

# Stage 2 Written Scheme of Investigation for an archaeological Excavation and Watching brief V.10

Middlesex Annex, 44 Cleveland Street

Iceni Projects Limited on behalf of Middlesex Annex LLP

2<sup>nd</sup> of April 2020

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#### **Non-technical Summary**

This the Written Scheme of Investigation (WSI) for the archaeological excavation and watching brief at the Middlesex Hospital Annex site. It is pursuant to **Condition 6** of Planning Application Number **2018/1584/P** which requires archaeological mitigation of the site in advance of the development.

This WSI provides detailed methodology covering the enabling works and southern perimeter excavation (Part A). An Addendum will be submitted providing the detailed methodology for the main excavation (Part B)

The archaeological potential of the site includes:

- Late 18<sup>th</sup> century building remains / foundations associated with the construction and occupation of Covent Garden Workhouse (later the Strand Union Workhouse)
- 18<sup>th</sup> / 19<sup>th</sup> century burials relating to the Workhouse and St Pauls Covent Garden Parish

The results of the Part A perimeter excavation will be summarised in a high-level interim report on completion of the fieldwork. The full results will be combined with those from the Part B excavation in a Post Excavation Assessment Report on completion of the fieldwork.

#### 1. Introduction

#### WSI Scope

- 1.1 This Written Scheme of Investigation (WSI) is for the archaeological excavation and watching brief on the site of The Middlesex Hospital Annex, 44 Cleveland Street, London, W1T 4JT (Fig 1). This document has been commissioned from Iceni Projects by Middlesex Annex LLP.
- 1.2 The site is currently occupied by buildings relating to the Middlesex Hospital Annex, including the Grade II listed former Workhouse building and the North House and South House. Later buildings relating to the Middlesex Hospital Annex to the rear of the site were demolished after planning consent; the rear of the site is currently open to the east of the buildings fronting onto Cleveland Street. The site is bounded by the Sainsbury Welcome Centre to the NW, buildings fronting onto Charlotte Street to the NE, Middlesex House to the SE and Cleveland Street to the SW.
- 1.3 The centre of the site lies at National Grid reference 529260 181810. Current ground level at the rear of the site lies between 25.8m OD and 27.8m OD
- 1.4 The proposed re-development includes:

Refurbishment of the Workhouse and North/South Houses and redevelopment of the remainder of the site, to provide a mixed-use development comprising 50 residential units and commercial space; namely to increase extent of basement to incorporate MRI scanners with 3 no. external quench pipes, internal modifications to affordable housing layouts, change of mix of market tenure housing to create 3 no. additional units, alterations to South House to incorporate community room and North House to increase floorspace and provide basement level courtyards, alterations to rooftop plant area, fenestration of new build, cycle parking, access and landscaping.

- 1.5 The development was granted consent subject to a Section 106 variation agreement ref 2018/1584/P. Consent included Condition 6 relating to archaeology.
- 1.6 The proposed part 4, part 5, part 8 storey building at the rear will include a basement with varying formation levels between 20.15m OD 20.68m OD and associated piles. A secant pile wall will also penetrate the ground (Figs 2, 3 + 4). Construction will commence after completion of the Stage 2 Part A and Part B archaeological works.
- 1.7 Laura O Gorman, Archaeological Advisor at GLAAS (Greater London Archaeological Advisory Service) to Camden Council, has been consulted regarding the scope of works and requirements of the condition.
- 1.8 An Addendum to the current document will be produced providing the detailed methodology for the second phase of excavation to mitigate the impact of the remainder of the basement area, as well as the scope of the public engagement strategy further to sections B and C below.
- 1.9 The programme for the post-investigation assessment and analysis will be detailed provisionally in the Addendum and will updated on the completion of the Post Excavation Assessment Report produced at the end of the Phase 2 excavation.
- 1.10 Condition wording:

No development consisting of works below ground level shall take place other than in accordance with the phase 1 written scheme of investigation (WSI) as approved under application 2018/1789/P (dated 22/05/2018) or other such WSI which has been submitted to and approved by the local planning authority in writing.

For land that is included within the WSI, no works shall take place other than in accordance with the agreed WSI, and the programme and methodology of site evaluation and the nomination of a competent person(s) or organisation to undertake the agreed works.

If heritage assets of archaeological interest are identified by phase 1 then for those parts of the site which have archaeological interest a phase 2 WSI shall be submitted to and approved by the local planning authority in writing. For land that is included within the stage 2 WSI, no demolition / development shall take place other than in accordance with the agreed stage 2 WSI which shall include:

A. The statement of significance and research objectives, the programme and methodology of site investigation and recording, interpretation and/or public engagement strategy and the nomination of a competent person(s) or organisation to undertake the agreed works.

B. The programme for post-investigation assessment and subsequent analysis, publication and dissemination and deposition of resulting material. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the phase 2 WSI.

Reason: Important archaeological remains may exist on this site. Accordingly, the Council wishes to secure the provision of archaeological investigation and the subsequent recording of the remains prior to development to ensure satisfactory treatment of heritage assets of archaeological interest, in accordance with Policy D2 of the Camden Local Plan 2017.

- 1.11 The site is not located in an Archaeological Priority Area (CA) but is located within two Conservation Areas (CA), Fitzroy Square and Charlotte Street.
- 1.12 All archaeological work detailed in this WSI will be carried out in accordance with the CIfA standards and guidance (CIfA 2014a, b and c) and the Greater London Archaeology Advisory Service (GLAAS) Standards for Archaeological Work (2015).

#### 2. Archaeological background

2.1 A detailed resume of the potential archaeology on site is summarised in the archaeological desktop study submitted in support of the planning application (MOLA, 2017). To briefly summarise:

The Site is likely to have been woodland or farmland until construction of the Covent Garden Workhouse in or before 1778. The workhouse complex included an adjacent burial ground for interment of those who died in there. The burial ground was in active use between 1790 and 1853, and also received interments from the Parish of St Paul, Covent Garden. Between 1836 and 1872 the Site was designated as the Strand Union Workhouse.

Between 1873 and 1913 the Site became the Central London Sick Asylum 1873–1913. In 1913 Westminster Council took the location over and it became the Central London Sick Asylum (1873–1913), later the Cleveland Street Infirmary 1913–1924 and finally the Middlesex Hospital Annex 1924–2006.

- 2.2 Archaeological method statements and reports on archaeological site work undertaken to date include:
  - WSI Addendum for a Watching Brief (Iceni, 2019)
  - Test Trench Evaluation Report (MOLA, 2019)
  - WSI for a Test Trench Evaluation and Watching Brief (MOLA, 2018)
  - Archaeological Desktop Study (MOLA, 2017)
  - Watching Brief Report (PCA, 2014)
  - WSI for a Watching Brief (PCA, 2014)
- 2.3 Fig 5 shows the location of the archaeological test trenches and site investigation trenches undertaken in 2019.
- 2.4 The results of the prior investigations, in particular the test trench evaluation in 2019, give an indication on the density, preservation and nature of burials present at the Middlesex Annex site. All other archaeological interventions to date have been fairly limited in scope, though the results utilised to supplement the results of the test trench evaluation.
- 2.5 The results from test trench evaluation in relation to the potential archaeology on site predicated during the upcoming excavation are summarised below:

#### Natural Geology

- 2.6 At the rear of the site, in the area of the proposed basement, the natural geology comprising of sand and gravel was recorded at between 25.89m OD and 21.01m OD.
- 2.7 At the front of the site natural was seen at 26.04m OD in Trench 7.

#### Pre 18th century

2.8 No evidence of activity prior to the 18th century was recorded on site. The area surrounding the site was largely rural until the 18<sup>th</sup> century and only very limited residual medieval finds have been recorded within the vicinity of the site.

#### 18th century onwards

2.9 During the test trench evaluation, the earliest deposits recorded were a series of large 18th century quarry pits within the cemetery boundary (rear of the site). At the front of the site, 18th century wheel ruts leading to the Workhouse building appear to have been made

#### Covent Garden Workhouse Remains and evidence of Workhouse / Parish Burials

- 2.10 Fifty-five articulated burials were excavated during the evaluation relating to the Workhouse Cemetery, which was operational during 1780 and 1853. Very little disarticulated bone was recorded during the evaluation. No intercutting burials were recorded, though grave density and occupation was notably high in the east of the site as seen in Trench 3.
- 2.11 To date, no burials with surviving soft tissue have been recorded on site. However, the presence of high-level pockets of water in Trench 3 and the soft cessy deposits recorded in Trench 1 indicate that remains with soft tissue could survive on site.
- 2.12 The articulated remains recovered related to both adults and sub-adults and presented a range of pathologies, most notably dental disease and joint disease/ osteoarthritis (adults only). Evidence of traumatic injury was also present in 12 adults.
- 2.13 Evidence of social zoning of the burials was evident in the differing approaches to inhumation send in the east of the site, as opposed to the south. In the east of the site (Trench 3) graves were found in very close proximity to one another, cut into made ground. Multiple burials appear to have been placed in each grave cut at the same time, their organisation 'top to toe' of one another. This appears to indicate lower status individuals from the Workhouse.
- 2.14 Grave cuts in Trenches 5 and 6 were found to be ordered and evenly spaced, cut into the natural sand and gravel, which appears to suggest higher status burials which may relate to the Covent Garden Parish.
- 2.15 Unusually for a 19th-century urban burial ground there were no intercutting burial stacks in comparison to other city cemeteries of this date.
- 2.16 In summary, the test trench evaluation indicates that:
  - Burial and grave density is greatest in the east
  - Preservation of the majority of the burials on site is good
  - Preservation of coffins and furniture was poor across the site
  - There appear to be two distinct social zones of burial Workhouse burials in the east and Covent Garden Parish burials in the south
  - The deposit sequence through which the burials were cut was inconsistent
- 2.17 Figure 9 details the areas where burials are known to survive across site.
- 2.18 Although the desk base assessment (MOLA, 2017) estimated 9,000 10,000 burials, based on the results of the test trench evaluation, up to.3,000 skeletons are anticipated from both phases of excavation.

#### Modern disturbance

- 2.17 Modern disturbance was noted to have affected the archaeological survival on site. Large pits and concreate foundations in Trenches 2 and 4 were present to a depth of 5.50m bgl and 4m bgl respectively.
- 2.18 The majority of modern construction encountered during the evaluation was noted to be fairly shallow, impacting the ground to a depth of 1.20m from modern ground level and, therefore, not impacting the burials.

#### 3. Objectives

3.1 Iceni are appointed archaeological consultant for the project, with LP archaeology archaeological contractor.

General (excavation)

- 3.2 An archaeological excavation is a programme of fieldwork designed to mitigate the impact of a development on significant archaeological deposits. It is often the final stage of archaeological fieldwork on a site. Controlled Excavation will fully remove human remains, associated archaeology and other features prior to the piling in the 'red zone' along the southern perimeter.
- 3.3 The Chartered Institute for Archaeologists (CIFA, 2014) define excavation as:

'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design' (CIFA 2014).

- 3.4 The archaeological fieldwork and reporting will be undertaken with consideration to the wider archaeological research priorities for London reference in the Museum of London's 'A research framework for Greater London' (MOL 2002).
- 3.5 All excavation on site will be undertaken by suitably qualified professional archaeologists, supported by suitably qualified professional osteologists.

#### General (watching brief)

- 3.6 The ground reduction for the piling matt, installation of the king post wall and pile probing / obstruction removal in the green zones will be monitored by watching brief.
- 3.7 The Chartered Institute for Archaeologists (CIFA, 2014) define a watching brief as:

*'a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons'* 

- 3.8 During the course of the watching brief if articulated burials are identified, these will warrant 'controlled excavation', as outlined above. If any key post-medieval wall alignments or horizons are encountered, these will also warrant provision for excavation.
- 3.9 All watching brief work on site will be undertaken by suitably qualified professional archaeologists, supported by suitably qualified professional osteologists. Osteological support will be full time during the excavation of skeletons in line with the guidance detailed in *The Role of the Human Osteologist in an Archaeological Fieldwork Project* (Historic England, 2018).

#### Site specific objectives

- 3.10 Considering the archaeological and historical background of the site and the wider context, the following objectives are set for the excavation:
  - What is the highest level of surviving natural sand and gravel? Has this natural been truncated by later construction activity?

- Is there any evidence of activity on the site prior to the 18th century?
- What is the density and grave occupancy along the southern perimeter?
- What is the demographic profile of the burials in this location?
- What pathologies and instances of trauma are present on the burials? What does this indicate about the health of the Workhouse / Covent Garden Parish?
- Is there any evidence of post-mortem investigation or medical dissection present on the remains?
- Is there any evidence of intercutting remains and/ or disinterment of earlier burials to make way for later phases?
- Are there any burial monuments, cists or tombs present?
- Is there further evidence of social zoning of the burials present on site?
- Do any coffin plates survive and is it possible to identify named individuals on site?
- What structural evidence survives relating to the 18<sup>th</sup> and 19<sup>th</sup> century buildings associated with the workhouse?
- With consideration to the condition of the remains, what potential does the assemblage have for biometric study?
- What comparisons can be drawn with other workhouse burial grounds of the same period?
- What evidence is there relating to the cemetery layout and boundary?
- Are there any named burials on site (i.e. with coffin plates or grave markers)?
- What is the extent of the modern truncation?

# 4. Construction impacts and the archaeological mitigation sequence (Part A excavation)

- 4.1 This section provides a detailed breakdown of the methodology for the enabling works and the southern perimeter excavation (Part A). The detailed methodology for the main excavation (Part B) will be outlined in an addendum to this document.
  - Limited ground reduction across the site for instillation of the piling mat (watching brief with provision for excavation
- 4.2 To facilitate the king post wall and secant pile wall, a piling matt will be installed to allow the rig to safely manoeuvre across the site (see Fig 6).
- 4.3 The impact of the secant piles and guide wall, where required, has been limited by design to 2m away from the existing perimeter walls (Morgan Sindell, 2019) see Fig 4.
- 4.4 The current ground level behind the Workhouse lies at between 25.5 m OD (north of the site) and 27.00m OD (south of the site). The maximum extent of the levelling excavation required to facilitate the piling matt is 26.42m OD. In areas where the ground level is currently below this depth in the north, material will be brought in to raise the level.
- 4.5 The top of the highest burial recorded during the evaluation was 24.9m in the centre/ north of the site (Trench 3) and 25.3m OD in the south of the site (Trench 5). With consideration to the proposed formation level of the piling mat, a buffer of between c.1 -1.5 m of made ground will be maintained between the top of the burial horizon and the underside of the piling mat.
- 4.6 The ground reduction will progress under the control of the Principal Contractor, using a mechanical excavator (JCB or slew tracked type) with toothless ditching bucket under archaeological supervision.
- 4.7 Due to the limited nature of this activity, the work will be monitored by watching brief, with provision for controlled hand excavation if any articulated outlier burials are encountered. Provision for excavation will also be made for any key post-medieval wall alignments or horizons.
- 4.8 If articulated human remains are encountered during this activity, a localised tent will be erected by the Attendance Contractor to screen the excavation of these remains from public view, as per the terms of the burial licence.
  - Installation of a king post wall to support the southern perimeter excavation and across the site to support the Part B excavation (watching brief with provision for excavation)
- 4.9 The existing southern perimeter boundary wall (which is also part of the southern extent of the red zone) is unstable and is constructed on top of the original cemetery wall. To safely support the archaeological excavation in this location, temporary works are required to support the excavation in this area, in the form of a king post wall (see Fig 7, ref Coyle Kennedy P001 Nov 2019 and Fig 8, ref Coyle Kennedy P100 Nov 2019).
- 4.10 The king post wall will comprise of 58 King posts, augered at 1.8m intervals, a maximum of 600mm in diameter which form the north edge of the red zone excavation area along the southern perimeter and across the site to support the depth of excavation required in the Part B excavation (full details to be submitted in the Stage 2 Part B WSI). The site will be split into three sections during the Part B excavation, the north section will be excavated first, then the centre with the south last. The king posts have been targeted in the location of areas of known truncation seen during the test trench evaluation.
- 4.11 As per the Modebest method statement (rev 00 27/01/20) a piling rig will be used to auger out the holes to the depth required. The king posts will be lowered into the open pile bore and then concreted in.
- 4.12 If significant obstructions are encountered during the augering of the 300mm clearance of the pile locations which cannot be cored through, the Principal Contractor will further excavate the area to grub out the obstruction using a machine with a flat bladed bucket.

- 4.13 Once the king post piles are installed, horizontal waler beams will be connected to the posts. Tie beams will also be used, which will require levelling to within 10mm at the underside of the proposed waler location. Timber sleepers will be used as king post infill panels.
- 4.14 Horizontal props at 2m centres will be fitted to each of the bays.
- 4.15 Due to the limited nature of this activity, the work will be monitored by watching brief, with provision for controlled hand excavation by a qualified archaeologist for any outlier burials at an unexpected high level are encountered. Provision for excavation will also be made for any key post-medieval wall alignments or horizons.
- 4.16 If articulated human remains are encountered during this process, a localised tent will be erected by the Attendance Contractor to screen the excavation of these remains from public view, as per the terms of the burial licence.
- 4.17 Once the installation of the King Post wall is complete, the made ground within the red zone will be reduced by a machine with a flat bladed bucket down to the burial horizon under archaeological supervisor. The point at which the machine no longer has sufficient reach to do this, the made ground will be reduced by attendance labour.
  - Controlled excavation of the southern perimeter red zone
- 4.18 After the installation of the king post piles Modebest will remove the modern fill overlying the top of archaeological horizon under the guidance of the archaeological watching brief. At approx. 500mm bgl, the diagonal props and horizontal bracing will be installed at ground level as per the design. This will artificially separate the area into fourteen 4m X 1.8m bays/ working zones.
- 4.19 As the attendance contractor, Modebest, will remove the remainder of the modern fill overlying the top of the archaeological horizon (c.300mm) either by machine using a flat bladed bucket or by hand (or a combination of the two) under archaeological supervision.
- 4.20 If any obstructions are present in the line of the Kingpost wall, they will be broken out and removed by the Modebest. I If the obstruction is in close proximity to any burials and/or sensitive archaeology, this will be carried out in tandem with the archaeologists, the integrity of the temporary works structure is the most important thing to preserve life. Depending on the depth of any obstructions, they will either be broken down (if required) as the archaeological excavation progresses or grubbed out entirely.
- 4.21 If any obstructions are found within the working zones they will be removed once the archaeological work is completed, unless they pose a threat to the operatives in the area. This shall be assessed by all parties if and when relevant.
- 4.22 Controlled excavation will commence once the LP Archaeology and Morgan Sindall team agree that the break out and clearance of modern material is complete and the Temporary Works Coordinator has declared the area safe to enter (30<sup>th</sup> of March as per MS programme version 3 dated 20\_02\_20 line 186)
- 4.23 The archaeological team will enter the working zone with access to all "divided zones" to hand clean the entirety of the area, defining the top of grave cuts. The location of these features will be located using a robotic total station. Access and egress to bays will be by means of adjustable stairs. The stairs will be moved around the excavation area to suit entry and exit requirements. The specification of the stairs is compatible with stretcher rescue of any injured persons.
- 4.24 Prior to the excavation of skeletons, a cover will be applied over the excavation area to screen the excavation of human remains from public view.
- 4.25 In the first instance, seven bays will be selected (every other 4m X 1.8m box) for spoiling into ('inactive bays'). The burial horizon will be protected by a buffer of terram and ply boards in these locations. Spoil will be excavated from the 'active' bays by the archaeological team, with the attendance team providing support to shift the material from the active bays to the spoiling bays. Modebest will fill bucket hoists located in the inactive bays, removing spoil and relocating to the screener stockpile. One-ton boat skips will be winched out of the trench by machine under the supervision of a banksman.

- 4.26 Excavation of grave cuts and skeletons in the active bays will progress to a safe depth of approx. 500-700mm. When this has been reached, with any remaining archaeology being protected by plywood, the active and inactive bays will then rotate. Controlled excavation by the archaeological team will commence in the active bays, with spoil removed as per para 1.1.7 & 1.1.8 above.
- 4.27 Throughout the archaeological excavation, in any given working zone, at approx. every 300mm (possibly more or less if the ground conditions will allow) the archaeological team will exit the area and the Modebest will take control of the working zone and knock the king post shutters down.
- 4.28 Any low-grade archaeological deposits and / or natural ground that the graves are cut through will be reduced by the attendance contractor either utilising the machine with a flat bladed bucket, hand excavation or a combination of the two. The area will be reduced under archaeological supervision to a depth of 0.5m -0.75m. A safe working exclusion zone will agreed with MS to allow machining to proceed whilst archaeologists are working in the adjacent way. If an adequate exclusion zone between people and plant cannot be achieved archaeologists will exit the adjacent bay until machining is complete.
- 4.29 Modebest will assist with ground reduction in instances where graves are cut into natural ground or low-grade archaeological deposits. Where there are intercutting graves and/or grave shafts cut into sensitive archaeological deposits the area will be reduced by archaeologists.
- 4.30 The hit and miss excavation (i.e. excavation of an active bay to a depth of 0.50m-0.75m bgl and then switching to the adjacent bay, which then becomes active) will continue until all 14 bays have been fully excavated to clean natural geology/ the base of archaeology is reached or the maximum depth of excavation the temporary works can support is reached, which is 4m bgl.
- 4.31 Once a general/"global" depth of 2m bgl is reached, Modebest will enter the bay to install the additional cross bracing. Archaeological excavation will stop until these works are complete. At this stage additional cross bracing will be fixed at 1.5m below the top horizontal bracing. The temporary works coordinator will review and sign off the additional structural supports, allowing archaeological excavation to recommence.
  - Pile probing in the green zone along the southern perimeter of the site
- 4.32 Pile probing for the secant pile wall will proceed in the green zone along the southern perimeter (see Fig 4). During the site investigation trench in this location, burials and grave cuts were determined not to survive in this area, hence a watching brief will monitor the construction impacts in this area and any disarticulated bone or significant artefacts collected.

#### Processing of human remains

- 4.33 Processing of human remains excavated during the Part A excavation will proceed off-site.
- 4.34 Any block lifted neonatal or infant remains will be processed using a floatation tank or with a 1mm mesh to ensure recovery of small bone. All other inhumed remains will be washed over a 2 mm mesh.
- 4.35 Once dry, inhumations will be bagged and boxed with the arms, legs, hands, Feet separated into right and left sides, and the torso and skull will be placed in separate bags each containing two labels. Human remains will be stored in boxes with protective foam.

#### 5. Methodology (General)

- 5.1 It is anticipated that the Part A excavation will be undertaken during the COVID 19 restrictions. All archaeological work on site will be undertaken following government guidance in relation to COVID19 and in accordance of CIfA's Code of Conduct Principal 5 and 5.2, COVID19 risk assessments, the Site Operating Procedures (Morgan Sindell, March 2020).
- 5.2 The COVID19 government restrictions presently state that social distancing is requiredtherefore, all staff on site will remain at least 2m apart, both on site and within the site welfare. The staffing rate for the project has been reduced to 35% of the original number proposed for the duration of the COVID19 restrictions in order to ensure social distancing is achievable on site (a maximum of 7 staff in the southern trench at any one time to achieve adequate social distancing in the area).
- 5.3 All work will be carried out pursuant to CIFA standards, including those detailed in the 'Updated Guidelines to the Standards for Recording Human Remains'(2014) and following Historic England standards including 'Guidance for best practice for the treatment of human remains from Christian burial grounds in England'(2017).
- 5.4 Excavation of human remains will be undertaken pursuant to burial licence (ref 20-0023) obtained from the Ministry of Justice (see Fig 10).
- 5.5 A unique site code will be obtained from the Museum of London Archaeological Archive (LAA).
- 5.6 The recording system used during the excavation, including written and drawn records, will be the 'London system' based on the Museum of London Archaeology Service site Manual (MoLAS 1994) and will be fully compatible with LAA's requirements.
- 5.7 This will include, where appropriate:
  - Written records on pro forma context sheets
  - Hand drawn plans on drafting film at a scale of 1:20
  - Hand drawn sections on drafting film at a scale of 1:10 or 1:20
  - Harris stratigraphic matrix
  - Digital photographs
  - Context, photographic and sample registers

#### Survey

- 5.8 All setting out and recording will be via differential GNSS / GPS and optical Total Station systems. Site control will be tied into the Ordnance Survey National Grid and Ordnance Datum.
- 5.9 In addition to archaeological features, key horizons, area and trench set out, the OD height data for each excavation area will be recorded prior to commencement, along with the levels of the top of the superficial deposits and the top of the geological horizon.

#### Artefacts and environmental samples

- 5.10 Finds will be recovered from stratigraphic archaeological deposits.
- 5.11 Sampling approaches will be applied as appropriate e.g. bulk samples, column samples or monolith samples. The sampling strategy should be developed in consultation with GLAAS during the works. Sampling will be utilised to assist scientific dating
- 5.12 Finds and samples will be processed and assessed off site by appropriate specialists.
- 5.13 Marking, bagging and boxing of finds will follow the receiving body, LAA's guidelines.

- 5.14 Should gold, silver or other finds definable as treasure be made, they will be reported to the Coroner as stipulated in the Treasure Act of 1996, amended 2003.
- 5.15 Permission will be sought from the landowner, by LP Archaeology, to deposit all finds with the archive receiving body, in this case LAA. This will be secured via a signed Deed of Transfer.
- 5.17 A conservator may be brought in to lift large, delicate or fragile objects.
- 5.18 Any wooden artefacts will be kept wet to prevent collapse.
- 5.19 The sampling strategy applied to animal bone collection will be dependent on the significance of the archaeology under investigation.

#### 6. Methodology (site specific)

#### Excavation of human remains

- 6.1 All articulated burials present on site will be excavated by hand by a qualified, professional archaeologist. The following exclusions apply, as these remains present a biohazard:
  - Lead coffins (sealed or breached)
  - Any burials with soft tissue
- 6.2 Lead coffins and remains with soft tissue will be removed by a specialist exhumation contractor, Randall's Contracting (see Appendix A for methodology).
- 6.3 All spoil excavated on site during the watching brief (contractor led) or excavation (archaeologist led) will be graded for human bone by the Attendance Contractor. The Labourers from the attendance contactor will be trained by staff from the exhumation company. The Attendance Contractor will scan and collect the graded spoil for human bone which will be collected and stored on site. This process will be assured and supported by the archaeological team
- 6.4 All articulated burials which fall into the Red Zone along the perimeter will be recorded, hand excavated and lifted by the Archaeological Contractor (Fig 4).
- 6.5 All work will be in accordance with the Morgan Sindell safe system of work (Appendix 2) designed to manage the Coronavirus risk. If, at any time, these conditions cannot be met, archaeological work will be suspended.
- 6.6 It is anticipated that many of the grave cuts / burials will straddle two bays within the red zone. When safe and reasonably practicable to do so, any parts of a burial extending into the adjacent bay will be lifted at the same time the remains in the current bay are excavated. This will be most applicable to localised sections of a skeleton (I.e. the feet).
- 6.7 Where it is not safe or practical to do so, any sections of a burial extending into the adjacent bay will be protected using ply boards and the remainder of the burial will be excavated when the archaeological team are relocated to work in the adjacent bay.
- 6.8 Protective ply boards will be used where necessary to protect grave cuts/ human remains when the archaeological team exit the bay to allow the Attendance Contractor to enter the area and knock down the King Post shutters.
- 6.9 Pursuant to the burial licence, all human remains encountered will be treated with due care, dignity and respect. All human remains (including disarticulated bone) will be collected. Burials will be excavated and recorded according to the standards detailed in the Updated Guidelines to the standards for recording human remains, Chartered Institute for Archaeologists.
- 6.10 An osteologist will provide oversite and assurance of the excavation of articulated human remains on site.
- 6.11 No burials will be left exposed overnight.
- 6.12 Digital record photographs will be taken of all burials and significant charnel deposits.
- 6.13 Infant and neonatal burials will be block lifted to ensure all the bone is recovered. Any fragmentary burials / remains with bone in very poor condition will also be block lifted.
- 6.14 If foetal remains are found in utero, they will be retained with the remains of the mother.
- 6.15 Any suspected cremation deposits will be 100% sampled and the basal fills of any empty graves will be 100% sampled.
- 6.16 The majority of burials were found to be densely stacked on site. Any discrete burials, where

a clear definition of fill is present will be sampled for small bones, calcified fragments (for example, arterial plaques, bladder stones etc) and small artefacts. This will be undertaken by taking basal grave soil in three sub-samples, corresponding to the head, torso and leg /foot area, helps preserve information as to the approximate location in the grave of recovered material.

6.17 All remains will be carefully excavated by the Archaeological Contractor and stored by the Principal Contractor on site, until such a time when the remains are taken off-site for processing. during storage and onward transport.

#### Disarticulated bone

- 6.18 Disarticulated bone encountered during the watching brief and excavation will be collected, bagged and stored though it will not be formally recorded by an osteologist. A quick scan of disarticulated bone for unusual pathologies or post-mortem modification.
- 6.18 Any instances where disarticulated human bone is encountered as a discrete charnel assemblage, these remains will be recorded by an osteologist along with the assemblage of articulated burials.

#### 7 Reporting

- 7.1 On completion of the Part A watching brief excavation and watching brief, a short interim highlevel summary will be produced summarising the results.
- 7.2 When the Phase 2 (detail forthcoming) works are completed, a Post Excavation Assessment Report (PXA) and Updated Project Design will be produced by the Archaeological Contractor.
- 7.3 The PXA will be produced within 6 months of the completion of the Phase 2 field work and will be made available to the client and Historic England. Submission of the report to the Local Planning Authority will be carried out by the client or their planning consultant.
- 7.4 Skeletal remains excavated will be processed and assessed within the PXA. Analysis of the remains will be undertaken if required as per agreed UPD. It is intended that the full assemblage of remains will be reburied in consecrated ground (location to be defined). The PXA will highlight any proposals for retention of special cases to form part of the Museum of London's teaching collection.
- 7.5 The PXA shall include:
  - Non-technical summary
  - Introduction
  - Archaeological, historical and topographic background
  - Methodology
  - Summary of site sequence / stratigraphy
  - Finds Reports
  - Answering and updating of original research aims.
  - Discussion of potential / significance of the archaeology
  - UPD
  - Location figures and figures detailing archaeological findings
  - Bibliography
  - OASIS form
- 7.6 Along with the finds archive, the physical and digital project archive will be deposited at LAA. The archive will be prepared in accordance to the LAA guidelines Museum of London, General Standards for the preparation of archaeological archives deposited with the Museum of London, (2009) and standards set out in Society of Museum Archaeologists: Towards an Accessible Archive. The Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales (1995). The minimum standard for a site archive is set out in Management of Recording Projects in the Historic Environment (2015).
- 7.7 GIS shape files will be provided to the Greater London Historic Environment Record on completion of the project.
- 7.8 Brief summaries of the results will be included in the relevant academic journals.

#### 8 **Programme and site requirements**

#### Programme

- 8.1 The current programme is detailed in Fig 10 of this WSI, with an allowance for 11 weeks to excavate the southern area. Two weeks have been allowed for by the Principal Contractor to backfill the red zone on completion of the excavation.
- 8.2 Laura O' Gorman, GLAAS Adviser to Camden County Council, will be given 5 days' notice of the work starting on site, and will be kept updated as the work progresses, and a programme of monitoring visits will be agreed during the excavation. Due to the current ongoing restrictions relating to COVID 19 GLAAS are not undertaking site visits. To enable GLAAS to monitor the works the following measures will be implemented for the duration of the restrictions:
  - Regular site photos and summary reports
  - Virtual progress meetings
  - o Video site walkover

#### 9 Health and safety

9.1 The Archaeological Contractor will produce a site-specific Risk Assessment Method Statement (RAMS). These should be read in conjunction with this document.

#### 10 Bibliography

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Society of Museum Archaeologists 1995 Towards an Accessible Archive. The Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales

The Human Tissue Act, 2004

Treasure Act 1996 Code of Practice (2nd Revision), DCM

#### 11 Appendix A

- 11.2 Any burials with soft tissue present or remains contained within lead coffins will be removed by Randall's, a specialist exhumation contractor.
- 11.3 If hazardous remains are encountered, an exclusion zone of 5m around the remains will be defined and will be wrapped using specialist materials and removed by hand by the exhumation contractor where possible.
- 11.4 In some instances, the remains may need to be winched out of the trench using the machine as a hoist. Any burials removed using this method will be wrapped by the exhumation contractor, secured to ply boards and carefully hoisted out of the trench by the attendance contractor.
- 11.5 Remains will be placed into bags and then into opaque containers. Lead coffins will remain wrapped.
- 11.6 LP Archaeology will main a record of the location of the bay and grave stack where hazardous remains were encountered, though the archaeological team will not enter the exclusion zone until it has been declared safe to do so by the exhumation contractor and principal contractor.

#### 12 Appendix B

# Site Operating Procedures – Protecting Your Workforce

#### Contents

Introduction	1
Self-Isolation	1
Procedure if Someone Falls III	1
Travel to Site	2
Site Access Points	2
Hand Washing	2
Toilet Facilities	2
Canteens and Eating Arrangements	3
Changing Facilities, Showers and Drying Rooms	3
Avoiding Close Working	3
Cleaning	4

#### Introduction

Construction sites operating during the Coronavirus Covid-19 pandemic need to ensure they are protecting their workforce and minimising the risk of spread of infection.

This guidance is intended to introduce consistent measures on sites of all sizes in line with the Government's recommendations on <u>social distancing</u>.

# These are exceptional circumstances and the industry must comply with the latest Government advice on Coronavirus at all times.

The health and safety requirements of any construction activity must also not be compromised at this time. If an activity cannot be undertaken safely due to a lack of suitably qualified personnel being available or social distancing being implemented, it should not take place.

We are aware that emergency services are also under great pressure and may not be in a position to respond as quickly as usual.

Sites should remind the workforce at every opportunity of the Site Operating Procedures which are aimed at protecting them, their colleagues, their families and the UK population.

If a site is not consistently implementing the measures set out below, it may be required to shut down.

#### **Self-Isolation**

Anyone who meets one of the following criteria should not come to site:

- Has a high temperature or a new persistent cough follow the guidance on self-isolation
- Is a vulnerable person (by virtue of their age, underlying health condition, clinical condition or are pregnant)
- Is living with someone in <u>self-isolation</u> or a <u>vulnerable person</u>.

#### Procedure if Someone Falls III

If a worker develops a high temperature or a persistent cough while at work, they should:

- Return home immediately
- Avoid touching anything
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow.

They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed.

#### **Travel to Site**

- Wherever possible workers should travel to site alone using their own transport and sites need to consider:
  - Parking arrangements for additional cars and bicycles
  - o Other means of transport to avoid public transport e.g. cycling
  - Providing hand cleaning facilities at entrances and exits. This should be soap and water wherever possible or hand sanitiser if water is not available
  - How someone taken ill would get home.

#### **Site Access Points**

- Stop all non-essential visitors
- Introduce staggered start and finish times to reduce congestion and contact at all times
- Monitor site access points to enable social distancing you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring
- Remove or disable entry systems that require skin contact e.g. fingerprint scanners
- Require all workers to wash or clean their hands before entering or leaving the site
- Allow plenty of space (two metres) between people waiting to enter site
- Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times
- Reduce the number of people in attendance at site inductions and consider holding them outdoors wherever possible
- Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.

#### **Hand Washing**

- Provide additional hand washing facilities to the usual welfare facilities if a large spread out site or significant numbers of personnel on site
- Ensure soap and fresh water is readily available and kept topped up at all times
- · Provide hand sanitiser where hand washing facilities are unavailable
- Regularly clean the hand washing facilities and check soap and sanitiser levels
- Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.

# Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored.

#### **Toilet Facilities**

- Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant
- Wash hands before and after using the facilities
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.

#### **Canteens and Eating Arrangements**

With cafés and restaurants having been closed across the UK, canteens cannot operate as normal.

Whilst there is a requirement for construction sites to provide a means of heating food and making hot drinks, these are exceptional circumstances and where it is not possible to introduce a means of keeping equipment clean between use, kettles, microwaves etc. must be removed from use.

The workforce should also be required to stay on site once they have entered it and not use local shops.

- Dedicated eating areas should be identified on site to reduce food waste and contamination
- · Break times should be staggered to reduce congestion and contact at all times
- Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area
- The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home
- Workers should sit 2 metres apart from each other whilst eating and avoid all contact
- Where catering is provided on site, it should provide pre-prepared and wrapped food only
  - o Payments should be taken by contactless card wherever possible
  - Crockery, eating utensils, cups etc. should not be used
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced
- Tables should be cleaned between each use
- All rubbish should be put straight in the bin and not left for someone else to clear up
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.

#### **Changing Facilities, Showers and Drying Rooms**

- Introduce staggered start and finish times to reduce congestion and contact at all times
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day
- Consider increasing the number or size of facilities available on site if possible
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of two metres
- Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal.

#### **Avoiding Close Working**

There will be situations where it is not possible or safe for workers to distance themselves from each other by 2 metres.

#### **General Principles**

- Non-essential physical work that requires close contact between workers should not be carried out
- Work requiring skin to skin contact should not be carried out
- Plan all other work to minimise contact between workers
- Re-usable PPE should be thoroughly cleaned after use and not shared between workers
- Single use PPE should be disposed of so that it cannot be reused
- Stairs should be used in preference to lifts or hoists
- Where lifts or hoists must be used:
  - Lower their capacity to reduce congestion and contact at all times



Fig 1 Site Location



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Project

# BEDFORD PASSAGE DEVELOPMENT

UK & IRELAND

Client MIDDLESEX ANNEXE LLP

### Consultant

AECOM Aldgate Tower 2 Leman Street London E1 8FA United Kingdom Tel +44 (0) 20 7061 7000 www.aecom.com

### Notes

- Do not scale from this drawing. Work to figured dimensions only.
- This drawing is to be read in conjunction with: - General notes drawing MHA-ACM-00-ZZ-DR-SE-00001
- Design reports - Survey and Interpretative Reports
- Project Specifications and Performance Specifications
- Health and Safety Hazard Register - Relevant drawings and documentation issued by the architect, engineers and specialists. - Building Information Model (BIM)
- Outline Construction Methodology - Movements and Tolerances Report
- All dimensions are in mm except levels which are in metres and relate to [ordance datum].
- Any discrepancies shall be referred to the Designer before work commences.

# Work In Progress

**Issue/Revision** 

T4	26.10.18	TENDER - STAGE 1
Т3	19.06.18	STAGE 4 TENDER (2)
T2	01.05.18	STAGE 4 TENDER
T1	29.03.18	STAGE 4 TENDER (DRAFT)
A	23.01.18	STAGE 3 ISSUE. WIP
Rev	Date	Description
	•	

Key Plan

### CONTRACT B, PART 1

Purpose Of Issue

**TENDER - STAGE 1** 

Project Number

60516144

Sheet Title

Foundation Plan

### Sheet Number

MHA-ACM-00-B1-DR-SE-01013

Scale: 1:100@A1



Fig 3 Section through the proposed basement showing formation levels



Project

# BEDFORD PASSAGE DEVELOPMENT

UK & IRELAND

Client **MIDDLESEX** ANNEXE LLP

### Consultant

AECOM Aldgate Tower 2 Leman Street London E1 8FA United Kingdom Tel +44 (0) 20 7061 7000 www.aecom.com

### Notes

- Do not scale from this drawing. Work to figured dimensions only.
- This drawing is to be read in conjunction with: General notes drawing MHA-ACM-00-ZZ-DR-SE-00001
- Design reports - Survey and Interpretative Reports
- Project Specifications and Performance Specifications
- Health and Safety Hazard Register
  Relevant drawings and documentation issued by the architect, Relevant drawings and documental engineers and specialists.
   Building Information Model (BIM)
   Outline Construction Methodology
- Movements and Tolerances Report
- All dimensions are in mm except levels which are in metres and relate to [ordance datum].
- Any discrepancies shall be referred to the Designer before work commences.

# Work In Progress

Issue/Revision

T4	26.10.18	TENDER - STAGE 1
Т3	19.06.18	STAGE 4 TENDER (2)
T2	01.05.18	STAGE 4 TENDER
T1	29.03.18	STAGE 4 TENDER (DRAFT)
A	21.12.17	STAGE 3 ISSUE. WIP
Rev	Date	Description

Key Plan

# CONTRACT B, PART 1

Purpose Of Issue

**TENDER - STAGE 1** 

Project Number

# 60516144

Sheet Title **Basement Sections** Sheet 1

### Sheet Number

MHA-ACM-00-XX-DR-SE-04008

Scale: 1:50@A1



AECOM

PROJECT

BEDFORD PASSAGE DEVELOPMENT

CLIENT

MIDDLESEX ANNEXE LLP

### CONSULTANT

AECOM Aldgate Tower 2 Leman Street London, E1 8FA www.aecom.com

GENERAL NOTES

#### **ISSUE/REVISION**

С	25.11.2019	NORTH BOUNDARY UPDATED
В	21.11.2019	EAST BOUNDARY UPDATED THROUGH
		COORDINATION WITH MORGAN SINDALL
		ISSUED FOR INFORMATION
А	14.11.2019	LAYOUT UPDATED TO SUIT LD
I/R	DATE	DESCRIPTION
		•

#### **KEY PLAN**

PROJECT NUMBER

60516144

SHEET TITLE

PROPOSED SECANT PILE WALL LAYOUT TO BOUNDARY WALLS

### SHEET NUMBER

MHA-ACM-BW.2-XX-DR-S-00001



Fig 5 Location of evaluation test trenches





	NOTES
	NOTE: ALL STEEL GRADE 355
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	SECTION MARKER
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	F SHAFT RELOCATED 20/02/2020
	E DETAILS & NOTES ADDED. SHAFT ADDED. 18/02/2020
	D PROPS REMOVED. KING POSTS CHANGED TO 305 UC 97 05/02/2020
	C MIDDLE LINE & NORTHERN LINE OF KING POSTS EXTENDED TO 30.0m 19/12/2019
	B LAYOUT REVISED 19/12/2019
	A     LAYOUT REVISED & SEQUENCE ADDED     16/12/2019       Rev     Revision     Date
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	P PRELIMINARY A APPROVAL T TENDER
	COVI E KENNEDV
	Consulting Engineers
	Third Floor,
	GW Business Centre, Great West House, Great West Road
	Brentford TW8 9DF, England
	Tel: +44(0)203 393 1174Website: www.coylekennedy.comFax: +44(0)203 004 1234email: mail@coylekennedy.com
	PROJECT BEDFORD PASSAGE
	CLIENT MODEBEST
	KING POST WALL - TEMPORARY WORKS
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*Chart revision date: 04/02/2020* 

Enabling Works - Contract Programme

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6	Ref. 4.6.1 & 4.6.2 CMP for Archaeology & Piling (MS)		07/05/2020	07/05/2020					6													2						
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20	investigation Negotiate party wall agreements	5w 4d	07/02/2020	18/03/2020			21														-   -		+	+ $+$ $+$				
21	(Tottenham Mews investigation) Party Wall Agreements in place for WSI 1		01102/2020	10/03/2020																					+++			
22	13 Tottenham Mews investigation works		19/03/2020	19/03/2020			22																					
23	Issue information for 13 Tottenham Mews underpinning		12/05/2020	12/05/2020					23															+				$\square$
24	(Tottenham Mews underpinning)	2w	13/05/2020	27/05/2020					24															+				
25	Party Wall Agreements in place for WSI 1 13 Tottenham Mews underpinning works		28/05/2020	28/05/2020						25												1						
26	Issue information for Temporary/ Permanent works (App2)		19/05/2020	19/05/2020					26													1						
27	Negotiate party wall agreements	8w	21/05/2020	16/07/2020						27												R						
28	Party Wall Agreements in place for WSI 1 South & East Boundary Secant works		17/07/2020	17/07/2020								8										1						
29	Archaeology (Client Team)	23w	06/01/2020	19/06/2020		29					록													+				
<u>30</u>	START ON SITE WSI 1 works		<u>06/01/2020</u>	<u>06/01/2020</u>		30,																			/			
32	Ark Build Works - Key dates	78w	20/12/2019	<u>19/06/2020</u> 29/07/2021		32				A 3	Ŷ											14						
22	Ark Build to be clear of the East face of the		11/05/2020 *	11/05/2020																								
33	North House to allow new Build Access		11/03/2020	11/05/2020					23																			
34	face of the Work House to allow new Build Access		11/05/2020 *	11/05/2020					34🍑													2						
25	Ark Build to be clear of the East and North		20/01/2022 +	20/01/2022																								
55	access as per the interface document		20/01/2020 -	20/01/2020		33																						
26	Ark Build deadline for completion of Bedford Passage temporary crossover/		20/12/2010 1	20/12/2010														1			T							
36	Cleveland Street hoarding (Complete for 6th Jan)		20/12/2019 *	20/12/2019		30																						
37	Ark Build commencement of the Bedford Passage Culvert works		19/05/2021	19/05/2021																				37				
38	Ark Build deadline for completion of Bedford Passage Culvert works		29/07/2021	29/07/2021																			118	┤┤╀┤			38	
39	Information required	13w 3d	13/01/2020	20/04/2020		39																						
40	Results and interpretive report from further Ground Investigation		13/01/2020	13/01/2020		40																						μЦ
41	capping beam - construction issue design information		16/03/2020	16/03/2020			41		_   []									1 + + +			-   -			+				$\square$
42	Final Construction information for the piling design- see notes below the milestone date		16/03/2020	16/03/2020			42											1										
						Cut off levels of the wall. Surcharge loads from the perimeter wa	III.																					
						Depth and size of the boundary wall all Size of the footing for the boundary wal	ong Middlesex House. Il along Middlesex house.											1 + + +			-   -							$\square$
						Distance between the centre of the wal Specification with updates.	I and the face of each boundary.										+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	┦─┼─┼─			-   -		+					
						Level of the ground floor slab. Size of the basement slab.												+ + + -			-   -			+ + + + + +				
-						Tolerance of verticality for the piles. Positional tolerance of the piles.	<b>.</b>																	+ ++++				
						Any surcharge restrictions as a result o	of our piling rig on the perimeter wa	IS (Middlesex in par	rticula <b>n)</b>																			
43	Produce design for - 13 Tottenham Mews Underpinning	1w	09/04/2020	17/04/2020				43																				
44	Design information (Prov sum) - 13 Tottenham Mews Underpinning		20/04/2020	20/04/2020				44	>   <u> </u>																			
45	MS lead in	2w 4d	03/12/2019	20/12/2019	45																							
46	MS procurement & lead in Period for works under App1	2w 4d	03/12/2019	20/12/2019	46																							μЦ
47	Procurement & Lead in for welfare setup	2w 4d	03/12/2019	20/12/2019	47																	K I						
48	Enabling Works	84w 4d	04/11/2019	28/07/2021 4	48											8 I I			<u>.</u>				1					
Dr	awn by: Jame	es K	kidge	11	Dwg	g No. BPD-E	EW-001			Re	evisio	n No.	02				Notes:	Revisio	n incl	udes	chang	jes fo	or; EV	/ AI01	sırte	wide	oiling r	nat

Fig 9 Programme





Chart revision date: *04/02/2020* 

Enabling Works - Contract Programme

			Chart	t Finish		2019 D. November January February							2020 bruary y March y April y May y June y July y Augu			August Sentember October November December				2021																			
Line	Name	Duration	Start	Finish	0 No	vember	Decer	mber	Janua	ary I	February	Mar	ch	April	1 1	May	June	22 20	July	 	lugust	September	r Oct	ober 10 20 2	November	Decen	iber	January	Febru	ary	March	<u>а 20 г. –</u>	April	M	lay 17 24 2	June	21 20 5	July	August
					4 11	8 7 6	2 9 1	10 23 30	b 13	20 2/ 3	10 1/ 24	<u>2</u> 9 <u>1</u>	6 23 30 6	13 20	2/ 4 11 17.18.10	18 25	1 8 15	4.25.26	0 13 2U	<u>  2/ 3  10</u> 0.30.31.3	1/ 24 3	31 / 14 Z	1 28 5 12 28 20 40 41	19 26 2	9 10	23 30 / 14 47 48 40 50	21 28 4	11 18 25	1 8 1 57 58	5 22 1 50 60 61	8 15 Z	2 29 5 .	12 19 20 67 68 6	0 3 10 0 70 71	1/ 24 3	1 / 14	21 28 5 77 78 70	12 19 2 80 81	20 2 9
49	Provisional Sums	78w 4d	02/12/2019	15/07/2021		49	-j - <del>1</del>		. 1 2	JTJ	0 7 0	9 10 .		10 10	1/ 10 1	0 20 21		T 2J 20	2/ 20 2	.9 JU JI J.	2 JJ JT	JJ J0 J/ .	JU JJ TU TI	. TZ TJ -	עד די ד	1/ 10 17 JU	JI JZ J.	1 J1 J1 J0	J/ J0	J9 00 01	02 03 0		0/ 00 0	5 70 71	72 TJ	/T /J /0	77 70 73		02 03 04
50	East elevation retaining structure	4w	02/12/2019	13/01/2020		50																																	
51	Design Period (Prov sum) - East elevation retaining structure	2w	02/12/2019	13/12/2019		51																												1					
52	Pricing (Prov sum) - East elevation retaining structure	1w	16/12/2019	20/12/2019			52																											1					
53	Review pricing (Prov sum) - East elevation retaining structure	1w	06/01/2020	10/01/2020				5	3																		1XA							8					
54	Instruct Prov sum - East elevation retaining structure		13/01/2020	13/01/2020					54																														
55	TBS Plinth MS submit price for (Prov sum) - TBS	4w	02/12/2019	13/01/2020		55																																	
56	Plinth design Review pricing (Prov sum) - TBS Plinth	4	02/12/2019	02/12/2019		56 <																												4					
58	design	IW	09/12/2019	09/12/2019		5/	58																											<u> </u>					
59	Design Period (Prov sum) - TBS Plinth	1w	09/12/2019	13/12/2019			59																											1					
60	Pricing (Prov sum) - TBS Plinth	1w	16/12/2019	20/12/2019			60																											1					
61	Review pricing (Prov sum) - TBS Plinth	1w	06/01/2020	10/01/2020				6	1																									1					
62	Instruct Prov sum - TBS Plinth		13/01/2020	13/01/2020					62																							- F							
63	13 Tottenham Mews underpinning	15w	16/01/2020	05/05/2020					63		***			<u> </u>	~~~~;																			9					
64	Decide on investigation method (Prov sum) - Tottenham Mews Investigation		16/01/2020 *	16/01/2020					64																														
65	Pricing (Prov sum) - Tottenham Mews Investigation	2w	16/01/2020	29/01/2020					65																														
66	Review pricing (Prov sum) - Tottenham Mews Investigation	1w	30/01/2020	05/02/2020						66						11									$\downarrow \downarrow \downarrow$														$\square$
67	Instruct Provisum - Tottenham Mews Investigation		06/02/2020	06/02/2020						67 🗸	<u>     </u>																												$\mu$
68	Tottenham Mews Underpinning Pricing (Proy sum) - Tottenham Mews		20/04/2020	20/04/2020					1					68					-						+								+					+	
69	Underpinning Review pricing (Prov sum) - Tottenham	1w	20/04/2020	24/04/2020		++								69																_			$\rightarrow$					+	
70	Mews Underpinning Instruct Prov sum - Tottenham Mews	1w	27/04/2020	01/05/2020										/ /0																									
71	Underpinning Instruct Prov Sum -Prepare piling zone		05/05/2020	05/05/2020		+					+ $+$ $+$ $+$					- 1																						+ $+$ $+$	
72	where back fill/ basement material is not suitable (Undefined Prov. Sum)		24/04/2020	24/04/2020										72																									
73	Tent foundations Design & Prep	9w 4d	21/01/2020	30/03/2020					73			111																										+	$\square$
74	foundations design MS submit price for (Prov sum) -	2w	21/01/2020	03/02/2020		+			74		$\left  \right $																							<u> </u>				+	
75	Scaffold Tent foundatoins design Review pricing (Prov sum) - Scaffold	4	04/02/2020	04/02/2020						75																								<u> </u>					
70	Tent foundations design Instruct Prov sum - Scaffold Tent	IW	11/02/2020	11/02/2020		+				76																												+ $+$ $+$	
70	foundations design Cost estimate for (Prov sum) - Scaffold		11/02/2020	00/00/0000		+					$\mathbf{Y}$																							1				+	
78	I fent foundations prep work (i.e.cofferdams)	2w	09/03/2020	20/03/2020								78																											
79	Tent foundations prep work	1w	23/03/2020	27/03/2020					1				79																										
80	foundations prep work	00	30/03/2020	30/03/2020		+			+		$\left  \right $																											+	
82	Pricing (Prov sum) - Scaffold Tent	22W	09/03/2020	20/03/2020		++						81																											
83	foundations Review pricing (Prov sum) - Scaffold	2w	23/03/2020	03/04/2020							+ $+$ $+$		83																										
84	Instruct Prov sum - Scaffold Tent		14/08/2020	14/08/2020																84														1					
85	Grubbing Out foundations South	6w	17/03/2020	29/04/2020								85		ú	<b>9</b>																			1					
86	Pricing (Prov sum) - Grubbing out	2w	17/03/2020	30/03/2020								86		1																									
87	MS submit price for (Prov sum) - Grubbing out redundant foundations		31/03/2020	31/03/2020									87	1																									
	design										+	+				+					$\parallel \mid \mid$																		
88	out redundant foundations design	1w	31/03/2020	06/04/2020									88																										
89	Instruct Prov sum - Grubbing out redundant foundations design		07/04/2020	07/04/2020									89 🔶																										$\square$
90	Cost estimate for (Prov sum) - Grubbing out redundant foundations work	2w	07/04/2020	22/04/2020									90																										
91	Review pricing (Prov sum) - Grubbing	1w	23/04/2020	29/04/2020										91	┪╿╢																								
	Instruct Prov sum - Grubbing out					+			+		+++	+++			Ţ╎╢	┤╏┤									+		H						+			+		+ $+$ $+$	
92	redundant foundations (south east corner)		28/04/2020	28/04/2020					1					92	<b>X      </b>																								$\square$
93	South East corner propping	8w	08/01/2021	05/03/2021					1																		93												
94	East corner propping design Review pricing (Prov sum) - South East	2	08/01/2021	08/01/2021																							94												
95	corner propping design Instruct Prov sum - South East corner	Zw	22/01/2021	22/01/2021																							95												
97	propping design Design Period (Prov sum) - South East	2w	22/01/2021	04/02/2021		+																						90											
98	Pricing (Prov sum) - South East corner	2w	05/02/2021	18/02/2021																									98										
99	Review pricing (Prov sum) - South East	2w	19/02/2021	04/03/2021								++																		99									
100	Instruct Prov sum - South East corner propping		05/03/2021	05/03/2021																										100									
101	Guide Wall	6w	06/04/2020	21/05/2020									101			┿┓╢																							
102	Design Period (Prov sum) - Guide Wall	2w	06/04/2020	21/04/2020									102																										$\mu$
103	Pricing (Prov sum) - Guide Wall	2w	22/04/2020	06/05/2020					∦					103			$\square$		-						+								+					+	
104	Review pricing (Prov sum) - Guide Wall	2w	07/05/2020	20/05/2020		+					+++	+													+								+					+ $+$ $+$	
105 106	Lining to Scaffold Gutter	4w	14/08/2020	14/09/2020		++					+++	++				Ÿ <b>Y</b>			++	106					+								++			++		+++	
	awn by: Jame		Cidae	11	<u>n a sea a</u> n an							$\overline{01}$			والمعل يتعابله			viei			02						otes: F	Revisio	n inc	ludes	char	nges f	or; E	W AI	01 s	irte w	ide pi	iling r	mat
	awn by. bank		lage	••			9	<b>U</b> . I			••-0						1.0	v 131		INC.	<u> </u>											-						-	





Chart revision date: *04/02/2020* 

Enabling Works - Contract Programme

					2019			2020		
Line	Name	Duration	Start	Finish	0 November December	January February	March April May	June July August	September October November	December January February
					4 <u>11 18 25 2 9 16 23 30</u>	<u>6  13  20  27  3  10  17  24  2</u>	<u>9 16 23 30 6 13 20 27 4 11 18 25</u> 10 11 12 13 14 15 16 17 18 19 20 21	<u>1  8  15  22  29  6  13  20  27  3  10  17  24  31  </u>	17 14 21 28 5 12 19 26 2 9 16 23 30 5 5 26 2 9 16 12 30 5 5 26 27 39 30 40 41 42 43 43 44 45 46 47 49	7 <u>14 21 28 4 11 18 25 1 8 15</u>
107	Design Period (Prov sum) - Lining to	2w	14/08/2020	27/08/2020					J JU J/ JU J	75 JU JI JZ JJ JT JJ JU J/ J0 J7
108	Pricing (Prov sum) - Lining to Scaffold Gutter	1w	28/08/2020	04/09/2020				108		
109	Review pricing (Prov sum) - Lining to Scaffold Gutter	1w	07/09/2020	11/09/2020					9	
110	Gutter	9.47	14/09/2020	14/09/2020						
112	MS submit price for (Prov sum) - Ramp	ow	19/05/2021	19/05/2021						
113	Review pricing (Prov sum) - Ramp into basement dig area	2w	19/05/2021	02/06/2021						
114	Instruct Prov sum - Ramp into basement dig area design		03/06/2021	03/06/2021						
115	Design Period (Prov sum) - Ramp into basement dig area	2w	03/06/2021	16/06/2021						
116	basement dig area Review pricing (Prov sum) -Ramp into	2w 2w	17/06/2021	30/06/2021						
118	basement dig area Instruct Prov sum - Ramp into basement	2.00	15/07/2021	15/07/2021						
119	Morgan Sindall design	16w	06/01/2020	28/04/2020						
120	Scaffold tent strucutre design	6w	06/01/2020	14/02/2020	112					
121	Scaffold tent design third party checks Scaffold tent foundation design (Temp	2w 3w	17/02/2020	28/02/2020						
123	Works Engineer) Scaffold tent design comments review/adjustments	2w	02/03/2020	13/03/2020		123				
124	Secant & tent foundation piling design	6w	16/03/2020	28/04/2020			124			
125	TBS - LV POC	12w	04/11/2019	07/02/2020	125					
126 127	UKPS design period	6w 2w	04/11/2019 * 16/12/2019	13/12/2019	126	┨ <u></u> ┛┥┤┊╎┤┊				
128	Ground works on site	2w	13/01/2020	24/01/2020		128				
129	UKPS Lead in	3w	13/01/2020	31/01/2020		129				
130	UKPS works on site	1w 23w	03/02/2020	07/02/2020		130				
132	Section 1- Site setup and WSI 1	2011 5w	06/01/2020	07/02/2020		2				
133	Section 1 Commencement		06/01/2020	06/01/2020	133					
134	South House Tunnel - Infill/Propping (defined Prov Sum)	2w	20/01/2020	31/01/2020		134				
135	UKPN TBS Ground works on site (Modebest - plinth and ducts)	2w	13/01/2020	24/01/2020		135				
136	units)	1d	03/02/2020	03/02/2020		136				
137	Securing Site- Hoardings	4w 2w	27/01/2020 *	07/02/2020						
139	Section 1 Completed		10/02/2020	10/02/2020		139				
140	Generator hire period - in lieu of TBS (as not to extend or prevent	5w 2d	06/01/2020	12/02/2020	14					
	the completion of section 1)									
141	On Hire generator required to provide power to the sitre works and welfare Off Hire generator required to provide		06/01/2020	06/01/2020	141					
142	power to the sitre works and welfare Temporay services commission	2d	12/02/2020	12/02/2020						
144	Temporary Welfare unit(s) hire	6w	02/02/2020	16/02/2020						
144	Astor delay		03/02/2020	10/03/2020						
145 146	Welfare units off hire		16/03/2020	16/03/2020			146			
147	2 week Notice to commence to Archaeology watching brief team(Client		27/01/2020	27/01/2020		147				
140	action- MS to advise) 4 week Notice to commence to Argherology working teep (0) of a third		17/00/0000	17/02/2022						
140	MS to advise)	49.0	10/02/2020	18/06/2020		148				
150	Section 2 Commencement	iow	10/02/2020	10/02/2020		150				
151	Astor College Gym Fitout	5w	10/02/2020	16/03/2020		151				
152	Astor Gym- Strip out works	1w	10/02/2020 *	14/02/2020		152				
153	Astor Gym- Fitout (Walls etc) Astor Gym- Fitout (Temp	3W	17/02/2020	28/02/2020		153				
104	services) - first fix Astor Gym- Fitout (Temp	1	00/02/2020	12/02/2020						
155	services) - second fix	1w	09/03/2020	13/03/2020		15				
157	Astor Gym- power switch on	IVV	13/03/2020	13/03/2020						
158	Fitout complete		16/03/2020	16/03/2020			158			
159	Preparation works East Elevation retaining structure	18w	10/02/2020	18/06/2020		159				
160	(Undefined Prov. Sum) East Elevation retaining structure -		10/02/2020	10/02/2020		160 -2w				
161	Indicative works period for the undefined scope works	4w	10/02/2020	06/03/2020		161				
162 163	Temporary works Install (South	2w 1d	10/02/2020	13/03/2020		163				
164	Boundary) Piling mat	1w	10/02/2020	14/02/2020		164				
165	Piling mat- North	1w	17/02/2020	21/02/2020		165				
Dr	rawn by: Jame	es k	Kidge	11	Dwg No.	BPD-EW-00	1	Revision No. 02	· · · · · · · · · · · · · · · · · · ·	Notes: Revision inclu
	-		-					1	I	



MORGAN SINDALL CONSTRUCTION



Chart revision date: *04/02/2020* 

Enabling Works - Contract Programme

					2019			2020		1		
1.1	Nama	Dunching	011	Finish	0 November December	January February March April	May	June July August	September October Novembe	r December January February		
Line	Name	Duration	Start	Finish	4 11 18 25 2 9 16 23 30	<u>6 13 20 27 3 10 17 24 2 9 16 23 30 6 13 20</u>	0 27 4 11 18 25 1 8	15 22 29 6 13 20 27 3 10 17 24	31 7 14 21 28 5 12 19 26 2 9 16	23 30 7 14 21 28 4 11 18 25 1 8 15		
					-9 -8 -7 -6 -5 -4 -3 -2 -	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	16 17 18 19 20 21 22 2	3 24 25 26 27 28 29 30 31 32 33 34	4 35 36 37 38 39 40 41 42 43 44 45 46	47 48 49 50 51 52 53 54 55 56 57 58 59		
166	Pile coring & stand columns	1w 3d	17/02/2020	26/02/2020		166						
167	Pile coring & stand columns- North	1w	27/02/2020	04/03/2020		167						
168	I rench out for beams and walers, lay & weld	1w 2d	24/02/2020	03/03/2020		168						
169	& weld- North	1w 2d	04/03/2020	12/03/2020		169						
170	Install props - waler to head of wall	2d	03/03/2020	04/03/2020		170						
171	and approve permit to load	1d	05/03/2020	05/03/2020								
172	material - with machine	1d	06/03/2020	06/03/2020		172						
173	Install horizontal timber props	2d	09/03/2020	10/03/2020								
174	burials Handover to Archaeological team for	3d	10/03/2020	12/03/2020								
175	hand digging Archaeological works excavation &		13/03/2020	13/03/2020								
176	reinstate (South Boundary)	13w	16/03/2020	18/06/2020		176 W						
177	1a [leam 1]	11w	16/03/2020	04/06/2020								
178	compacted layers & remove sheets	2w	05/06/2020	18/06/2020			178					
179	Archaeological notice of completion required		21/05/2020	21/05/2020			179					
180	WSI 2 Preparation works (Contained	12w 1d	19/03/2020	17/06/2020		180 00000000000000000000000000000000000		2022				
40.1	Scaffold Tent foundations prep work		00/00/00005	00/00/0000								
181	(Undefined Prov. Sum) Scaffold Tent foundations prep work-		30/03/2020	30/03/2020								
182	Indicative works period for the undefined scope works	4w	30/03/2020	28/04/2020								
183	Grubbing out redundant foundations (south east corner) (Undefined Prov.		28/04/2020	28/04/2020		183	33					
-	Sum)											
184	(south east corner)- Indicative works	4w	28/04/2020	27/05/2020								
185	Investigation to 13 Tottenham Mews		19/03/2020	19/03/2020								
100	property (Undefined Prov. Sum) Investigation to 13 Tottenham Mews		13/03/2020	13/03/2020								
186	property- Indicative works period for the undefined scope works	3w	19/03/2020	08/04/2020		186						
187	Underpinning to Tottenham Mews property - Produce Method & RAMS	1w	05/05/2020	11/05/2020			187					
188	Underpinning to Tottenham Mews property (Undefined Prov. Sum)		28/05/2020	28/05/2020			188					
189	Underpinning to Tottenham Mews property- Indicative works period for the	3w	28/05/2020	17/06/2020			189					
	Undefined scope works Prepare piling zone where back fill/						-2/1					
190	(Undefined Prov. Sum)		11/05/2020	11/05/2020								
191	Prepare piling zone- Indicative works period for the undefined scope works	4w	11/05/2020	08/06/2020			191					
192	Archaeological notice of completion		21/05/2020	21/05/2020			192					
193	WSI 2 works	58w 4d	21/05/2020	28/07/2021			193					
194	Piling rig lead in	8w	21/05/2020	16/07/2020			194					
195	Section 3 Commencement		19/06/2020	19/06/2020				195				
196	Section 3 - Piling & Capping Beam	18w	19/06/2020	23/10/2020				196				
197	Install guide wall South (Prov sum - defined period)	2w	19/06/2020	02/07/2020				197				
198	Install piling mat South (Prov sum - defined period)	2w	03/07/2020	16/07/2020				198				
199	Secant piling (Keltbray)	4w	17/07/2020	13/08/2020				199				
200	Capping Beam (South 50%)	3w	14/08/2020	04/09/2020				200				
201	Scattoid tent foundations (Undefined Prov. Sum) - earliest start date		14/08/2020	14/08/2020				201				
202	scattold tent toundations- Indicative works period for the undefined scope	4w	14/08/2020	11/09/2020				202				
203	Scaffold tent installation	5w	14/09/2020	16/10/2020		<u>╡</u> ╎╎╎╎╎╎╎╎╎╎╎╎			203			
204	Tent fit out	2w	12/10/2020	23/10/2020								
205	Prepare for WSI 2 start Bulk excavation zone 1	4w	28/08/2020	25/09/2020				205				
206	4 week Notice to commence issued to Archaeology Team (Client action- MS to		28/09/2020	28/09/2020					206 🔷 4w			
207	advise) Section 4 - Bulk excavation	36w 4d	26/10/2020	28/07/2021					207			
208	WSI 2 Bulk excavation zone 1	12w	26/10/2020	29/01/2021					208			
209	Prepare for WSI 2 start Bulk excavation	2w	18/01/2021	29/01/2021						209		
210	Move rolling roof to position 2	2d	01/02/2021	02/02/2021						210		
211	WSI 2 Bulk excavation zone 2	12w	03/02/2021	29/04/2021						211		
212	Prepare for WSI 2 start Bulk excavation zone 3	2w	16/04/2021	29/04/2021								
213	South east corner propping (Undefined Prov. Sum)		06/04/2021	06/04/2021								
214	South east corner propping- Allowable works period for the undefined scope	4w	06/04/2021	04/05/2021								
215	works	24	30/04/2021	04/05/2021								
216	WSI 2 Bulk excavation zone 3	12w	05/05/2021	28/07/2021								
Bed	ford Passage											
	Client team		Archaeol	ogy Actions	Aecom Str	uctures Actions Morgan Sindall Actions	s 🗾 N	Middlesex Annex LLP Actions	Party Wall Actions	Summary Bar		
	Instruct Prov Sum Undefined/Indicative time allowance Archaeology Team 1											
D	awn by: Jame	es k	Kidge	11	Dwg No.	BPD-EW-001		evision No. 02		Notes: Revision inclu		
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