as forming part of post-medieval enclosed land. The Long Rock Mine is recorded as having multiple shafts and possible lodes within the site boundary (WM 2018). A previous desk-based assessment, geophysical survey and Heritage Impact Assessment has been undertaken on the site (Bonvoisin 2019). This revealed geophysical anomalies associated with historical boundaries, undated drains/ditches and probable made-grounds.*

*The results of the evaluation validated the interpretation of the geophysical survey. The results depict a series of modern drainage ditches and land drains associated with the post-medieval/modern enclosure of the site. The site appears to contain what would have been a substantial open drainage ditch running its length, approximately north-west by south-east, with various contemporary and later phases of drainage being employed through the 19<sup>th</sup> and 20<sup>th</sup> centuries. Some evidence of 20<sup>th</sup> century earthmoving in the south-east part of the site was also identified.*

*Given the results of the evaluation trenching and the archaeological and historical background for the site, it is unlikely that further archaeological works would yield significant results. Therefore, it is recommended that no further archaeological works are required on the site.*

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September 2020

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## ACKNOWLEDGEMENTS

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## 1.0 INTRODUCTION

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<b>LOCATION:</b>	LAND AT LONG ROCK, PENZANCE
<b>PARISH:</b>	LUDGVAN
<b>COUNTY:</b>	CORNWALL
<b>NGR:</b>	SW 50183 31700
<b>PLANNING REF:</b>	PA19/06270
<b>OASIS No.</b>	SOUTHWES1-403170
<b>SWARCH REF.</b>	LLR20

### 1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Westcountry Land (Long Rock) (The Client) to undertake an archaeological evaluation on land at Long Rock, Ludgvan Cornwall, as part of the pre-determination requirements for a proposed housing development. This phase of work was informed by an earlier geophysical survey (Bonvoisin 2019), allowing for targeted evaluation trenching. This work was undertaken in accordance with best practice and ClfA guidance and in line with a trench plan and WSI drawn up in consultation with Cornwall Council (Appendix 5).

### 1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The site is located on the east edge of Longrock; an industrial and residential estate to the east of Penzance and immediately south of the A30. The area in general is known as Long Rock after an adjacent protrusion off the coast in Mount's Bay. The site is on a wide flat area of land with Marazion Marsh to its south-east. The site is across a rectangular field bounded by the old A30 to its south, the new A30 (Long Rock bypass) to its north, an industrial estate to its east and a private residence and residential and industrial estate to its west.

The soils of this area are the deep fine silty and clayey soils variably affected by groundwater of the Conway Association (SSEW 1983). These overlie superficial deposits of clay, silt, sand and gravel (head), with the slates and siltstones of the Mylor Slate Formation at depth (BGS 2020). Historic borehole logs indicate that bedrock is encountered at a depth of 3.7m below ground level at SW 50130 31790 (northern edge of the site), and 2.8m below ground level at SW 50370 31690 (80m east of the site) (BGS 2020).

### 1.3 HISTORICAL BACKGROUND

The site lies within the ancient ecclesiastical parish of Ludgvan, in the Hundred and Deanery of Penwith (Connerton) (Lysons 1814); Ludgvan is named for its patron saint, Ludowanus, and was first recorded in the Domesday Book under Luduham (Morris 1992). The name Ludgvan is possibly derived from the Cornish for 'place of ashes' (Padel 1985). The Cornwall and Scilly Historic Landscape Characterisation (HLC) characterises the fields of the site as forming part of post-medieval enclosed land, and the morphology of these long rectangular fields stretching across low-lying land to the coast is strongly indicative of the post-medieval enclosure of lowland moor. This area, despite its proximity to the coast, is also one of mining: the Long Rock Mine is recorded as having three shafts and one suspected shaft, and exploited three lodes within the site boundary (WM 2018; Figure 12). The 1809 Surveyor's Draft Map (Figure 8) does not depict field boundaries, however, it does show the entire area of the site as marsh with a *Wheal Bog* to its east. The 1838 tithe map (Figure 9) shows the site as divided into its post-medieval field scape that according to Ordnance Survey mapping (e.g. Figure 10) remained in place, with occasional alteration, beyond c.1993. Satellite imagery of the site shows the site boundaries had been

removed and a cricket square in place in 2001. By 2009 this had been removed and imagery from 2017 shows the site as scrub and imagery from 2019 shows ditches, scrub and ground disturbance associated with site drainage and mining investigation.

#### 1.4 ARCHAEOLOGICAL BACKGROUND

There are no designated heritage assets within the proposed development site. There are however, 30 sites noted on the HER within a 500m radius of the centre of the site, most of which are post-medieval in date. The notable entries include a possible Iron Age round (MCO8603) at the early medieval settlement of Tregarthen (MCO27098); and the Giants Grave (MCO27104), a linear earthwork of possible early medieval date situated to the north-east of the site. A hoard of Roman coins were recovered from Marazion Marsh in 1793 during drainage work (MCO27098). This part of Mounts Bay is noted for its 'submerged forest' i.e. coastal peats (MCO55163), and palaeoenvironmental sampling has taken place in Marazion Marsh. The closest asset to the site is a Nonconformist chapel (MCO32769) immediately to the south.

A previous desk-based assessment, geophysical survey and Heritage Impact Assessment has been undertaken on the site (Bonvoisin 2019; Figures 11 and 13). This revealed geophysical anomalies associated with historical boundaries and probable drainage ditches and made-grounds. Off the site, nearby surveys have taken place in advance of the construction of the Long Rock Bypass (Sharpe and Shepherd 2015) and a survey of Giants Grave (Herring 1991). Much of the surrounding area appears to have been marsh or moor and its archaeological potential is accordingly considered to be low in the traditional sense, but potentially high for its palaeoenvironmental potential.

#### 1.5 METHODOLOGY

This work was undertaken in accordance with a Written Scheme of Investigation (WSI) drawn up in consultation with Cornwall Council, professional best practice and ClfA guidance (see Appendix 5). Any desk-based assessment aspect of this report follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (ClfA 2014a) and *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012). The archaeological evaluation follows the guidance as outlined in: *Archaeologists Standard and Guidance for Archaeological Field Evaluation* (ClfA 2015a) and *Standard and Guidance for an Archaeological Watching Brief* (ClfA 2015b).

The archaeological works in this instance have been informed by an earlier geophysical survey (Bonvoisin 2019), allowing for targeted evaluation trenching. This evaluation aims to: determine the validity of the geophysical survey; the presence or absence-, extent, date, condition and complexity of archaeological remains within the site; and to ensure the preservation by record of any encountered archaeological deposits or remains in accordance with current industry standards and best practice.

LAND AT LONG ROCK, LUDGVAN, PENZANCE, CORNWALL



FIGURE 1: SITE LOCATION (THE SITE IS INDICATED).

## 2.0 ARCHAEOLOGICAL EVALUATION TRENCHING

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### 2.1 INTRODUCTION

Archaeological evaluation trenching was undertaken on the 22<sup>nd</sup> and 23<sup>rd</sup> of September 2020 by SWARCH personnel. These evaluation trenches targeted anomalies identified in the preceding geophysical survey (Bonvoisin 2019; see Figures 4 and 5). Five trenches, totalling c.150m in length were excavated using a mechanical excavator to the level of weathered natural, which revealed archaeological features and deposits that were cleaned and excavated by hand. These features and deposits equated to historical and modern boundaries and drainage.

### 2.2 DEPOSIT MODEL

The site was overlaid with a relatively consistent depth of topsoil, a mid yellow-brown, friable sandy-silt loam, c.0.29m thick. This directly overlaid a natural, a light brown-yellow compact sandy-clay, across most of the site. Immediately west of Trenches 1 and 2 c.0.12m of turf overlaid disturbed ground and soil ostensibly had been cut away. Occasional patches of the site, particularly nearer the east and south extents of the evaluated areas, included a 'subsoil' across/within the top of the natural, equating to weathered natural indicative of water-logging or leaching: these patches were a light yellow-grey compact sandy-silt-clay stony 'natural'. This equated to ground conditions or topography associated with intermittent water-logging. At the east end of Trench 4 an area of this 'subsoil' was at the base of a hollow in the natural, across which a mid-light mottled brown-grey, friable sandy-silt-clay subsoil, c.0.17m thick, accounted for an area of slightly deeper soil filling a natural hollow. In the south-east part of the evaluated area (Trench 5 and the east end of Trench 2), which were across a particularly reedy area, topsoil overlaid two very soily made-grounds that overlaid a light blue-grey and mottled yellow compact clay natural. This more gleyed 'natural' had clearly been cut by a mechanical excavator, with clear bucket teeth marks visible across the trench during excavation.

### 2.3 RESULTS

The evaluation trenching revealed a large number of modern drainage trenches and land drains and occasional ditches. Five archaeological features were present as well as land drains and spreads that results corresponded to- and validated the accuracy of the previous geophysical survey (Figure 4). All of these features either equated to historical boundaries of the sites post-medieval field system or contained modern finds.

The following results are described by trench. A full set of site drawings including plans and sections can be seen in Appendix 1; a full context list with context descriptions in Appendix 2; a complete finds list in Appendix 3; and supporting photographs in Appendix 4.

#### 2.3.1 TRENCH 1

Trench 1 (Figure 6) was aligned north-west by south-east and measured 29.70mx1.60m; the topsoil was c.0.29m thick. It was located at the south end of the site to target a linear geophysical anomaly identified as a probable ditch equating to a historical field boundary. The trench revealed a single ditch (Figure 2) that equated to the targeted geophysical anomaly and a series of gravel filled land drains.

Ditch [103] was aligned north-east by south-west with a near vertical south slope with a concave break of slope and a gentle north slope with a flat base. It was c.1.70m wide and c.0.34m deep. It contained a two fills: upper fill (104), which contained 20<sup>th</sup> century finds; and lower fill (105). Both fills contained moderate medium angular and sub-angular stones. A patch of slightly disturbed



natural on the south side of this feature may allude to a truncated boundary feature such as a bank or hedgeline or other parallel feature.



FIGURE 2: DITCH [103]; VIEWED FROM THE NORTH-EAST (1M SCALE).

### 2.3.2 TRENCH 2

Trench 2 (Figure 6) was aligned north-east by south-west and measured 29.60m x 1.60m; the topsoil was c.0.25m thick. A subsoil/made-ground was present at the east end of the trench and was up to c.0.19m thick. It was located at the south end of the site to target two linear geophysical anomalies identified as probable ditches. The trench revealed a single ditch that equated to the eastern geophysical anomaly and a large number of gravelly land drains including one stonier example that equated to the western anomaly.

Ditch [203] was aligned approximately north-west by south-east with a vertical west slope, sharp break of slope and a flat base; its east slope was cut by a parallel later land drain. It was c.1m wide and c.0.33m deep. It contained two fills: upper Fill (204), which contained 20<sup>th</sup> century finds; and lower fill (205).

### 2.3.3 TRENCH 3

Trench 3 (Figure 6) was aligned north-east by south-west and measured 29.30m x 1.60m; the topsoil was c.0.29m thick. It was located near the middle of the site to target a linear anomaly. The trench revealed no significant archaeological features. A frequent number of land drains ran across the trench, including a slightly stonier, example, as in Trench 1, which corresponded to the targeted anomaly. An additional modern trench-line aligned approximately east-west was also present.

### 2.3.4 TRENCH 4

Trench 4 (Figure 7) was aligned approximately east-west and measured 29.35m x 1.60m; the topsoil was c.0.21m thick. A subsoil was present along most of the east part of the trench, which was c.0.17m thick and filled a slight natural hollow, at the bottom of which was some weathered

natural indicative of occasional water-logging on the site. It was located at the north-east corner of the site to target a linear geophysical anomalies identified as a historical boundary and probable drainage ditches. The trench revealed two ditches equating to the historical boundary (Figure 7), a drainage ditch and land drains and a slight hollow all of which equate to the geophysical anomalies. The wooden post of a modern fence stake was also present between the ditches equating to the removed historical boundary.

Ditch [404] was aligned north-west by south-east with gentle even slopes that become near vertical and concave to a concave base. It was <1.50m wide and c.0.25m deep. It contained a single fill, (405), which contained modern plastic debris.

Ditch [406] was aligned north-west by south-east, parallel to Ditch [404], with an uneven steep west slope and very steep east slope with sharp concave breaks of slope and a flat base. It was <3.80m wide and c.0.80m deep. It contained five fills, including mostly a silting-up deposit, (409), and a layer of redeposited natural, (408), which buried some modern debris.

Ditch [412] was aligned north-west by south-east, parallel to Ditch [404], with a steep west slope and moderate east slope with sharp breaks of slope and a flat base. It was 0.64m wide and 0.12m deep. It contained a single fill, (413) that contained moderate medium angular stones.



FIGURE 3: DITCH [406] (FOREGROUND) AND DITCH [404], MID-EXCAVATION; VIEWED FROM THE SOUTH-WEST (2M SCALE).

### 2.3.5 TRENCH 5

Trench 5 (Figure 7) was aligned north-west by south-east and measured 28.25mx1.60m; the topsoil was c.0.22m thick, which overlaid made-ground (501) that was 0.10-0.25m thick and in-turn overlaid made-ground (502) that was 0.10-0.18m thick across the north half of the trench. It was located in the south-east part of the site to target two linear geophysical anomalies. Two 20<sup>th</sup> century drains filled with 20<sup>th</sup> century debris and ostensibly contemporary with made-ground (502) were present in the trench and equated to the geophysical anomalies. Teeth marks from the bucket of a mechanical excavator were visible in the base of the trench. The overlaying made-grounds contained relatively large and frequent finds from approximately the mid-20<sup>th</sup> century.

## 2.4 FINDS

A total of 82 finds were recovered from across the site. All of these were recovered from the topsoil, made-ground or modern drains and ditches that were open or functioning in the 20<sup>th</sup> century. The assemblage was comprised primarily of White Refined Earthenwares (WRE) and glass fragments. A full finds list can be seen in Appendix 3.

38 sherds (1703g) of pottery included; a sherd of English porcelain, a single sherd of 18<sup>th</sup>-19<sup>th</sup> century jar/cup, x2 sherds of 19<sup>th</sup> century stoneware, x7 sherds of industrial redwares and the remainder was WRE. Other than a single sherd of 18<sup>th</sup>-19<sup>th</sup> century fabric all of this material was 19<sup>th</sup>-20<sup>th</sup> century in date, predominantly 20<sup>th</sup> century. The earliest fabric was recovered from made-ground containing a frequent amount of 20<sup>th</sup> century material including probable 1940's bottles and mid-late 20<sup>th</sup> century brick.

Ditches/Drains [103] and [403] contained plastic bags and plastic bag fragments. Other features contained probable 20<sup>th</sup> century pottery and the drains in Trench 5 contained frequent amounts of 20<sup>th</sup> century refuse including extruded/machine-made bricks, and large fragments to whole glass bottles and ceramics/crockery.

The lack of finds from before the 19<sup>th</sup>/20<sup>th</sup> century may be indicative of the sites low archaeological potential.

## 3.0 DISCUSSION

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### 3.1 INTRODUCTION

The results of the evaluation validated the interpretation of the geophysical survey. The results depict a series of modern drainage ditches and land drains associated with the post-medieval/modern enclosure of the site. Some evidence of 20<sup>th</sup> century earthmoving in the south-east part of the site was also identified. The site appears to contain what would have been a substantial open drainage ditch running its length, approximately north-west by south-east, with various contemporary and later phases of drainage being employed through the 19<sup>th</sup> and 20<sup>th</sup> centuries. Historic mapping depicts the entire site as marsh in the early 19<sup>th</sup> century and this shifts to marsh/scrub in the south-eastern corner until finally only beyond the site boundary by the late 19<sup>th</sup> century.

### 3.2 HISTORICAL FEATURES

Two features on the site equate to historical boundaries; Ditches [103] and [406], which were depicted on mapping from c.1838 to c.1993. The depiction of the site as marsh on 1809 mapping implies that the ground had perhaps not been drained, or not significantly drained by that date, which may suggest that the site was enclosed between 1809 and 1838. Ditch [406] was ostensibly an open drain that contained fills indicative of silting-up and then subsequent purposeful backfilling. Ditch [103] contained a relatively large amount of medium stones indicative of a field drain, although its shape is indicative of a ditch and an adjacent area of disturbed natural may have alluded to a grubbed-out/truncated boundary bank. It may have been repurposed as an in-filled stony land drain in the 20<sup>th</sup> century. Both features only contained probably 20<sup>th</sup> century finds.

### 3.3 20<sup>TH</sup> CENTURY DRAINAGE AND MADE-GROUND

As well as containing 20<sup>th</sup> century finds in its upper fills, Ditch [406] had an adjacent parallel ditch/drain, [404], which contained later 20<sup>th</sup> century finds and the base of another parallel ditch/drain, [412] also ran across this part of the site and contained stones indicative of a stone-filled land drain.

Across most of the site were a frequent and regular number of gravelly land-drains, most of which may have been laid with a mole-plough. Parallel and similar to these were a handful of stony land drains (small stones) that equated to identified geophysical anomalies (Features [206] and [303]). This phase of drainage cut all other layers or features on the site across Trenches 1-4.

In Trench 5, and the eastern end of Trench 2 the depth of soil to the natural is generally greater and the natural is evidently disturbed and ostensibly truncated by previous machining in the 20<sup>th</sup> century. The made-grounds overlaying the natural in this area were mixed topsoil/subsoils with relatively frequent amounts of mid-late 20<sup>th</sup> century finds. Contemporary with the lower made-ground were two machine dug drainage trenches filled with mid-late 20<sup>th</sup> century debris. These were sealed by the higher made-ground, which contained slightly less of the same type of finds. The stretch of land immediately north-west of the site at Eastern Green, next to the A30 and Jelbert Way, has a history of being used as a Council- and local dump; a waste-disposal company still operates from land nearby at Trevarrack (Bampton 2018). This ground may have been used in a similar vein to these 'dumps' given the marshy nature of the site or previous mining related ground disturbance.

## 4.0 CONCLUSION

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The site is located on the east edge of Longrock; an industrial and residential estate to the east of Penzance and immediately south of the A30. The Cornwall and Scilly Historic Landscape Characterisation (HLC) characterises the fields of the site as forming part of post-medieval enclosed land: furthermore, the Long Rock Mine is recorded as having three shafts and one suspected shaft, and exploited three lodes within the site boundary (WM 2018).

The 1809 Surveyor's Draft Map shows the entire area of the site as marsh. The 1838 tithe map shows the site as divided into its post-medieval field scape that according to Ordnance Survey mapping remained in place, with occasional alteration, beyond c.1993. These boundaries were removed as the site was used as a cricket ground in the early 2000's before returning to an agricultural/scrub ground. A previous desk-based assessment, geophysical survey and Heritage Impact Assessment has been undertaken on the site (Bonvoisin 2019). This revealed geophysical anomalies associated with historical boundaries, undated drains/ditches and probable made-grounds.

The results of the evaluation validated the interpretation of the geophysical survey. The results depict a series of modern drainage ditches and land drains associated with the post-medieval/modern enclosure of the site. The site appears to contain what would have been a substantial open drainage ditch running its length, approximately north-west by south-east, with various contemporary and later phases of drainage being employed through the 19<sup>th</sup> and 20<sup>th</sup> centuries. Some evidence of 20<sup>th</sup> century earthmoving in the south-east part of the site was also identified.

Given the results of the evaluation trenching and the archaeological and historical background for the site, it is unlikely that further archaeological works would yield significant results. Therefore, it is recommended that no further archaeological works are required on the site.

## 5.0 BIBLIOGRAPHY & REFERENCES

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### *Published Sources:*

- Chartered Institute of Field Archaeologists** 2014a (revised 2017): *Standard and Guidance for Historic Environment Desk-based Assessment*.
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- Westcountry Mines (WM)** 2018: *Land at Long Rock, Penzance, Cornwall*. Report 63046.

### *Websites:*

- British Geological Survey** 2020: *Geology of Britain Viewer*.  
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Cornwall Council Historic Environment Record (HER) and HLC** 2020: *Cornwall Council Interactive Map*  
<https://map.cornwall.gov.uk/website/ccmap/> and <http://www.heritagegateway.org.uk>
- Environment Agency** 2020: *LiDAR, Digital Terrain Model data*  
<https://environment.data.gov.uk/DefraDataDownload/?Mode=survey>

### *The Cornwall Record Office*

- Ludgvan Tithe Map and Apportionment, 1838  
 Ordnance Survey 1<sup>st</sup> edition, 25 inch map, published 1878  
 Ordnance Survey 2<sup>nd</sup> edition, 25 inch map, published 1908

### *Public Record Office (PRO)*

- Surveyor's draft map for the Land's End area, 1809

APPENDIX 1: SITE PLANS, SECTION DRAWINGS AND MAPS

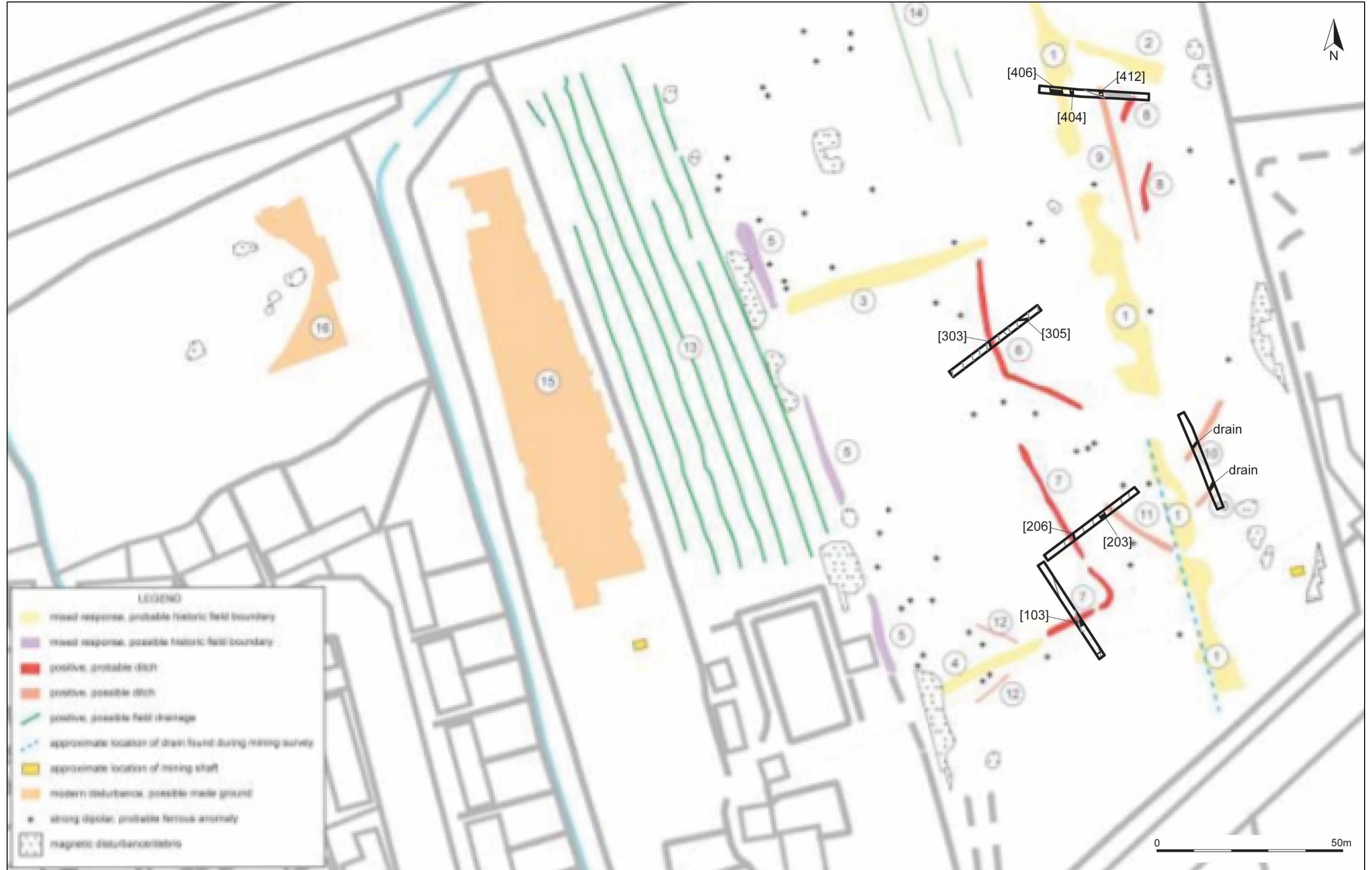


FIGURE 4: SITE PLAN; SHOWING TRENCH AND FEATURE LOCATIONS OVERLAYING INTERPRETATION OF GEOPHYSICAL SURVEY DATA (BONVOISIN 2019).

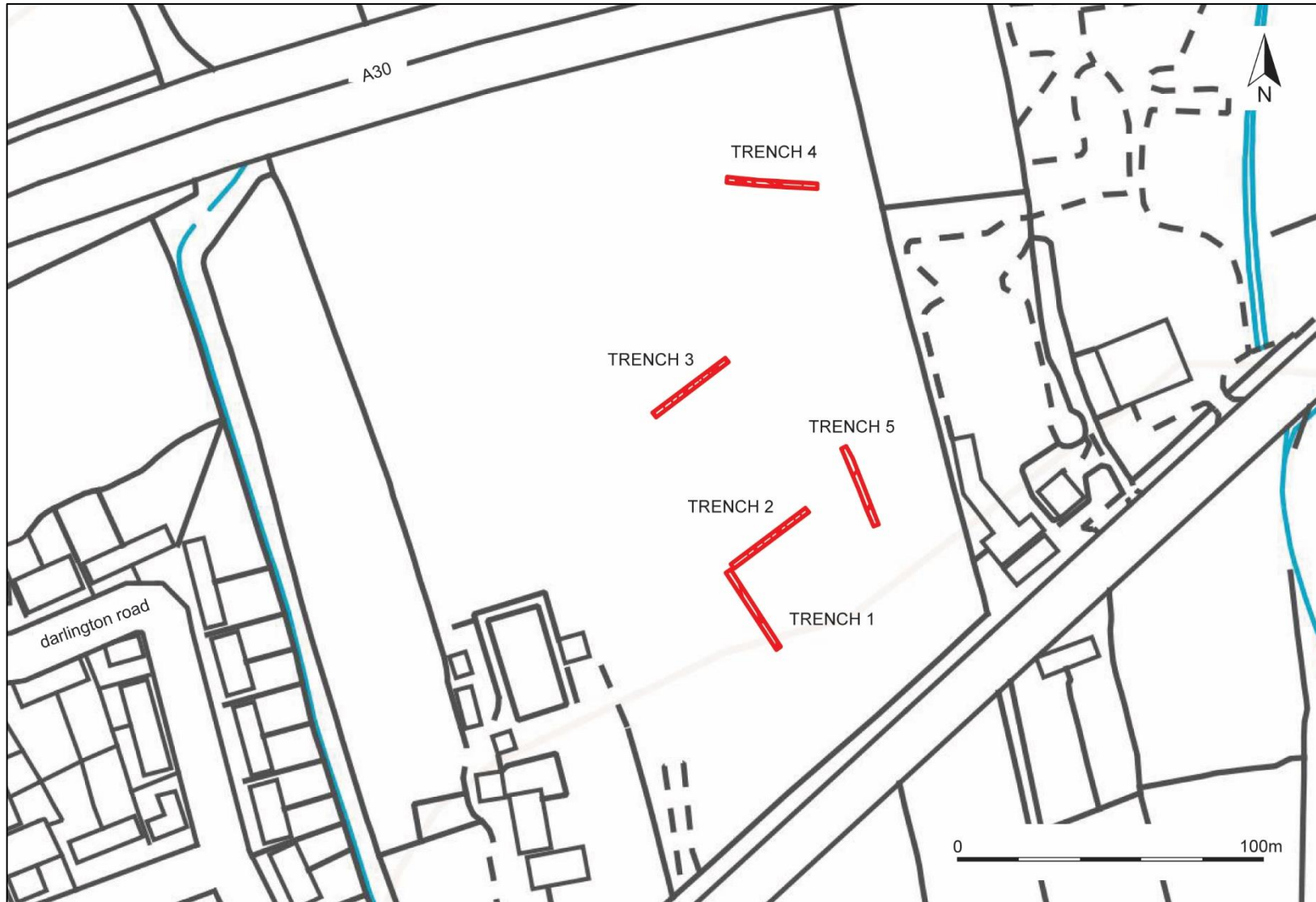


FIGURE 5: TRENCH LOCATION PLAN.



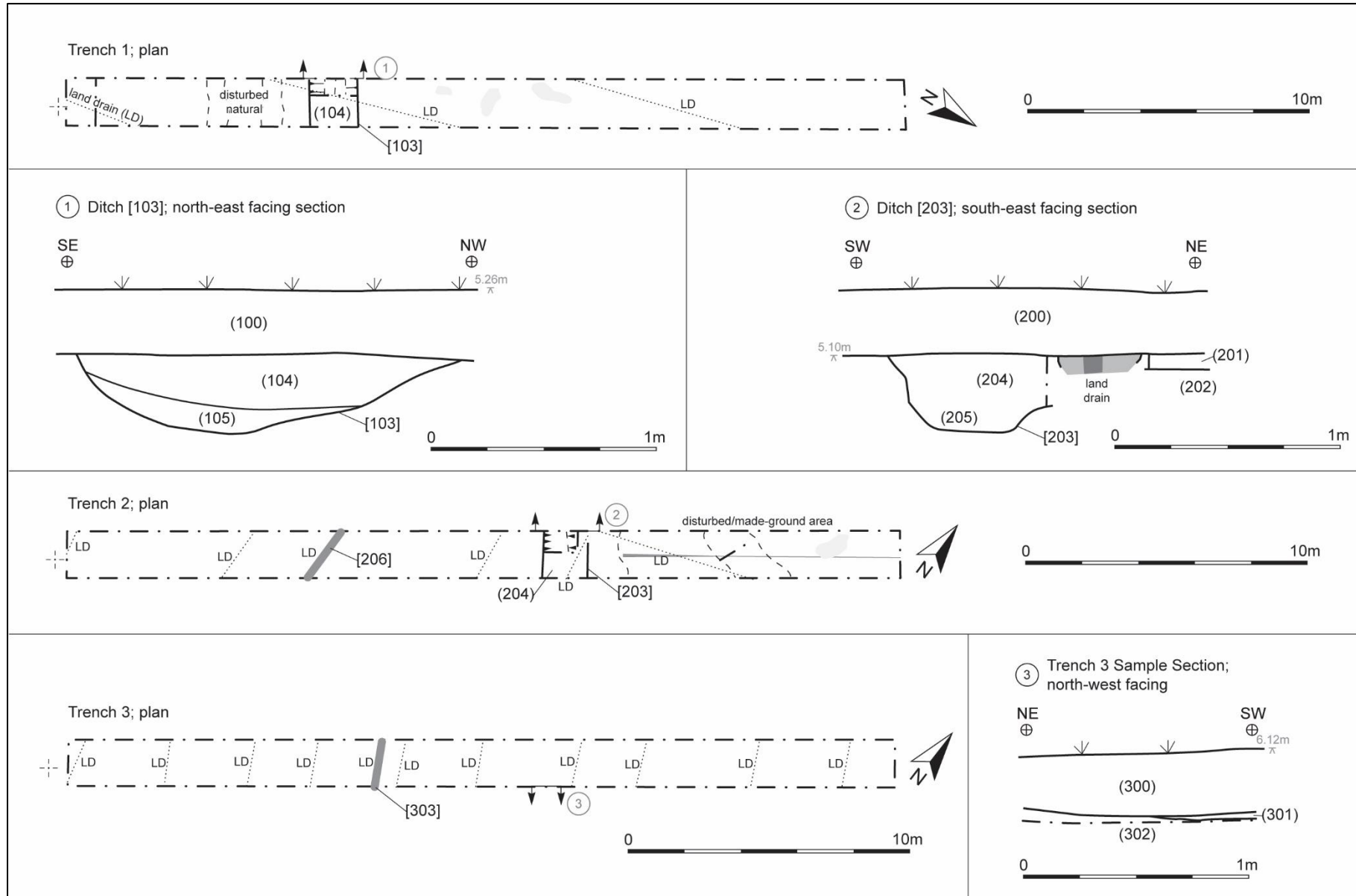


FIGURE 6: TRENCHES 1, 2 AND 3; PLANS AND SECTION DRAWINGS.

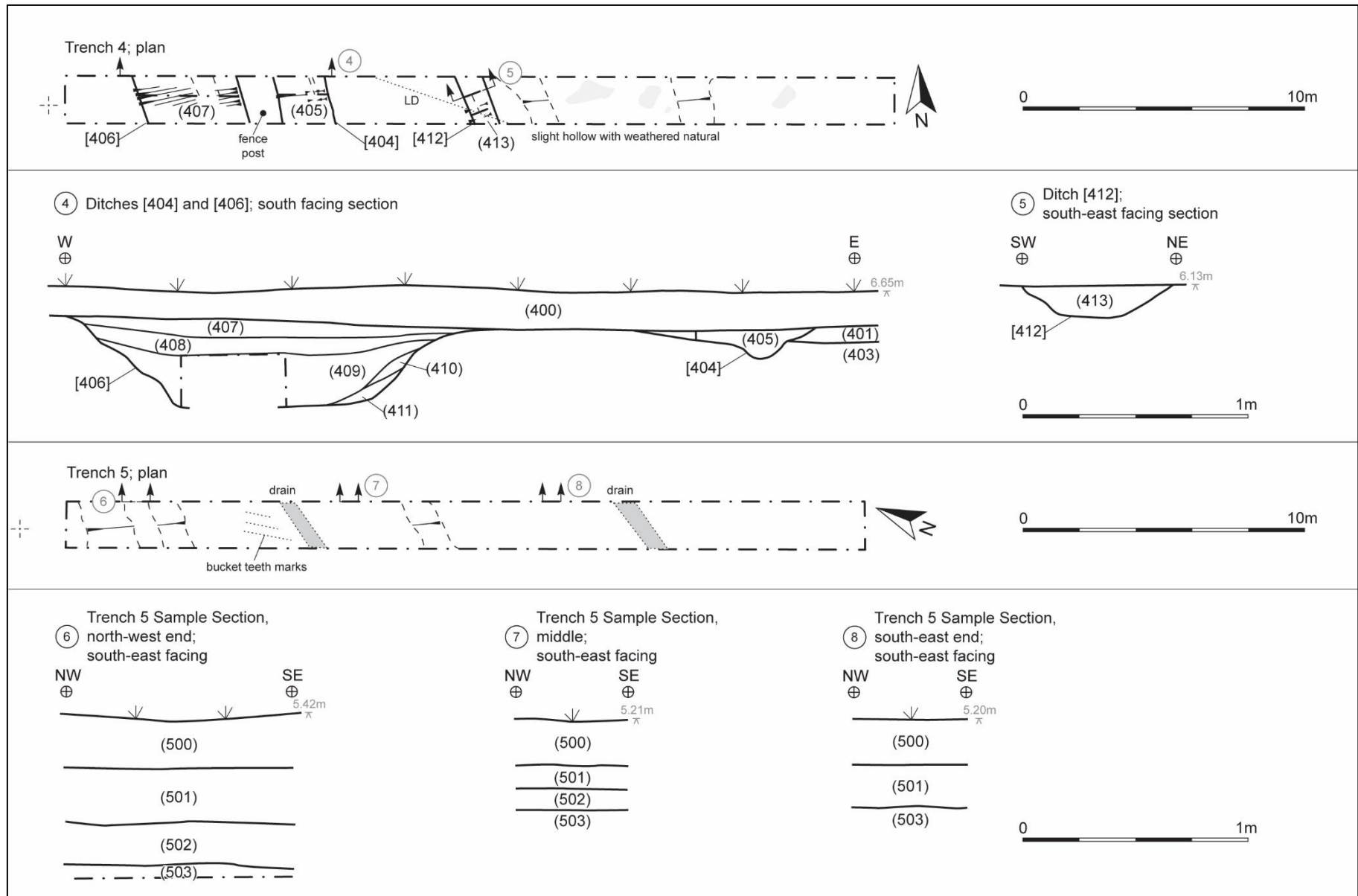


FIGURE 7: TRENCHES 4 AND 5; PLANS AND SECTION DRAWINGS.



FIGURE 8: EXTRACT FROM THE SURVEYOR'S DRAFT MAP, c.1809; THE APPROXIMATE LOCATION OF THE SITE IS INDICATED (PRO).



FIGURE 9: EXTRACT FROM THE LUDGVAN TITHE MAP, 1838; THE WIDER SITE SUBJECT TO EARLIER WORKS IS OUTLINED IN RED (KK).



FIGURE 10: EXTRACT FROM THE ORDNANCE SURVEY 1<sup>ST</sup> EDITION, 25 INCH SERIES, PUBLISHED 1878; THE WIDER SITE SUBJECT TO EARLIER WORKS IS OUTLINED IN RED (KK).



FIGURE 11: EXTRACT FROM THE ORDNANCE SURVEY 2<sup>ND</sup> EDITION, 25 INCH SERIES, PUBLISHED 1908, OVERLAYING INTERPRETATION OF GEOPHYSICAL SURVEY DATA (BONVOISIN 2019); THE WIDER SITE SUBJECT TO EARLIER WORKS IS OUTLINED IN RED (KK).



FIGURE 12: COMPOSITE IMAGE SHOWING THE LODES AND PROBABLE SHAFTS ON THE SITE (FROM WM 2018).

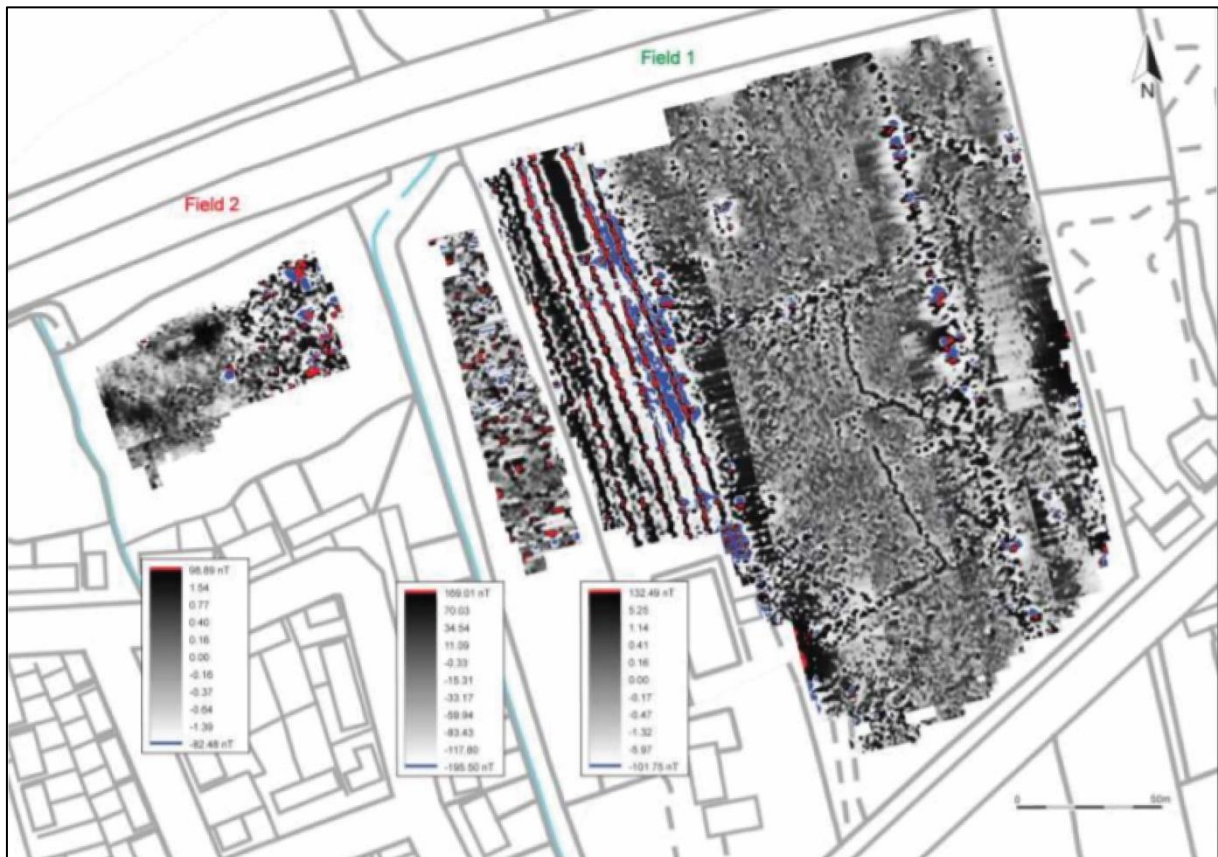


FIGURE 13: RED-GREY-BLUE SCALE IMAGE OF SITES GEOPHYSICAL SURVEY DATA, BAND WEIGHT EQUALISED, GRADIATED SHADING (BONVOISIN 2019).

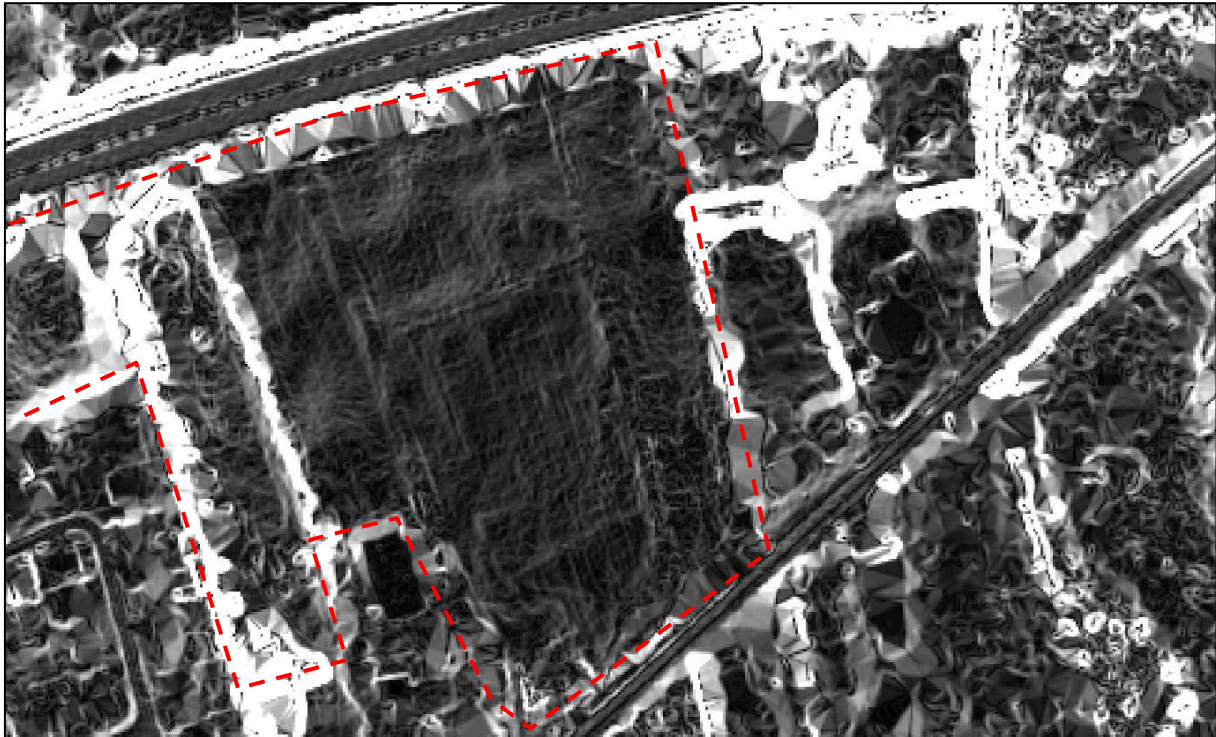


FIGURE 14: IMAGE DERIVED FROM LIDAR DATA; THE SITE IS OUTLINED IN RED (PROCESSED USING QGIS VER2.18.4, TERRAIN ANALYSIS/SLOPE, VERTICAL EXAGGERATION 3.0). DATA: CONTAINS FREELY AVAILABLE DATA SUPPLIED BY NATURAL ENVIRONMENT RESEARCH COUNCIL (CENTRE FOR ECOLOGY & HYDROLOGY; BRITISH ANTARCTIC SURVEY; BRITISH GEOLOGICAL SURVEY); ©NERC.

LAND AT LONG ROCK, LUDGVAN, PENZANCE, CORNWALL: ARCHAEOLOGICAL EVALUATION

APPENDIX 2: CONTEXT LIST

CONTEXT	DESCRIPTION	RELATIONSHIPS	DEPTH/ THICKNESS	SPOT DATE	
TRENCH 1					
(100)	Topsoil	Mid yellow-brown, friable sandy-silt loam, between 0.23-0.35m thick	Overlaid (101)(104)	c.0.29m	C19/C20
(101)	Weathered natural/ Subsoil	Light yellow-grey, compact sand-silt-clay stony patch in the natural, equates to a water-logged and leached stony natural areas	Overlaid (102); Overlain by (100)	c.0.05m	-
(102)	Natural	Light brown-yellow, compact sandy-clay	Cut by [103]	Below c.0.29m	-
[103]	Cut of Ditch	Linear ditch, aligned north-east by south-west, very steep/near vertical south slope, gentle stepped north slope, flat base, 2 fills, equated to a historical field boundary, c.1.80m wide	Cut (102); Contained (104)(105)	0.34m	C19/C20
(104)	Fill of Ditch	Mid brown-grey, friable sandy-silt loam, occasional charcoal flecks and moderate medium sub-angular/angular stones, 19 <sup>th</sup> /20 <sup>th</sup> finds including plastic	Fill of [103]; Overlain by (100)	c.0.25m	C19/C20
(105)	Fill of Ditch	Light grey, soft-friable clay-silt loam with moderate medium angular/sub-angular stone	Fill of [103]; Overlain by (104)	c.0.10m	-
TRENCH 2					
(200)	Topsoil	As (100)	Overlaid (201)(204)	c.0.24m	C19/C20
(201)	Subsoil	Mid brown-grey with orange-brown mottling, soft-friable clay-silt	Overlaid (204)(206); Overlain by (200)	<0.19m	-
(202)	Natural	As (101), becoming more clayey to east end of trench with a more blue/gleyed natural beneath (201) with occasional light grey stony patches similar to (102) natural	Cut by [203]; Overlain by (201)	Below 0.24- 0.50m	-
[203]	Cut of Ditch	Linear ditch, aligned approximately north-south, steep sides with a slight concave profile and break of slope, very gentle concave-flat base, 2 fills, 1.87m wide	Cut (202); Contained (204)(205)	0.57m	-
(204)	Fill of Ditch	As (201), with 20 <sup>th</sup> century pottery	Fill of [203]; Overlaid (205); Overlain by (201)	c.0.23m	-
(205)	Fill of Ditch	Light grey, soft gritty sandy-clay	Fill of [203]; Overlain by (204)	0.15m	-
[206]	Cut of Land Drain	Redeposited natural and stone filled land drain with vertical sides, c.0.20-0.30m wide, not fully excavated, parallel with dominant gravelly land drains	Cut (202); Contained (207)	-	C20
(207)	Fill of Land Drain	Mid grey-yellow, compact stony clay, redeposited natural and stone	Fill of [206]; Overlain by (200)	-	C20
TRENCH 3					
(300)	Topsoil	As (100)	Overlaid (301)	0.28-0.30m	C19/C20
(301)	Weathered natural/ Subsoil	As (101), patchy along trench	Overlaid (302); Overlain by (300)	c.0.05m	-
(302)	Natural	As (102)	Cut by [303][305]	Below 0.28- 0.30m	-
[303]	Cut of Land Drain	As [206]	Cut (302); Contained (304)	-	C20
(304)	Fill of Land Drain	As (207)	Fill of [303]; Overlain by (300)	-	C20
[305]	Cut of	Modern trench line, c.0.60m wide, vertical sides, not fully excavated contained 20 <sup>th</sup> century	Cut (302); Contained (306)	-	C20

LAND AT LONG ROCK, LUDGVAN, PENZANCE, CORNWALL: ARCHAEOLOGICAL EVALUATION

	modern trench/drain	finds and a single fill			
(306)	Fill of modern trench/drain	Redeposited natural, 20 <sup>th</sup> century finds	Fill of [305]; Overlain by (300)	-	C20
TRENCH 4					
(400)	Topsoil	As (100)	Overlaid (405)(407)(413)	c.0.25m	C19/C20
(401)	Subsoil	Mid-light brown-grey, friable sandy-silt clay	Cut by [404][412]; Overlaid (402)	<0.26m	-
(402)	Weathered natural/ Subsoil	As (101)	Overlaid (403); Overlain by (401)	c.0.05m	-
(403)	Natural	As (102), but more clayey to east end of trench with more angular stone	Overlain by (401); Cut by [406]	Below 0.25-0.56m	-
[404]	Cut of Ditch	Linear ditch aligned north-west by south-east, gentle becoming very steep sides with a flat-gentle concave base, 1 fill, .50m wide; core/central drain line 0.60m wide with very steep/near vertical sides	Cut (401); contained (405)	c.0.25m	C20
(405)	Fill of Ditch	As (401) with plastic and modern finds with occasional medium angular stones	Fill of [404]; Overlain by (400)	c.0.25m	C20
[406]	Cut of Ditch	Linear ditch aligned north-west by south-east, very steep sides with concave break of slope, flat base, 5 fills, <3.80m wide	Cut (403); Contained (407)(408)(409)(410)(411)	c.0.80m	C19-C20
(407)	Fill of Ditch	Light yellow-grey, friable clay-silt loam, probable topsoil slump	Fill of [406]; Overlaid (408); Overlain by (400)	c.0.17m	C20
(408)	Fill of Ditch	Mottled light white-yellow, compact clay with gravel and stones (angular, small-large), redeposited natural	Fill of [406]; Overlaid (409); Overlain by (407)	c.0.15-0.27m	C20
(409)	Fill of Ditch	Dark brown-grey, soft silt-clay loam, occasional medium-large angular stones, barbed wire fencing pressed in from top and also within (408)	Fill of [406]; Overlaid (410); Overlain by (408)	c.0.47m	C20
(410)	Fill of Ditch	Light brown-yellow, gritty firm-soft sandy-clay, equates to a basal fill/weathered edge	Fill of [406]; Overlaid (411); Overlain by (409)	c.0.12m	-
(411)	Fill of Ditch	Light brown-grey, gritty friable gravel and clay at break of slope/base/edge, equates to a basal fill/weathered edge	Fill of [406]; Overlain by (410)	c.0.12m	-
[412]	Cut of Ditch	Linear ditch aligned north-west by south-east, gentle east slope and very steep west slope, flattish base, 1 fill, 0.64m wide	Cut (401); contained (413)	c.0.13m	C20
(413)	Fill of Ditch	Mid-light mottled brown-grey, friable clay-silt loam with moderate medium angular stones	Fill of [412]; Overlain by (400)	c.0.13m	C20
TRENCH 5					
(500)	Topsoil	Similar to (100) but slightly darker and sandier	Overlaid (501)	c.0.21m	C19/C20
(501)	Made-ground	As (201), but with more moderate finds, 20 <sup>th</sup> century finds	Overlaid (502); Overlain by (500)	0.10-0.25m	-
(502)	Made-ground	Dark grey firm silt-clay, contained 20 <sup>th</sup> century finds also present in two drains in the trench and made-ground (501)	Overlaid (503); Overlain by (501)	0.10-0.18m	-
(503)	Natural	Light blue-grey with yellow mottling, compact clay, gleyed clay from water-logging(?) partially truncated by machine in the 20 <sup>th</sup> century	Overlain by (502)	Below 0.38-0.65m	-



APPENDIX 3: FINDS LIST

Context	POTTERY			Glass			Other			Date
	Sherds	Wgt. (g)	Notes	Frgs.	Wgt. (g)	Notes	Frgs.	Wgt. (g)	Notes	
(100)	1	17	White Refined Earthenware (WRE), x2 with Blue Transfer Print (BTP)	2	3	Clear bottle glass	2	22	Fe nails (corroded)	C20
	3	100	19 <sup>th</sup> century industrial redwares							
(104)	1	3	WRE, BTP	2	60	Clear rectangular bottle glass	2	<1	Plastic bag fragments (heavy duty)	C20/C21
							2	414	Fe fragment (tractor part/bracket)	
(200)	2	7	WRE, x1 BTP	3	14	Glass, x1 thin panel, x1 jar/vase, x1 green bottle glass				C20
	1	15	Stoneware pot base sherd							
(204)	1	5	English porcelain							C19/C20
(207)	1	6	WRE cup base	1	8	Clear panel glass, thick window				C20
(300)	3	11	WRE, x2 BTP	1	2	Clear panel glass, thin	2	59	Slag	C20
	1	3	Industrial redwares C19-C20							
(304)				1	2	C20 clear panel glass				C20
(306)	1	1	WRE	1	3	C20 green bottle glass	1	96	Ceramic pipe, C20?	C20
(400)	1	2	WRE				1	26	Red tile/CBM C19-C20	C19/C20
(401)	1	<1	WRE				1	24	Fe nail (corroded)	C19/C20
							3	3	CBM/brick scraps/frags.	
(404)	2	4	WRE, x1 BTP				2	<1	Plastic bag frags. (heavy duty)	C20/C21
(407)				2	2	Clear thin bottle glass				C20
(413)	1	6	WRE cup base				1	<1	CBM/brick scrap	C20
Trench 5 Made-grounds	6	236	WRE, including near complete large plates and large vase/jug fragments	6	97	Various glass frags. C20	2	297	Machine made brick, C20	C20
	2	238	Large red industrial ware pots C19/C20	1	160	'No – 54' clear bottle glass	1	41	Slate frag.	
	1	97	WRE, grey pot/vessel							
	1	9	18 <sup>th</sup> -19 <sup>th</sup> century cup/jar fragment							
	2	583	Stoneware jugs, small milk jugs?							
Trench 5 Drains	5	233	WRE, plates, vases, BTP, C20	1	495	Green bottle 'imperial ½ pint'	1	194	CBM floor tile, black top	C20
	1	12	Stoneware	2	107	Glass, clear bottle, round and square C19 and C20				
	1	123	Big redware pot C19/C20							
<b>Totals</b>	<b>38</b>	<b>1703</b>		<b>23</b>	<b>953</b>		<b>21</b>	<b>1179</b>		

\*all finds were subsequently discarded.

APPENDIX 4: SUPPORTING PHOTOGRAPHS



1. TRENCH 1; VIEWED FROM THE NORTH-WEST (2M SCALE).



2. TRENCH 2; VIEWED FROM THE SOUTH-WEST (2M SCALE).



3. DITCH [203]; VIEWED FROM THE SOUTH-EAST (1M SCALE).



4. TRENCH 3, MODERN TRENCH LINE [305] IN FOREGROUND; VIEWED FROM THE NORTH-EAST (2M SCALE).



5. SAMPLE SECTION IN TRENCH 3; VIEWED FROM THE NORTH-WEST (1M SCALE).



6. TRENCH 4; VIEWED FROM THE WEST (2M SCALE).



7. TRENCH 4; VIEWED FROM THE EAST (2M SCALE).



8. DITCH [404]; VIEWED FROM THE SOUTH (1M SCALE).



9. DITCH [406]; VIEWED FROM THE SOUTH (2M SCALE).



10. DITCH [406]; VIEWED FROM THE SOUTH-EAST (2M SCALE).



11. LINE OF DITCH [406]; VIEWED FROM THE SOUTH-EAST (PARTIAL 2M SCALE).



12. DITCH [412]; VIEWED FROM THE SOUTH-EAST (1M SCALE).



13. HOLLOW AND WEATHERED NATURAL AT EAST END OF TRENCH 4; VIEWED FROM THE SOUTH-WEST (1M SCALE).



14. TRENCH 5; VIEWED FROM THE NORTH-WEST (2M SCALE).





15. TRENCH 5; VIEWED FROM THE SOUTH-EAST (2M SCALE).



16. NORTHERN DRAIN IN TRENCH 5 AND HISTORICAL BUCKET TEETH MARKS; VIEWED FROM THE SOUTH-EAST (1M SCALE).



17. SOUTHERN DRAIN IN TRENCH 5; VIEWED FROM THE NORTH-EAST (1M SCALE).



18. SOUTHERN HALF OF TRENCH 5; VIEWED FROM THE SOUTH (1M SCALE).



19. SITE SHOT, SHOWING REEDY AREA EAST OF TRENCH 1; VIEWED FROM THE WEST (NO SCALE).



20. SITE SHOT FROM THE NORTH-WEST END OF TRENCH 1, SHOWING MINING SEARCH SCRUB AREA ON LEFT; VIEWED FROM THE SOUTH (NO SCALE).



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PATHFIELDS BUSINESS PARK  
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# LAND AT LONG ROCK

LUDGVAN

PENZANCE

CORNWALL

## Written Scheme of Investigation



South West Archaeology Ltd. WSI no. LLR20WSIv1



[www.swarch.net](http://www.swarch.net) Tel. 01769 573555  
01872 223164

## Land at Long Rock, Ludgvan, Penzance, Cornwall Written Scheme of Investigation

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By Natalie Boyd  
Checked by Dr. Samuel Walls MCIfA  
Issued: 9<sup>th</sup> September 2020

Produced by SWARCH for Westcountry Land (Long Rock) Ltd.

### Non-Technical Summary

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*This Written Scheme of Investigation (WSI) has been prepared by South West Archaeology Ltd. on behalf of Westcountry Land (Long Rock) Ltd. (the Client). It has been drawn up in consultation with the LPA and details the archaeological mitigation strategy and methodology to be employed for Land at Long Rock, Ludgvan, Penzance, Cornwall.*

*The proposed site would be located towards the eastern edge of Long Rock and immediately adjacent to current residential areas. The archaeological potential of this site is low, with no notable assets within the immediate vicinity of the site. The geophysical survey undertaken for this site by SWARCH in 2018 identified multiple linear anomalies representing removed historic field boundaries and drainage. Much of the western extent of the site contains large areas of made ground that would obscure any archaeological anomaly groups. Geotechnical investigations on the site indicate that peat deposits are absent.*

*This WSI covers a scheme of evaluation trenching targeting linear anomalies in the eastern part of the site, to determine their, age, preservation and significance and if further archaeological mitigation will be required.*

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*Coverplate: View of field 1; viewed from the west.*

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## 1.0 INTRODUCTION

---

<b>LOCATION:</b>	LAND AT LONG ROCK
<b>PARISH:</b>	LUDGVAN
<b>COUNTY:</b>	PENZANCE
<b>NGR:</b>	SW 50183 31700
<b>PLANNING NO.</b>	PA19/06270
<b>SWARCH REF.</b>	LLR20
<b>OASIS NUMBER:</b>	SOUTHWES1-403170

### 1.1 PROJECT SCOPE

This document is the Written Scheme of Investigation (WSI) for land at Long Rock, Ludgvan, Penzance, Cornwall. It has been produced by South West Archaeology Ltd (SWARCH) on behalf of Westcountry Land (Long Rock) Ltd. (the Client). It sets out the methodology for the archaeological works to be undertaken ahead of the proposed works, and for related off-site analyses and reporting. The WSI and the schedule of work it proposes were drawn up in consultation with the LPA.

### 1.2 PLANNING CONTEXT

Works on this site are being undertaken as part of planning application PA19/06270 for the proposed construction of a residential development of 154 dwellings, to include access, layout, scale and appearance with landscaping reserved.

### 1.3 PLANNING CONDITION(S)

In accordance with paragraph 199 of the *National Planning Policy Framework* (2018), and the Cornwall Local Plan Policy 24 on archaeology, consent may be granted, conditional upon a programme of archaeological work being undertaken. The recommended condition wording for Cornwall states:

*A) No development shall take place until a programme of archaeological recording 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*
- 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) No development shall take place other than in accordance with the Written Scheme of Investigation approved under condition (A).*

*C) 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.*

*D) The archaeological recording condition will normally only be discharged when all elements of the WSI including on site works, analysis, report, publication (where applicable) and archive work has been completed.*

### 1.4 PUBLIC AND ECONOMIC BENEFIT<sup>1</sup>

Social benefit can arise through learning and development, and community strength and local identity can be enhanced through contact with the historic environment.

Social benefit also arises from the net contribution to human knowledge (the research dividend) made by investigative works.

Economic benefit can arise from the regeneration of historic places, leading to the revitalisation of communities and neighbourhoods. Archaeology can make a meaningful contribution to place-making, which in turn enhances the image of a place and makes it a more desirable place in which to live.

Economic benefit can also arise from beneficial publicity, particularly through outreach, but also via public appreciation of due corporate diligence and care for the historic environment.

---

<sup>1</sup> CfA 2015: *Professional Archaeology: a guide for clients.*



## 2.0 BACKGROUND INFORMATION

### 2.1 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The proposed development site lies within the ancient ecclesiastical parish of Ludgvan, in the Hundred and Deanery of Penwith (*Connerton*)<sup>2</sup>; Ludgvan is named for its patron saint, *Ludowanus*, and was first recorded in the Domesday Book under *Luduham* (possibly Cornish for ‘place of ashes’). The Cornwall and Scilly HLC characterises these fields as forming part of *post-medieval enclosed land*, and the morphology of these long rectangular fields stretching across low-lying land to the coast is strongly indicative of the post-medieval enclosure of lowland moor. This area, despite its proximity to the coast, is also one of mining: the Long Rock Mine is recorded as having three shafts and one suspected shaft, and exploited three lodes within the site boundary.

A geophysical survey carried out at the site by SWARCH in April 2020<sup>3</sup> identified multiple linear anomalies representing removed historic field boundaries and drainage. Much of the western part of the site is made ground.

The comments from Cornwall Council are as follows:

*Thank you for consulting HEP Archaeology on this application. We have consulted the submitted Heritage Impact Assessment (HIA) and geophysical survey (SWARCH 190904), together with the submitted ground investigation (GI) report (Ian Farmer Associates, Nov 2018).*

*The geophysical survey, corroborated by the findings summarised in the GI report, demonstrates that much of the western part of the application site is overlain by made ground with the low potential for buried archaeology.*

*While we concur with the HIA that several of the linear anomalies detected by the geophysical survey are likely to be associated with former field boundaries or mining remains recorded on 19th century maps, there is some uncertainty about the date and character of Anomalies 6 and 7. Although both are considered as moderate responses, they're curvilinear in plan and it is possible that these are buried archaeological features associated with an earlier phase(s) of activity within the application site.*

*We therefore consider that further evaluation of the eastern part of the application site and its historic resource is necessary to validate the results of the geophysical survey. Evaluation trenching over a selection of identified sites and blank areas should be undertaken in accordance with a trench layout plan submitted to, and approved by, ourselves.*

*We cannot advise further until the appropriate evaluation report has been provided. This application should not be determined before this evaluation report is received and we have had an opportunity to comment further. This evaluation should be carried out by a suitably qualified organisation or individual in accordance with accepted national guidelines. This is in accordance with the provisions of NPPF (2019) Chapter 16, paragraph 189 and Cornwall Local Plan policy 24. Should an adequate report not be forthcoming, then further consultation with HEP Archaeology is advised before determination.*

### 2.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Long Rock is an industrial estate and residential area to the east of Penzance and St Gulval, located immediately to the south of the A30 and on a wide flat area of land on the edge of Mounts Bay; Marazion Marsh is located to the south and south-east. The proposed development site is located to the eastern side of Long Rock and consists of three large rectangular fields, bounded by the Long Rock Bypass to the north, the former A30 to the south/south-east, a residential area to the west, and a commercial compound to the west. The soils of this area are the deep fine silty and clayey soils variably affected by groundwater of the Conway Association<sup>4</sup>. These overlie superficial deposits of clay, silt, sand and gravel (head), with the slates and siltstones of the Mylor Slate Formation at depth<sup>5</sup>.

<sup>2</sup> Lysons 1814: *Magna Britannia Vol 3: Cornwall*.

<sup>3</sup> Bonvoisin, P. 2018: *Land at Long Rock, Ludgvan, Penzance, Cornwall: Results of a Geophysical Survey and Archaeological Assessment*.

<sup>4</sup> Soil Survey of England and Wales 1983: *Legend for the 1:250,000 Soil Map of England and Wales (a brief explanation of the constituent soil associations)*.

<sup>5</sup> BGS 2020 [Geology of Britain viewer](#)

## 2.3 SITE LOCATION

Long Rock is an industrial estate and residential area to the east of Penzance and St Gulval, located immediately to the south of the A30 and on a wide flat area of land on the edge of Mounts Bay. The site lies towards the eastern end of Long Rock.

## 3.0 HEALTH & SAFETY AND ENVIRONMENTAL POLICIES

---

### 3.1 SWARCH H&S POLICIES

SWARCH is committed to the highest standards of health and safety awareness. Works will be carried out in accordance with the Health and Safety at Work Act 1974, the Management of Health and Safety Regulations 1992, and other relevant health and safety legislation, regulations and codes of practice. All SWARCH field staff hold current CSCS safety cards and EFAW or FAW qualifications. Specific RAMS and RA have been produced for this site, and will be taken onto site with any SWARCH personnel.

### 3.2 SPECIFIC HEALTH & SAFETY MEASURES

- 3.2.1 The site archaeologist will undertake any site safety induction course provided by the Client.
- 3.2.2 The Client will provide details of all and any known buried services or mining shafts/pits likely to be encountered, and provide specific guidance on how works should be undertaken around those services.
- 3.2.3 These health and safety requirements will be observed at all times by any archaeological staff working on site, particularly when working with machinery, deep excavations or open water.
- 3.2.4 Appropriate PPE will be employed at all times. As a minimum: high-visibility jackets, safety helmets and protective footwear. Additional PPE (gloves, glasses) will be worn as required.
- 3.2.5 If the depth of trenching exceeds 1.2 metres a dynamic risk assessment will be undertaken to determine the stability of the excavation. If necessary, trench sides will be shored or stepped to enable archaeologists to examine and if appropriate record the section of the trench/features.
- 3.2.6 A robust risk assessment methodology (shoring, stepping etc.) for work in deep trenches will be developed with the Client and the groundcrew to ensure the safest possible working conditions for SWARCH personnel.

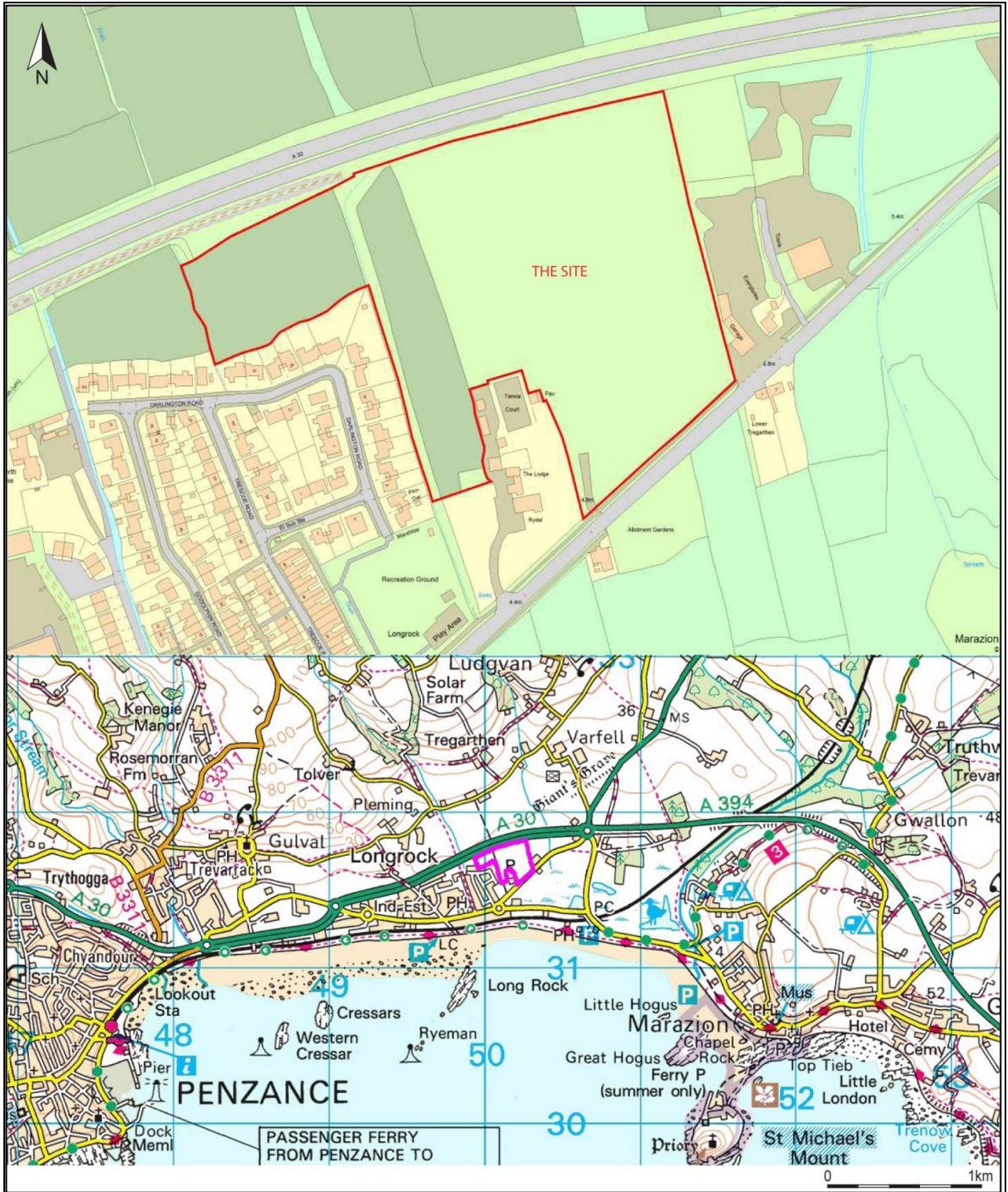


FIGURE 15: LOCATION MAP.

### 3.3 ENVIRONMENTAL POLICIES

3.3.1 SWARCH is committed to the laws, regulations, and other policy mechanisms concerning environmental issues and sustainability. These issues include air and water pollution, solid waste management, biodiversity, ecosystem management, maintenance of biodiversity, the protection of natural resources, wildlife and endangered species, energy or regulation of toxic substances including pesticides and many types of industrial waste.

3.3.2 As a provider of archaeological services, SWARCH, its employees and subcontractors have a responsibility for the protection of archaeological heritage. In line with the CIfA Environmental Protection Policy para.1, SWARCH recognises that its responsibilities to the built heritage extend to the environment more generally, and that archaeological activities have the potential to affect the environment<sup>6</sup>.

<sup>6</sup> CIfA 2016: *Policy Statements*.

3.3.3 SWARCH will adhere to the environmental policies of the Client, and, if applicable, will take steps to minimise environmental damage or pollution arising from archaeological fieldwork.

## 4.0 PROJECT AIMS AND TIMETABLE

### 4.1 PROGRAMME OF WORKS

- 4.1.1 Undertake archaeological evaluation;
- 4.1.2 Analyse and report on the results of the project as appropriate.

### 4.2 TIMETABLE

- 4.2.1 Subject to the approval and deposition of this WSI, the works will take place in September 2020.

## 5.0 RESEARCH OBJECTIVES

### 5.1 RESEARCH OBJECTIVES

- 5.1.1 The monitoring of the works will feed into the following SWARF objectives<sup>7</sup>:
- 5.1.2 Research Aim 4: Encourage wide involvement in archaeological research and present modern accounts of the past to the public.

## 6.0 METHODOLOGY

### 6.1 ARCHAEOLOGICAL EVALUATION TRENCHING

- 6.1.1 Five evaluation trenches (totalling c.250m) will be excavated across the site to validate the results of the geophysical survey (see Fig.2). This work will be carried out in compliance with the relevant guidance<sup>8</sup>.
- 6.1.2 Wherever practicable topsoil stripping and all groundworks across the site will be undertaken by a 360° tracked mechanical excavator fitted with a toothless grading bucket. Any archaeological features exposed will be investigated and recorded by the site archaeologist.



FIGURE 16: PROPOSED TRENCH PLAN, OVERLYING THE RESULTS OF THE GEOPHYSICAL SURVEY.

<sup>7</sup> Grove, J. & Croft, B. (eds.) 2012: *The Archaeology of South West England: South West Archaeological Research Framework; Research Strategy 2012-2017*. Somerset County Council.

<sup>8</sup> CfA 2014 Updated 2020: *Standard and Guidance for an Archaeological Field Evaluation*.

## 6.2 METHODOLOGY

- 6.2.1 The Client will provide SWARCH with details of the location of existing services, groundworks within the site area, and of the proposed construction programme.
- 6.2.2 All excavation of exposed archaeological features shall be carried out by stratigraphically by hand and recorded according to ClFA guidelines and best practice. All features shall be recorded in plan and section at scales of 1:10, 1:20 or 1:50. All scale drawings shall be undertaken at a scale appropriate to the complexity of the deposit/feature and to allow accurate depiction and interpretation. An adequate photographic record of the excavation will be prepared.
- 6.2.3 Where archaeological features are exposed, then as a minimum:
  - 6.2.4 i) Small discrete features will be fully excavated;
  - 6.2.5 ii) Larger discrete features will be half-sectioned (50% excavated);
  - 6.2.6 iii) Long linear features will be sample excavated along their length, with investigative excavations distributed along the exposed length of any such feature, and to investigate terminals, junctions and relationships with other features.
- 6.2.7 Should the above proportions not yield sufficient information to allow the form and function of archaeological features/deposits to be determined, full excavation of such features/deposits may be required. Additional excavation may also be required for the taking of palaeo-environmental samples and recovery of artefacts. Any variation of the above will be undertaken in consultation with the LPA.
- 6.2.8 Artefacts will be bagged and labelled on site. Unstratified post-1800 pottery may be discarded on site after a representative sample has been retained. Following post-excavation analysis and recording, further material may be discarded, subject to consultation with the appropriate specialists and the receiving Museum;
- 6.2.9 Spoil will be examined for the recovery of artefacts; a metal detector may be used to enhance the recovery of metal finds.
- 6.2.10 If articulated human remains are revealed, these will be left *in situ*, covered and protected, and the Coroner notified. Removal will take place in line with the appropriate Ministry of Justice and environmental health regulations. A MoJ licence will be obtained prior to removal.
- 6.2.11 Should sealed archaeological or palaeoenvironmental deposits be exposed, the site archaeologist will investigate, record and sample such deposits.
- 6.2.12 Any finds identified as treasure or potential treasure, including precious metals, groups of coins or Prehistoric metalwork, will be dealt with according to the Treasure Act 1996 Code of Practice (2<sup>nd</sup> Revision) (Dept for Culture Media and Sport). Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.

## 6.3 SAMPLING STRATEGY

- 6.3.1 Where suitable deposits are exposed then samples will be collected in preparation for scientific assessment/analysis/dating. Sampling will be undertaken in line with the relevant guidance<sup>9</sup>. It is envisaged that samples will either consist of bulk soil samples [sampling 100% or 40 litres, in labelled 5 litre plastic sample tubs] or vertical sediment columns [monolith tins].
- 6.3.2 Suitable deposits are taken to include contexts where sampling will recover material for dating or palaeo-economic evidence (e.g. sealed pits, basal deposits), or waterlogged/well-preserved sediments with potential for palaeo-environmental remains.
- 6.3.3 Bulk samples will be stored in sealed containers until off-site processing by SWARCH personnel. The flot will be separated and the residue examined for small artefacts/ecofacts/hammerscale. The residue will be disposed of appropriately, and the flot/remnant forwarded for specialist analysis.
- 6.3.4 Monolith samples will be stored under controlled conditions before delivery to the appropriate specialist.
- 6.3.5 The project will be organised so that specialist consultants, and the regional Historic England science advisor, can be called upon during the works as necessary.

## 6.4 RECORDING

- 6.4.1 Standardised single recording sheets will be employed.
- 6.4.2 Survey drawings in plan, section and profile at 1:10, 1:20, 1:50 and 1:100 will be prepared, as appropriate to the size and/or significance of archaeological features.
- 6.4.3 A photographic record of the excavation and will be prepared. This will include photographs illustrating the principal features and finds discovered, in detail and in context. The photographic record will also

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<sup>9</sup> English Heritage 2011: *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation.*

- include working shots to illustrate more generally the nature of the archaeological operation mounted. All photographs of archaeological and architectural detail will feature an appropriately-sized scale.
- 6.4.4 Survey and location of features (metal finds to sub-metre accuracy).
  - 6.4.5 All stratified finds, except when clearly modern, will be retained, bagged and labelled on site. Unstratified post-1800 material may be discarded on site, but a representative sample will be retained.
  - 6.4.6 Spoil will be examined for the recovery of artefacts; a metal detector may be used to enhance the recovery of metal finds.
  - 6.4.7 All retained artefacts will be processed (washed, identified, weighed, counted) and assessed for their stratigraphic and research potential.
  - 6.4.8 Any variation of the above shall be agreed in consultation with the LPA.

## 7.0 MONITORING

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- 7.1.1 SWARCH shall agree monitoring arrangements with the LPA and give two weeks' notice, unless a shorter period is agreed, of commencement of the fieldwork. Details will be agreed of any monitoring points where decisions on options within the programme are to be made
- 7.1.2 If significant or complex archaeological remains are uncovered, SWARCH will liaise with the client and LPA to determine the most satisfactory way to proceed.
- 7.1.3 Monitoring will continue until the satisfactory completion of an OASIS report.
- 7.1.4 SWARCH will notify the LPA upon the completion of fieldwork.

## 8.0 REPORTING

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### 8.1 REPORTING STRATEGY

- 8.1.1 Copies of the report(s) detailing the results of these investigations will be submitted to the OASIS (*Online Access to the Index of Archaeological Investigations*) database under reference southwes1-403170 within 3 months of completion of fieldwork, longer as dictated by specialist reporting, etc. The type of report produced will be agreed with the LPA in light of the results.

### 8.2 POST-EXCAVATION ASSESSMENT

- 8.2.1 In the event that works reveal significant archaeological remains with the potential to yield important information, it may be appropriate to undertake a post-excavation assessment and revise this WSI. This document may also fulfil the requirement for an interim report if a substantial publication delay is anticipated. This decision would be taken in collaboration the LPA. If a post-excavation assessment is undertaken, it would include the following elements:
  - 8.2.2 A summary of the project and its background;
  - 8.2.3 A plan showing the location of the site, and plans showing the location of archaeological features and artefactual or palaeo-environmental deposits;
  - 8.2.4 Research aims and objectives;
  - 8.2.5 A method statement, outlining how these aims and objectives will/have been achieved;
  - 8.2.6 Detail the tasks to be undertaken;
  - 8.2.7 The results of specialist assessment reports;
  - 8.2.8 The project team;
  - 8.2.9 The overall timetable, including monitoring points with the LPA; and
  - 8.2.10 Detail of the journal/article in which the material will be published.
- 8.2.11 The LPA will receive a draft of this report within three months of the completion of the fieldwork, allowing for delays in the preparation of specialist reports.

### 8.3 ARCHIVE REPORT

- 8.3.1 If a full report is produced it will include the following elements:
  - 8.3.2 A report number, date and the OASIS record number;
  - 8.3.3 A summary of the project background;
  - 8.3.4 A description and illustration of the site location;
  - 8.3.5 A methodology of the works undertaken, and an evaluation of that methodology;
  - 8.3.6 Plans and reports of all documentary and other research undertaken;
  - 8.3.7 A summary of the results;
  - 8.3.8 An interpretation of the results in the appropriate context;
  - 8.3.9 A summary of the contents of the project archive and its location (including summary catalogues of finds and samples);
  - 8.3.10 A location plan and overall site plan including the location of areas subject to archaeological recording;

- 8.3.11 Detailed plans of areas of the site in which archaeological features are recognised along with adequate OD spot height information. These will be at an appropriate scale to allow the nature of the features exposed to be shown and understood. Plans will show the site and features/deposits in relation to north. Archaeologically sterile areas will not be illustrated unless this can provide information on the development of the site stratigraphy or show palaeo-environmental deposits that have influenced the site stratigraphy;
- 8.3.12 Plans will be located using a dGPS with an accuracy of <20mm. Very large features may be recorded entirely using the dGPS and plotted directly into GIS;
- 8.3.13 Section drawings of deposits and features, with OD heights, at scales appropriate to the stratigraphic detail to be shown and must show the orientation of the drawing in relation to north/south/east/west. Archaeologically sterile areas will not be illustrated unless they can provide information on the development of the site stratigraphy or show palaeo-environmental deposits that have influenced the site stratigraphy;
- 8.3.14 A description of any remains and deposits identified including an interpretation of their character and significance;
- 8.3.15 Analysis, as appropriate, of significant artefacts, environmental and scientific samples;
- 8.3.16 Discussion of the archaeological deposits encountered and their context;
- 8.3.17 A consideration of the evidence within its wider context;
- 8.3.18 Site matrices where appropriate;
- 8.3.19 Photographs showing the general site layout and exposed significant features and deposits referred to in the text. All photographs will contain appropriate scales, the size of which will be noted in the caption;
- 8.3.20 A summary table and descriptive text showing the features, classes and numbers of artefacts recovered and soil profiles with interpretation;
- 8.3.21 Specialist assessment or analysis reports where undertaken.
- 8.3.22 The LPA will receive the report within three months of completion of fieldwork, dependant on the provision of specialist reports, radiocarbon dating results etc, the production of which may exceed this period. If a substantial delay is anticipated then an interim report will be produced and a revised submission date for the final report agreed with the LPA.

#### 8.4 PUBLICATION AND DISSEMINATION

- 8.4.1 It is not anticipated that the results of this evaluation will merit wider dissemination. Subject to the results of the work a note may be submitted to the journal *Cornish Archaeology* for inclusion in the recent fieldwork section.

#### 8.5 PUBLIC PARTICIPATION

- 8.5.1 The relatively short-term and intensive character of this fieldwork, together with health and safety considerations (inherent risk and lack of appropriate training) and ClfA policies on the use of volunteers mean that public participation during the evaluation is not feasible.

### 9.0 ARCHIVE

- 9.1.1 On completion of the project an ordered and integrated site archive will be prepared in accordance with the appropriate guidelines<sup>10</sup>.
- 9.1.2 The archive will consist of two elements, the material archive and the digital archive.
- 9.1.3 SWARCH will, on behalf of the Royal Cornwall Museum (RCM) obtain a written agreement from the landowner to transfer title to all items in the material archive to the receiving museum.
- 9.1.4 If ownership of all or any of the finds is to remain with the landowner, provision and agreement must be made for the time-limited retention of the material and its full analysis and recording, by appropriate specialists.
- 9.1.5 The material archive, comprising the retained artefacts/samples and the hardcopy paper record (if requested) will be cleaned (or otherwise treated), ordered, recorded, packed and boxed in accordance with the deposition standards and selection strategies of the RCM, and in a timely fashion. Should SWARCH be unable to attain a selection strategy from the Museum, specialists will be consulted to achieve an appropriate strategy in line with best practice.
- 9.1.6 If the RCM wishes to retain the hardcopy paper archive, it will be deposited with the rest of the material archive under the same accession number. Should the RCM decline the hardcopy paper archive, that

<sup>10</sup> Historic England 2015: *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide*.

archive will be offered to other appropriate museum bodies or LPA. If a suitable third party cannot be found, the hardcopy paper archive will be retained by SWARCH for 3 years and then destroyed.

- 9.1.7 The digital archive, including copies of all relevant documentation relating to the project and digital copies of all photographs, will be deposited with the Archaeology Data Service (ADS) in compliance with their standards and requirements and according to Historic England guidance<sup>11</sup> for digital photography.
- 9.1.8 SWARCH will notify the LPA of the deposition of the material (finds) archive with the RCM, and the deposition of the digital archive with the ADS
- 9.1.9 There will not be a requirement to prepare an archive for fieldwork projects that do not expose deposits of archaeological interest and yield little or no artefactual material. The results of these projects will be held by the HER in the form of the report submitted by SWARCH and the creation of an OASIS entry and uploading of the report, subject to the approval of LPA.
- 9.1.10 The archive will be completed within 3 months of the completion of the final report.

## 10.0 PERSONNEL

### 10.1 SWARCH PERSONNEL

The project will be managed by Samuel Walls BA MA PhD MCIFA (Director at SWARCH 2013-present with 10 years of experience in the commercial sector).

The archaeological evaluation trenching will be undertaken by SWARCH personnel with appropriate expertise and experience, or supervised by SWARCH personnel with appropriate expertise and experience: Brynmor Morris BA MA PhD ACIFA (Director at SWARCH 2013-present with 12 years commercial experience); Joe Bampton BA MA (10 years commercial experience); Peter Webb BA MA<sup>2</sup> (12 years commercial experience).

## 11.0 WHERE NECESSARY, APPROPRIATE SPECIALIST ADVICE WILL BE OBTAINED.

### 11.1 SPECIALISTS

Bone	Hayley Foster MA
Building Recording	Richard Parker
Conservation	Alison Hopper-Bishop BSc
	Laura Ratcliffe BSc
Curatorial	Thomas Cadbury MA
	Alison Mills
	Fiona Pitt
Environmental Sample Processing	SWARCH personnel
Lithics	Martin Tingle
	Peter Webb MA
Medieval Pottery	John Allan
Metal & Leatherwork	Quita Mould MA
Mills & Hydroelectric Plants	Martin Watts
Plant Macro-Fossils	Wendy Carruthers
Pollen Analysis	Ralph Fyfe PhD
Post Medieval Pottery	Graham Langman
	Bryn Morris PhD
Prehistoric Pottery	Henrietta Quinnell
	Imogen Wood PhD
Roman Pottery	Alex Croom
	Imogen Wood PhD
Somerset Pottery	Alejandra Gutierrez PhD
Wood Identification	Dana Challinor PhD

### 11.2 TRAINING AND CPD

- 11.2.1 Where appropriate, SWARCH will seek to provide training opportunities to SWARCH personnel during the archaeological fieldwork and post-excavation process. Training would be undertaken in order to enhance recording and recovery, and maximise the research gain.

<sup>11</sup> Historic England 2015: *Digital Image capture and File Storage: guidelines for best practice.*



11.2.2 SWARCH training plans (PDP) and CPD logs will be updated during the project, as appropriate to need and demand.

11.2.3 It is envisaged that artefact awareness and recognition are likely to receive further training.

## 12.0 INSURANCES AND QUALITY CONTROL

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12.1.1 SWARCH carry Professional Indemnity Insurance cover up to £5 million, Public Liability up to £5 million and Employers Liability up to £10 million.

12.1.2 SWARCH is a Registered Organisation (RO) with the Chartered Institute for Archaeologists (CIfA).

12.1.3 SWARCH is committed to the highest standard of professional ethics and technical standards, and adheres to CIfA and Historic England guidelines in the conduct of our work.

12.1.4 The work undertaken will be carried out by professional archaeologists overseen by supervisors of ACIfA-level competence. The works and products will be overseen and checked by professional archaeologists with MCIfA-level competence.

## 13.0 CONFLICT WITH OTHER CONDITIONS AND STATUTORY RESTRAINTS

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Even where groundworks are being undertaken under the direct control and supervision of SWARCH personnel, it remains the responsibility of the Client - in consultation with SWARCH, the applicant or agent - to ensure that the required archaeological works do not conflict with any other conditions that have been imposed upon the consent granted and should also consider any biodiversity issues as covered by the NERC Act 2006. In particular, such conflicts may arise where archaeological investigations/excavations have the potential to have an impact upon protected species and/or natural habitats e.g. SSSIs, National Nature Reserves, Special Protection Areas, Special Areas of Conservation, Ramsar sites, County Wildlife Sites etc.



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