



# Guildford Sewage Treatment Works (STW) Relocation

Geoarchaeological and Palaeolithic Evaluation – Outfall Pipeline



Ref: 237163.3

August 2021



© Wessex Archaeology Ltd 2021, all rights reserved.

Portway House  
Old Sarum Park  
Salisbury  
Wiltshire  
SP4 6EB

[www.wessexarch.co.uk](http://www.wessexarch.co.uk)

Wessex Archaeology Ltd is a Registered Charity no. 287786 (England & Wales) and SC042630 (Scotland)

#### Disclaimer

The material contained in this report was designed as an integral part of a report to an individual client and was prepared solely for the benefit of that client. The material contained in this report does not necessarily stand on its own and is not intended to nor should it be relied upon by any third party. To the fullest extent permitted by law Wessex Archaeology will not be liable by reason of breach of contract negligence or otherwise for any loss or damage (whether direct indirect or consequential) occasioned to any person acting or omitting to act or refraining from acting in reliance upon the material contained in this report arising from or connected with any error or omission in the material contained in the report. Loss or damage as referred to above shall be deemed to include, but is not limited to, any loss of profits or anticipated profits damage to reputation or goodwill loss of business or anticipated business damages costs expenses incurred or payable to any third party (in all cases whether direct indirect or consequential) or any other direct indirect or consequential loss or damage.

## Document Information

Document title	Guildford Sewage Treatment Works (STW) Relocation – Outfall Pipeline
Document subtitle	Palaeolithic Archaeological and Georcheological Evaluation
Document reference	237163.3
Client name	Jacobs UK Ltd (London)
Address	Cottons Centre, Cottons Lane London SE1 2QG
Site location	Guildford Sewage Treatment Works, Lock Road, Slyfield Industrial Estate, Slyfield, GU1 1RG
County	Surrey
National grid reference (NGR)	500499, 152644 (TQ 00499 52644)
Planning authority	Surrey County Council
Planning reference	
Museum name	Elmbridge
Museum accession code	TBC
WA project code	237162
Date of fieldwork	28/06/2021 to 08/07/2021
Fieldwork directed by	Jon Dobbie
Project management by	Dr Alex Brown
Document compiled by	Dr Lisa Snape and Dr Andrew Shaw
Graphics by	Amy Wright

## Quality Assurance

Issue number & date	Status	Author	Approved by
1 11/08/21	Internal draft	LS/ADS	AB



## Contents

Summary .....	iii
Acknowledgements.....	iv
<b>1 INTRODUCTION .....</b>	<b>5</b>
1.1 Project background.....	5
1.2 Scope of document.....	6
1.3 Location, topography and geology .....	7
<b>2 ARCHAEOLOGICAL AND GEOARCHAEOLOGICAL BACKGROUND.....</b>	<b>7</b>
2.1 Introduction.....	7
2.2 Archaeological and geoarchaeological context .....	7
2.3 Summary of the Palaeolithic and Mesolithic archaeological and geoarchaeological potential.....	8
<b>3 AIMS AND OBJECTIVES.....</b>	<b>8</b>
3.1 General aims .....	8
3.2 General objectives.....	8
3.3 Site-specific objectives.....	9
<b>4 FIELDWORK METHODS .....</b>	<b>9</b>
4.1 Introduction.....	9
4.2 Setting out and survey of borehole locations.....	9
4.3 Service location and other constraints .....	9
4.4 Excavation methods .....	10
4.6 Dating.....	11
4.7 Recording .....	11
4.4 Monitoring.....	12
<b>5 RESULTS.....</b>	<b>12</b>
5.1 Stratigraphic evidence .....	12
5.2 Deposit modelling.....	14
5.3 Archaeological Evidence.....	14
5.4 Palaeoenvironmental potential.....	16
5.5 Dating potential.....	16
<b>6 DISCUSSION .....</b>	<b>17</b>
<b>7 CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>19</b>
7.1 Conclusions.....	19
7.2 Recommendations.....	20
<b>8 ARCHIVE STORAGE AND CURATION.....</b>	<b>20</b>
8.1 Museum.....	20
8.2 Preparation of the archive.....	20
8.3 Selection strategy .....	21
<b>9 COPYRIGHT .....</b>	<b>22</b>
9.1 Archive and report copyright .....	22
9.2 Third party data copyright .....	23
<b>REFERENCES .....</b>	<b>24</b>
<b>APPENDICES .....</b>	<b>26</b>
Appendix 1 Trench Tables .....	26
Appendix 2 Test Pit Tables .....	29
Appendix 3 Oasis Form .....	60





### List of Figures

- Figure 1** Site location  
**Figure 2** Site plan  
**Figure 3** Cross-section 1

### List of Plates

- Cover: Trench 1  
**Plate 1** Trench 5; north west facing representative section  
**Plate 2** TP128; north west facing section  
**Plate 3** TP130; north west facing section  
**Plate 4** TP130; north west facing section  
**Plate 5** Trench 4; north west facing representative section  
**Plate 6** TP126; north west facing section  
**Plate 7** Trench 7  
**Plate 8** TP116; north west facing section  
**Plate 9** TP116; north west facing section  
**Plate 10** TP101; north west facing section  
**Plate 11** TP120; east facing section  
**Plate 12** TP102; context (10205)

### List of Tables

- Table 1** Staged approach to Palaeolithic archaeological and geoarchaeological investigations.  
**Table 2** Quantification of finds  
**Table 3** Samples retained for paleoenvironmental assessment  
**Table 4** Samples retained for OSL dating  
**Table 5** Tentative correlations between sequences identified during phase of evaluation in advance of proposed new Guildford Sewage Treatment Works (STW)



## Summary

Wessex Archaeology was commissioned by Jacobs UK Ltd to undertake an archaeological and geoarchaeological borehole survey of Quaternary deposits within the footprint of the route of the outfall pipeline to the River Wey associated with a proposed new sewage treatment works. The site of the proposed outfall pipeline is located at Slyfield, Guildford, Surrey, centred on 500499, 152644 (TQ 00499 52644).

This evaluation is part of staged approach to determining the archaeological and geoarchaeological potential of the outfall routes and follows a heritage baseline assessment (Orion Heritage 2020), geoarchaeological monitoring of GI works (ASE 2020, WA 2020), and archaeological and geoarchaeological borehole survey and test pitting of selected transfer tunnel shaft locations (WA 2021a; 2021b).

Alluvial sands present beneath the route of the outfall pipeline have been highlighted as having Upper Palaeolithic archaeological and geoarchaeological potential (WA2020b); they may be broadly stratigraphically equivalent to those identified at the Guildford Fire Station site, which has produced nationally significant Late Upper Palaeolithic archaeology (OA 2016, Barton et al. 2020). Deposits with later prehistoric, particularly Mesolithic, archaeological potential were also highlighted (WA 2021c).

For the evaluation, seven machine dug trial trenches (Trenches 1-7) and twelve machine dug test pits (TP101-112) were excavated. Where ground conditions allowed, hand dug test pits (TP112, 113 and 115-119) were excavated in the base of the trenches. Where water ingress prevented the excavation of hand dug test pits, machine dug test pits were excavated within trenches (TP114 and 120-131).

The evaluation recorded a complex sequence of higher and lower energy alluvial deposits associated with the River Wey, likely reflecting climatic, environmental and landscape change from the later Pleistocene and through the Holocene. These sequences can be tentatively correlated to deposits identified during previous phases of evaluation carried out in advance of the proposed sewage treatment works (WA 2021a; 2021b).

The deposits present include units that may be broadly equivalent to those in the wider area which have produced late Upper Palaeolithic (OA 2016, Barton et al. 2020) and Mesolithic (Bishop 2008) archaeology. However, no archaeological features were identified, and only residual artefacts of prehistoric to modern date were recovered from the modern soil profile. Given high concentration of archaeological trenches and test pits, the results demonstrate that specific deposits at the outfall pipeline location have low archaeological potential.

The paleoenvironmental potential of the Quaternary deposits in the evaluation area was assessed to be generally low. However, a possibly organic clay was identified that may have palaeoenvironment potential. These clays could contain evidence which would add to the broad landscape context of the late upper Palaeolithic and Mesolithic archaeology from the wider study area.

Deposits with potential for Optical Luminescence Dating (OSL) were encountered and sampled. Establishing a firmer chronology for these deposits is of central importance for placing the deposits within the Site, and those containing Upper Palaeolithic and Mesolithic archaeology in the wider area, within a secure context, as well as for establishing the age of the potential organic deposits with possible paleoenvironmental potential that have been identified and sampled during the evaluation.



## **Acknowledgements**

Wessex Archaeology would like to thank Jacobs UK (Ltd), for commissioning the geoarchaeological evaluation, in particular Kadi Tamjarv. Wessex Archaeology is also grateful for the advice of Nick Truckle, Surrey County Council Archaeological Officer, who monitored the project for Surrey County Council, and to Geo Environmental Services Limited for carrying excavation and for their cooperation and help on site.

The fieldwork was directed by Jon Dobbie. This report was written by Dr Lisa Snape and Dr Andrew Shaw and edited by Dr Alex Brown. The project was managed by Dr Alex Brown on behalf of Wessex Archaeology.



# Guildford Sewage Treatment Works Relocation

## Palaeolithic Archaeological and Geoarchaeological Evaluation – Outfall Pipeline

### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Jacobs UK Ltd to undertake an archaeological and geoarchaeological borehole survey of Quaternary deposits within the footprint of the route of the outfall pipeline to the River Wey associated with a proposed new sewage treatment works. The site of the proposed outfall pipeline is located at Slyfield, Guildford, Surrey, centred on 500499, 152644 (TQ 00499 52644).
- 1.1.2 The proposed development comprises three elements (**Figure 1**):
- a new Sewage Treatment Works (STW) located to the north east of the existing Slyfield Industrial Estate in Guildford;
  - a new outfall north to the River Wey, and
  - a new transfer tunnel running from the existing pumping station to the new STW.
- 1.1.3 A planning application will be submitted to Surrey County Council as the determining authority for waste development.
- 1.1.4 As a result of geoarchaeological monitoring of GI investigations (WA 2020), Nick Truckle, Surrey County Council Archaeological Officer, advised that Pleistocene deposits with Palaeolithic archaeological and geoarchaeological potential may be present along the proposed outfall and transfer tunnel route, and that targeted archaeological and geoarchaeological evaluation is required.
- 1.1.5 The evaluation was undertaken in two stages, the first targeted deposits in the location of the tunnel shafts of the new transfer tunnel (WA 2021a; 2021b). The second phase of evaluation, which is reported on here, targeted the route of the outfall pipeline to the River Wey.
- 1.1.6 Previous geoarchaeological monitoring of Ground Investigation (GI) works identified sequences of Pleistocene sands with archaeological and geoarchaeological potential in the area the route of the outfall pipeline (WA 2020). This evaluation relates to Palaeolithic archaeological and geoarchaeological evaluation works along the proposed route of the outfall pipeline.
- 1.1.7 Two potential routes have been identified for the outfall pipeline. These are located parallel to each other as shown on **Figure 2**. The southern route is referred to as 'Option 1' and the northern route referred to as 'Option 2'.
- 1.1.8 The preferred route is Option 2. Therefore, evaluation was undertaken starting with this route. Evaluation of Option 1 was only be undertaken if, during the evaluation of Option 2, any non-designated archaeological and/or geoarchaeological assets are identified that



were of a significance to require full excavation or preservation in situ. As no such heritage assets were identified during evaluation of Option 2, no evaluation works along Option 1 were required.

- 1.1.9 This evaluation is part of staged approach in determining the archaeological and geoarchaeological potential of the transfer tunnel route and outfall and follows a heritage baseline assessment (Orion Heritage 2020), geoarchaeological monitoring of GI works (ASE 2020, WA 2020), and archaeological and geoarchaeological borehole survey and test pitting of selected transfer tunnel shaft locations (WA 2021a; 2021b).
- 1.1.10 To help frame Palaeolithic archaeological and geoarchaeological investigations of this nature, Wessex Archaeology has developed a five-stage approach, encompassing different levels of investigation appropriate to the results obtained, accompanied by formal reporting of the results at the level achieved. The stages are summarised below (**Table 1**).

**Table 1** Staged approach to Palaeolithic archaeological and geoarchaeological investigations.

<p><b>Stage 1:</b></p> <p>WSI / Archaeological and geoarchaeological Desk- based Assessment</p>	<p>Review of sub-surface data (e.g. mapping, existing GI, BGS logs), and summary of Palaeolithic local or regional context. Establish likely presence/ absence/ distribution of (geo)archaeologically relevant deposits. May include modelling of existing data, and for larger schemes a fuller landscape characterisation.</p> <p>Present recommendations for fieldwork including type, number, distribution and depth of sampling methods.</p>
<p><b>Stage 2:</b></p> <p>Fieldwork, interpretation and reporting (e.g. Borehole survey)</p>	<p>Fieldwork to investigate archaeological and geoarchaeological deposits and obtain palaeoenvironmental and dating samples, followed by reporting. Reporting will present results (usually including deposit modelling), interpretations and recommendations for further work.</p> <p>Should suitable deposits be present, detailed recommendations for palaeoenvironmental assessment and dating will be made (Stage 3).</p>
<p><b>Stage 3:</b></p> <p>Palaeoenvironmental assessment and dating</p>	<p>Assessment of subsamples agreed in Stage 2 (for e.g. vertebrates, pollen, diatoms, plant macrofossils, molluscs, ostracods and foraminifera), together with dating (OSL and radiocarbon).</p> <p>Reporting will summarise results in the archaeological and palaeoenvironmental context of the local or wider area. Should deposits have the potential for analysis, recommendations will be made for Stage 4 work.</p>
<p><b>Stage 4:</b></p> <p>Mitigative archaeological and geoarchaeological fieldwork</p> <p>Analysis of palaeoenvironmental samples</p>	<p>Should further fieldwork be required to mitigate against development impacts on deposits with significant Palaeolithic archaeological and geoarchaeological potential, this will be carried out at this stage.</p> <p>Full analysis of samples specified in Stage 3 and any additional targeted samples taken as part of mitigation fieldwork, together with a detailed synthesis of the results, in their local, regional or wider archaeological and palaeoenvironmental context as appropriate.</p> <p>Publication would usually follow from a Stage 4 report.</p>
<p><b>Publication</b></p>	<p>The scope and location of a publication report will be agreed in consultation with the client and LPA advisor.</p> <p>The publication report may comprise a note in a local journal or a larger publication article or monograph, dependant on the significance of the archaeological work.</p>

## 1.2 Scope of document

- 1.2.1 The purpose of this report is to provide a detailed description of the results of the evaluation, to interpret the results within a local, regional or wider archaeological and geoarchaeological context and assess whether the aims of the evaluation have been met.



- 1.2.2 The results of test pit evaluation provide further information on the Pleistocene and early Holocene archaeological and geoarchaeological resource that may be impacted by the proposed development and facilitate an information decision with regard to the requirement for, and methods of, any further archaeological and geoarchaeological works, including palaeoenvironmental assessment.

### **1.3 Location, topography and geology**

- 1.3.1 The proposed routes of the outfall pipeline are located within and on the edge of the modern floodplain of the River Wey, a tributary of the River Thames, adjacent to the Slyfield Industrial Estate on the northern edge of Guildford (**Figure 1**).
- 1.3.2 The underlying bedrock geology mapped by the British Geological Survey (BGS online viewer) is London Clay, formed approximately 48-56 Mya (Million years ago) during the Palaeogene period. Mapped superficial deposits comprise of Holocene floodplain alluvium of the River Wey, overlying and flanked by Pleistocene fluvial sands and gravels.

## **2 ARCHAEOLOGICAL AND GEOARCHAEOLOGICAL BACKGROUND**

### **2.1 Introduction**

- 2.1.1 The archaeological and historical background was assessed in a prior Heritage Baseline Assessment (Orion Heritage 2020), which considered the recorded historic environment resource within the study area of the proposed development. Information relevant for assessing the Pleistocene and early Holocene archaeological and geoarchaeological potential of the evaluation area is summarized below. Additional sources of information are referenced, as appropriate.

### **2.2 Archaeological and geoarchaeological context**

- 2.2.1 Monitoring of GI investigations along the route of outfall pipeline, Option 1 (WA 2020) demonstrated that likely Pleistocene fluvial sands overlain by Holocene alluvium of the River Wey are present in the evaluation area underlying both outfall pipeline Option 1 and 2.
- 2.2.2 Four boreholes were drilled in a south west to north east orientated transect along the route (**Figure 2**). The Quaternary deposits recorded in the boreholes comprised a sequence of fluvial sands, like to be principally Pleistocene in date, overlain by Holocene alluvial silts and clays.
- 2.2.3 The fluvial sands were present in WS301, WS302 and WS303. They exhibited a SW-NE decline in surface elevation towards the River Wye. WS304 recorded Holocene alluvial clays and silts to a depth of greater than 4.00m bgl (metres below ground level); no fluvial sands were reached in this borehole. The fluvial sands may be absent from area of WS304; if present they are located beyond 4.00m bgl.
- 2.2.4 The fluvial sands may be stratigraphically equivalent to those identified at the Guildford Fire Station site, which has produced nationally significant Late Upper Palaeolithic archaeology (OA 2016, Barton et al. 2020). The Guildford Fire Station site produced approximately 5,500 minimally disturbed lithic artefacts (including refitting material) from within fine grained fluvial sand deposits of the River Wey. This archaeology is dated to the Late Glacial Interstadial (c. 15-14 Kya).
- 2.2.5 Deposits associated with the floodplain of the River Wey have also produced Mesolithic archaeology, including the discovery of extensive settlement activity, located within a sandy alluvium, at Woodbridge Road c. 800m from the shaft locations (Bishop 2008). OSL





samples dated the alluvial deposit to between c 5700-3100 BC, broadly correlating with the typological dating of the lithics to the Late Mesolithic.

- 2.2.6 It is possible that upper parts of the sand units recorded in the borehole survey could include Holocene alluvial deposits which are equivalent with the 'sandy alluvium' at the Woodbridge Road site.

### **2.3 Summary of the Palaeolithic and Mesolithic archaeological and geoarchaeological potential**

- 2.3.1 The Palaeolithic and Mesolithic potential of the evaluation area can be summarised as follows:

- the sands present in the evaluation area have the potential to preserve minimally disturbed Late Upper Palaeolithic archaeology and/or geoarchaeological evidence;
- the upper units of these sands could also preserve Mesolithic archaeology.

## **3 AIMS AND OBJECTIVES**

### **3.1 General aims**

- 3.1.1 The aims of the evaluation, in compliance with the ClfA' Standard and guidance for archaeological field evaluation (ClfA 2014a), were to:

- establish the broad presence/absence, nature and distribution of Quaternary deposits within the evaluation area and, where necessary, to correlate these as a deposit model;
- assess the archaeological potential of Quaternary deposits present within the evaluation area;
- consider the possible significance of any archaeological and geoarchaeological evidence present in the context of national and regional research priorities and agendas, and
- inform either the scope and nature of any further archaeological and geoarchaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

### **3.2 General objectives**

- 3.2.1 To achieve the above aims, the general objectives of the evaluation were to:

- determine the presence or absence of deposits with Pleistocene and Holocene geoarchaeological potential within the evaluation area;
- establish, within the constraints of the evaluation, the extent, character and date of any such deposits;
- establish, within the constraints of the evaluation, the potential of any such deposits to preserve archaeological and/or palaeoenvironmental remains;
- determine the presence and potential of lithic artefact evidence and faunal remains in the sediments encountered;



- place the results of the evaluation within wider historical and geoarchaeological context, and
- make available information about the geoarchaeological resource within the site by reporting on the results of the evaluation.

### 3.3 Site-specific objectives

3.3.1 Following consideration of the geoarchaeological potential of the evaluation areas, the site specific objectives of the evaluation were to:

- determine the potential of the sands within the evaluation area to preserve significant Late Upper Palaeolithic archaeological and geoarchaeological evidence;
- determine the potential of the sands within the evaluation area to preserve significant Late Upper Palaeolithic archaeological and geoarchaeological evidence;
- determine the potential of the upper units of the fluvial sands within the evaluation area to preserve significant Mesolithic archaeological and geoarchaeological evidence, and
- make recommendations for further archaeological and geoarchaeological works, as appropriate.

## 4 FIELDWORK METHODS

### 4.1 Introduction

4.1.1 Works were undertaken in accordance with the detailed methods set out within the Written Scheme of Investigation (WSI; WA 2021c) and in general compliance with the standards outlined in relevant ClfA and Historic England guidance (ClfA 2014a, Historic England 2015). Any significant variations to these methods will be agreed in writing with the Surrey County Council Archaeological Officer and the client, prior to being implemented. The methods employed are summarised below.

4.1.2 Evaluation was carried along the preferred route of the outfall pipeline (Option 2; **Figure 2**). In accordance with the WSI, seven machine dug trial trenches (Trench 1-7) and twelve machine dug test pits (TP101-112) were excavated. Where ground conditions allowed, hand dug test pits (TP112, 113 and 115-119) were excavated in the base of the trenches. Where water ingress prevented the excavation of hand dug test pits, these were replaced by machine dug test pits (TP114 and 120-131). This modified methodology was approved by Nick Truckle, Surrey County Council Archaeological Officer.

### 4.2 Setting out and survey of borehole locations

4.2.1 All machine dug trenches and test pits were set out by the principal contractor using GNSS in the positions shown in **Figure 2**.

### 4.3 Service location and other constraints

4.3.1 The principal contractor was responsible for the identification and protection of any above- and below-ground services within the works. The client and their principal contractor were also responsible for informing Wessex Archaeology of, and delimiting, any other areas of environmental, ecological, or other constraints.



#### **4.4 Excavation methods**

- 4.4.1 Machine excavation was carried out by the principal contractor. All excavation was carried out under the guidance and supervision of a geoarchaeological specialist experienced in interpreting Pleistocene sediments and identifying Palaeolithic artefacts.

##### *Trenches*

- 4.4.2 Trenches were excavated using a 13 tonne 360° mechanical excavator with a toothless bucket, removing modern soil profiles and Holocene alluvium. Machine excavation extended into the uppermost units of alluvial sands, or to a maximum depth of 1.2m. Machine excavation proceeded in level spits of approximately 50-100mm, respecting the interface between sedimentary units

- 4.4.3 Following machine excavation, 1m x 1m hand dug test pits were excavated at approximately 5m intervals along the base of each trench, to a maximum depth of 1m. Hand dug test pits were excavated in 5cm spits with archaeological trowels. Spoil from each spit sieved through a 10mm mesh to investigate whether artefacts or macro faunal remains were present. In instances where water ingress prevented the excavation of hand dug test pits, these were replaced by machine dug test pits excavated following the methodology outlined below. This modification to the methodology was agreed in advance with the client and the Surrey County Council Archaeological Officer.

##### *Machine dug test pits*

- 4.4.4 The machine dug test pits were excavated using a 13 tonne 360° mechanical excavator with a toothless bucket. The sequence of sedimentary units was recorded as excavation progressed following standard descriptive practices. The textural characteristics (grain-size, consolidation, colour, material and sedimentary structures) of sedimentary units were recorded, and the shape and nature of their lithostratigraphic contacts (dip, conformity and overall geometry), until excavation became impractical.
- 4.4.5 The test pits were entered at the maximum safe depth (usually c. 1.2m, but less if loose sands/gravel were present or issues with groundwater ingress were encountered) to record the upper stratigraphy. After excavation had progressed beyond 1.2m depth, recording took place without entering the test pit.
- 4.4.6 At least 100l (litre) sediment samples of the deposits were taken from each spit in stratigraphic succession throughout the Quaternary deposits and sieved on site through a 10-mm mesh to investigate whether artefacts and/or macro mammalian faunal remains were present. When sediments encountered were not suitable for dry-sieving (i.e. too clayey), excavation proceeded in shallower spits of c. 5cm, looking carefully for the presence of any archaeological evidence, and the spit samples will also be carefully investigated by hand (using archaeological trowels) for any archaeological evidence.

#### **4.5 Palaeoenvironmental sampling**

- 4.5.1 The potential for deposits to preserve palaeoenvironmental evidence was assessed for each sediment unit by the monitoring geoarchaeological specialist. Palaeoenvironmental sampling was undertaken following Wessex Archaeology's inhouse guidance, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015b).
- 4.5.2 Potentially organic alluvial clays with possible palaeoenvironmental potential were identified in TP102. A single 40l bulk sample suitable for palaeoenvironmental assessment was obtained from these sediments.



## 4.6 Dating

- 4.6.1 Consideration was given to the potential of deposits to preserve short lived plant remains suitable for radiocarbon dating. No sediments with such potential were identified.
- 4.6.2 Consideration was given to the suitability of any sediment unit for Optically Stimulated Luminescence dating (OSL). Deposits with OSL dating potential were identified and five samples were taken in stratigraphic succession from suitable and accessible deposits.

## 4.7 Recording

- 4.7.1 The trenches, hand and machine dug test pits were recorded in the form of a measured representative sketch section of at least one face and accompanying geoaerchaeological descriptions and interpretations.
- 4.7.2 Descriptions of deposits present within each intervention include information such as:
- Depth
  - Texture
  - Composition
  - Colour
  - Inclusions
  - Structure (bedding, ped characteristics etc.)
  - Contacts between deposits
- 4.7.3 Interpretations were made regarding the probable depositional environments and formation processes of deposits. This data was then tabulated by trench and test pit (**Appendix 1–2**).
- 4.7.4 All samples were individually numbered. The location, size, stratigraphic context, purpose and whether retained or processed on site was recorded.
- 4.7.5 A full photographic record was made using digital cameras equipped with an image sensor of not less than 10 megapixels. This was to record both the detail and the general context of the principal lithological and stratigraphic features, and the evaluation areas as a whole. Digital images were subjected to managed quality control and curation processes which embedded appropriate metadata within the image and ensure long term accessibility of the image set. Photographs were also be taken of all areas, including access routes, to provide a record of conditions prior to and on completion of the evaluation.

## 4.1 Survey

- 4.1.1 The real time kinematic (RTK) survey of all trenches and test pits was carried out using a Leica GNSS connected to Leica’s SmartNet service. All survey data was recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSGM15 and OSTN15, with a three-dimensional accuracy of at least 50mm.



## 4.2 Reinstatement

4.2.1 All completed interventions were backfilled using excavated materials in the order in which they were excavated, and left level on completion. No other reinstatement or surface treatment was undertaken.

## 4.3 Deposit Modelling

4.3.1 The results of the evaluation have been integrated with previous Ground Investigation (GI) data (WA 2020) to produce an integrated record of the deposits.

4.3.2 The different lithologies and stratigraphic interpretations have been entered into Rockworks™ v17.0. Based on geoarchaeological interpretation of the lithological data (e.g., peat, clay, silt, sand etc.), a set of stratigraphic units (e.g., alluvium, peat, buried soils etc.) were created to group sets of deposits across the area.

4.3.3 The data from the evaluation and selected GI locations have been used to produce a representative transect through the deposits within the proposed footprint of outfall pipeline Option 2 (**Figure 3**).

4.3.4 Key aims of the modelling were to interpret the data, identifying the probable environments represented, and determine areas of higher and/or lower geoarchaeological and archaeological potential (e.g., deposits with potential for the recovery of significant archaeological and environmental remains).

## 4.4 Monitoring

4.4.1 Nick Truckle, Surrey County Council Archaeological Officer, on behalf of the LPA, monitored the evaluation. Any variations to the WSI were agreed in advance with both the client and the Surrey County Council Archaeological Officer.

## 5 RESULTS

### 5.1 Stratigraphic evidence

5.1.1 The stratigraphy present in the trenches and test pits (**Figure 2**) is listed and summarized below. The specific lithologies and stratigraphic succession encountered in each intervention are outlined in **Appendix 1–2**.

5.1.2 The generalised stratigraphic sequence encountered comprises:

- Modern Soil Profile (Recent)
- Upper Clay (Holocene)
- Upper Sand (?Holocene)
- Lower Clay (?earlier Holocene/late Pleistocene)
- ?Organic clay (?earlier Holocene/late Pleistocene)
- Gravelly sand (late Pleistocene)
- Lower sand (late Pleistocene)



#### *Modern Soil Profile*

- 5.1.3 Modern soil profiles (topsoil and subsoil) between 0.40 – 1.00m thick was recorded across the evaluation area. The topsoil was as a dark greyish brown structureless, silty, sometimes slightly gravelly, clay. Where identified, the subsoil was a structureless dark reddish brown silty medium sand, which in some instances contained fine to coarse angular and sub-angular flint clasts.

#### *Upper Clay (Plate 1–4)*

- 5.1.4 Where present, this unit was encountered directly beneath the modern soil profile. It comprised structureless reddish yellow, greyish brown and greenish blue silty and sandy clays. In some instances very occasional fine to coarse sub-angular and sub-rounded flint clasts were noted. It varied from 0.30 m to 1.30m in thickness in the evaluation area, with the sediments thickening markedly towards the modern channel of the River Wey. Previous GI investigation (WA 2020) have established that this unit increases further in thickness towards the Wey, with a sequence exceeding 3.00m deep recorded in the nearest borehole to the river (WS304). The deposits are later Holocene sediments deposited in the current alluvial floodplain of the River Wey.

#### *Upper Sand (Plate 5–10)*

- 5.1.5 The Upper Sand was identified in TP101–108 and TP112–128, which were present in the west of the Site. This unit comprised variably coloured, but lithologically consistent, light greyish yellow, reddish grey, reddish brown and greyish green, mottled medium sand, with no visible clasts or structure. The top of the unit was recorded at depths ranging from 0.30 – 1.00m bgl and varied in thickness from 0.30–1.70m. Towards the east, the deposit is overlain by the Upper Clay. The deposit is considered to reflect alluvial deposition, with the variations in colour reflecting fluctuating water levels.

#### *Lower Clay (Plate 10–12)*

- 5.1.6 A Lower Clay unit was recorded in TP101–104 and TP116–124, located in the west of the Site. This unit comprised mid-brownish grey, reddish brown and greenish blue mottled, medium sandy clay with no visible clasts. The unit contain some laminated sediments. The top of the deposit was recorded at depths ranging from 1.30–2.20m bgl and was 0.40–1.20m thick. The unit was recorded beneath the Upper Sand. Modelling suggests that's that the Lower Clay may have been deposited within a channel cut into the underlying Lower Sand. The unit reflects alluvial deposition, potentially within a channel feature, with the laminated horizons suggesting periods of quiescent deposition.

#### *?Organic Clay (Plate 11–12)*

- 5.1.7 In two adjacent interventions (TP102 and TP120) a possible organic unit was identified at the base of the Lower Clay; this forms a basal unit within the Lower Clay in these interventions. Although no clear organic material was identified in the field, the unit possessed a strong organic odour. The sediments comprised finely horizontally bedded dark blackish green fine sandy clays and greyish green clayey medium sands, with no visible clasts. Lenses of light greenish yellow fine to medium sand were also observed. The top of the deposit was found at 2.30m bgl and it varied between 0.30–0.90m in thickness. The fine horizontal bedding reflects relative quiescent alluvial deposition.

#### *Gravelly Sand (Plate 4; Plate 12)*

- 5.1.8 A gravelly sand was found at the base of the deposits located in the east of the Site (TP106, TP108, TP109–111, TP125–128, TP130–131). The top of the unit was recorded between 1.40–1.80m bgl. It comprised light brownish grey gravelly coarse sand with <10% fine to



coarse (5-120mm) sub-angular and sub-rounded flint clasts. It was generally poorly sorted and consolidated, with some suggestion of horizontal bedding. The unit reflects relatively high energy fluvial deposition. Stratigraphically this unit underlies the Upper Clay and Upper Sand, and in one intervention (TP126) was identified overlying the Lower Sand. The lithology and stratigraphic position of this Gravelly Sand suggests that it is Pleistocene in date.

#### **Lower Sand (Plate 6; Plate 10)**

- 5.1.9 The earliest Quaternary unit identified in the evaluation area is a Lower Sand. This was recorded in the west of the Site (TP120 – 124 and TP126). It comprised mid-greyish green medium sand with <1% fine sub-angular flint clasts. In some instances sub-horizontal bedding was noted. The unit reflects relatively high energy fluvial deposition. This top of the deposit was found between 1.60–3.30m bgl; the full thickness could not be defined as it continues beyond the depth of excavation. This unit and the Gravelly Sand may be part of the same broad phase of Pleistocene alluvial deposition.

### **5.2 Deposit modelling**

- 5.2.1 In order to assess the stratigraphic context of the Quaternary deposits encountered across the evaluation area, data from the evaluation and selected GI data from the wider area (WA 2020) was entered into Rockworks™ 17 to create a projected cross-section through the deposits (**Figure 3**). 35 records were included in the modelling. Excellent data coverage, generally to depth of at least 3m bgl, is provided across outfall pipeline Option 2.
- 5.2.2 The data has been used to produce a single representative cross-section across the proposed route of the outfall pipeline (**Figure 3**). This provides a detailed illustration of the Quaternary stratigraphy present across the area and has clearly established stratigraphic relationships.
- 5.2.3 Beneath a modern soil profile, the youngest deposits present consist of alluvial clays (Upper Clay) that reflect later Holocene overbank alluvial deposition across the current floodplain of the River Wey. Stratigraphically, this Upper Clay overlies an Upper Sand, which reflects earlier deposition within an alluvial floodplain environment; this unit is found in the west of the evaluation area.
- 5.2.4 The Upper Sand is predated by alluvial clay (Lower Clay), the basal geometry of which is suggestive of accumulation within a channel incised into the underlying Lower Sand; it is present in interventions in the west of the Site. This Lower Clay includes a possibly organic basal unit (?Organic Clay). The earliest Quaternary deposits identified are fluvial sands and gravels. This has been subdivided between a potentially younger, gravelly unit (Gravelly Sand) identified in the east of the evaluation area and a potentially earlier, less gravelly, Lower Sand present in interventions in west of the evaluation area.

### **5.3 Archaeological Evidence**

#### *Introduction*

- 5.3.1 As outlined in the WSI (WA 2021), all deposits were assessed for the presence of archaeological features and artefacts. This included the taking of 100l samples at regular intervals throughout deposits encountered in machine dug test pits, which was sieved on-site and assessed for the presence of artefacts and ecofacts.

#### *Results*

- 5.3.2 No archaeological features were identified during the evaluation.

5.3.3 A small number of artefacts was recovered from the trial trenches and test pits. The assemblage is of prehistoric and modern date. The finds have been cleaned and quantified by material type in each context; this information is summarised in **Table 2**.

**Table 2** Quantification of finds

Context	Pottery		Ceramic building material		Flint		Burnt flint		Glass	
	No.	Wg (g)	No.	Wg (g)	No.	Wg (g)	No.	Wg (g)	No.	Wg (g)
101	1	107			2	11				
201					3	19				
301			1	60			2	43	1	46
11102							1	25		
12106							1	21		
12404							1	27		
<b>Total</b>	<b>1</b>	<b>107</b>	<b>1</b>	<b>60</b>	<b>5</b>	<b>30</b>	<b>5</b>	<b>116</b>	<b>1</b>	<b>46</b>

5.3.4 The earliest diagnostic material is the worked flint; this was all recovered from the topsoil. Two flakes in near mint condition were recovered from topsoil (context 101) in Trench 1 – one is a possible microdenticulate. The length of retouch on this piece is quite short, but it clearly all originates from the ventral surface. Each individual notch seems to be deliberate and separate, suggesting that this does not result from casual abrasion. The fact that the other flake is in similar near mint condition, suggests that post depositional edge damage is unlikely. A blade, broken blade and a flake were also recovered from topsoil (context 201) in Trench 2. The typo-technological features of small lithic assemblage suggest that it contains material of Mesolithic and/or Early Neolithic date.

5.3.5 Small quantities of burnt flint were also recovered from topsoil in Trench 3 (context 301) from the Upper clay in TP111 (context 11102), the Lower Clay in TP124 (context 12404) and the Lower Sand in TP121 (context 12106). This material type is intrinsically undatable and could result from natural process but can also be associated with prehistoric activity.

5.3.6 The modern finds came from topsoil in Trenches 1 and 3. A single sherd of pottery came from the rim of a redware bowl, dating to the 18th century or later was recovered from Trench 1. A partial neck of a clear glass bottle was recovered from Trench 3. This was from a 19th – 20th century bottle with an internal screw top. A partial maker’s mark with the initials J.V.S was embossed on the shoulder, but the remainder of the mark did not survive. A featureless flat fragment of post-medieval ceramic tile also came from this context.

*Discussion*

5.3.7 The evaluation has demonstrated the modern soil profile in the western part of the Site contains a small quantity of residual prehistoric and modern artefacts. No archaeological features or evidence of contemporary activity associated with Quaternary deposits was identified.

5.3.8 The small lithic assemblage recovered from the topsoil in the western part of the evaluation area is notable, however. The material is in fresh condition and includes pieces potentially diagnostic of Mesolithic and/or early Neolithic activity. Therefore, although there is no evidence for contemporary prehistoric activity within the evaluation area, this material

suggests the potential for such evidence to exist further west and upslope of the Site boundary.

### Conclusions

- 5.3.9 Extensive evaluation of Quaternary deposits across the outfall pipeline Option 2 has demonstrated that the deposits have low archaeological potential. However, the work has demonstrated that a complex series of sediments reflecting multiple periods of deposition are present, and that these deposits in the wider area may have potential to contain significant prehistoric archaeology.

## 5.4 Palaeoenvironmental potential

- 5.4.1 The palaeoenvironmental potential of all Quaternary deposits was assessed. The palaeoenvironmental potential of the deposits encountered in the evaluation area is generally low; however, a possibly organic clay (?Organic Clay) was identified at the base of the Lower Clay in TP102 and TP120. This clay has the potential to preserve micro-palaeontology, plant macrofossil and pollen that reflect local environmental conditions. Due to the depth of unit below ground level (2.50m), this deposit was only suitable for bulk sampling. A single bulk sample was taken, suitable for subsampling and assessing the palaeoenvironmental potential of the deposit (**Table 3**).

**Table 3** Samples retained for paleoenvironmental assessment

Sample	Intervention	Context number	Stratigraphic context	Lithology	Depth (m bgl)	Sample size (litres)
28	TP102	(10205)	?Organic clay	Dark blackish green fine sandy clay	2.50	40

## 5.5 Dating potential

- 5.5.1 The evaluation has demonstrated the stratigraphic relationships between a complex series of previously unrecognised Quaternary deposit. The specific age of these deposits is imperfectly understood, however.

**Table 4** Samples retained for OSL dating

Sample	Intervention	Context number	Stratigraphic context	Lithology	Depth (m bgl)
15	TP117	(11704)	Upper Sand	Light greyish yellow fine to medium sand.	1.60
16	TP117	(11703)	Upper Sand	Mid-light yellowish grey medium sand	1.30
17	TP117	(11702)	Upper Sand	Light reddish yellow fine to medium sand.	0.90
18	TP117	(11702)	Upper Sand	Light reddish yellow fine to medium sand.	0.70
19	TP102	(10205)	?Organic Clay	Dark blackish green fine sandy clay	2.50



5.5.2 Units within the Quaternary sequence in the evaluation area have high potential for OSL dating. Five OSL samples were taken in stratigraphic succession from selected contexts throughout the safely accessible sequence (**Table 4**)

## 6 DISCUSSION

6.1.1 The evaluation has established that a complex sequence of Quaternary deposits consisting of finer and coarser grained alluvial deposits are present across the footprint of the proposed outfall pipeline Option 2. Although the full depth of the Quaternary stratigraphy was not established during the evaluation, the following depositional phases can be distinguished:

- Phase 1 – relatively high energy fluvial deposition (Lower Sand and Gravelly Sand).
- Phase 2 – alluvial clays with laminated deposits (Lower Clay and ?Organic Clay), potentially in-filling a channel cut into the Lower Sand. These deposits are in turn overlain by mottled structureless sands (Upper Sand).
- Phase 3 – alluvial clays associated with current floodplain of the River Wey (Upper Clay).

6.1.2 These three phases reflect changing alluvial depositional, and potentially climatic conditions, associated with the River Wey. Initial interpretation based on available lithological information is as follows:

- Phase 1 (Lower Sand and Gravelly Sand) – high energy braided river system with sand and gravel banks and bars.
- Phase 2 (Lower Clay, ?Organic Clay, Upper Sand) – infilling and of hollows and cut-off channels and a shift towards anatomising channel patterns .
- Phase 3 (Upper Clay)– stable channels associated with current flood plain.

6.1.3 Climatically, this sequence is suggestive of a general transition from cool/cold open environments (Phase 1) to more temperate conditions (Phase 3).

6.1.4 Although the age of these deposits is currently unknown, the broad stratigraphic position of the deposits within the terrace sequence of the River Wey may suggest that the sequence dates to the late Pleistocene through the Holocene. The Phase 1 deposits would be consistent with high energy fluvial deposition during the during the main late Devensian cold stage (15-28 Kya), with the subsequent Phase 2 units reflecting late Pleistocene and/or earlier Holocene deposition. The stratigraphic context of the Phase 1 deposits in relation to the current course of the River Wey suggests that the Phase 3 sediments can be attributed to the later Holocene.

6.1.5 The deposits at the outfall pipeline Option 2 site can be tentatively correlated to previous phases of evaluation in the wider area carried out at proposed transfer tunnel shaft locations associated with the wider development (WA 2021a; 2021b). This is summarised in **Table 5**.

**Table 5** Tentative correlations between sequences identified during phase of evaluation in advance of proposed new Guildford Sewage Treatment Works (STW)

Outfall	Shaft E8 (WA 2021a)	Shafts E4 and E6 (WA 2021b)	Mode of deposition	Possible chronology
Modern Soil Profile	Made Ground	Made Ground		Recent
		Sands and Clays	Alluvial	
Upper Clay			Alluvial	Holocene
		Sands and Silts	?Colluvial/alluvial	?Holocene
Upper Sand	Upper Silty Sands		Alluvial	?Earlier
Lower Clay	Lower Sands/Clays			Holocene/late
?Organic Clay	Organic Silty Clays			Pleistocene
Gravelly Sand	Lower Sands and Gravel		Alluvial/fluvial	Later Pleistocene (?28–15 Kya)
Lower Sand				
	Upper Sands and Gravel*	Sands and Gravels*	Alluvial/fluvial	Pleistocene (?160–25 Kya)
	London Clay	London Clay		Palaeogene

\* deposits recorded in GI

- 6.1.6 Establishing a firm chronology for the sequences of Quaternary deposits requires scientific dating, which is currently lacking. However, the combined results of different phases of evaluation demonstrate a complex series of Quaternary deposits are present across the wider Slyfield area which includes Holocene alluvial deposits, possible colluvial deposits (likely to include units of Holocene and/or Pleistocene dates) and late Pleistocene/earlier Holocene finer and coarse grained alluvial sequences. In addition, an earlier suite of Pleistocene river terrace deposits of the River Wey (with a basal height of approximately 27–29m OD) are recorded in GI data upslope of the areas evaluated.
- 6.1.7 Previous archaeological investigations focussed on the Quaternary sequences beneath and flanking the current floodplain of the River Wey has demonstrated that lithologically similar alluvial sand units to those present at the outfall pipeline Option 2 site have produced significant prehistoric archaeology of multiple dates. Most notable are Late Glacial Interstadial (c. 15-14 Kya) sediments at the Guildford Fire Station site containing in situ late Upper Palaeolithic archaeology (OA 2016, Barton et al. 2020) and extensive Mesolithic settlement activity at Woodbridge Road (Bishop 2008).
- 6.1.8 The results of the current investigation are significant for more broadly contextualising this archaeology and for considering archaeological potential of sandy alluvial deposits of the River Wey. As the current study demonstrates, the late Pleistocene and Holocene sequences of the River Wey are complex and contain multiple phases of ‘sandy alluvial’ deposits. Combining this observation with fact that lithologically similar deposits have produced archaeology of multiple periods demonstrates that sediment lithology alone cannot be used as an accurate indicator of date, and that detailed consideration of the Quaternary stratigraphy at individual locations in the Wey Valley is required when considering specific archaeological potential.
- 6.1.9 These investigations have successfully evaluated through closely spaced interventions the upper 2.50-3.00m of Quaternary deposits along the outfall pipeline Option 2 route and has demonstrated that, although deposits which could contain significant Mesolithic and later



Palaeolithic archaeology are present, these specific deposits in this location have low archaeological potential. A small number of residual lithic artefacts were recovered from the modern soil profile, which include typo-technologically diagnostic Mesolithic/early Neolithic material that is in fresh condition. This material indicates in the wider area (potentially upslope of the outfall Option 2 route) original contexts that preserve such material may be present.

- 6.1.10 The palaeoenvironmental potential of the Quaternary deposits encountered in the evaluation is generally low; however, a possibly organic clay (?Organic Clay) was identified that may have palaeoenvironment potential to contain material to reconstruct environments associated with Late Upper Palaeolithic and/or Mesolithic activity in the wider area . A single bulk sample was taken that is suitable for assessing the palaeoenvironmental potential of the deposit.
- 6.1.11 Quaternary deposits with OSL dating potential were noted and sampled from. Establishing a firmer chronology for these deposits is of central importance for placing the deposits within the Site, and those containing Upper Palaeolithic and Mesolithic archaeology in the wider area, within a securer context, as well as for establishing the age of the potential organic deposits with possible paleoenvironmental potential that have been identified and sampled during the evaluation.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 Conclusions**

- 7.1.1 The evaluation has successfully demonstrated the Quaternary deposits are present within the proposed footprint of outflow pipeline Option 2 route. These deposits consist of a complex sequence of higher and lower energy alluvial deposits, likely reflecting climatic, environmental and landscape change from the later Pleistocene through the Holocene. The geological sequences can be tentatively related to previous phases of evaluation in the wider area at proposed transfer tunnel shaft locations.
- 7.1.2 To assess the potential of the Quaternary deposits to preserve significant archaeology, closely spaced trial trenches and test pits were successfully excavated to a depth of 2.50-3.00m bgl. No archaeological features were identified, and artefacts were only recovered from the modern soil profile. The results demonstrate that, whilst deposits are present which may be equivalent to those that in the wider area which have produced significant late Upper Palaeolithic (OA 2016, Barton et al. 2020) and Mesolithic (Bishop 2008) archaeology, these specific deposits beneath the footprint of outflow pipeline Option 2 route have low archaeological potential.
- 7.1.3 The paleoenvironmental potential of the Quaternary deposits in the evaluation area was generally low. However, a possibly organic clay (?Organic Clay) was identified that may have palaeoenvironment potential. These clays could contain evidence which would add to the broad landscape context of the late Upper Palaeolithic and/or Mesolithic archaeology from the area (Bishop 2008, OA 2016, Barton et al. 2020).
- 7.1.4 The deposits include units with OSL dating potential; there were and sampled. Dating these deposits is a key priority in order to establish a firm chronology for them. OSL dating will also allow the ?Organic Clay with possible paleoenvironmental potential to be dated.





## 7.2 Recommendations

- 7.2.1 The results of the evaluation demonstrate that the specific archaeological potential of Quaternary deposits to a depth of 3m below outflow pipe Option 2 route is low, and that no further archaeological fieldwork is likely to be required.
- 7.2.2 Deposits with possible paleoenvironmental potential were identified and a single bulk sample taken. These sediments may have potential to contain material suitable for reconstructing environments associated with Late Upper Palaeolithic and/or Mesolithic activity in the wider area. To establish whether material with significant potential suitable for analysis is present, it is recommended that the sample is subsampled and assessed (micro-palaeontology, molluscs, plant macrofossil and pollen) and reported on. Due to the depth at which the sampled deposits are located, if significant geoarchaeological potential is identified, targeted geoarchaeological sampling may be required to recover stratified samples suitable for analysis (i.e. through a borehole).
- 7.2.3 Samples suitable for OSL dating were taken during evaluation. It is recommended that three samples are processed to establish the chronology for the deposits

## 8 ARCHIVE STORAGE AND CURATION

### 8.1 Museum

- 8.1.1 The archive resulting from the evaluation is currently held at the offices of Wessex Archaeology in Salisbury. Elmbridge Museum has agreed in principle to accept the archive on completion of the project, under the site code **237163**.

### 8.2 Preparation of the archive

#### *Physical archive*

- 8.2.1 The archive, which includes paper records, graphics, artefacts and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material in general following nationally recommended guidelines (SMA 1995; ClfA 2014c; Brown 2011).
- 8.2.2 All archive elements are marked with the **site code**, and a full index will be prepared. The physical archive currently comprises the following:
- 1 cardboard box or airtight plastic boxes of artefacts and ecofacts, ordered by material type
  - 1 files/document cases of paper records

#### *Digital archive*

- 8.2.3 The digital archive generated by the project, which comprises born-digital data (eg site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata.

#### *Finds archive*

- 8.2.4 The finds (artefacts and ecofacts) will be prepared following the standard conditions for the acceptance of excavated archaeological material in general following nationally recommended guidelines (SMA 1995; ClfA 2014c; Brown 2011).

8.2.5 All archive elements will be marked with the site code, and a full index will be prepared. The finds archive currently comprises the following:

- 1 cardboard box or airtight plastic boxes of artefacts, ordered by material type

*Documentary archive*

8.2.6 The physical archive currently includes paper records (site registers only), graphics and artefacts. Born digital data include site records, finds and environmental data, photographs, survey data and reports. Physical and digital records will be prepared following the standard conditions for the acceptance of excavated archaeological material by Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) and in general following nationally recommended guidelines (SMA 1995; ClfA 2014c; Brown 2011).

### **8.3 Selection strategy**

8.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, ie the retained archive should fulfil the requirements of both future researchers and the receiving Museum.

8.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy) and follows ClfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

8.3.3 In this instance, given the relatively low level of finds recovery, the selection process has been deferred until after the fieldwork stage was completed. Project-specific proposals for selection are presented below. These proposals are based on recommendations by Wessex Archaeology's internal specialists and will be updated in line with any further comment by other stakeholders (museum, local authority). The selection strategy will be fully documented in the project archive.

8.3.4 Any material not selected for retention may be used for teaching or reference collections by Wessex Archaeology.

*Finds*

8.3.5 The finds assemblage is very small and has limited or no potential for further analysis. No retention is proposed for the finds of post-medieval and modern date (all are well-documented types and there are none of intrinsic interest). The prehistoric lithics should be retained in the first instance and reconsidered in light of any further work at the site.

*Palaeoenvironmental material*

8.3.6 Deposits with possible palaeoenvironmental potential were identified during the evaluation and one bulk sample was taken. In accordance with the WSI (WA 2021), recommendations for their processing have been made (see section 7.2), and the samples retained.



- 8.3.7 Deposits with OSL dating potential were identified during the evaluation and five samples were taken. In accordance with the WSI (WA 2021), recommendations for their processing have been made (see section 7.2), and the samples retained.

*Documentary records*

- 8.3.8 Paper records comprise site registers (other pro-forma site records are digital), drawings and reports (Written Scheme of Investigation, client report). All will be retained and deposited with the project archive.

*Digital data*

- 8.3.9 The digital data comprise site records (tablet-recorded on site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although site photographs will be subject to selection to eliminate poor quality and duplicated images, and any others not considered directly relevant to the archaeology of the site.
- 8.3.10 Wessex Archaeology follows national guidelines on selection and retention (SMA 1993; Brown 2011, section 4). In accordance with these, and any specific guidance prepared by the museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum and is fully documented in the project archive.

## **8.4 Security copy**

- 8.4.1 In line with current best practice (eg, Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

## **8.5 OASIS**

- 8.5.1 An OASIS (online access to the index of archaeological investigations) record (<http://oasis.ac.uk>) has been initiated, with key fields completed (Appendix 3). A .pdf version of the final report will be submitted following approval by the Principal Archaeologist for Berkshire Archaeology on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

## **9 COPYRIGHT**

### **9.1 Archive and report copyright**

- 9.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*. In some instances, certain regional museums may require absolute transfer of copyright, rather than a licence; this should be dealt with on a case-by-case basis.



9.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

## **9.2 Third party data copyright**

9.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (eg, Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material.



## REFERENCES

- Archaeology South-East 2020 *A Geoarchaeological and Archaeological Watching Brief at the Slyfield Area Regeneration Project* – Report and Updated Project Design.
- ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service and Digital Antiquity Guides to Good Practice
- British Geological Survey online viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 2021)
- Barton N, Roberts A, Donnelly M, Thomasso S, Rots V, Stafford E and Thacker G 2020 *Guildford Fire Station: excavation of a Late Upper Palaeolithic campsite in the valley of the River Wey, Surrey*. Oxford Archaeology
- Bishop, B.J., 2008. A microlithic industry from Woodbridge Road, Guildford. *Surrey Archaeological Collections*, 94, pp.125-157.
- Brown, D H 2011 *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (revised edition). Archaeological Archives Forum
- CIfA 2014a *Standard and Guidance for Archaeological Field Evaluation*. Reading, Chartered Institute for Archaeologists
- CIfA 2014b *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading, Chartered Institute for Archaeologists
- English Heritage 2011 *Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation*. Swindon, Centre for Archaeology Guidelines
- Historic England 2015 *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. Swindon, Historic England
- Oxford Archaeology 2016. *Guildford Fire Station Guildford, Surrey. Post-excavation Assessment and Updated Project Design*. Unpublished client report. Report ref. 5577
- Orion 2020 Slyfield Area Regeneration Project (SARP) Heritage Baseline Assessment. [https://www.guildfordsociety.org.uk/2020-7-Weyside-EIA-SCOPING-REQUEST-AND-REPORT-1404252\\_-1.pdf](https://www.guildfordsociety.org.uk/2020-7-Weyside-EIA-SCOPING-REQUEST-AND-REPORT-1404252_-1.pdf) (accessed 25/09/2020)
- SMA 1993 *Selection, Retention and Dispersal of Archaeological Collections*. Society of Museum Archaeologists
- SMA 1995 *Towards an Accessible Archaeological Archive*. Society of Museum Archaeologists
- Wessex Archaeology 2020. *Guildford Sewage Treatment Works (STW) Relocation Geoarchaeological monitoring of GI works and deposit modelling*. Unpublished client report. Report ref. 237160.1
- Wessex Archaeology 2021a *Guildford Sewage Treatment Works Relocation Transfer Tunnel Shaft 8 Stage 2 Archaeological and Geoarchaeological Borehole Survey*. Unpublished client report. Report ref. 237162.3



Wessex Archaeology 2021b *Guildford Sewage Treatment Works Relocation Transfer Tunnel Shaft 8 Stage 2 Archaeological and Ge archaeological Borehole Survey*. Unpublished client report. Report ref. 237162.4

Wessex Archaeology 2021c *Guildford Sewage Treatment Works Relocation Written Scheme of Investigation for Palaeolithic Evaluation – Outfall pipeline*. Unpublished client report. Report ref. 237163.1





## APPENDICES

### Appendix 1 Trench Tables

The stratigraphic succession encountered in each trial trench are outlined below. Heights are given in metres below ground level (bgl).

Trench No 1		Length 20.00 m	Width 1.80 m	Depth 1.20 m
Easting 500506.03		Northing 152638.969		m OD 28.46
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
101		Topsoil	Dark greyish brown silty medium sand. <1% fine to coarse angular, sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated. Heavily rooted.	0.00–0.40
102		Subsoil	Dark reddish brown silty medium sand. 1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.	0.40–0.90
103		Upper Sand; alluvial	Light greyish yellow medium sand. 1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. poorly consolidated.	0.90–1.20+

Trench No 2		Length 21.00 m	Width 1.80 m	Depth 0.90 m
Easting 500499.302		Northing 152683.765		m OD 27.30
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
201		Topsoil	Dark greyish brown silty medium sand. 1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.	0–0.35
202		Subsoil	Dark reddish brown silty medium sand. 1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.	0.35–0.60
203		Upper Sand; alluvial	Light greyish yellow medium sand. 1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.	0.60–0.90+



Trench No 3		Length 14.00 m	Width 1.80 m	Depth 1.20 m
Easting 500499.036		Northing 152684.511		m OD 27.42
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
301		Topsoil	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless.	0.00–0.40
302		Subsoil	Dark reddish-brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless.	0.40–0.60
303		Upper Sand; alluvial	Light greyish yellow medium sand with occasional FE mottling. No visible clasts. No visible structure.	0.60-1.00+

Trench No 4		Length 19.00 m	Width 1.80 m	Depth 1.00 m
Easting 500509.454		Northing 152714.01		m OD 26.81
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
401		Topsoil	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.	0.00–0.30
402		Subsoil	Mid greyish brown and reddish brown mottled silty medium sand. No visible clasts. Structureless. Poorly consolidated.	0.30–0.60
403		Upper Sand; alluvial	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure.	0.60–1.00+



Trench No 5		Length 18.00 m	Width 1.80 m	Depth 1.10 m
Easting 500542.149		Northing 152740.533		m OD 26.36
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
501		Topsoil	Dark greyish brown silty medium sand. 1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.	0.00–0.20
502		Subsoil	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.	0.20–0.60
503		Upper Sand; alluvial	Light greyish green medium sand. 1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.	0.60–1.10+

Trench No 6		Length 20.00 m	Width 1.80 m	Depth 1.20 m
Easting 500573.413		Northing 152765.509		m OD 26.24
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
601		Topsoil	Dark greyish brown silty clay loam. No visible clasts. Structureless. Poorly consolidated.	0.00–0.30
602		Upper Clay; alluvial	Dark greyish brown and bluish grey mottled silty clay. Common manganese flecks. No visible clasts. Structureless. Well consolidated.	0.30–0.70
603		Upper Clay; alluvial	Light greenish blue silty clay. Occasional manganese flecks. No visible structure. Well consolidated.	0.70–1.20+

Trench No 7		Length 20 m	Width 1.80 m	Depth 1.00 m
Easting 500501.74		Northing 152630.682		m OD 28.59
Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
701		Top soil	Dark greyish brown silty fine to medium sand. 1% fine to coarse sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.	0.00–0.40
702		Upper Sand; alluvial	Light reddish yellow fine to medium sand with yellowish red mottling. No visible clasts. Structureless. Poorly consolidated	0.40–1.00+



## Appendix 2 Test Pit Tables

The stratigraphic succession encountered in each test pit are outlined below. Heights are given in metres below ground level (bgl) and in metres above OD (m aOD).

Site Code: 237163		Site Name: Guildford STW Outfall		Test Pit ID: TP101	
Coordinates (NGR) X: 500498.97		Coordinates (NGR) Y: 152627.46		Level (top): 28.61	
Length: 3.00 m		Width: 1.80 m		Depth: 2.70 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
10101	Dark greyish brown silty fine to medium sand. <1% fine to coarse sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	28.61-28.21	
10102	Light reddish yellow fine to medium sand. With yellowish red mottling. No visible clasts. Structureless. Poorly consolidated. Iron pan/illuviation at base of deposit.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.40-1.00	28.21-27.61	19
10103	Mid-light yellowish grey medium sand. No visible clasts. Coarsely laminated. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.00-1.60	27.61-27.01	20, 21
10104	Light greyish yellow fine to medium sand. No visible clasts. Structureless. Well consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.60-1.70	27.01-26.91	
10105	Light bluish grey and reddish brown mottled fine sandy clay. Occasional iron pan. No visible clasts. Structureless. Well consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	1.70-2.00	26.91-26.61	22
10106	Mid-light greyish brown fine to medium sand. No visible clasts. No visible structure. Poorly consolidated.	Lower Clay; alluvial	2.00-2.50+	26.61-26.11+	23, 24



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP102	
Coordinates (NGR) X: 500505.58		Coordinates (NGR) Y: 152639.47		Level (top): 28.42	
Length: 3.00 m		Width: 1.80 m		Depth: 2.60 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
10201	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	28.42-28.02	
10202	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.80	28.02-27.62	
10203	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure. Poorly consolidated,  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	0.80-1.10	27.62-27.32	24
10204	Mid-light brownish red and greenish blue laminated medium sandy clay. No visible clasts. Horizontally bedded with mid greyish brown medium sand. No visible clast.  <b>Sharp sub-horizontal contact</b>	Lower Clay; alluvial	1.10-2.30	27.32-26.12	25, 26
10205	Dark blackish green fine sandy clay. No visible clasts. No visible structure. Horizontally laminated with a greyish green clayey medium sand (Machine recovered) organic smell. Moderately consolidated.	?Organic Clay; alluvial	2.30-2.60+	26.12-25.82+	27, 28, 29



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP103	
<b>Coordinates (NGR) X:</b> 500502.98		<b>Coordinates (NGR) Y:</b> 152661.4		<b>Level (top):</b> 27.33	
<b>Length:</b> 3.00 m		<b>Width:</b> 2.00 m		<b>Depth:</b> 2.50 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10301	Dark greyish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Topsoil	0.00-0.30	27.33-27.03	
10302	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Subsoil	0.30-0.50	27.03-26.83	
10303	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	0.50-1.30	26.83-26.03	12, 13
10304	Mid brownish red clayey medium to coarse sand. No visible clasts. Possible laminations (machine recovery). Poorly consolidated.	Lower Clay; alluvial	1.30-2.50+	26.03-24.83+	14



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP104	
<b>Coordinates (NGR) X:</b> 500499.6		<b>Coordinates (NGR) Y:</b> 152680.49		<b>Level (top):</b> 27.42	
<b>Length:</b> 2.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.50 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10401	Dark greyish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Topsoil	0.00-0.30	27.42-27.12	
10402	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Subsoil	0.30-0.50	27.12-26.92	
10403	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.  <b>Diffuse undulating contact</b>	Upper Sand; alluvial	0.50-0.90	26.92-26.52	1
10404	Mid reddish brown fine to medium sand with occasional fine sandy clay pockets. No visible clasts. Structureless. Poorly consolidated  <b>Abrupt sub-horizontal contact</b>	Upper Sand; alluvial	0.90-2.00	26.52-25.42	2, 3, 4
10405	Light greenish brown medium sandy clay. No visible clasts. Structureless. Moderately consolidated.	Lower Clay; alluvial	2.00-2.50+	25.42-24.92+	5





<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP105	
<b>Coordinates (NGR) X:</b> 500496.63		<b>Coordinates (NGR) Y:</b> 152697.53		<b>Level (top):</b> 27.06	
<b>Length:</b> 3.50 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.30 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10501	Dark greyish brown silty medium sand, <1% fine to coarse angular and sub-angular flint clasts, poorly sorted, structureless, poorly consolidated  <b>Sharp undulating contact</b>	Topsoil	0.00-0.40	27.06-26.66	
10502	Mid brownish grey and reddish brown mottled medium sand, no visible clasts, structureless, poorly consolidated  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.60	26.66-26.46	
10503	Light reddish grey medium sand, occasional Fe concretions, <1% fine sub rounded flint clasts, poorly sorted. structureless, poorly consolidated	Upper Sand; alluvial	0.60-2.30+	26.46-24.76+	48, 49, 50



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP106	
<b>Coordinates (NGR) X:</b> 500499.806		<b>Coordinates (NGR) Y:</b> 152704.612		<b>Level (top):</b> 27.17	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.30 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10601	Dark greyish brown silty medium sand, <1% fine to coarse angular and sub-angular flint clasts, poorly sorted, structureless, poorly consolidated  <b>Sharp undulating contact</b>	Topsoil	0.00-0.30	27.17-26.87	
10602	Mid brownish grey and reddish brown mottled medium sand, no visible clasts, structureless, poorly consolidated  <b>Abrupt undulating contact</b>	Subsoil	0.30-0.60	26.87-26.57	
10603	Light reddish grey medium sand, occasional Fe concretions, <1% fine sub rounded flint clasts, poorly sorted. structureless, poorly consolidated  <b>Abrupt sub-horizontal contact</b>	Upper Sand; alluvial	0.60-2.20	26.57-24.97	51, 52, 53, 54
10604	Fine to coarse sub-angular to angular flint gravels in a reddish brown coarse sand matrix, clast supported, poorly consolidated, no visible structure	Gravelly Sand	2.20-2.30+	24.97-24.87+	



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP107	
<b>Coordinates (NGR) X:</b> 500513.50		<b>Coordinates (NGR) Y:</b> 152718.22		<b>Level (top):</b> 26.80	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 1.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10701	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.30	26.80-26.50	
10702	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.30-0.60	26.50-26.20	
10703	Light reddish yellow medium sand with Fe concretions. No visible clasts. Structureless. Poorly consolidated.	Upper Sand; alluvial	0.60-1.40+	26.20-25.40+	



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP108	
<b>Coordinates (NGR) X:</b> 500528.37		<b>Coordinates (NGR) Y:</b> 152729.24		<b>Level (top):</b> 26.54	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.20 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10801	Dark greyish brown fine sandy clay. <1% fine to coarse sub-angular and angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.20	26.54-26.34	
10802	Mid brownish grey and reddish brown mottled fine sandy clay. No visible clasts. Structureless. Poorly consolidated.  <b>Sharp sub-horizontal contact</b>	Subsoil	0.20-0.40	26.34-26.14	
10803	Light reddish yellow and bluish grey mottled medium sand. No visible clasts. No visible structure. Poorly consolidated.  <b>Abrupt sub-horizontal contact</b>	Upper Sand; alluvial	0.40-0.80	26.14-25.74	73
10804	Light greyish green medium sand. No visible clasts. No visible structure. Poorly consolidated. Light greyish green medium sand. No visible clasts. No visible structure. Poorly consolidated.  <b>Abrupt undulating contact</b>	Upper Sand; alluvial	0.80-1.70	25.74-24.84	74,75
10805	Light greenish grey gravelly coarse sand. <10% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. Possibly bedded with above deposit. Poorly consolidated.	Gravelly Sand	1.70-2.20+	24.84-24.34+	76



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP109	
<b>Coordinates (NGR) X:</b> 500548.99		<b>Coordinates (NGR) Y:</b> 152745.49		<b>Level (top):</b> 26.38	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.20 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
10901	Dark greyish brown silty clay loam. No visible clasts. Structureless. Poorly consolidated.  <b>Sharp undulating contact</b>	Topsoil	0.00-0.60	26.38-25.78	
10902	Mid-light reddish brown silty clay. No visible clasts. No visible structure. Becoming sandier with depth. Occasional rooting. Well consolidated.  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	0.60-1.00	25.78-25.38	
10903	Light greyish blue silty clay. No visible clasts. No visible structure. Well consolidated  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	1.00-1.70	25.38-24.68	88, 89
10904	Mid greyish brown gravelly coarse sand. <10% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure. Poorly consolidated.	Gravelly Sand	1.70-2.20+	24.68-24.18+	90



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP110	
<b>Coordinates (NGR) X:</b> 500556.14		<b>Coordinates (NGR) Y:</b> 152753.02		<b>Level (top):</b> 26.34	
<b>Length:</b> 2.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.00 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
11001	Dark greyish brown silty clay loam. No visible clasts. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.20	26.34-26.14	
11002	Light greyish brown and reddish brown mottled silty clay. No visible clasts. Structureless. Well consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.20-0.70	26.14-25.64	
11003	Light greenish blue silty clay. Occasional manganese flecks. No visible structure. Well consolidated.  <b>Sharp sub-horizontal contact</b>	Upper Clay; alluvial	0.70-1.10	25.64-25.24	
11004	Light greenish blue coarse gravelly sandy clay. <5% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly consolidated  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	1.10-1.60	25.24-24.74	91
11005	Mid greenish grey gravelly coarse sand. <10% fine to coarse (5-100mm) angular, sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possible bedding (poor recovery). Poorly consolidated	Gravelly Sand	1.60-2.00+	24.74-24.34+	92



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP111	
Coordinates (NGR) X: 500580.79		Coordinates (NGR) Y: 152770.35		Level (top): 26.36	
Length: 3.00 m		Width: 1.80 m		Depth: 2.20 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
11101	Dark greyish brown silty clay. <1% fine to coarse sub-angular and angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp undulating contact</b>	Topsoil	0.00-0.30	26.36-26.06	
11102	Mid yellowish brown silty clay with bluish grey mottling. Occasional manganese flecks. No visible clasts. Structureless. Well consolidated  <b>Sharp undulating contact</b>	Upper Clay; alluvial	0.30-1.00	26.06-25.36	
11103	Light greenish blue coarse sandy silty clay. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure. Well consolidated  <b>Sharp sub-horizontal contact</b>	Upper Clay; alluvial	1.00-1.60	25.36-24.76	
11104	Mid bluish brown clayey gravelly coarse sand. 20% fine to coarse (5-100mm) sub-angular and sub-rounded flint clasts. Occasional decayed rooting. Moderately sorted. No visible structure. Poorly consolidated.  <b>Sharp sub-horizontal contact</b>	Gravelly Sand	1.60-2.00	24.76-24.36	99
11105	Mid-light brownish red gravelly coarse sand. <30% fine to coarse sub-angular and sub-rounded flint clasts. No visible structure. Moderately consolidated.	Gravelly Sand	2.00-2.20+	24.36-24.16+	100





<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP112	
<b>Coordinates (NGR) X:</b> 500503.06		<b>Coordinates (NGR) Y:</b> 152663.47		<b>Level (top):</b> 26.81	
<b>Length:</b> 1.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 0.90 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
11201	Dark greyish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Topsoil	0.00-0.30	26.81-26.51	
11202	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Subsoil	0.30-0.50	26.51-26.31	
11203	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.	Upper Sand; alluvial	0.50-0.90+	26.31-25.91+	



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP113	
<b>Coordinates (NGR) X:</b> 500502.92		<b>Coordinates (NGR) Y:</b> 152669.01		<b>Level (top):</b> 26.84	
<b>Length:</b> 1.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 0.90 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
11301	Dark greyish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Topsoil	0.00-0.30	26.84-26.54	
11302	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Subsoil	0.30-0.40	26.54-26.44	
11303	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.	Upper Sand; alluvial	0.40-0.90+	26.44-25.94+	



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP114	
Coordinates (NGR) X: 500503.09		Coordinates (NGR) Y: 152671.3		Level (top): 27.57	
Length: 2.00 m		Width: 1.80 m		Depth: 3.00 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
11401	Dark greyish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Topsoil	0.00-0.30	27.57-27.27	
11402	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Diffuse horizontal contact</b>	Subsoil	0.30-0.50	27.27-27.07	
11403	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.  <b>Abrupt sub-horizontal contact</b>	Upper Sand; alluvial	0.50-1.20	27.07-26.37	6
11404	Mid reddish brown fine to medium sand with occasional fine sandy clay pockets. No visible clasts. Structureless. Becoming more clayey with depth. Interface has iron concentration through water leaching. Poorly consolidated  <b>Abrupt sub-horizontal contact</b>	?Lower Clay; alluvial	1.20-2.50	26.37-25.07	7, 8, 9
11405	Light greenish grey to greenish yellow medium sand, occasional silty clay lenses. <1% sub-rounded and sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.	?Lower Clay; alluvial	2.50-3.00+	25.07-24.57+	10,11



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP115	
<b>Coordinates (NGR) X:</b> 500490.79		<b>Coordinates (NGR) Y:</b> 152616.59		<b>Level (top):</b> 27.32	
<b>Length:</b> 1.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 1.62 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
11501	Dark greyish brown medium sandy silt. <1% clasts of sub rounded poorly sorted gravel. Fairly diffuse boundary with (11502). Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.36	27.32-26.96	
11502	Light reddish yellow fine to medium sand. With yellowish red mottling. No visible clasts. Structureless. Poorly consolidated  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.36-1.30	26.96-26.02	
11503	Mid reddish yellow fine to medium sand with yellowish red mottling. No visible clasts. Structureless. Well consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	1.30-1.42	26.02-25.90	
11504	Mid reddish brown medium sand with pockets of greyish white fine sandy clay. No visible clasts. Structureless. Well consolidated.	Upper Sand; alluvial	1.42-1.62+	25.90-25.70+	



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP116	
<b>Coordinates (NGR) X:</b> 500493.95		<b>Coordinates (NGR) Y:</b> 152620.51		<b>Level (top):</b> 27.34	
<b>Length:</b> 1.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 1.70 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
11601	Dark greyish brown silty fine to medium sand. <1% fine to coarse sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.50	27.34-26.84	
11602	Light reddish yellow fine to medium sand. With yellowish red mottling. No visible clasts. Structureless. Poorly consolidated iron pan/illuviation at base of deposit.  <b>Abrupt horizontal contact</b>	Subsoil	0.50-0.90	26.84-26.44	
11603	Mid-light yellowish grey medium sand. No visible clasts. Coarsely laminated. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.90-1.40	26.44-25.94	
11604	Light greyish yellow fine to medium sand. No visible clasts. Structureless. Well consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	1.40-1.60	25.94-25.74	
11605	Light bluish grey and reddish brown mottled fine sandy clay. Occasional iron pan. No visible clasts. Structureless. Well consolidated.	Lower Clay; alluvial	1.60-1.70+	25.74-25.64+	



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP117	
Coordinates (NGR) X: 500497.18		Coordinates (NGR) Y: 152624.21		Level (top): 27.24	
Length: 1.00 m		Width: 1.00 m		Depth: 1.70 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
11701	Dark greyish brown silty fine to medium sand. <1% fine to coarse sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	27.24-26.84	
11702	Light reddish yellow fine to medium sand. With yellowish red mottling. No visible clasts. Structureless. Poorly consolidated. Iron pan/illuviation at base of deposit.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.40-1.00	26.84-26.24	18, 17
11703	Mid-light yellowish grey medium sand. No visible clasts. Coarsely laminated. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.00-1.56	26.24-25.68	16
11704	Light greyish yellow fine to medium sand. No visible clasts. Structureless. Well consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	1.56-1.66	25.68-25.58	15
11705	Light bluish grey and reddish brown mottled fine sandy clay. Occasional iron pan. No visible clasts. Structureless. Well consolidated.	Lower Clay; alluvial	1.66-1.70+	25.58-25.54+	



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP118	
Coordinates (NGR) X: 500488.77		Coordinates (NGR) Y: 152614.2		Level (top): 27.92	
Length: 1.00 m		Width: 1.00 m		Depth: 1.53 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
11801	Dark greyish brown silty fine to medium sand. <1% fine to coarse sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.42	27.92-27.50	
11802	Light reddish yellow fine to medium sand. With yellowish red mottling. No visible clasts. Structureless. Poorly consolidated. Iron pan/illuviation at base of deposit.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.42-1.10	27.50-26.82	
11803	Mid-light yellowish grey medium sand. No visible clasts. Coarsely laminated. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.10-1.23	26.82-26.69	
11804	Mid reddish brown medium sand. No visible clasts. Structureless. Well consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.23-1.40	26.69-26.52	
11805	Bluish grey fine sandy clay with brownish red mottling. No visible clasts. Structureless. Well consolidated.	Lower Clay; alluvial	1.40-1.53	26.52-26.39+	





<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP119	
<b>Coordinates (NGR) X:</b> 500506.05		<b>Coordinates (NGR) Y:</b> 152643.77		<b>Level (top):</b> 27.00	
<b>Length:</b> 1.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 1.36 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
111901	Topsoil. Dark greyish brown silty medium sand. <1% fine to coarse angular, sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated. Heavily rooted.  <b>Diffuse undulating contact</b>	Topsoil	0.00-0.40	27.00-26.60	
11902	Dark reddish brown silty medium sand. <1% fine to coarse angular flint clasts poorly sorted. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.90	26.60-26.10	
11903	Light greyish yellow medium sand. <1% fine to coarse rounded sandstone. Occasional manganese flecks. Structureless. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.90-1.20	26.10-25.80	
11904	Mid brownish yellow fine to medium sand with mottled greyish yellow sand. Common Mg flecks. Well consolidated. Structureless.	Upper Sand; alluvial	1.20-1.36+	25.80-24.64+	



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP120	
<b>Coordinates (NGR) X:</b> 500505.11		<b>Coordinates (NGR) Y:</b> 152643.61		<b>Level (top):</b> 28.36	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 3.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12001	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	28.36-27.96	
12002	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.80	27.96-27.56	
12003	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure. Poorly consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	0.80-1.30	27.56-27.06	
12004	Mid-light brownish red and greenish blue laminated medium sandy clay. No visible clasts. Horizontally bedded with mid greyish brown medium sand. No visible clast.  <b>Sharp sub-horizontal contact</b>	Lower Clay; alluvial	1.30-2.40	27.06-25.96	30, 31, 32
12005	Dark blackish green fine sandy clay. No visible clasts. No visible structure. Horizontally laminated with a greyish green clayey medium sand (Machine recovered) organic smell. Moderately consolidated.  <b>Contact not seen</b>	Lower Clay; alluvial	2.40-3.30	25.96-25.06	33, 34, 35
12006	Mid greyish green gravelly clayey medium to coarse sand <20% fine to coarse. (5-60mm) angular sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure. Poorly consolidated. Poor recovery.	?Lower Sand; alluvial	3.30-3.40+	25.06-24.96+	36



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP121	
<b>Coordinates (NGR) X:</b> 500507.57		<b>Coordinates (NGR) Y:</b> 152649.00		<b>Level (top):</b> 28.13	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.00 m		<b>Depth:</b> 3.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12101	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	28.13-27.73	
12102	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.80	27.73-27.33	
12103	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure. Poorly consolidated.  <b>Sharp horizontal contact</b>	Upper Sand; alluvial	0.80-1.50	27.33-26.63	
12104	Mid-light brownish red and greenish blue laminated medium sandy clay. No visible clasts. Horizontally bedded with mid greyish brown medium sand. No visible clast.  <b>Abrupt sub-horizontal contact</b>	Lower Clay; alluvial	1.50-2.70	26.63-25.43	37, 38, 39, 40, 41
12105	Dark brownish green medium sandy clay with brownish red mottling. No visible clasts. No visible structure. Well consolidated.  <b>Sharp horizontal contact</b>	Lower Clay; alluvial	2.70-3.20	25.43-24.93	42
12106	Mid-light greyish green medium to coarse sand. <1% fine (5-10mm) sub-rounded and rounded flint clasts. Poorly sorted. No visible structure.	Lower Sand; alluvial	3.20-3.40+	24.93-24.73+	43



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP122	
<b>Coordinates (NGR) X:</b> 500504.09		<b>Coordinates (NGR) Y:</b> 152653.65		<b>Level (top):</b> 27.94	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12201	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	27.94-27.54	
12202	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.80	27.54-27.14	
12203	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure.  <b>Diffuse undulating contact</b>	Upper Sand; alluvial	0.80-1.10	27.14-26.84	44
12204	Light greenish yellow medium sand with brownish red mottling. Occasional medium sandy clay pockets. No visible clasts. Structureless. Poorly consolidated. Poor recovery.  <b>Abrupt undulating contact</b>	Upper Sand; alluvial	1.10-2.10	26.84-25.84	45, 46
12205	Light greenish grey and brownish red mottled medium sandy clay. No visible clasts. Possible coarse laminations. Occasional lenses or light greenish yellow fine to medium sand (poor recovery)	Lower Clay; alluvial	2.10-2.40+	25.84-25.54+	47



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP123	
<b>Coordinates (NGR) X:</b> 500500.84		<b>Coordinates (NGR) Y:</b> 152685.71		<b>Level (top):</b> 26.42	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.50 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12301	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	26.42-26.02	
12302	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.60	26.02-25.82	
12303	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure.  <b>Diffuse undulating contact</b>	Upper Sand; alluvial	0.60-1.30	25.82-25.12	55, 56
12304	Light greyish yellow medium sand with brownish red mottling. Occasional medium sandy clay pockets. No visible clasts. Structureless. Poorly consolidated. Poor recovery.  <b>Abrupt undulating contact</b>	Upper Sand; alluvial	1.30-2.20	25.12-24.22	57, 58
12305	Mid brownish grey and reddish brown mottled medium sandy clay. No visible clasts. Coarsely laminated. Well consolidated.  <b>Sharp horizontal contact</b>	Lower Clay; alluvial	2.20-2.40	24.22-24.02	59,
12306	Light greenish yellow gravelly coarse sand. Fine to coarse (5-110mm) angular, sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure. Poorly consolidated.	Lower Sand; alluvial	2.40-2.50+	24.02-23.92+	60



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP124	
<b>Coordinates (NGR) X:</b> 500498.17		<b>Coordinates (NGR) Y:</b> 152690.97		<b>Level (top):</b> 26.37	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12401	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Topsoil	0.00-0.40	26.37-25.97	
12402	Dark reddish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Poorly consolidated. Structureless  <b>Abrupt undulating contact</b>	Subsoil	0.40-0.60	25.97-25.77	
12403	Light greyish yellow medium sand with occasional Fe mottling. No visible clasts. No visible structure.  <b>Diffuse undulating contact</b>	Upper Sand; alluvial	0.60-1.60	25.77-24.77	61
12404	Mid brownish grey and reddish brown mottled medium sandy clay. No visible clasts. Coarsely laminated. Well consolidated.  <b>Sharp horizontal contact</b>	Lower Clay; alluvial	1.60-2.20	24.77-24.17	62, 63
12405	Mid greyish green medium sand. <1% fine sub-angular flint clasts. Poorly sorted. Laminated with dark greenish grey medium sand. Poorly consolidated.	Lower Sand; alluvial	2.20-2.40+	24.17-23.97+	64



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP125	
<b>Coordinates (NGR) X:</b> 500522.57		<b>Coordinates (NGR) Y:</b> 152721.75		<b>Level (top):</b> 25.89	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.20 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12501	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.30	25.89-25.59	
12502	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.30-0.60	25.59-25.29	
12503	Light reddish yellow medium sand with Fe concretions. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Upper Sand; alluvial	0.60-1.30	25.29-24.59	65
12504	Light greyish green medium sand. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.  <b>Abrupt horizontal contact</b>	?Gravelly Sand; alluvial	1.30-1.70	24.59-24.19	66
12505	Light brownish grey gravelly coarse sand. <10% fine to coarse (5-120mm) sub-angular and sub-rounded flint clasts. Poorly sorted. Possible horizontal bedding. Poorly consolidated.	Gravelly Sand; alluvial	1.70-2.20+	24.19-23.69+	67





Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP126	
Coordinates (NGR) X: 500517.38		Coordinates (NGR) Y: 152720.16		Level (top): 26.63	
Length: 3.50 m		Width: 1.80 m		Depth: 2.20 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
12601	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.30	26.63-26.33	
12602	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.30-0.60	26.33-26.03	
12603	Light reddish yellow medium sand with Fe concretions. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Upper Sand; alluvial	0.60-1.00	26.03-25.63	68
12604	Light greyish green medium sand. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	1.00-1.40	25.63-25.23	69
12605	Light brownish grey gravelly coarse sand. <10% fine to coarse (5-120mm) sub-angular and sub-rounded flint clasts. Poorly sorted. Possible horizontal bedding. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Gravelly Sand; alluvial	1.40-1.60	25.23-25.03	70
12606	Light greyish green medium sand. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.	Lower Sand; alluvial	1.60-2.20+	25.03-24.43+	71



Site Code: 237163		Site Name: Guildford STW outfall		Test Pit ID: TP127	
Coordinates (NGR) X: 500534.23		Coordinates (NGR) Y: 152734.34		Level (top): 26.46	
Length: 2.50 m		Width: 1.80 m		Depth: 2.00 m	
Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
12701	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.20	26.46-26.26	
12702	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.20-0.60	26.26-25.86	
12703	Light reddish yellow medium sandy clay with Fe concretions. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	0.60-0.90	25.86-25.56	77
12704	Light greyish green medium sand. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.90-1.70	25.56-24.76	78
12705	Light greenish grey gravelly coarse sand. <10% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. Possibly bedded with above deposit. Poorly consolidated.	Gravelly Sand; alluvial	1.70-2.00+	24.76-24.46+	79



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall evaluation		<b>Test Pit ID:</b> TP128	
<b>Coordinates (NGR) X:</b> 500542.71		<b>Coordinates (NGR) Y:</b> 152738.31		<b>Level (top):</b> 26.38	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.00 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12801	Dark greyish brown silty medium sand. <1% fine to coarse sub-angular and sub-rounded flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.20	26.38-26.18	
12802	Mid brownish grey and reddish brown mottled medium sand. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Subsoil	0.20-0.60	26.18-25.78	
12803	Light reddish yellow medium sandy clay with Fe concretions. No visible clasts. Structureless. Poorly consolidated.  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	0.60-0.80	25.78-25.58	80
12804	Light greyish green medium sand. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possibly bedded with lower context. Poorly consolidated.  <b>Abrupt horizontal contact</b>	Upper Sand; alluvial	0.80-1.80	25.58-24.58	81, 82, 83
12805	Fine to coarse (5-120mm) angular and sub-angular gravels in a light greenish grey coarse sand matrix. Moderately sorted. No visible structure. Poorly consolidated.	Gravelly Sand; alluvial	1.80-2.00+	24.58-24.38+	84



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP129	
<b>Coordinates (NGR) X:</b> 500562.82		<b>Coordinates (NGR) Y:</b> 152758.15		<b>Level (top):</b> 26.25	
<b>Length:</b> 2.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.40 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
12901	Dark greyish brown silty clay loam. No visible clasts. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.30	26.25-25.95	
12902	Light greyish brown and reddish brown mottled silty clay. No visible clasts. Structureless. Well consolidated.  <b>Abrupt undulating contact</b>	Upper Clay; alluvial	0.30-0.70	25.95-25.55	
12903	Light greenish blue silty clay. Occasional manganese flecks. No visible structure. Well consolidated.  <b>Sharp undulating contact</b>	Upper Clay; alluvial	0.70-1.40	25.55-24.85	
12904	Mid greenish grey gravelly coarse sand. <10% fine to coarse (5-100mm) angular, sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possible bedding (poor recovery). Poorly consolidated	Gravelly Sand; alluvial	1.40-2.40+	24.85-23.85+	93, 94, 95



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP130	
<b>Coordinates (NGR) X:</b> 500573.41		<b>Coordinates (NGR) Y:</b> 152765.51		<b>Level (top):</b> 26.35	
<b>Length:</b> 2.50 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.20 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
13001	Dark greyish brown silty clay loam. No visible clasts. Structureless. Poorly consolidated.  <b>Sharp horizontal contact</b>	Topsoil	0.00-0.30	26.35-26.05	
13002	Dark greyish brown and bluish grey mottled silty clay. Common manganese flecks. No visible clasts. Structureless. Well consolidated.  <b>Sharp undulating contact</b>	Upper Clay; alluvial	0.30-0.70	26.05-25.65	
13003	Light greenish blue silty clay. Occasional manganese flecks. No visible structure. Well consolidated.  <b>Sharp undulating contact</b>	Upper Clay; alluvial	0.70-1.30	25.65-25.05	
13004	Mid greenish grey gravelly coarse sand. <10% fine to coarse (5-100mm) angular, sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure, possible bedding (poor recovery). Poorly consolidated	Gravelly Sand; alluvial	1.30-2.20+	24.05-23.15+	96,97,98



<b>Site Code:</b> 237163		<b>Site Name:</b> Guildford STW outfall		<b>Test Pit ID:</b> TP131	
<b>Coordinates (NGR) X:</b> 500590.04		<b>Coordinates (NGR) Y:</b> 152779.48		<b>Level (top):</b> 26.40	
<b>Length:</b> 3.00 m		<b>Width:</b> 1.80 m		<b>Depth:</b> 2.30 m	
<b>Context Number</b>	<b>Description</b>	<b>Interpretation</b>	<b>Depth m BGL</b>	<b>Depth m aOD</b>	<b>Samples</b>
13101	Dark greyish brown silty clay. <1% fine to coarse sub-angular and angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp undulating contact</b>	Topsoil	0.00-0.30	26.40-26.10	
13102	Dark greyish brown silty clay. <1% fine to coarse sub-angular and angular flint clasts. Poorly sorted. Structureless. Poorly consolidated.  <b>Sharp undulating contact</b>	Upper Clay; alluvial	0.30-1.00	26.10-25.40	
13103	Light greenish blue coarse sandy silty clay. <1% fine to coarse (5-70mm) sub-angular and sub-rounded flint clasts. Poorly sorted. No visible structure. Well consolidated  <b>Sharp sub-horizontal contact</b>	Upper Clay; alluvial	1.00-1.60	25.40-24.80	
13104	Mid bluish brown clayey gravelly coarse sand. 20% fine to coarse (5-100mm) sub-angular and sub-rounded flint clasts. Occasional decayed rooting. Moderately sorted. No visible structure. Possible bedding (poor recovery). Poorly consolidated.	Gravelly Sand; alluvial	1.60-2.30+	25.80-25.10+	101, 102



## **Appendix 3 Oasis Form**

# OASIS FORM - Print view

12 August 2021 11:33

## OASIS DATA COLLECTION FORM: England

[List of Projects](#) | [Manage Projects](#) | [Search Projects](#) | [New project](#) | [Change your details](#) | [HER coverage](#) | [Change country](#) | [FAQs](#) | [Log out](#)  
[Printable version](#)

OASIS ID:  
wessexar1-  
428086

### Project details

Project name	Guildford Sewage Treatment Works (STW) Relocation - Outfall Pipeline
Short description of the project	Wessex Archaeology was commissioned to undertake an archaeological and geoarchaeological borehole survey of Quaternary deposits within the footprint of the route of the outfall pipeline to the River Wey associated with a proposed new sewage treatment works located at Slyfield, Guildford, Surrey This demonstrated the Quaternary deposits are present within the proposed route. The deposits consist of a complex sequence of higher and lower energy alluvial deposits, likely reflecting climatic, environmental and landscape change from the later Pleistocene through the Holocene.
Project dates	Start: 28-06-2021 End: 08-07-2021
Previous/future work	Yes / Not known
Any associated project reference codes	237163 - Contracting Unit No.
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Sample Trenches","Test Pits"
Development type	Service infrastructure (e.g. sewage works, reservoir, pumping station, etc.)
Prompt	Planning condition
Position in the planning process	Pre-application

### Project location

Country	England
Site location	SURREY GUILDFORD GUILDFORD Guildford Sewage Treatment Works
Postcode	GU1 1RG
Study area	0 Square metres
Site	TQ 00517 52586 51.263042522949 -0.559181003526 51 15 46 N 000 33 33 W Point



coordinates

Lat/Long      Unknown  
Datum

### **Project creators**

Name of Organisation      Wessex Archaeology

Project brief originator      Wessex Archaeology

Project design originator      Wessex archaeology

Project director/manager      Alex Brown

Project supervisor      Jon Dobbie

Type of sponsor/funding body      Developer

Name of sponsor/funding body      Jacobs UK Ltd

### **Project archives**

Physical Archive recipient      Elmbridge Museum

Physical Archive ID      237163

Physical Contents      "Environmental", "Worked stone/lithics"

Digital Archive Exists?      No

Digital Media available      "Database", "GIS", "Images raster / digital photography", "Images vector", "Text"

Paper Archive Exists?      No

Paper Media available      "Context sheet", "Drawing"

### **Project bibliography 1**

Publication type      Grey literature (unpublished document/manuscript)

Title      Guildford Sewage Treatment Works (STW) Relocation - Outfall Pipeline Palaeolithic Archaeological and Georcheological Evaluation

Author(s)/Editor(s)      Shaw, A. and Snape, L.

Other bibliographic details      237163.3

Date      2021

Issuer or publisher Wessex Archaeology  
Place of issue or publication Salisbury  
URL <https://oasis.ac.uk/>  
Entered by Jon Dobbie (j.dobbie@wessexarch.co.uk)  
Entered on 12 August 2021

**OASIS:**

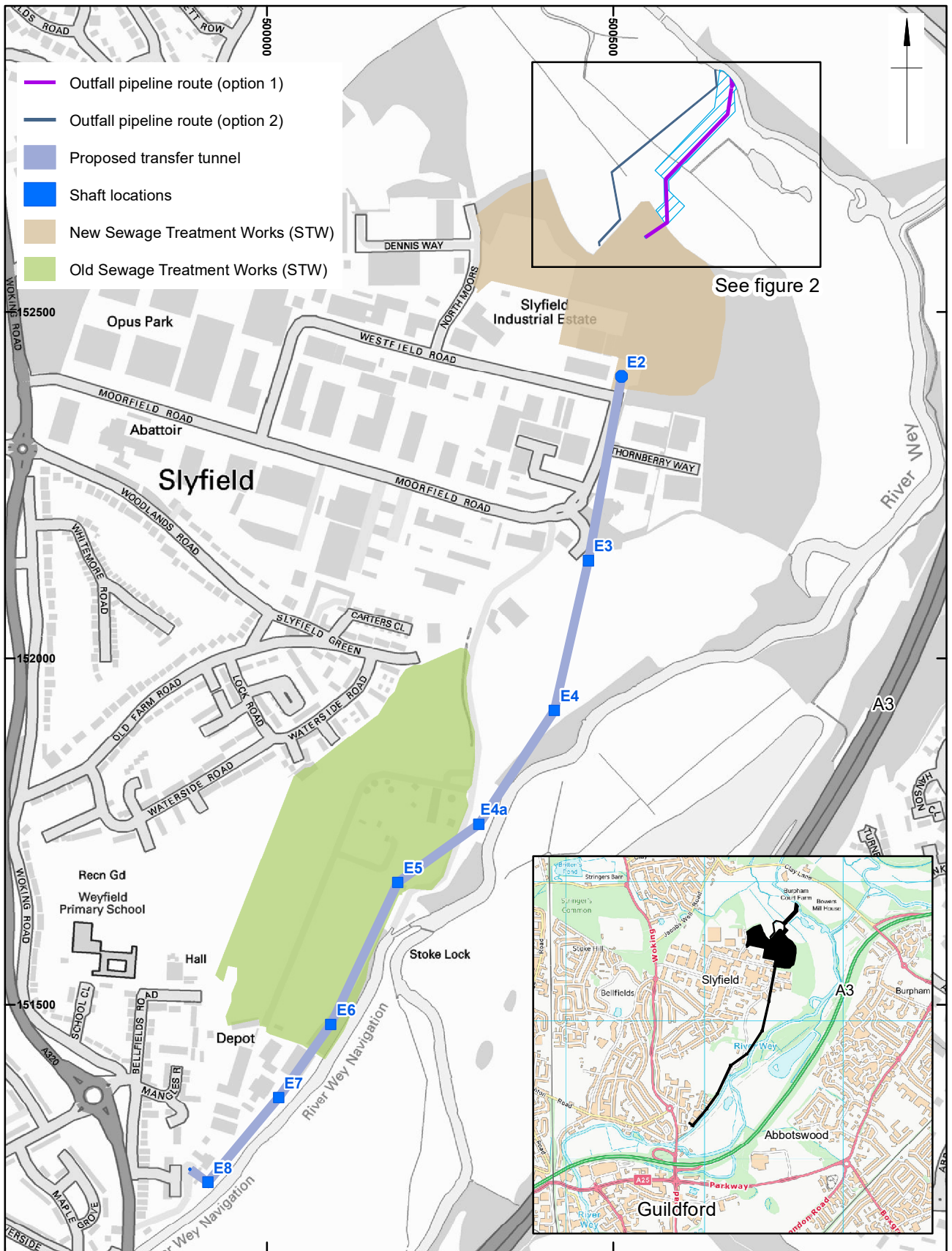
Please e-mail [Historic England](#) for OASIS help and advice

© ADS 1996-2012 Created by [Jo Gilham and Jen Mitcham, email](#) Last modified Wednesday 9 May 2012

Cite only: <http://www.oasis.ac.uk/form/print.cfm?id=428103> for this page

[Cookies](#) [Privacy Policy](#)

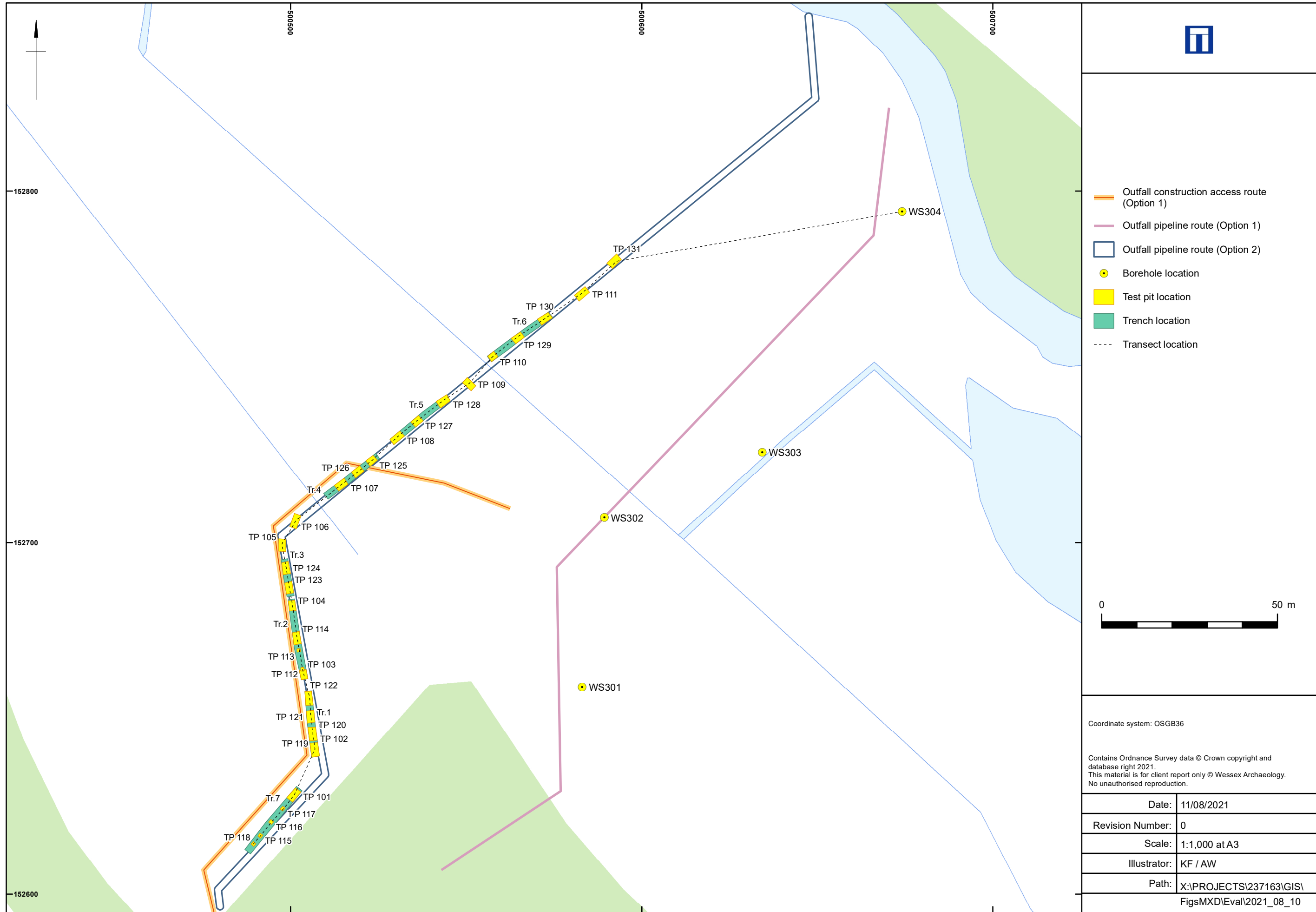
Inserted from <<https://oasis.ac.uk/form/print.cfm?id=428103>>



	Coordinate system: OSGB36			
	Contains Ordnance Survey data © Crown copyright and database right 2021.			
	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	11/08/2021	Revision Number:	0
	Scale:	1:8,000 at A4	Illustrator:	KJF / RG / AW
Path:		X:\PROJECTS\237163\GIS\FigsMXD\Eval\2021_08_10		

Site location

Figure 1



- Outfall construction access route (Option 1)
- Outfall pipeline route (Option 1)
- Outfall pipeline route (Option 2)
- Borehole location
- Test pit location
- Trench location
- - - Transect location



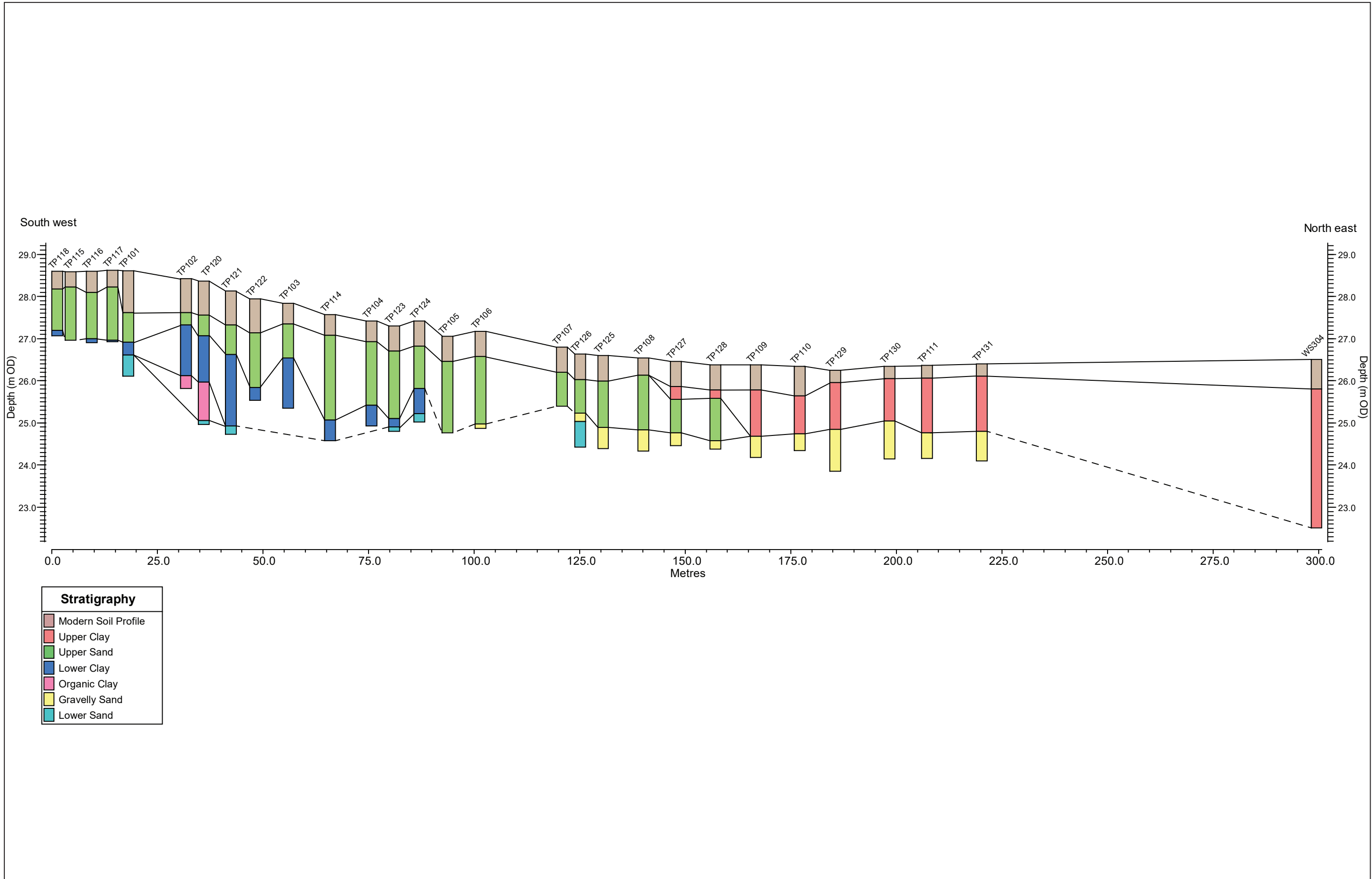
Coordinate system: OSGB36


Contains Ordnance Survey data © Crown copyright and database right 2021.  
This material is for client report only © Wessex Archaeology.  
No unauthorised reproduction.

Date:	11/08/2021
Revision Number:	0
Scale:	1:1,000 at A3
Illustrator:	KF / AW
Path:	X:\PROJECTS\237163\GIS\FigsMXD\Eval\2021_08_10

Site plan

Figure 2



	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.		Date:	11/08/2021	Revision Number:	0
			Scale:	Not to scale	Illustrator:	AW
			Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		

Cross-section 1

Figure 3





Plate 1: Trench 5; north-west facing representative section

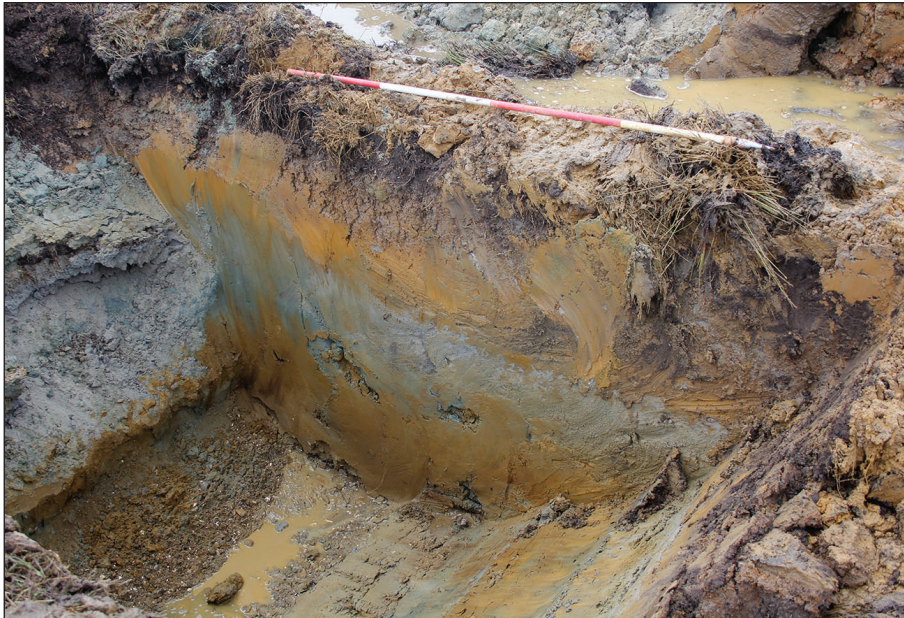



Plate 2: TP 128; north-west facing section

	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		



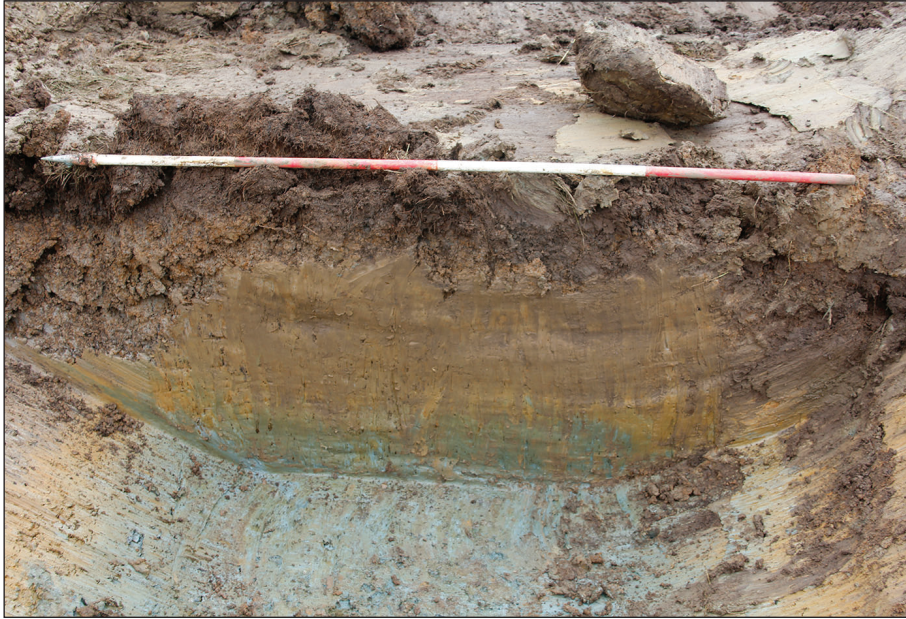


Plate 3: TP 130; north-west facing section

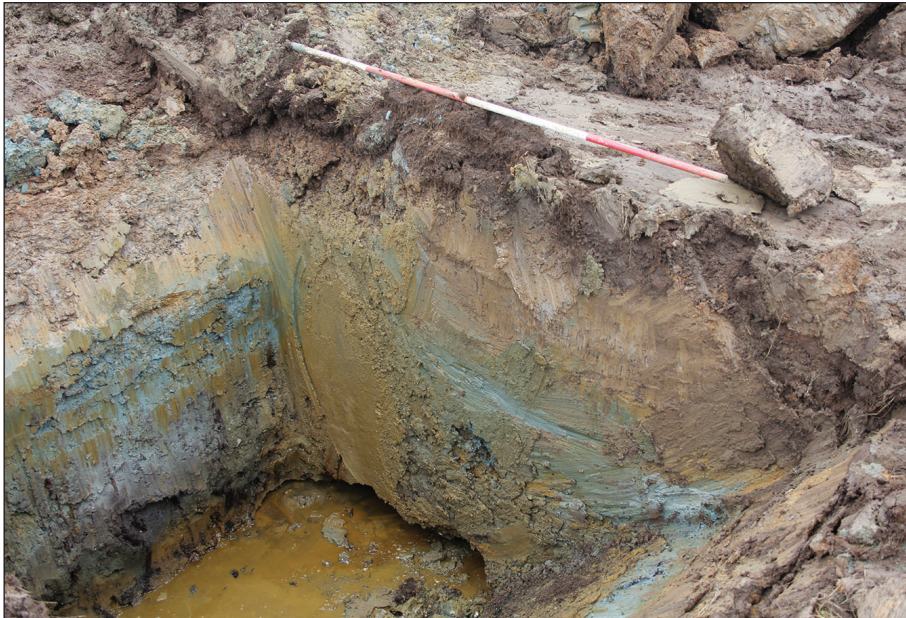


Plate 4: TP 130; north-west facing section


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		





Plate 5: Trench 4; north-west facing representative section



Plate 6: TP 126; north-west facing section


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval2021_08_10		





Plate 7: Trench 7



Plate 8: TP 116; north west facing section


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		





Plate 9: TP 116; north west facing section



Plate 10: TP 101; north-west facing section


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		





Plate 11: TP 120; east facing section

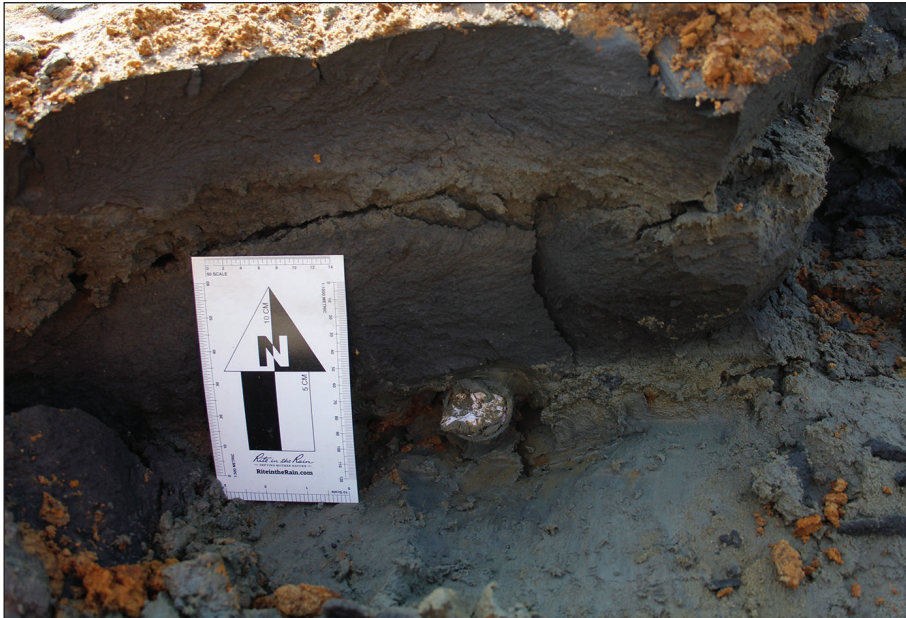



Plate 12: TP 102, context (10205)

	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	10/08/2021	Revision Number:	0
	Scale:	Not to scale	Illustrator:	AW
	Path:	X:\PROJECTS\237163\Graphics_Office\Rep figs\Eval\2021_08_10		



Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB  
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk



FS 606559