

**An Archaeological Evaluation at Mardyke Estate, Phase 2, Rainham,  
London Borough of Havering, RM13 8PS**

**Site Code: MYE 08**

**Central National Grid Reference: TQ 5057 8339**

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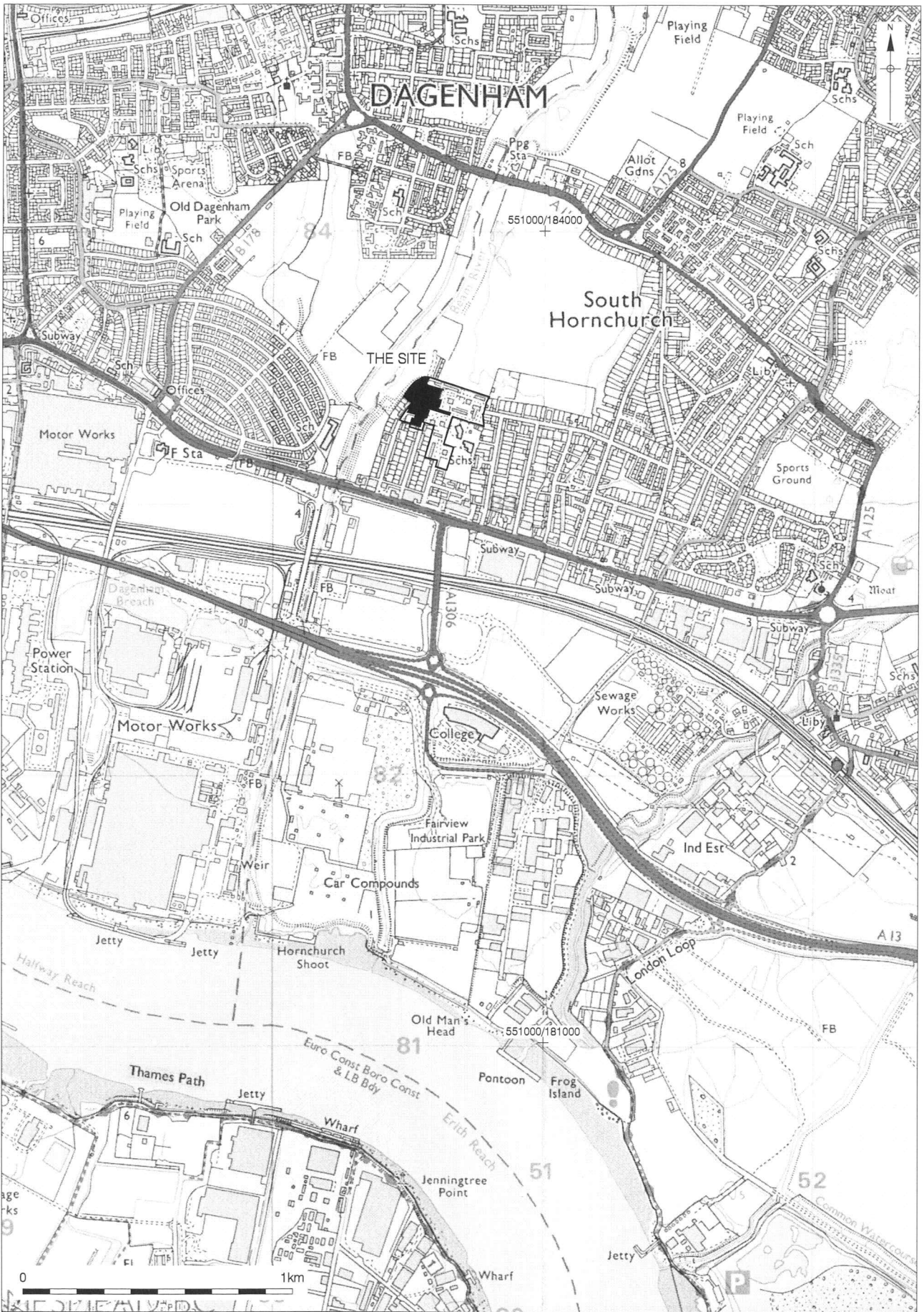
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# 1 ABSTRACT

- 1.1 This report details the results of an archaeological evaluation undertaken by Pre-Construct Archaeology Ltd. on behalf of Willmott Dixon Housing Limited as part of the Phase 2 works at Mardyke Estate, Rainham, London Borough of Havering. The project was managed by Charlotte Matthews and Helen Hawkins and supervised by the author and monitored by David Divers on behalf of the London Borough of Havering.
- 1.2 Six trenches were opened during the evaluation. Trenches 10-12 and 14-15 were situated in grassed areas and sealed by topsoil and subsoil. Trench 13 was located within a carpark and sealed by 20<sup>th</sup> century made ground and concrete. The trenches were positioned to investigate the areas encompassed by Phase 2 works within the Mardyke Estate prior to demolition and redevelopment.
- 1.3 Natural deposits were observed in the bases of all trenches. These tended to comprise coarse sand, underlain by bands of gravel, as identified within trenches 10-12 and 14-15. Truncating natural deposits within these trenches were a number of cut features. No dating evidence was retrieved from these features and they were subsequently interpreted as of probable natural origin. Natural within trench 13 comprised coarse sandy gravels to the north and firm yellow clay overlain by alluvium to the south. Organic inclusions within the latter were indicative of either a foreshore environment or a former deviation or tributary of the River Beam.
- 1.4 Trenches 11 and 15 yielded a number of undated linear features. These were aligned roughly north-east south-west and north-west south-east respectively. The regularity of these features and orientation led to their interpretation as anthropogenic truncations. The alignment and depths of the cuts compared favourably to those of Roman ditches recorded as part of the Phase 1 excavation; and the two features identified within trench 15 could conceivably represent continuations of previously recorded boundary ditches, albeit considerably more truncated than their counterparts. These ditches may therefore represent part of a larger field system of Roman date.
- 1.5 All trenches appeared to have suffered varying levels of horizontal truncation as a result of landscaping and terracing during the construction of the Mardyke Estate during the 1960s. This was particularly apparent within the northern limits of trench 13, in which modern levelling directly sealed natural gravels with a marked absence of any alluvium or sub-soil. Despite truncation from modern services, the investigation revealed that cut features, of potentially Roman date, survived below sub-soils in at least two trenches. Therefore, future archaeological potential remains within the Phase 2 area, particularly the north-eastern and central areas which could yield further evidence of boundary ditches or features relating to occupation.

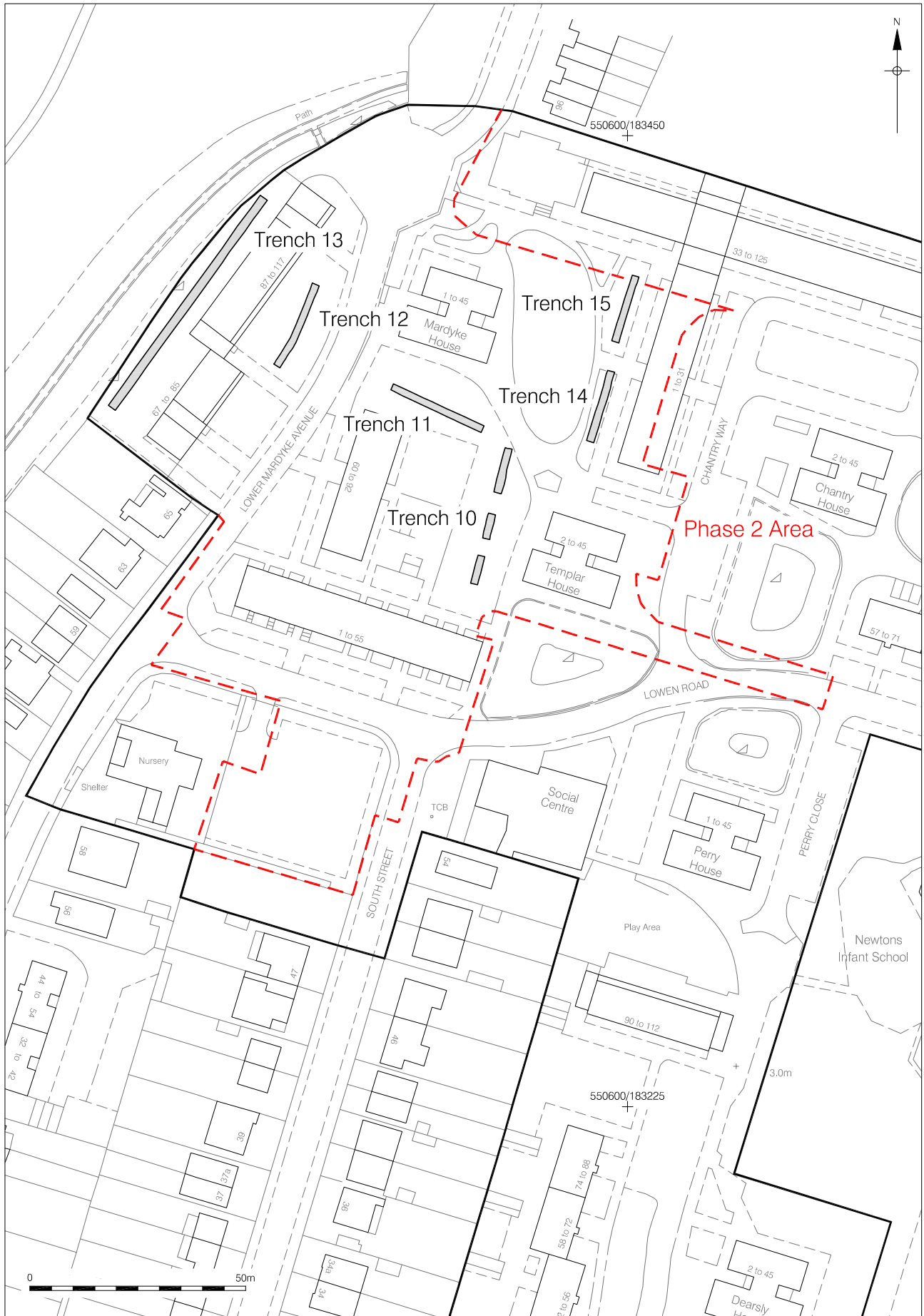
## **2 INTRODUCTION**

- 2.1 Pre-Construct Archaeology Limited conducted an archaeological evaluation within the Mardyke Estate Phase 2 development, London Borough of Havering, in advance of demolition of existing structures and construction of new low-level dwellings. The evaluation was conducted between 9<sup>th</sup> and 20<sup>th</sup> August 2010 on behalf of Willmott Dixon Housing Limited.
- 2.2 The subject site lies entirely within the Mardyke Estate. This is bounded by a field and Lower Mardyke Avenue to the north, fields and the Beam River to the west, housing to the south and Newtons Infant School to the west.
- 2.3 The National Grid Reference of the site is TQ 5057 8339.
- 2.4 The site was assigned the code MYE 08.
- 2.5 The project was monitored by David Divers on behalf of the London Borough of Havering, project managed by Charlotte Matthews and Helen Hawkins and supervised by the author.



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Figure 1  
 Site Location  
 1:20,000 at A4



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Figure 2  
 Trench Location plan  
 1:1,250 at A4

### 3 PLANNING BACKGROUND

- 3.1 In March 2010 the Department for Communities and Local Government issued Planning Policy Statement 5: Planning for the Historic Environment (PPS5), which provides guidance for planning authorities, property owners, developers and others on the investigation and preservation of archaeological remains.
- 3.2 In short, government policies provide a framework which:
- Protects Scheduled Ancient Monuments
  - Protects the settings of these sites
  - Protects nationally important un-scheduled ancient monuments
  - Has a presumption in favour of in situ preservation
  - In appropriate circumstances, requires adequate information (from field evaluation) to enable informed decisions
  - Provides for the excavation and investigation of sites not important enough to merit *in situ* preservation
- 3.3 In considering any planning application for development, the local planning authority will be guided by the policy framework set by government guidance, in this instance PPS5, by current Unitary Development Plan policy and by other material considerations.
- 3.4 The relevant Strategic Development Plan framework is provided by 'The London Plan, Spatial Development Strategy for Greater London Consolidated with Alterations since 2004' (Feb 2008). It includes the following policies relating to archaeology and cultural heritage within central London:

#### **POLICY 4B.15 ARCHAEOLOGY**

***The Mayor, in partnership with English Heritage, the Museum of London and boroughs, will support the identification, protection, interpretation and presentation of London's archaeological resources. Boroughs in consultation with English Heritage and other relevant statutory organisations should include appropriate policies in their DPDs for protecting scheduled ancient monuments and archaeological assets within their area.***

- 3.5 Havering's Local Development Framework (LDF) was adopted in October 2008. Relevant policies for Archaeological and Cultural Heritage include:

#### **DC70 – ARCHAEOLOGY AND ANCIENT MONUMENTS**

***The Council will ensure that the archaeological significance of sites is taken into account when making planning decisions and will take appropriate measures to safeguard that interest. Planning permission will only be granted where satisfactory provision is made in appropriate cases for preservation and recording of archaeological remains in situ or through excavation. Where nationally important archaeological remains exist there will be a presumption in favour of their physical preservation. Particular care will need to be taken when dealing with applications in archaeological 'hotspots' where there is a greater likelihood of finding remains.***

***Planning permission will not be granted for development which adversely affects the three Ancient Monuments in the Borough of their settings.***

### **DC71 – OTHER HISTORIC LANDSCAPES**

***The character of historic parks and Common Land will be protected or enhanced giving particular attention to the protection of views to and from common land and other historic landscapes.***

- 3.6 The site lies partially within an Archaeological Priority Area. No Scheduled Ancient Monuments lie within the boundary of the subject site.
- 3.7 In accordance with the conditions laid down in Havering's LDF, a programme of evaluation by trial trenching was designed<sup>1</sup> and carried out in consultation with David Divers, the archaeological advisor for the London Borough of Newham. Six trenches were proposed within the footprint of the new development but outside the footprint of the current development. These were designed to lie within the curtilage of the proposed Phase 2 development.

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<sup>1</sup>Matthews, C., 2010.



## **4 GEOLOGY AND TOPOGRAPHY**

### **4.1 Geology**

- 4.1.1 The British Geological Survey 1:50,000 series (Map Sheet 257) indicates that part of the site lies within worked or made ground; wholly or partly backfilled pits. The underlying geology is London Clay which overlies Woolwich and Reading beds. These outcrop approximately 400m to the south.
- 4.1.2 Within the central part of the site, drift geology is absent. In the southeastern areas Flood Plain gravels are present, and in the northwest alluvium associated with the Beam River is present. The latter lies to the west of Mardyke Avenue.

### **4.2 Topography**

- 4.2.1 The area of the subject site is fairly level with a slight downwards slope from east to west, varying between 4m and 6m OD. The site is covered in a number of raised flower beds, car parking areas, grassed areas and playground areas. The area of trench 13 was entirely occupied by a sunken carpark, whereas all other trenches were located within grassed areas surrounding extant housing blocks.
- 4.2.2 The Beam river is located directly to the west of the site and the River Thames is located c. 2km to the south of the subject site.

## 5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Unless referenced otherwise, the archaeological and historical background information cited below was obtained from the Archaeological Desk Based Assessment previously carried out by Pre-Construct Archaeology Ltd<sup>2</sup>.

### 5.2 PREHISTORIC

5.2.1 Excavations by Compass Archaeology, approximately 500m to the south of the subject site yielded a blade of early Mesolithic to late Neolithic date. A further Mesolithic blade was discovered during the development of the existing estate in 1963.

5.2.2 Recent excavations on the opposite side of the Beam River at the Washlands site, c. 100m to the west of the subject site on the opposite side of the River discovered flint artefacts of Mesolithic date. These were encountered within alluvial deposits which filled the Wantz stream; a tributary of the Beam River. An Iron Age ditch and kiln were also revealed during the excavations.

5.2.3 A prehistoric pit and three postholes were identified during excavations undertaken at 15-17 New Road, approximately 500m to the south of the proposed development. Other artefacts described as being of prehistoric date were encountered during the construction of dams in the early 18<sup>th</sup> century within the vicinity of the site.

### 5.3 ROMAN

5.3.1 Extensive evidence for Roman activity has been found within the area of the subject site.

5.3.2 During the construction of the existing Mardyke Estate in 1963, evidence emerged for a Roman cemetery plus artefacts associated with settlement activity which included quernstone fragments and quantities of pottery.

5.3.3 Details of the 1963 discoveries are vague, but also refer to cut features filled with dark earth interpreted by the excavator as latrine pits. The naming of the easternmost of the tower blocks as Roman House and the associated road as Roman Road may indicate the approximate location of the previously excavated archaeology.

5.3.4 The evaluation at Beam Washlands unearthed evidence of a Roman ditch and cremation cemetery which were located approximately 200 metres to the west of the site boundary. This contained 20 cremation burials. Settlement activity in the form of kilns, wells, pits and a small post structure were encountered to the west of the cemetery.

5.3.5 In 1929, at the junction of Manser Road and Frederick road, a stone coffin of Roman date was discovered. A textual reference places this approximately 250 metres to the east of the subject site's eastern boundary.

5.3.6 An archaeological evaluation during the Phase 1 development of the site in September 2009<sup>3</sup> revealed a number of cut features of Roman date. The finds significantly included relatively unabraded lids from at least four separate vessels. An excavation within the same area in November 2009<sup>4</sup> identified three broad phases of Roman activity, dating between the mid 1<sup>st</sup> and mid 2<sup>nd</sup> century AD. These were defined by an initial curvilinear ditch which was later bisected by a linear ditch dating from the late 1<sup>st</sup> century AD. This feature was truncated by numerous intercutting pits dated to the late 1<sup>st</sup> to mid 2<sup>nd</sup> century AD. All features were indicative of settlement, and the finds included two near complete vessels.

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<sup>2</sup> Payne, 2008

<sup>3</sup> Fairman, 2009a

<sup>4</sup> Fairman, 2009b

#### **5.4 SAXON & MEDIEVAL**

- 5.4.1 There is no evidence for the Saxon period within the vicinity of the site.
- 5.4.2 Documentary sources state that the Manor of Mardyke originated in ½ Virgate of land which belonged to Gillian daughter of Ellis who married William of Mardyke, prior to 1240. However, by 1300 the manor had passed to Richard of Barking. By 1662 the Estate comprised 140 acres and a Mill.
- 5.4.3 The medieval Manor of Mardyke is documented as lying on the edge of the (Hornchurch) marshes, about ½ a mile south of Dagenham Bridge. The Manor has not been located, but the presence of two ponds visible on the John Carey map of 1786 is intriguing as they clearly pre-date the construction of Mardyke Farm. It is possible that they were associated with the original Manor of Mardyke. No evidence of the Manor was noted during the destruction of Mardyke Farm in the 1960s so a possibility remains that it may lie within the development area.

#### **5.5 POST-MEDIEVAL**

- 5.5.1 The character of Havering appears on the earliest maps as marsh and agricultural land, occupied by small scattered farms.
- 5.5.2 By 1702 the Manor of Mardyke was owned by the Fanshaws who sold it to the Tyler family in 1734. The estate remained in their possession until 1849 when it was finally sold. At this time the estate comprised 177 acres.
- 5.5.3 By 1918 Mardyke Farm, located directly to the north of the site, comprised 122 acres and Little Mardyke Farm comprised 72 acres.
- 5.5.4 Documentary sources state that a Dam was built across the Beam River by a Captain Perry after the Great Breach of the River Thames of 1707. This was followed by the construction of a series of earth banks, to prevent further flooding.
- 5.5.5 A review of cartographic sources suggests that parts of the Hornchurch Marsh, which spread throughout the south-western limits of the subject site, were drained during the late 18<sup>th</sup> or mid 19<sup>th</sup> centuries. Gravel extraction along the line of New Road also occurred at this time.
- 5.5.6 The area of the subject site remained in use as farmland from 1867 until 1939, with the farmhouse located at the north-western limits of the site boundary. Construction of the extant Mardyke Estate began in the 1960s and remains unchanged to the present.

## 6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 In accordance with the Written Scheme of Investigation<sup>5</sup>, the trenches were arranged to fully investigate the underlying drift geology and the presence or absence of significant archaeological remains across the site. The sizes of some trenches were altered from the original Written Scheme of Investigation<sup>6</sup> in order to avoid live services or obstructions.
- 6.2 A total of six archaeological trial trenches were excavated, the dimensions of which at ground level were:
- |           |   |
|-----------|---|
| Trench 10 | 33m x 2m (divided into three)                         |
| Trench 11 | 24m x 2m  |
| Trench 12 | 21.50m x 2m   |
| Trench 13 | 60m x 2m (revised to three sondages, each 1.80m x 2m) |
| Trench 14 | 17m x 2m  |
| Trench 15 | 16m x 2m  |
- 6.3 The trenches were machine excavated to a maximum depth of 1.10m below the current ground surface, or to the top of archaeological or natural horizons. Potential features were then hand cleaned and partially excavated. Trench 13, owing to the presence of extensive made ground deposits was excavated as a series of three sondages. These were machined to a maximum depth of 1.80m, to the top of natural horizons. The depth of made ground and height of the water table prevented access to the sondages, which were recorded from ground level.
- 6.4 Trenches were excavated using a 360° machine with a flat bladed ditching bucket, under the supervision of the attendant archaeologist. Once recorded, the trenches were backfilled with the material removed from them.
- 6.5 One or more representative sample sections, each 2.5m wide, were cleaned and recorded in each trench. The base of each trench was also hand-cleaned before recording, along with any archaeological features. The latter were half sectioned or slotted in order to obtain dating evidence prior to recording.
- 6.6 The recording systems employed during the evaluation were fully compatible with those most widely used elsewhere in London, that is those developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeology Service (MoLAS 1994). Individual descriptions of all archaeological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being drawn at a scale of 1:50 or 1:20 as appropriate and the sections at 1:10. The OD heights of all principal strata were calculated and indicated on the appropriate plans and sections. A full photographic record of the investigation was prepared, including both black and white prints and colour transparencies on 35mm film.
- 6.7 Levels were taken from Temporary Bench Marks established across the site. These were calculated using service plans which listed cover levels for access shafts of inspection chambers, and were later verified using GPS. A temporary bench mark of 3.43m OD was utilised for trenches 10, 11, 14 and 15. Benchmarks of 2.42m OD and 0.74m OD were utilised for trenches 12 and 13 respectively. The baselines of each trench were established using GPS and tied into the Ordnance Survey Grid.

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<sup>5</sup> Matthews, 2010

<sup>6</sup> Matthews, 2010

## **7 ARCHAEOLOGICAL PHASE DISCUSSION**

### **7.1 Phase 1 – Natural**

- 7.1.1 Natural deposits were encountered in all trenches, and comprised varying bands of sand and gravel or silty clay.
- 7.1.2 The earliest deposit encountered within trench 10 consisted of a friable layer of light brownish yellow, sandy gravel. This was recorded as deposit [308] and extended throughout the base of the trench from an uppermost elevation of 2.86m OD, sloping to 2.58m OD from north to south respectively. Comparable sandy gravel was encountered within trench 11 as layer [318]. This exhibited a north-westerly inclination, rising from 2.42m OD to 2.84m OD.
- 7.1.3 A loose deposit of greyish brown sandy gravel extended throughout the base of trench 12. This was identified as layer [301] and contained lenses of silty sand. These natural deposits were encountered from an uppermost elevation of 1.76m OD, sloping to 1.54m OD. This is likely to be indicative of extensive modern truncation and levelling in addition to a natural downward slope in the underlying geology, towards the river.
- 7.1.4 Similar deposits were identified in trenches 14 and 15, at the far east of the study area. Sandy gravel layers [332] and [340] were recorded respectively from elevations of between 3.24m OD and 2.88m OD, north to south. Gravels within trench 15 were subsequently overlain by a band of friable light yellow, fine sand, denoted as [340] from 3.22m OD. This was observed in section, extended throughout the trench and was considered to be natural.
- 7.1.5 The sequence of observed natural deposits differed significantly within trench 13. Sandy gravels were only observed within the northernmost sondage at an elevation of -0.52m OD. These were denoted as layer [321] and identified at roughly the same level as the water table. The earliest identified deposits within the southern two sondages comprised a firm layer of orange-yellow silty clay denoted as [324]=[327]. These were identified at respective elevations of -1.02m OD and -0.76m OD, and subsequently overlain by firm, blue-grey, sandy silty clay [323]=[326], recorded at levels of -0.65m OD and -0.46m OD, 0.40m thickness. The latter layer of alluvium contained frequent organics, evidence of rooting and flecks to small fragments of degraded wood and charcoal. Deposit [326] within the base of the southernmost sondage appeared to bisect natural clay [327] on a roughly north-south alignment. This could suggest that layer [323]=[326] fills natural hollows or undulations within the underlying geology. Alternatively, the north-south orientation mirrors that of the adjacent River Beam, and the deposits may indicate a former deviation or meander relating to the river.

### **7.2 Phase 2 – Cut Features (Natural)**

- 7.2.1 A number of cut features were identified which truncated natural deposits but contained no material with which to help ascertain function or date. Furthermore, these features were all considered sufficiently irregular to be interpreted as natural features as opposed to man-made truncations.
- 7.2.2 Feature [307] truncated natural gravel [308] within trench 10 from 2.82m OD. This extended 2m north-south x 0.75m x 0.28m depth and continued beyond the western limit of excavation. The cut exhibited concave sides and base, and was filled in its entirety by compacted, yellowish brown silty sand [306]. The fill contained occasional inclusions of small sub-angular flint pebbles. In plan the feature was irregularly shaped with a moderate break of slope at top, and gradual slope at base. The irregularity of the shape and lack of anthropogenic material led to its interpretation as a natural feature, most likely a tree throw.

- 7.2.3 A comparable feature was identified to the north of trench 14. Cut [331] was observed to truncate natural gravels to an extent of 1.50m east-west x 1.07m x 0.15m depth from 3.24m OD. Firm, brownish yellow, silty sand [330] filled [331] in its entirety and contained frequent roots and occasional small sub-angular pebbles. This feature was subsequently interpreted as a tree throw of uncertain date.
- 7.2.4 Additional evidence of potentially natural features was identified within trenches 11 and 12 as cuts [314] and [303] respectively. Cut [314] extended in length 2.35m north-west south-east x 0.40m x 0.16m depth from 2.51m OD. The western limits of the cut were truncated by [316] and the feature lensed out towards the east. Cut [314] exhibited a gradual break of slope at top and rounded base at 2.35m OD. Deposit [313] filled the cut in its entirety, and comprised moderately compact, light yellowish-brown, gravelly sand. The fill contained no inclusions and appeared relatively homogenous and well sorted; this was therefore interpreted as a natural infilling of a small gully. Within adjacent trench 12, a second gully was identified as feature [303]. This extended on a comparable north-west south-east alignment, recorded from 1.68m OD and extended across the trench continuing beyond the eastern and western limits of excavation, 1.80m x 0.55m width x 0.15m depth. Deposit [302] filled [303] with a moderately compacted deposit of silty sand and gravel. Cut [303] exhibited a rounded base and equally gradual break of slope at top and base to [314]. These features may therefore be tentatively interpreted as belonging to the same natural gully, running in a rough east-west alignment towards the River Beam.

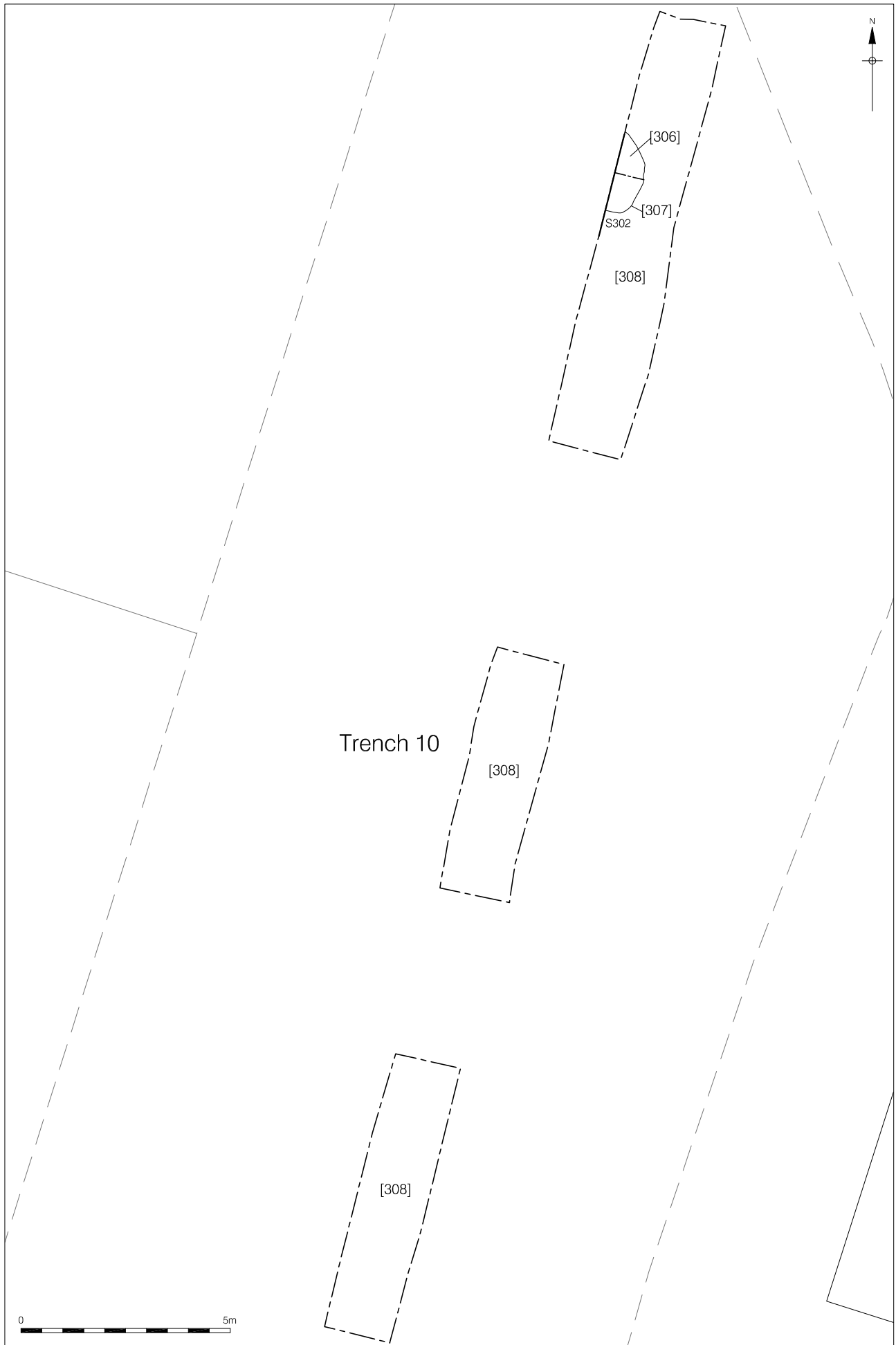
### **7.3 Phase 3 – Cut Features (Undated)**

- 7.3.1 Three linear features were investigated within trench 11. Each was aligned north-east south-west, continued beyond the north and southern limits of excavation, and truncated natural gravels. The easternmost cut [310] was identified from 2.78m OD. This continued over 1.80m in length x 1.10m width x 0.26m depth. The cut exhibited steep sides and a concave base at 2.54m OD, and was filled by a deposit of clayey sand with inclusions of medium sub-rounded gravels, denoted as [309].
- 7.3.2 Approximately 5.50m west of [310], cut [312] was identified, 1.40m width x 0.45m depth from 2.61m OD. The base was similarly concave, at 2.14m OD and the cut exhibited steep sides with a sharp break of slope at top. Compact deposit [311] entirely filled the cut, and comprised light yellowish-brown, silty clayey sand containing frequent inclusions of flint pebbles.
- 7.3.3 Cut [316] was located to the west of trench 11, approximately 3m from [312]. This displayed comparably steep sides and concave base at 2.14m OD. This feature measured 1.30m width x 0.36m from 2.50m OD and was filled by [315]. Fill [315] comprised compacted, light grey/yellowish brown, clayey sand containing frequent inclusions of medium sized flint nodules. The fills of all three features were similarly moderately well sorted and contained no dating material with which to establish any broad phasing. The features were subsequently interpreted as a series of north-south aligned drainage or boundary ditches, which in-filled naturally after they went out of use.
- 7.3.4 North-west south-east aligned linear cut [339] was identified within trench 15. This extended over 1.20m length, continued beyond the western limit of excavation, x 1.15m width x 0.37m depth. The cut was encountered at 3.22m OD, truncated natural gravels, and exhibited steep sides and a concave base recorded at 2.85m OD. This was filled by [338], a compact deposit of mid yellowish-grey, fine sandy silt, containing occasional inclusions of small sub-angular pebbles and occasional flecks of manganese staining. Also within the fill was a large fragment of potentially petrified wood. The well sorted nature of the fill, and abraded appearance of the inclusions would suggest this feature to have been backfilled naturally. To the north of [339] was comparably aligned linear feature [345]. This was truncated to the east by modern services and continued beyond the western limit of excavation. The cut extended 1.10m north-west south-east x 0.35m width x 0.11m depth, and exhibited a concave base and sides. The basal level was recorded at 3.06m OD and the feature,

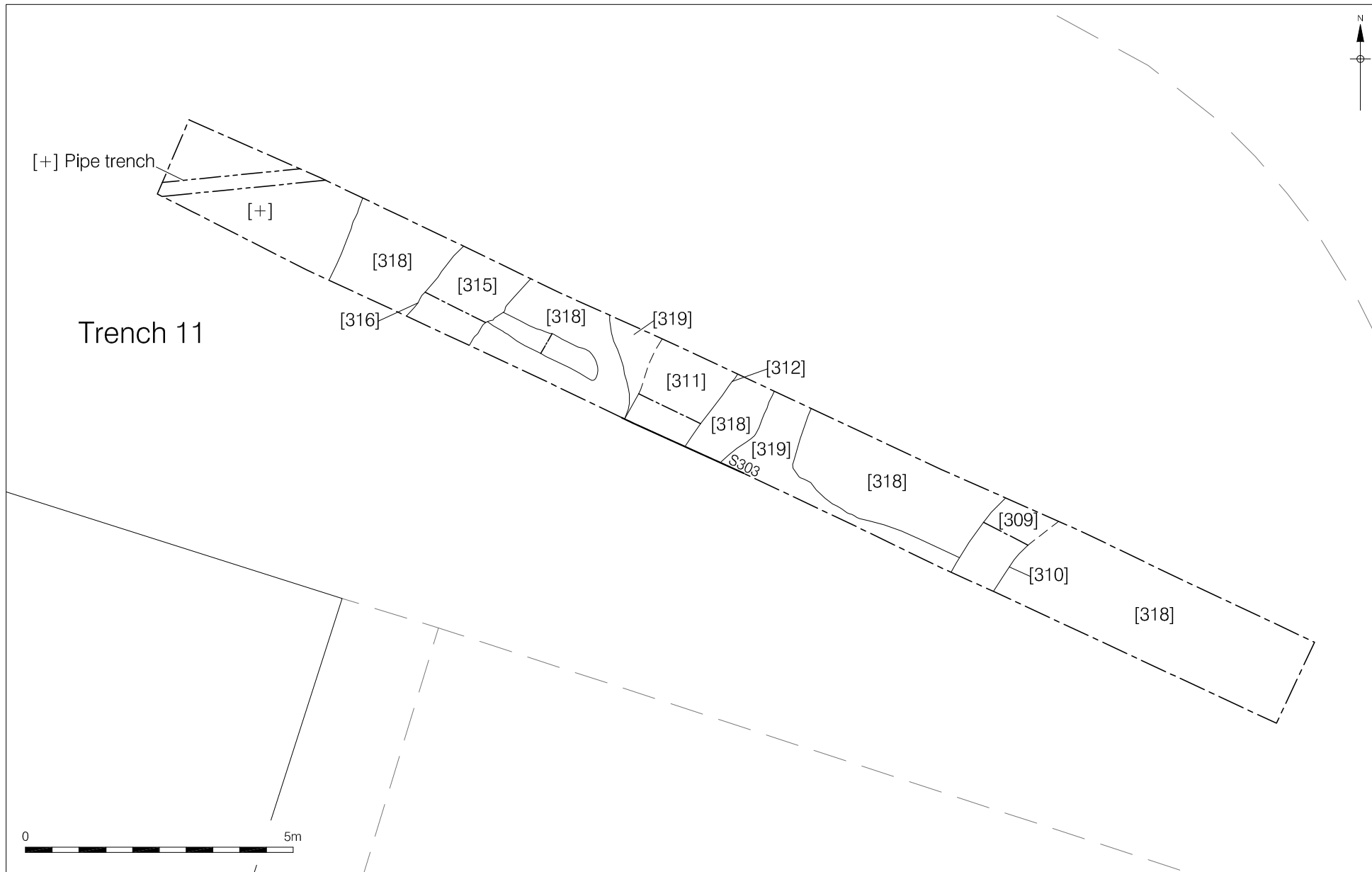
initially thought to be a natural gully, was interpreted as the heavily truncated base of a ditch running parallel to [339]. Fill [344] was identical to the sandy silt fill of [339], and was therefore similarly interpreted as a natural in-filling.

#### **7.4 Phase 4 - Modern**

- 7.4.1 Sealing trench 15 were a series of sub-soil and made ground deposits. Firm, sandy silt sub-soil [337] sealed all archaeological features at a level of 3.55m OD. This extended across the trench, was of 0.35m thickness and appeared well sorted with moderate inclusions of small to medium sub-rounded pebbles. This overlay cut [343], which truncated natural gravels from 2.90m OD and was filled by [342], a soft deposit of organic-rich, mid brown, sandy silt. The cut extended over 0.25m in thickness and contained occasional fragments of post-medieval CBM and one fragment of heavily abraded Roman pottery. This feature was irregular in plan and the boundaries were noticeably interleaved with natural gravels, suggesting it to be a modern tree throw.
- 7.4.2 Layer [337] was subsequently overlain by layers [334], [335] and [336] in turn, which sealed the trench from 3.95m OD with a combined thickness of 0.42m. These comprised bands of firm, grey-brown, sandy silts containing occasional inclusions of small rounded pebbles and abraded pottery and CBM fragments. The pottery dated between the late 18<sup>th</sup> and early 20<sup>th</sup> centuries, and all CBM fragments were consistently post-medieval in date. These layers were therefore interpreted as 19<sup>th</sup> to 20<sup>th</sup> century levelling and made ground deposits.
- 7.4.3 Trench 14 was sealed by layers [328] and [329] in turn. Deposit [329] comprised a firm, mid yellowish-brown sandy-clayey-silt containing moderate inclusions of flint nodules, interpreted as sub-soil. This was recorded from 3.30m OD, was of 0.10m thickness, and overlain by blue-grey, sandy silt [328] from 3.39m OD. The latter deposit appeared well sorted with few inclusions and was therefore interpreted as a band of alluvium of uncertain date.
- 7.4.4 A 0.30m thick layer of silty clay, denoted as [300], sealed all features within trench 12 from 2.10m OD. This compacted deposit was interpreted as the remnants of a soil horizon, levelled and consolidated as part of the works associated with the construction of the Mardyke Estate and therefore of 20<sup>th</sup> century date. A similar sequence was observed within trench 11. A layer of loose, brownish grey sandy silt [317] was recorded from 3.10m OD, was 0.18m thick, and contained frequent organic-rich inclusions such as rooting. This was interpreted as a former soil horizon which was sealed by modern made ground and directly sealed sub-soil [319]. Layer [319] comprised loose, light greyish-brown fine silty sand with occasional inclusions of small rounded pebbles and flint nodules. Sub-soil [319] was identified from an uppermost elevation of 2.93m OD, was 0.20m thick and sealed all archaeological features within the trench.
- 7.4.5 Trench 10 was sealed by made ground and sub-soil deposits [304] and [305] in turn. These comprised compacted mid brown-grey, sandy silt with CBM and flint nodules, and loose, yellowish-brown, fine sandy-clayey silt respectively, with the combined thickness of 0.50m from 3.24m OD.
- 7.4.6 The northern extent of trench 13 was sealed by an extensive 0.90m thick deposit of compacted dark greyish-black silty clay containing frequent inclusions of CBM, timber and demolition rubble. Deposit [320] was identified at 0.35m OD, directly overlay natural gravels, and was interpreted as 20<sup>th</sup> century levelling and ground consolidation. The lack of sub-soil and alluvial deposits were considered to be indicative of extensive horizontal truncation within this area. The southern sondages identified layers [322]=[325] from 0.24m OD, which were 0.85m thick. These were firm deposits of dark blue-grey/blue-black silty clay with frequent inclusions of organic material, CBM fragments and rooting. The frequent organic inclusions led to their interpretation as redeposited alluvium, presumably from the River Beam, utilised as levelling during the 20<sup>th</sup> century.







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Figure 4  
 Plan of Trench 11  
 1:100 at A4

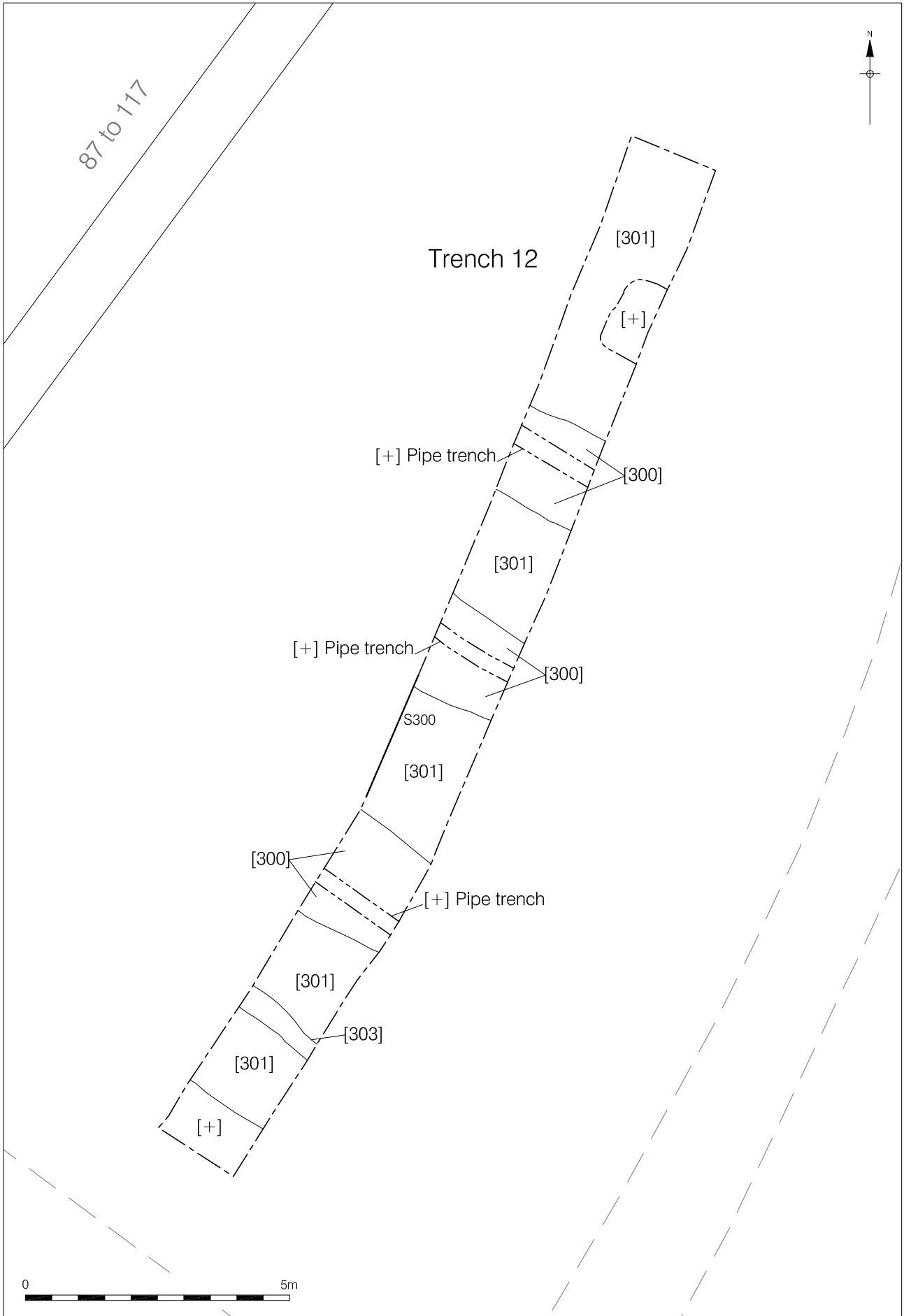
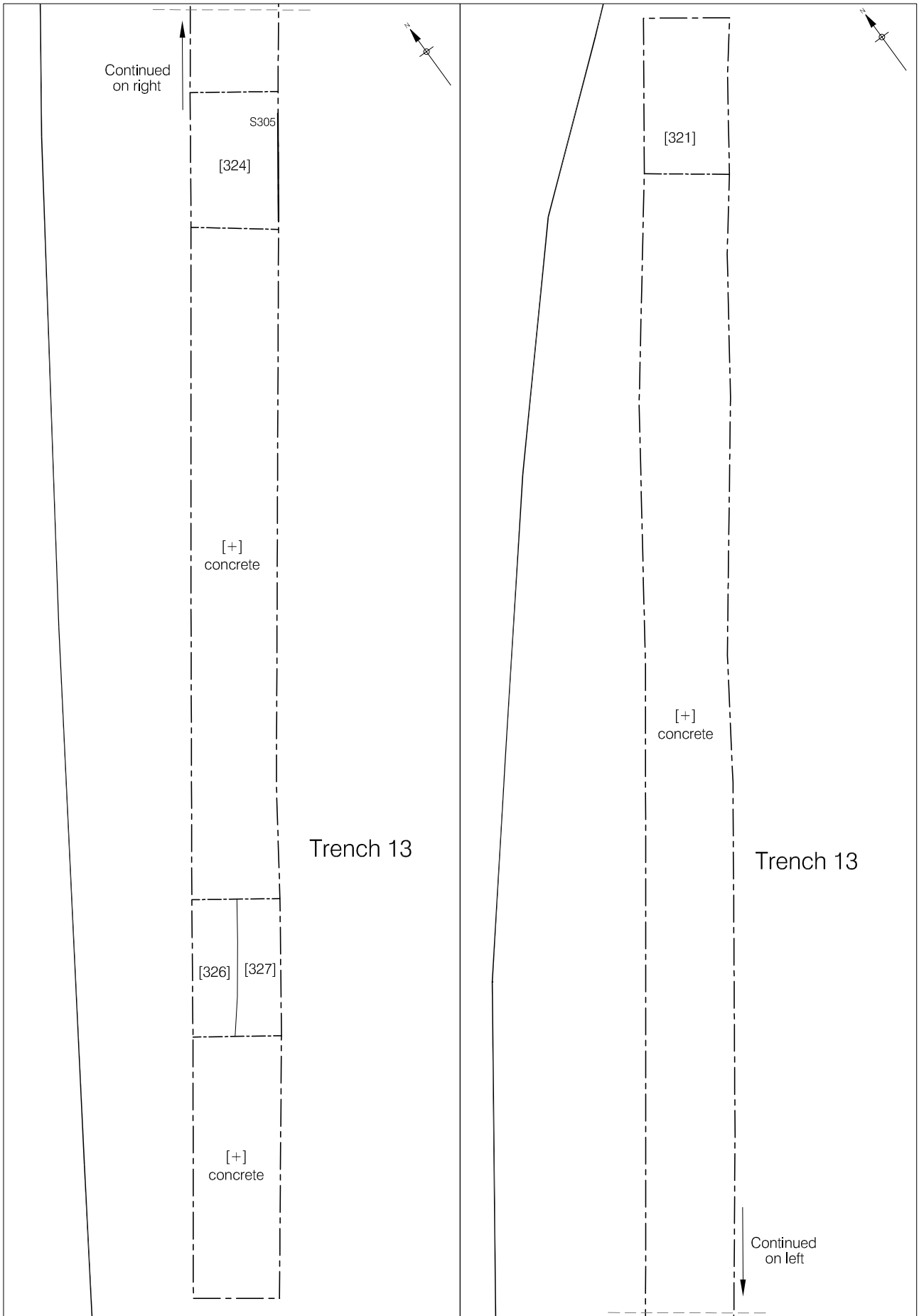


Figure 5  
 Plan of Trench 12  
 1:100 at A4



0 5m  
 © Pre-Construct Archaeology Ltd 2010

Figure 6  
 Plan of Trench 13  
 1:125 at A4

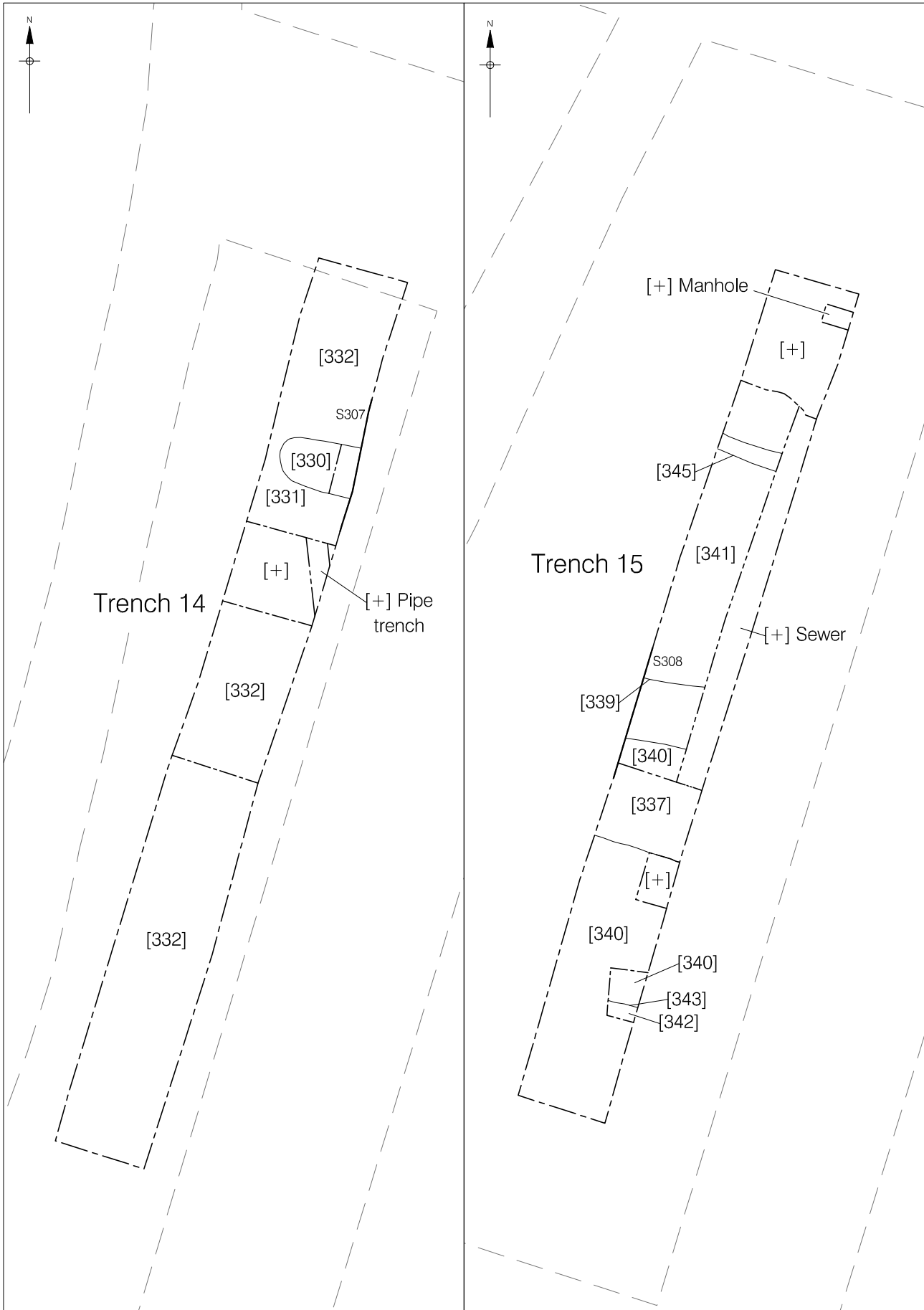
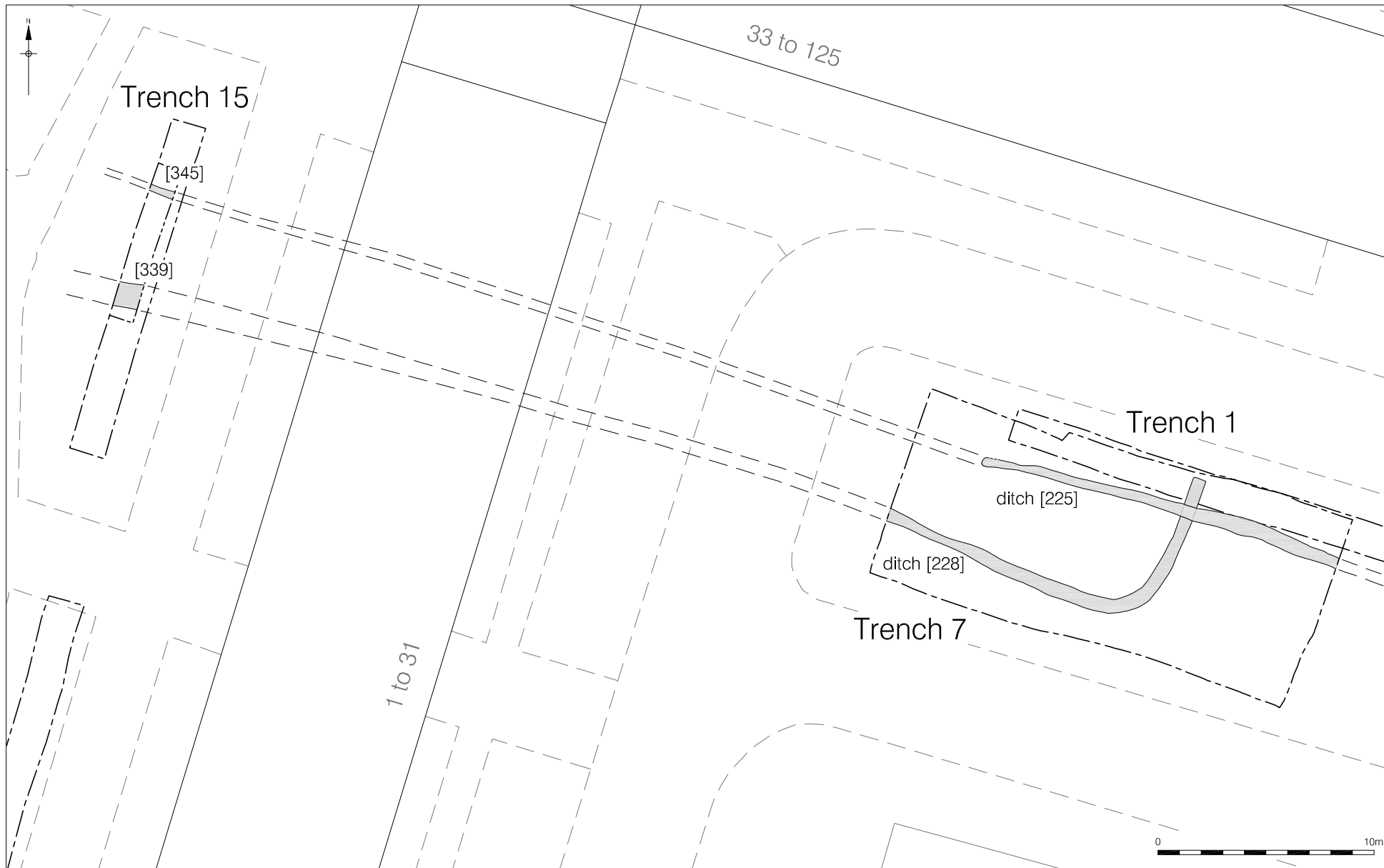
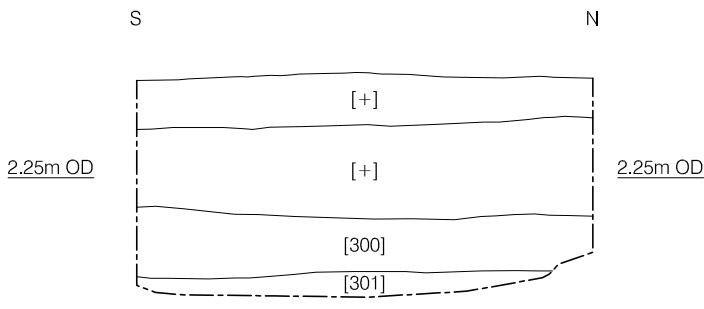


Figure 7  
 Plans of Trenches 14 and 15  
 1:100 at A4

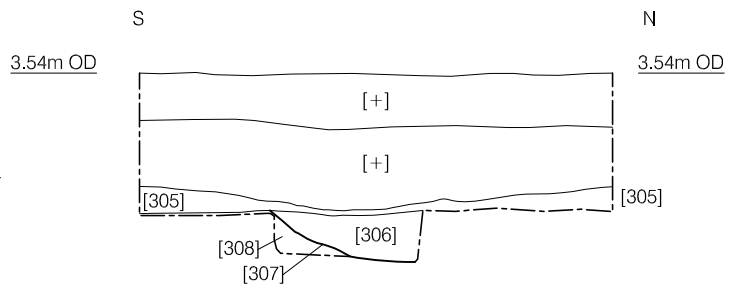


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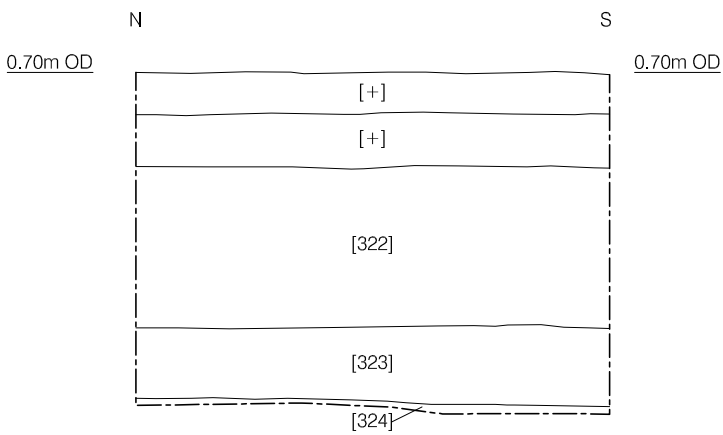
Figure 8  
 Plan of Trench 15 and Phase 1 Trenches 1 and 7, showing possible continuations of ditches [225] and [228]  
 1:250 at A4



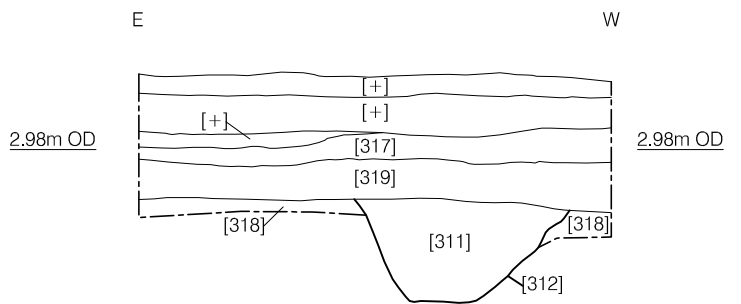
Section 300  
Trench 12  
East Facing



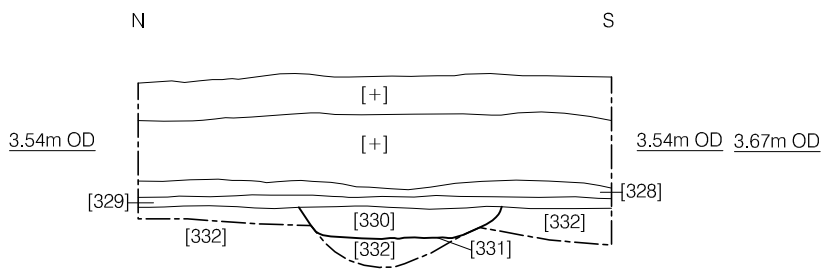
Section 302  
Trench 10  
East Facing



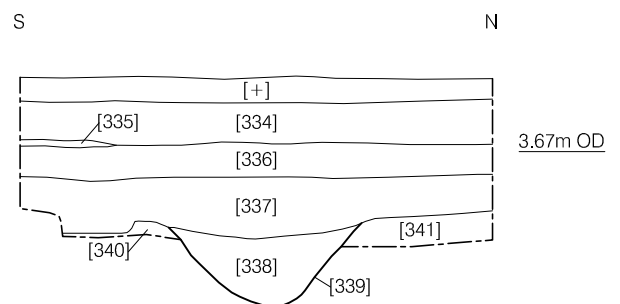
Section 305  
Trench 13  
West Facing



Section 303  
Trench 11  
North Facing



Section 307  
Trench 14  
West Facing



Section 308  
Trench 15  
East Facing

## 8 INTERPRETATIONS AND CONCLUSIONS

- 8.1 The principal objectives of the archaeological evaluation were to:
- Determine if there is further evidence for prehistoric remains on the site as found at nearby investigations;
  - Determine if there is further evidence for Roman remains within the Phase 2 area as found during the evaluation and excavation of the Phase 1 area and during the construction of the current estate;
  - Determine the extent, condition, nature, character, quality and date of any archaeological remains present; and
  - To inform the strategy for further mitigation.
- 8.2 These objectives were achieved and the results are summarised below.
- 8.3 No features were firmly identified as being prehistoric in date. Numerous undated cut features which truncated natural gravels were identified within trenches 10, 11, 12, and 14. These could conceivably represent prehistoric activity or natural gullies/tree throws dating to this period. Furthermore, organic-rich alluvial deposits identified to the south of trench 13 appeared indicative of a former deviation of the River Beam and/or foreshore environment.
- 8.4 Archaeological investigations on the opposite side of the Beam have yielded prehistoric artefacts from alluvial deposits such as those encountered within the area of trench 13. It is therefore possible that future works in this vicinity could encounter and therefore impact upon prehistoric or palaeoenvironmental features and horizons. It should however be noted that the potential for encountering archaeological deposits to the north of the area is negligible. Gravels were directly overlain by deposits of made ground, indicative of extensive horizontal truncation.
- 8.5 No features were firmly dated as being Roman. However, the projected alignment of ditch [339] is comparable to that of ditch [228] as identified during the Phase 1 excavation (see Figure 8). Ditch [228] was identified at an uppermost elevation of 3.36m OD and base at 2.88m OD which compares well to ditch [339] recorded at upper and lower elevations of 3.22m OD and 2.85m OD. These two features may therefore be interpreted as sections of the same boundary or enclosure ditch; the comparable alignment may at least suggest them to be part of the same complex or phase of activity. A comparably aligned linear feature was identified to the north of [339] which similarly compares well to the projected alignment of linear ditch [225], also recorded during the Phase 1 excavation. The basal levels of these features were recorded at 3.06m OD and 3.09m OD respectively. It is noteworthy that both features identified within trench 15 exhibit the same difference in basal elevation, which may imply a downwards westward slope towards the River Beam. Unfortunately, no dating evidence was recovered from the fills of these features to confirm these hypotheses. The fills of three north-east south-west aligned ditches contained a similar lack of datable material. These appeared to run perpendicular to [339] and were therefore dated to this phase based on their orientation.
- 8.6 Trench 13 was unique in being the sole area investigated that was sealed by concrete as all other trenches lay within grassed areas. Made ground in this trench directly sealed natural deposits at about the water level. The lack of sub-soil and depth of made ground suggested that extensive horizontal truncation had taken place, particularly within the northern limits of the trench. A similar lack of sub-soil was apparent within trench 12, which was sealed by indurated made ground and truncated by numerous modern services, which may therefore explain the lack of archaeological features or horizons identified.
- 8.7 Despite no firmly identified features of Roman date, the alignment of linear features within trenches 11 and 15 compare well to Roman features previously identified within

the Phase 1 excavation. This would suggest that further work within the north and central portions of the Phase 2 area is likely to have an impact on any underlying archaeological deposits.



## **9 ACKNOWLEDGEMENTS**

- 9.1 Pre-Construct Archaeology Ltd would like to thank Willmott Dixon Housing Limited for commissioning the work and David Divers for monitoring the evaluation on behalf of the London Borough of Havering.
- 9.2 The author would like to thank Charlotte Matthews and Helen Hawkins for their project management and editing, Mark Roughley for the illustrations and Matthew Edmunds and Phil Frickers for their on-site assistance with the fieldwork. The author would also like to thank Nathalie Barrett for the surveying and Lisa Lonsdale for technical and logistical support.

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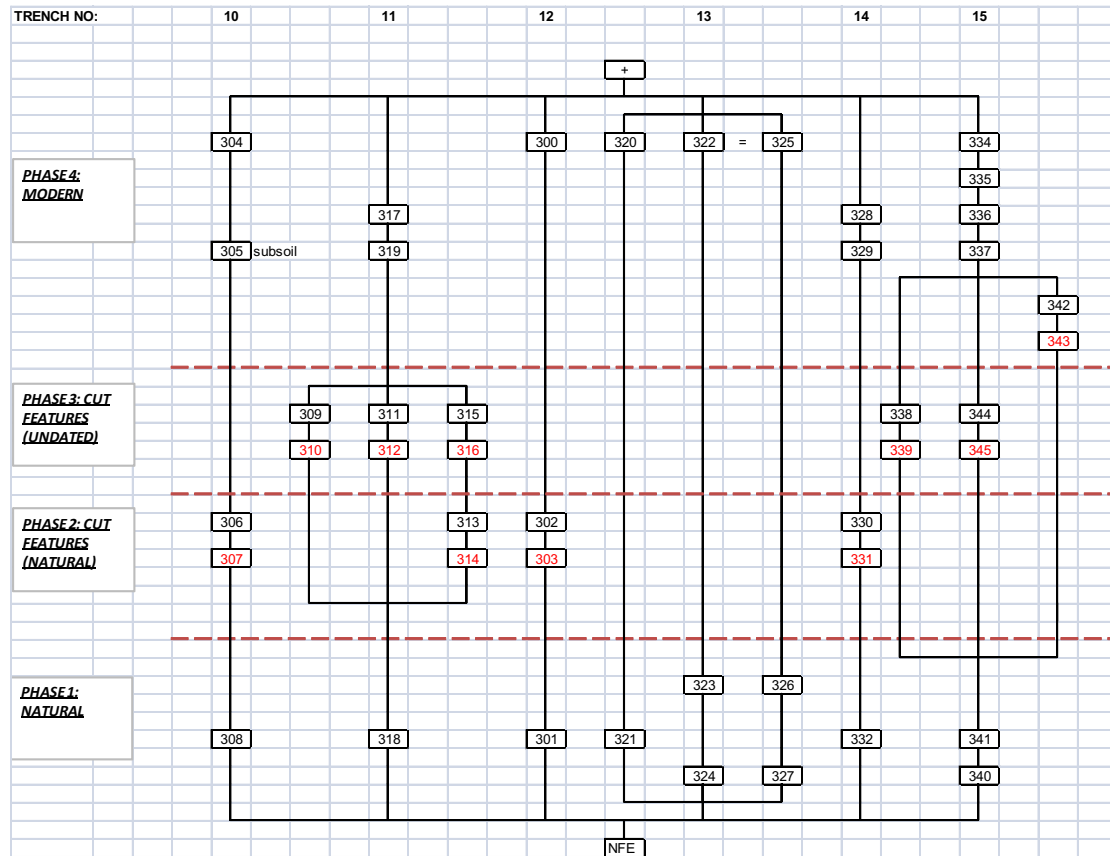
Payne, J, 2008, *An Archaeological Desk Based Assessment of Mardyke Estate, London Borough of Havering, RM13*. Pre-Construct Archaeology: Unpublished Report

### Appendix 1- Context Index

Site Code	Context No.	Plan	Section / Elevation	Type	Description	Date	Phase	Photos No.
MYE-08	300	Trench 12	300	Layer	C20th Levelling	Modern	4	7/8 (9-11); D7 (5)
MYE-08	301	Trench 12	300	Layer	Natural Gravel	Natural	1	7/8 (3-11); D7 (3-5)
MYE-08	302	-	-	Fill	Fill of [303]	Undated (Natural)	2	7/8 (3-5)
MYE-08	303	Trench 12	-	Cut	Gully	Undated (Natural)	2	7/8 (3-5); D7 (3-4, 9)
MYE-08	304	-	301	Layer	Dump Layer	Modern	4	7/8 (21-23); D7 (10)
MYE-08	305	-	301, 302	Layer	Sub-soil	Modern	4	7/8 (21-23); D7 (10)
MYE-08	306	Trench 10	302	Fill	Fill of [307]	Undated (Natural)	2	7/8 (12-14; 33-34)
MYE-08	307	Trench 10	302	Cut	Tree throw	Undated (Natural)	2	7/8 (12-14; 33-34); D7 (6; 15-16)
MYE-08	308	Trench 10	301, 302	Layer	Natural sandy gravel	Natural	1	7/8 (12-23; 33-34); D7 (7-8; 10)
MYE-08	309	Trench 11	-	Fill	Fill of [310]	Undated (Roman?)	3	7/8 (24-26); 9/10 (2-4); D7 (11, 17)
MYE-08	310	Trench 11	-	Cut	North-south ditch	Undated (Roman?)	3	7/8 (24-26); 9/10 (2-4); D7 (11, 17)
MYE-08	311	Trench 11	303	Fill	Fill of [312]	Undated (Roman?)	3	7/8 (30-32); D7 (13-14)
MYE-08	312	Trench 11	303	Cut	North-south ditch	Undated (Roman?)	3	7/8 (30-32); 9/10 (5); D7 (13-14; 20)
MYE-08	313	Trench 11	-	Fill	Fill of [314]	Undated (Natural)	2	7/8 (27-29); D7 (12, 19)
MYE-08	314	Trench 11	-	Cut	East-west gully	Undated (Natural)	2	7/8 (27-29); D7 (12, 19)
MYE-08	315	Trench 11	-	Fill	Fill of [316]	Undated (Roman?)	3	7/8 (27-29); D7 (12, 18)
MYE-08	316	Trench 11	-	Cut	North-south ditch	Undated (Roman?)	3	7/8 (27-29); D7 (12, 18)
MYE-08	317	-	303	Layer	Former topsoil	Modern	4	7/8 (30-32); D7 (13-14)
MYE-08	318	Trench 11	303	Layer	Natural Gravel	Natural	1	7/8 (24-32); 9/10 (6); D7 (11-14, 21)
MYE-08	319	Trench 11	303	Layer	Sub-soil	Modern	4	7/8 (30-32); D7 (13-14)
MYE-08	320	-	304	Layer	Made ground	Modern	4	D7 (22-23)
MYE-08	321	Trench 13	304	Layer	Natural Gravel	Natural	1	D7 (22-23)
MYE-08	322	-	305	Layer	Made ground	Modern	4	D7 (25)

Site Code	Context No.	Plan	Section / Elevation	Type	Description	Date	Phase	Photos No.
MYE-08	323	-	305	Layer	Alluvium	Natural	1	D7 (25)
MYE-08	324	Trench 13	305	Layer	Natural Clay	Natural	1	D7 (24-25)
MYE-08	325	-	306	Layer	Made ground	Modern	4	D7 (27)
MYE-08	326	Trench 13	306	Layer	Alluvium	Natural	1	D7 (26-27)
MYE-08	327	Trench 13	306	Layer	Natural Clay	Natural	1	D7 (26-27)
MYE-08	328	-	307	Layer	Grey Alluvium	Modern	4	9/10 (9); D7 (30)
MYE-08	329	-	307	Layer	Sub-soil	Modern	4	9/10 (9); D7 (30)
MYE-08	330	Trench 14	307	Fill	Fill of [331]	Undated (Natural)	2	9/10 (9); D7 (30)
MYE-08	331	Trench 14	307	Cut	Tree throw	Undated (Natural)	2	9/10 (9); D7 (30)
MYE-08	332	Trench 14	307	Layer	Natural sandy gravel	Natural	1	9/10 (7, 9); D7 (28, 30)
MYE-08	333	VOID		Layer	VOID			VOID
MYE-08	334	-	308	Layer	Levelling	Modern	4	9/10 (10-12)
MYE-08	335	-	308	Layer	Made ground	Modern	4	9/10 (10-12)
MYE-08	336	-	308	Layer	Made ground	Modern	4	9/10 (10-12)
MYE-08	337	-	308	Layer	Sub-soil	Modern	4	9/10 (10-12)
MYE-08	338	-	308	Fill	Fill of [339]	Undated (Roman?)	3	9/10 (10-12)
MYE-08	339	Trench 15	308	Cut	East-west ditch	Undated (Roman?)	3	9/10 (10-12; 13-15); D7 (31-32)
MYE-08	340	Trench 15	308	Layer	Natural sand	Natural	1	9/10 (8, 10-12); D7 (29)
MYE-08	341	Trench 15	308	Layer	Natural Gravel	Natural	1	9/10 (8, 10-12); D7 (29)
MYE-08	342	Trench 15	-	Fill	Fill of [343]	Modern	4	9/10 (16-18)
MYE-08	343	Trench 15	-	Cut	Tree throw	Modern	4	9/10 (16-18); D7 (33)
MYE-09	344	-	-	Fill	Fill of [345]	Undated (Roman?)	3	9/10 (8, 10-12); D7 (29)
MYE-10	345	Trench 15	-	Cut	E-W gully	Undated (Roman?)	3	9/10 (8, 10-12); D7 (29)

## Appendix 2 - Site Matrix



### Appendix 3: Oasis Data Collection Form

OASIS ID: preconst1-82251

#### Project details

Project name	An archaeological evaluation at Mardyke Estate, Phase 2, Rainham, London Borough of Havering, RM13 8PS
Short description of the project	A total of six evaluation trenches were excavated in advance of the demolition and redevelopment of Mardyke Estate, Phase 2 scheme of works. Natural gravels and clays were observed within all trenches. Numerous cut features interpreted as natural tree throws and the result of bioturbation were encountered. In addition a number of linear features interpreted as boundary or drainage ditches were identified within two trenches. Although undated, these were comparable in alignment, profile and basal level to Roman ditches, as identified within the Phase 1 excavation, adjacent to the study area. These features may therefore indicate the continuation of a large north-west south-east aligned boundary ditch and demarcate the limits of a Roman enclosure to the north.
Project dates	Start: 09-08-2010 End: 20-08-2010
Previous/future work	Yes / Yes
Any associated project reference codes	MYE 08 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Residential 1 - General Residential
Monument type	DITCH Uncertain
Monument type	DITCH Uncertain
Monument type	DITCH Uncertain
Monument type	DITCH Uncertain
Monument type	DITCH Uncertain
Significant Finds	POTTERY Roman
Methods & techniques	'Sample Trenches','Targeted Trenches'
Development type	Housing estate
Prompt	Direction from Local Planning Authority - PPS
Position in the planning process	Not known / Not recorded

### Project location

Country	England
Site location	GREATER LONDON HAVERING RAINHAM Mardyke Estate, Phase 2
Postcode	RM13 8PS
Study area	5.50 Hectares
Site coordinates	TQ 5057 8339 51.5288100019 0.170894554820 51 31 43 N 000 10 15 E Point
Height OD / Depth	Min: -0.65m Max: 3.35m

### Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Charlotte Matthews
Project director/manager	Charlotte Matthews
Project supervisor	Amelia Fairman
Type of sponsor/funding body	Willmott-Dixon Housing
Name of sponsor/funding body	Willmott Dixon Housing Limited

### Project archives

Physical Archive recipient	LAARC
Physical Archive ID	MYE08
Physical Contents	'Ceramics'
Digital Archive recipient	LAARC
Digital Archive ID	MYE08
Digital Contents	'Ceramics'
Digital Media available	'Database','Images raster / digital photography','Spreadsheets','Survey','Text'
Paper Archive recipient	LAARC

Paper Archive ID	MYE08
Paper Contents	'Ceramics'
Paper Media available	'Context sheet', 'Matrices', 'Photograph', 'Plan', 'Report', 'Section', 'Survey '

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**Project bibliography 1**

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Evaluation at Mardyke Estate, Phase 2, Rainham, London Borough of Havering, RM13 8PS
Author(s)/Editor(s)	Fairman, A
Date	2010
Issuer or publisher	Pre-Construct Archaeology Ltd.
Place of issue or publication	London
Description	A4 folio