

Southwark Integrated Waste Management Facility

Old Kent Road, Bermondsey, London

Veolia ES Southwark

Environmental Statement

**Chapter 13
Archaeology & Cultural Heritage**

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13 Archaeology & Cultural Heritage

13.1 Introduction

- 13.1.1 This chapter assesses the archaeology and cultural heritage effects associated with the proposed development of an Integrated Waste Management Facility (IWMF) on land off Old Kent Road, Bermondsey, London (within the administrative area of Southwark Council), on cultural heritage in terms of archaeology and built heritage. The likely impacts are assessed during both the construction and operational phases of the proposed development.
- 13.1.2 Archaeology is defined as the study of past societies through the medium of material culture. Built heritage is defined as those buildings and structures of heritage interest.
- 13.1.3 The aims of this study are to assess the likelihood of the proposed development site and study area to contain remains of cultural heritage significance and to provide an indication of what, if any, further work may be required with regard to mitigation.
- 13.1.4 The objectives of the project have been:
- to identify and assess the relative importance of cultural heritage features likely to be affected by the proposed development;
 - to protect those features through the avoidance of direct impacts where possible and to design mitigation measures to preserve those features by record where avoidance is not possible, and;
 - to protect the setting of cultural heritage features though both the design of the layout of the scheme and through measures such as planting
- 13.1.5 The primary study area comprises some 250 metres around the proposed development area, although third party data was also requested on any significant sites outside this area that it would be appropriate to include.
- 13.1.6 Consideration was given to information on Scheduled Ancient Monuments, Registered Parks and Gardens and Registered Battlefields, Conservation Areas and Listed Buildings from a wider area so that the effect, if any, of the proposed development on their setting could be considered. An iterative approach has been taken, based on any likely impact on the setting of these cultural heritage features.

13.2 Legislation and Planning Context

- 13.2.1 A detailed review of the development plan documents and planning context in relation to the development proposals is provided in Chapter 3.
- 13.2.2 This section summarises those policies that are directly relevant to archaeology and cultural heritage issues.

National Policy & Legislation

- 13.2.3 *PPG 16 Planning Policy Guidance: Archaeology and Planning (1990)*, provides advice to planning authorities regarding the protection of archaeology within the planning process. The guidance makes clear that prospective developers should make provision for the archaeological appraisal of a site when assessing a site's development potential (Section 2B, paragraph 18a, 1990).
- 13.2.4 *PPG15 Planning and the Historic Environment (1994)* deals with Conservation Areas, Listed Buildings, World Heritage Sites, Historic Parks and Gardens, Historic Battlefields and the wider historic landscape.

- 13.2.5 Listed buildings are protected under the *Planning (Listed Buildings and Conservation Areas) Act (1990)* which empowers the Secretary of State for the Department of Culture, Media and Sport (DCMS) to maintain a list of built structures of historic or architectural significance.
- 13.2.6 Scheduled Ancient Monuments are protected through the *Ancient Monuments and Archaeological Areas Act (1979)*, which had been updated in the *National Heritage Act (1983)*. Scheduled Monuments are maintained on a list held by the Secretary of State for DCMS. Any alterations or works to a Scheduled Monument (including archaeological investigation) requires Scheduled Monument Consent (SMC).

Regional Policy

The London Plan

- 13.2.7 *'The London Plan – Spatial Development Strategy for Greater London'*, (Consolidated with Alteration since 2004) was published in February 2008 and sets out the regional planning framework for London. The plan contains the following policies relevant to cultural heritage:

- Policy 4B.11 – London's Built Heritage

'The Mayor will work with strategic partners to protect and enhance London's historic environment. DPD policies should seek to maintain and increase the contribution of the built heritage to London's environmental quality, to the economy, both through tourism and the beneficial use of historic assets, and to the well-being of London's people while allowing for London to accommodate growth in a sustainable manner.'

- Policy 4B.12– Heritage Conservation

'Boroughs should:

ensure that the protection and enhancement of historic assets in London are based on an understanding of their special character, and form part of the wider design and urban improvement agenda, including their relationship to adjoining areas, and that policies recognise the multi-cultural nature of heritage issues

identify areas, spaces, historic parks and gardens, and buildings of special quality or character and adopt policies for their protection and the identification of opportunities for their enhancement, taking into account the strategic London context

encourage and facilitate inclusive solutions to providing access for all, to and within the historic environment and the tidal foreshore.'

Policy 4B.15 – Archaeology

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

Local Policy

- 13.2.8 The proposed development site falls within the administrative area of the London Borough of Southwark. The relevant Local Plan policies for the area have therefore been reviewed. The London Borough of Southwark Plan was adopted in July 2007. As in the 1995 UDP, the land at the entrance of the site and through the Old Kent Road service station is designated in the emerging Southwark Plan's Proposals Map as an 'Archaeological Priority Zone'. The Southwark Plan contains the following policies relevant to cultural heritage:

The Southwark Plan

- Policy SP13 – Design and Heritage

"All developments should be of a high standard of design and where appropriate should preserve or enhance the character or appearance of the historic environment."

Policy 3.15 – Conservation of the Historic Environment

“Development should preserve or enhance the special interest or historic character or appearance of buildings or areas of historical or architectural significance. Planning proposals that have an adverse effect on the historic environment will not be permitted.”

The character and appearance of Conservation Area’s should be recognized and respected in any new development within these areas. Article 4 directions may be imposed to limit permitted development rights, particularly in residential areas.

In this policy the term historic environment includes Conservation Areas, listed buildings, scheduled monuments, protected London Squares, historic parks and gardens and trees that are protected by Tree Preservation Orders, trees that contribute to the character or appearance of a Conservation Area and ancient hedgerows.”

Policy 3.17 – Listed Buildings

“Development proposals involving a listed building should preserve the building and its features of special architectural or historic interest.”

- **Alterations and extensions**

“Planning permission for proposals which involve an alteration or extension to a listed building will only be permitted where:

- There is no loss of important historic fabric; and*
- The development is not detrimental to the special architectural or historic interest of the building; and*
- The development relates sensitively and respects the period, style detailing and context of the listed building or later alterations of architectural or historic interest; and*
- Existing detailing and important later additional features of the building are preserved, repaired or, if missing, replaced.”*

- **Demolition**

“There will be a general presumption in favour of the retention of listed buildings. Planning permission will not be granted for proposals that involve the demolition or substantial demolition of a listed building, unless, in accordance with PPG15 or any subsequent amendments, it can be demonstrated that:

- The costs of repairs and maintenance would not be justified, when assessed against the importance of the building and the value derived from its continued use, providing that the building has not been deliberately neglected; and*
- Real efforts have been made to the continue the current use or find a viable alternative use for the building; and*
- There will be substantial planning benefits for the community from redevelopment which would decisively outweigh loss from the resulting demolition.*

Listed building consent must be applied for contemporaneously with an application for planning permission for a redevelopment scheme. Submission of details demonstrating that a contract for the construction of the replacement development has been let will be required prior to implementation of the development.”

- **Policy 3.18 – Setting of Listed Buildings, Conservation Areas and World Heritage Sites**

“Permission will not be granted for developments that would not preserve or enhance:

- The immediate or wider setting of a listed building; or*
- An important view(s) of a listed building; or*
- The setting of the Conservation Area; or*
- Views into or out of a Conservation Area; or*
- The setting of a World Heritage Site; or*

vi. *Important views of or from a World Heritage Site.*”

- **Policy 3.19 – Archaeology**

“Planning applications affecting sites within Archaeological Priority Zones, as identified in Appendix 7, shall be accompanied by an archaeological assessment and evaluation of the site, including the impact of the proposed development. There is a presumption in favour of preservation in situ, to protect and safeguard archaeological remains of national importance, including scheduled monuments and their settings. The in situ preservation of archaeological remains of local importance will also be sought, unless the importance of the development outweighs the local value of the remains. If planning permission is granted to develop any site where there are archaeological remains or there is good reason to believe that such remains exist, conditions will be attached to secure the excavation and recording or preservation in whole or in part, if justified, before development begins.”

Supplementary Planning Guidance

- 13.2.9 In addition to the above, Supplementary Planning Guidance has been published by Southwark Borough Council in 2002 on Old Kent Road and on Archaeology.
- 13.2.10 Regarding the Old Kent Road ‘Archaeological Priority Zone’, including the land at the entrance of the site and through the Old Kent Road service station, both SPGs state in paragraph. 5.1.3 that:- *“This zone has been designated because of the presence of early prehistoric activity adjacent to the Old Kent Road and because the road itself is thought to follow the line of Roman Watling Street, the route from London to Canterbury.”*
- 13.2.11 In addition both SPGs indicate (para. 6.2.1) that planning applications must be accompanied by an archaeological desk-based assessment if the proposed development lies within an archaeological priority zone or if this has been identified as necessary during pre-application discussions.
- 13.2.12 Para 6.2.2 goes on to say:- *“Current archaeological thinking, national guidance and Council policy requires preservation in situ of archaeological remains of national importance. Where feasible, and where nationally important archaeological remains are expected to survive on site, the Council will require an archaeological field evaluation to take place before the application is determined. The purpose of the evaluation is to establish, if archaeological remains survive, their potential and significance. The information from the evaluation is important in establishing the need for preservation in situ and how it may be achieved, for example by designing foundations to avoid archaeological deposits.”*
- 13.2.13 The SPG on archaeology then goes on to note (para 6.2.3) that:- *“The archaeological evaluation is commissioned by the developer, and must be undertaken by a suitably qualified archaeological contractor. The scope of the evaluation must be stated by the Council in a brief for the work, and a detailed specification must be submitted to, and approved by, the Council before the evaluation commences.”*
- 13.2.14 Para 6.2.4 notes that:- *“Where it is not possible to undertake an evaluation before the planning application is determined, the Council will impose suitably worded conditions, should planning consent be granted, to ensure that the evaluation takes place before development commences. In these circumstances, the developer must ensure that sufficient time is allowed for further archaeological investigation within the development timeframe, should this be necessary.”*

13.3 Assessment Methodology

Relevant Guidance

- 13.3.1 As a matter of best practice, this assessment has been undertaken based on the relevant guidance on archaeology and cultural heritage impact assessment. This includes:-
- *Planning Policy Guidance: Planning And The Historic Environment (PPG 15)* Department of the Environment, Department of National Heritage September 1994;

- *Planning Policy Guidance: Archaeology And Planning* (PPG 16) Department of the Environment November 1990;
- *Code of Conduct* Institute of Field Archaeologists 2006 and
- *Standard And Guidance for Archaeological Desk based Assessment* Institute of Field Archaeologists 2001

Consultations

13.3.2 As detailed in Chapter 1, a formal scoping exercise has been undertaken to inform the scope of the Environmental Assessment. The formal Scoping response is included at Appendix 1.2. The exercise highlighted the following issues relating to archaeology and cultural heritage impacts:-

- A programme of archaeological fieldwork should be undertaken to determine the nature and extent of any archaeology present on site
- This programme may be undertaken as part of the geotechnical works, which with an archaeological presence on site, may allow this assessment to be made

13.3.3 In addition to the formal Scoping exercise, the following informal consultations and discussions have informed this chapter:-

- Consultation has been undertaken with the Borough Archaeologist in March 2007. The Borough Archaeologist indicated that an archaeological desk based assessment would be required in the first instance. His advice was that an effort to examine any relevant boreholes and other geotechnical logs should be made. Depending on the results of this assessment and depending on access etc., further pre-determination works may be required.
- On the basis of the above consultation, baseline studies have in the first instance comprised the production of a desk-based assessment. This considered both below ground archaeology and above ground cultural heritage receptors.
- The desk based archaeological assessment was submitted to the Borough Archaeologist on 22nd February 2008.
- The Borough Archaeologist commented on the desk based assessment in a letter to RPS dated 29th February 2008. (Appendix 13.2) He acknowledged that the assessment presented a clear picture of the likely archaeological resource. He noted the potential usefulness of geotechnical investigations to the understanding of the archaeology of the site and noted that, should archaeological observation of geotechnical works not be possible, an archaeological evaluation would be recommended.

13.3.4 On the basis of the above consultations, a field evaluation will be undertaken prior to the commencement of development.

Methodology

Desk Study

13.3.5 The desk assessment comprised:

13.3.6 Consultation with the Greater London Historic Environment Record (HER).

- An examination of information on Scheduled Ancient Monuments, Registered Parks and Gardens and Registered Battlefields obtained from English Heritage.
- A review of relevant documentary and archival material held in the Greater London HER, the Southwark Local Studies Library and the National Gas Archive.
- A site visit, undertaken to establish the presence of above ground archaeology, whether or not previously recorded. The site visit has also provided an indication of the suitability of any further survey technique.

13.3.7 A full description of the methodology is given in the desk based assessment (Appendix 13.1)

Analysis

13.3.8 For the purposes of this assessment, archaeological periods are defined as follows:

- Prehistoric [comprising Lower Palaeolithic (pre 30,000 BC), Upper Palaeolithic (30,000 - 10,000BC), Mesolithic (10,000 - 3,500BC), Neolithic (3,500 - 2,000BC), Bronze Age (2,000 - 700BC) and Iron Age (700BC - AD43)]
- Roman (AD43 - AD450)
- Medieval (AD450 - AD1540)
- Post Medieval (AD1540 onwards)

13.3.9 PPG 16 provides guidance on the distinction between remains of national importance and those of lesser importance, at paragraphs 8 and 27. A basis for establishing the relative order of importance of archaeological sites is given in Annexe 4 of PPG 16. In addition, *the Design Manual for Road and Bridges* (Vol 11, Section 3 Part 2 HA208/07) Highways Agency August 2007 details categories of relative importance:

- Sites of Very High Value – usually world Heritage sites or sites of acknowledged **International Importance**
- Sites of High Value or **National Importance** – usually Scheduled Ancient Monuments, or monuments in the process of being scheduled.
- Sites of Medium Value, these being of **Regional or County importance**;
- Sites of Low Value, these being of district or **Local importance**;
- Sites of **Negligible** Value - with very little of no surviving archaeological interest.
- Sites of **Unknown** Value

13.3.10 Designations of relative importance in this report are based on the above designation.

13.3.11 The significance of effect is assessed through a consideration of the importance of the receptor and the magnitude of impact.

13.3.12 In this chapter definitions of significance are as follows:

- **Major (or substantial) significance** - Effects of the development of greater than local scale
- **Moderate significance** - Effects of the development that may be judged to be important at a local scale
- **Minor (or slight) significance** - Effects of low importance in the decision-making process
- **Negligible (or not significant)** - Effects that are of such low importance that they are not considered material in the planning process.

13.3.13 Transport Analysis Guidance (DoT June 2003) Unit 3.3.9 The Heritage of Historic Resources Sub Objective Table 1: Heritage of Historic Resources Table of Overall assessment Scores provides an indication of how significance of impact may be measured as follows:

Score	Comment
Large (Major) Beneficial (positive) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • provide potential, through removal, relocation or substantial mitigation of very damaging or discordant existing impacts (direct or indirect) on the heritage, for very significant or extensive restoration or enhancement of characteristic features or their setting • make a major contribution to government policies for the protection or enhancement of the heritage • remove or successfully mitigate existing visual intrusion, such that the integrity, understanding and sense of place of a highly valued area, a group of sites or features of national or regional significance is re-established

Moderate beneficial (positive) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • provide potential, through removal, relocation or mitigation of damaging or discordant existing impacts on the heritage, for significant restoration of characteristic features or their setting • contribute to Regional or Local policies for the protection or enhancement of the heritage • enhance existing historic landscape/townscape character through beneficial landscaping/mitigation and good design
Slight (Minor) Beneficial (positive) effect	<p>The proposals:</p> <ul style="list-style-type: none"> • are not in conflict with national, regional or local policies for the protection of the heritage. • restore or enhance the form, scale, pattern or sense of place of the heritage resource through good design and mitigation • remove or mitigate visual intrusion (or other indirect impacts) into the context of locally or regionally significant heritage features, such that appreciation and understanding of them is improved
Neutral (negligible) effect	<p>The proposals:</p> <ul style="list-style-type: none"> • are not in conflict with, and do not contribute to policies for the protection or enhancement of the heritage • maintain existing historic character in a landscape/townscape • have no appreciable impacts, either positive or negative, on any known or potential heritage assets • are a combination of slight positive and negative impacts, on locally significant aspects of the heritage • do not result in severance or loss of integrity, context or understanding within a Historic landscape
Slight (Minor) Adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • be in conflict with local policies for the protection of the local character of the heritage • have a detrimental impact on the context of regionally or locally significant assets, such that their integrity is compromised and appreciation and understanding of them is diminished • damage locally significant heritage features for which adequate mitigation can be specified • not fit well with the form, scale, pattern and character of a historic landscape/townscape/area
Moderate Adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • be out of scale with, or at odds with the scale, pattern or form of the heritage resource • be intrusive in the setting (context), and will adversely affect the appreciation and understanding of the characteristic heritage resource • be in conflict with local or regional policies for the protection of the heritage • be damaging to nationally significant heritage assets, resulting in loss of features such that their integrity is compromised, but not destroyed, and adequate mitigation has been specified • be a major direct impact on regionally or locally significant heritage, resulting in loss of features such that their integrity is substantially compromised, but adequate mitigation can be specified
Large (Major) adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • have a major direct impact on nationally significant heritage assets such that they are lost or their integrity is severely damaged • have a moderate direct impact on or compromise the wider setting of multiple nationally or regionally significant heritage assets, such that the cumulative impact would seriously compromise the integrity of a related group or historic landscape/townscape • have a major direct impact on regional heritage assets, such that their integrity is lost and no adequate mitigation can be specified • be highly intrusive and would seriously damage the setting of the heritage resource, such that its context is seriously compromised and can no longer be appreciated or understood • be in serious conflict with government policy for the protection of the heritage, as set out in PPG 15 and PPG 16 • be strongly at variance with the form, scale and pattern of a historic landscape/townscape

Cumulative Impacts

13.3.14 No proposed new developments have been identified that have the potential to impact cumulatively with the proposal.

13.4 Baseline Conditions

- 13.4.1 There has been a considerable amount of archaeological work, both desk and field based, in the area in recent years, and several new finds have been made, although none within the proposed development area.

Prehistoric

- 13.4.2 There is considerable recorded evidence for prehistoric activity in the wider area, with evidence for both cemetery and possible occupation activity being recorded. The area now encompassed by Southwark and Deptford was largely marshland during the prehistoric period, the Thames being wider than the present day. Prehistoric settlement is known to have taken place on several eyots or sandy islands along what is now the southern bank of the Thames, which would have been on higher ground than the marsh. These islands were attractive to early farmers (Cowan: 6).
- 13.4.3 A flint making site was found on Old Kent Road, some 600 metres north west of the proposed development area, on what is now the B and Q site, at NGR TQ 3420 7790 comprising over 1700 artefacts. The site was interpreted as a temporary camp and it was also used during the Neolithic (Cowan: 7).
- 13.4.4 At a site usually referred to as Bramcote Grove, but apparently located at NGR TQ 3515 7805, on the north side of Varcoe Road, some 150 metres north-east of the proposed development area, a watching brief found natural clays and sands being laid down during marine transgression, and peat formed during marine regressions. A simple log pathway was found in one of the trenches. The stakes had been sharpened with bronze axes, and marks made by a palstave were seen in one end of a log from the trackway. Above the peat was floodplain clay, sealed by 17th-19th century levelling material (SMR number MLO63987, Cowan: 10).
- 13.4.5 At Ilderton Road, some 150 metres east of the proposed development area, a watching brief on a gas pipe in 1994 indicated that a series of natural river terrace sands and gravels were intercut by at least one post-glacial stream. This and other possible streams were sealed by waterlain clays, suggesting that the area was under water for a long period of time (SMR number MLO60721).
- 13.4.6 An evaluation in Sharrat Street in 1993 indicated that the site lay on slightly higher ground than the prehistoric marsh and there was no evidence for the Southwark/ Deptford peat marsh in Sharrat Street during an evaluation (SMR number MLO64275) 1994 (SMR Number MLO60722). This work found flints apparently dating to the Mesolithic, although they may have been redeposited by geological activity.
- 13.4.7 The available evidence indicates that the marsh extended roughly as far south as the line of the Old Kent Road. The Bramcote Grove trackway, to the north of the proposed development area, crossed the marsh. It may be that the proposed development area was on sufficiently high ground that it formed part of the mainland during the prehistoric, although this is by no means certain.

Roman

- 13.4.8 Watling Street, the Roman road running south from London through Kent forms the line of the Old Kent Road. The exact line of the road between Southwark and Greenwich is unknown (SMR number MLO11490). The proposed development area would have been located some 3.5 kilometres from the Roman city and is likely to have been in an area of farmland or marsh during the Roman period.
- 13.4.9 There is recorded evidence for Roman remains in the vicinity of the proposed development area. On the south side of Old Kent Road, near its junction with Asylum Road, the remains of a building, probably of Roman date, have been recorded at 4-10 Asylum Road (SMR numbers MLO58925, MLO58926).
- 13.4.10 A watching brief at 434-452 Old Kent Road revealed various Roman and post-medieval features. The Roman features comprised four ditches, running perpendicular to the Old Kent Road, and two pits (Purser et al 2005).

Medieval

- 13.4.11 There is little physical evidence for Anglo Saxon activity in the area, although it is assumed that Old Kent Road remained in use during this period.

- 13.4.12 The proposed development area apparently lies in the manor of Hatcham Coldharbour, known also as Coldharbour or Cold Abbey in Camberwell Parish during the medieval period (Malden 1912). The Domesday Book of 1086 states that Hatcham lay in Brixton Hundred, was held by the Bishop of Liseux from the bishop of Bayeux and that prior to the conquest it had been held from Edward the Confessor (Williams & Martin: 75).
- 13.4.13 The Domesday Book of 1086 also states that Bermondsey was in Brixton hundred, that it was held by the king and that prior to the conquest Earl Harold held it. In addition, there was a new church (Williams & Martin: 72). Count Mortain held one hide from the king, on which his house was situated (Williams & Martin: 80).
- 13.4.14 During the next century the manor passed into secular hands, but from the mid 14th century was held by the prioress of Dartford. This appears to have continued until the dissolution.
- 13.4.15 It seems likely that much of the wider area was dominated, if not owned, by Bermondsey Abbey during the medieval period. This was located at 3.3 kilometres north-west of the proposed development area. The site is a Scheduled Ancient Monument (SAM 1303378).
- 13.4.16 The nearby site of the Hatcham Coldharbour Manor House, presumably the manorial centre, is recorded in the SMR (SMR number MLO4264). This lies outside the proposed development area, but indicates that the wider area is likely to have been dry land at this time. There is little, if any, evidence for medieval activity within the proposed development area itself and it seems likely that it was used for agriculture rather than settlement.

Post-medieval

- 13.4.17 The manor was controlled by Christopher Tubbes by 1559. He conveyed it to John Bowyer in 1570, and it remained with his estates thereafter. The post medieval landscape was rural until the end of the eighteenth century, or later, as indicated by map evidence. John Baptist Homan's Prospect and Map of London of 1705 shows that the Thames had by this date been contained within roughly its modern boundaries and the islands to the south had amalgamated. The early versions of John Rocques map of London and the surrounding area confirm this.
- 13.4.18 The first detailed map of the area is John Rocque's map of 1762, which shows the proposed development area and the surrounding area as fields.
- 13.4.19 Richard Horwoods Map of 1792-99 shows part or all of the proposed development area at the southern edge of the map sheet. It remained in an area of fields in the countryside, at some distance from the built area of London. Clearly development had not taken place along the Old Kent Road by this time.
- 13.4.20 Development in the area seems to have commenced in the early 19th century. The South Metropolitan Gas Company was formed in 1829 and a site for a gas works was selected adjoining the Grand Surrey Canal on the eastern side of Old Kent Rd (National Gas Archive Catalogue Ref. SE:SOM). The South Metropolitan Gas Works was constructed in 1831 (Layton 1924). The site was apparently chosen because of its proximity to the Grand Surrey Canal, along which coal could be delivered (Anon: 17).
- 13.4.21 The works is shown on Stanford's Map of 1862, with gasholders along the southern boundary of the canal, outside the proposed development area. Most of the proposed development area is shown as 'Market Gardens'. The exception is the south-eastern part, which is not shaded in the Stanford market garden convention and was probably fields, or perhaps a recreation ground, as indicated on later maps. The area to the south-east and west of the proposed development area had been developed by this time, the south and east mainly for housing and the west for industry, possibly the gasworks. To the north lay the canal. Devonshire Street, to the south of the proposed development area, had not been constructed at this time.
- 13.4.22 The owner of the works, Thomas Livesey, died in 1871, although this decade also saw the expansion of the works (Layton: 36). After several approaches, the Phoenix Gas Company amalgamated with the South Metropolitan Gas Company, following an earlier merge with the Surrey Consumers Gas Company, in 1879. The Old Kent Road works had expanded from 3 to 36 acres by 1880 (National Gas Archive Catalogue Ref. SE:SOM).
- 13.4.23 The first large scale edition of the Ordnance Survey, of 1874 shows a gasholder outside the northwestern boundary of the proposed development area, with a well immediately to its east. The proposed development

area itself is shown to contain paths and a number of small features marked as 'tanks'. These may be associated with the allotment gardens.

- 13.4.24 The 6-inch Ordnance Survey Middlesex edition of 1880 shows the proposed development area, apparently with a convention indicating allotments or market gardens.
- 13.4.25 The 1896 edition of the OS shows a row of four gasholders outside the western boundary of the proposed development area. Within the proposed development area itself, the gasworks had expanded to cover the northern half. The remainder of the proposed development area contained buildings in the west and allotment gardens, a cricket ground and a recreation ground are shown in the southeastern part.
- 13.4.26 The 1916 edition of the OS shows more of the proposed development area having been built over, although the southeast of the proposed development area remained as a sports field and allotment gardens. This edition shows a group of buildings to the north and east of the large southernmost gasholder. Some of these buildings are located within the proposed development area. The 6-inch edition of 1920 shows a similar disposition.
- 13.4.27 A site plan dated 1937 (National Gas Archive SE/SOM/OK/EB4) shows the layout of the works at that time. The works comprised the section along the Surrey Canal, with gasholders in the positions occupied by three gasholders currently surviving adjacent to the proposed development area. The coal stores and retort houses were located outside the north-eastern part of the proposed development area. The south-eastern part of the proposed development area is marked 'coal ground'. A stores and dispatch building is also shown in the area (Building J). To its west was a stove cleaning shop, while to the west of this was a water heater shop and stores (Building G). To the north of this latter building was a demonstrator room (Building E). A boiler house and engine room and coke conveyors and a coke ground occupied the remainder of the proposed development area.
- 13.4.28 The works was heavily bombed during the Second World War as a plan held by the National Gas Archive shows (National Gas Archive BG11/SOM/SM2/EB8), with an unexploded bomb being discovered in one of the gas holders post-war (Mercer 1996: 12).
- 13.4.29 A comparison of pre and post war mapping indicates that, within the proposed development area, no major buildings were demolished. The early post war edition of the OS, dated 1951, shows that much of the centre and southeast of the proposed development area remained as open ground at that time. To the east of the proposed development area, vacant plots along Ormside Street, Hatcham Road and Ilderton Road indicate that bombing had been intense in this area.
- 13.4.30 The Old Kent Road works ceased gas production in 1953/4 (Mercer: 16). This was apparently because of the expense of transporting coal by barge along the Grand Surrey Canal (Mercer: 25). A Central Training Establishment was proposed at the Old Kent Road site, with redevelopment being planned in 1958 (Mercer: 68).
- 13.4.31 The Ordnance Survey edition of 1962 indicates that some of the southeastern part of the proposed development area remained undeveloped. A plan dated 1967 (National Gas Archive SE/SU/OKR/EE2) shows Building G was in use as a AWS water heater shop and AWS tin shop while Building E had been enlarged and was used as industrial, aerodynamic and material laboratories. Building J was used as an appliance warehouse. Most of the remainder of the site was in use for training purposes, with a mains and service layers training road located in the centre of the coal ground. To the north of this Building F had been constructed and is shown as a Training Centre.
- 13.4.32 A plan dated 1982 (National Gas Archive SE/SUD/OKR/EE1) shows that most of the coal ground had been converted into a car park. Building G was in use as a warehouse, while Building E remained in its 1967 use.
- 13.4.33 By 1991, the Ordnance Survey indicates that the proposed development area was in approximately its current layout.
- 13.4.34 The site visit has indicated that most of the central and northern parts of the proposed development area are under tarmac hard standing. Of the buildings, the southern part contains a large pre-war building with metal windows, shown on the 1940 plan as 'stores and dispatch', while the large building in the northern part of the proposed development area dates to the 1960s or 1970s.

- 13.4.35 One of the BG Training buildings (Building E) dates to prior to the end of the First World War, while Building G dates to after 1871 and before 1916. The early part of the former building is shown on the 1940 plan as being a 'demonstration room'. It has been entirely stripped of equipment associated with the early gas industry. The latter building is shown on the 1940 plan as being (from south to north) a water heater shop, store, store dispatch and fittings store. The building could not be entered because of an asbestos hazard, but views into the interior from outside clearly indicated that it had been largely, if not entirely, stripped of any equipment associated with the early gas industry. Outside the proposed development area, the northernmost gasholder may be the original shown on the OS edition of 1874, while the central holder may be that shown on the OS edition of 1916. The southernmost holder is later, possibly post war.
- 13.4.36 A statue of George Livesey, formerly located between the two southern gasholders and listed at Grade II, was missing at the time of the site visit.

Geotechnical Survey

- 13.4.37 Geotechnical surveys of the proposed development area have been undertaken in 2001 and 2005. In addition, a further phase of limited ground investigation works was undertaken in September 2007. The report for the 2007 work, incorporating the factual information from the earlier phases of work, has been made available for this study.
- 13.4.38 The surveys have revealed made ground over the proposed development area. The ground investigation report notes that these *comprise loose to dense, locally clayey, gravelly sands and sandy gravels with brick, concrete, ash, clinker, coal and slag fragments and soft to stiff, sandy, gravelly, clays with brick, clinker and ash. Locally these layers contain concrete cobbles and are weakly cemented.* (Crossfield 2007: 6)
- 13.4.39 The site investigations have also revealed elevated concentrations of metals, total petroleum hydrocarbons and polyaromatic hydrocarbons within the made ground materials.
- 13.4.40 The depth of made ground varies from less than 2 metres to over 4 metres. In the southern part of the proposed development area, there appears to have been a ground raising exercise and made ground is between 2.9 and 3.8 metres in depth. In the northern part of the proposed development area, the depth of made ground is shallower, although generally exceeding 1.5 metres.

Limitations

- 13.4.41 At this stage, no field evaluation work has been undertaken. This may mean that not all archaeological deposits within the proposed development area have been fully recognized. A programme of archaeological monitoring and evaluation will be undertaken during the site preparation works (subject to a separate planning application).

13.5 Incorporated Enhancement and Mitigation

- 13.5.1 There are no specific mitigation or enhancement measures incorporated within the design proposed with regard to archaeology and cultural heritage.

13.6 Identification and Evaluation of Key Impacts

- 13.6.1 Impacts are considered for construction and operation phases. These phases are presented in separate sections below for definition and include assessment of impact significance.
- 13.6.2 Impacts likely to be caused by construction are particularly likely to arise from operations including:
- ground remediation
 - excavation for foundations, drainage and other services, roads and car parking
 - piling

- landscaping operations including planting
- 13.6.3 There may also be impacts on the setting of cultural heritage features caused by the execution of the development proposal
- 13.6.4 The above effects tend to be permanent and non-reversible. In addition, further immediate impacts may arise from the above operations, and others, causing effects that are normally temporary and reversible. These include:
- noise
 - dust
- 13.6.5 Operational impacts, remaining when the proposed development is completed, may include:
- views
 - noise
 - air quality
 - lighting

Construction Phase

- 13.6.6 There are no records of any Scheduled Ancient Monuments or Listed Buildings within the proposed development site itself. The nearest Scheduled Monument is Bermondsey Abbey, about 3.3 kilometres north-west of the proposed development area (SAM 1303378).
- 13.6.7 The Scheduled Ancient Monument has few, if any, above ground remains and is not visible from the proposed development area. No Scheduled Ancient Monument, or setting, will be affected by the proposed development.
- 13.6.8 The closest Listed Building to the proposed development area is the statue of George Livesey, listed at Grade II and located in front of the gas works offices, 100 metres to the west of the proposed development area. The statue has been removed. Assuming it is replaced in its original location, the proposed development is effectively screened from the statue by the gasholder and there will be no effect on the setting of the listed building. There will be no effect on any other listed building, or its setting.
- 13.6.9 The development of the gas works within the proposed development area is likely to have damaged and degraded any previously existing archaeological remains.
- 13.6.10 There are no known prehistoric, Roman, medieval, or post medieval remains within the proposed development area. Prehistoric settlement is known to have taken place on several eyots along the southern bank of the Thames, with further remains having been found in the marsh. Surviving remains of this period are likely to be of local to regional importance.
- 13.6.11 However, Old Kent Road follows the line of the Watling Street Roman Road from London through Kent to Richborough. The road itself and an area on each side is designated as an Archaeological Priority Area in the Southwark Plan. Any Roman remains in the area are likely to represent rural settlement, rather than being part of the Roman suburb. The potential for the survival of remains of Roman date within the proposed development area is considered to be low to medium. Surviving remains of this period are likely to be of local to regional importance.
- 13.6.12 The medieval manor house of Hatcham Coldharbour lies close to, but not within, the proposed development area and any medieval remains within the proposed development area are likely to be agricultural in origin. The proposed development area appears to have been fields during the medieval period and later and the potential for remains of medieval or post medieval date to survive within the proposed development area is considered to be low.
- 13.6.13 The only surviving building of the gas works to pre date the end of the First World War is the structure at the southern end of the proposed development area immediately east of the gasholder. The original function of

this building is uncertain and no early plans are available, but by 1940 it was used as mainly as stores and this may well have been its original purpose. It apparently had no chimneys. It incorporates a loading bay (and the 1916 OS map indicates that this is an early feature). It is not connected to the rail system and so it is presumably not a coal store. Although it could not be entered, inspection indicates that any early equipment has been removed. It has been recently re-roofed.

- 13.6.14 The remainder of the gas works buildings comprise inter and post war structures, some of which, including the large flat roofed building at the southern end of the proposed development area (Building J) and the warehouse (Building G), are related to gas production, and others such as the former training centre (Building F) which are primarily related to the post production use of the site. Overall, the gasworks is relatively late in origin and incomplete, with many of the early structures demolished and the survivors having been stripped and converted to other uses. The works are of local importance.
- 13.6.15 It is considered highly unlikely that remains of sufficient importance to prevent development, or to require any redesign of elements of the proposed development, will survive below ground. It should be noted, however, that the proposed development may have a physical impact on any such surviving remains. At this stage, it is assumed that the impact on any surviving remains will be high, although there is some potential to mitigate such impacts through the detailed foundation design.

Operational Phase

- 13.6.16 Following the construction phase, there will be no additional operational impacts on the cultural heritage resource.

13.7 Mitigation

- 13.7.1 Given the potential for the proposed development area to contain below ground archaeological remains, it is proposed that a programme of archaeological fieldwork is undertaken. The aim of this should be to achieve preservation by record section, resulting in the avoidance and/or, reduction of any adverse effect.
- 13.7.2 In practice, the fieldwork described above would take the form of trenching and, where appropriate, area stripping, followed by a suitable level of recording, prior to the development taking place.
- 13.7.3 Table 13.1 summarises the additional mitigation measures (additional to those incorporated within the development proposals) recommended as a result of the impact assessment.

Table 13.1: Summary of Recommended Additional Mitigation Measures

Phase	Recommended Mitigation
Construction	Programme of archaeological fieldwork to achieve preservation by record

13.8 Residual Impact

13.8.1 The potential residual impacts have been considered and their magnitude and significance following mitigation are summarised in the table below.

Table 13.2: Summary of Residual Impacts

Phase	Impact	Impact Type	Magnitude	Significance	Geographical Level of Importance of Issue				
					I	N	R	D	L
Construction	Impact on below ground archaeological remains	Neutral	Neutral	Neutral				*	
Construction	Impact on settings of cultural heritage features	Neutral	Neutral	Neutral		*	*		
Operation	Impact on below ground archaeological remains	Neutral	Neutral	Neutral				*	
Operation	Impact on settings of cultural heritage features	Neutral	Neutral	Neutral		*	*		

Key: I: International N: National R: Regional D: Borough L: Local

13.9 Conclusions

- 13.9.1 An assessment has been carried out in connection with the effect, if any, of the proposed development on the cultural heritage resource within and around the proposed development area. This has comprised a desk based assessment, including a site visit and an examination of geotechnical work carried out within the proposed development area.
- 13.9.2 The proposed development area comprises a former gasworks, until recently used as industrial units and bounded by a fence to the north, brick and stone walls to the east and south and gas holders and industrial units to the west.
- 13.9.3 The proposed development area does not lie within or adjacent to a Conservation Area and does not contain any Listed Buildings or Scheduled Ancient Monuments. The closest statutorily protected feature to the proposed development area is the statue of George Livesey located between the southernmost two gasholders west of the proposed development area. The statue has currently been removed.
- 13.9.4 No Scheduled Ancient Monument or other statutorily protected or registered feature, or their setting, will be affected by the proposed development.
- 13.9.5 Much of the land immediately either side of the Old Kent Road and east of Ilderton Road is designated as an Archaeological Priority Zone in both the Southwark Plan and Supplementary Planning Guidance. This area covers part of Devonshire Grove only with regard to the proposed development area and the main part of the site is not affected.
- 13.9.6 Remains from the Neolithic period onward through the prehistoric period have been found along the line of the Old Kent Road, although none have apparently been found within or adjacent to the proposed development area.
- 13.9.7 The Old Kent Road probably follows the line of the Roman road leading from London to Kent. The proposed development area is at some distance from the Roman city and the potential for extensive Roman settlement

or burial remains is relatively low, although it is likely that the area would have been in agricultural use and related remains may survive.

- 13.9.8 Early maps indicate that the proposed development area remained in agricultural use, with little, if any, settlement activity, until the 19th century prior to 1871 and that from then onwards; it became gradually occupied by a gas works. Within the proposed development area, the gasworks remained in production until the mid-1950s. The proposed development area contains gasworks infrastructure, including both above ground and buried infrastructure. Both types of infrastructure may have adversely affected any archaeology within the proposed development area.
- 13.9.9 The work has indicated that, following mitigation, there will be no significant effect on the cultural heritage resource from the proposed development.

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