AECOM



Stag Brewery, Mortlake

Framework Construction Management Statement

For Reselton Properties

March 2022

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Framework Construction Management Statement

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1. Introduction

1.1 This Framework Construction Management Plan has been prepared by AECOM on behalf of Reselton Properties Limited ("the Applicant") in support of two linked planning applications ("the Applications") for the comprehensive redevelopment of the former Stag Brewery Site in Mortlake ("the Site") within the London Borough of Richmond upon Thames (LBRuT).

Proposals

1.2 The Applications seek planning permission for:

Application A:

"Hybrid application to include the demolition of existing buildings to allow for comprehensive phased redevelopment of the site:

Planning permission is sought in detail for works to the east side of Ship Lane which comprise:

- a) Demolition of existing buildings (except the Maltings and the façade of the Bottling Plant and former Hotel), walls, associated structures, site clearance and groundworks
- b) Alterations and extensions to existing buildings and erection of buildings varying in height from 3 to 9 storeys plus a basement of one to two storeys below ground
- c) Residential apartments
- d) Flexible use floorspace for:
 - Retail, financial and professional services, café/restaurant and drinking establishment uses
 - ii. Offices
 - iii. Non-residential institutions and community use
 - iv. Boathouse

- e) Hotel / public house with accommodation
- f) Cinema
- a) Offices
- h) New pedestrian, vehicle and cycle accesses and internal routes, and associated highway works
- i) Provision of on-site cycle, vehicle and servicing parking at surface and basement level
- j) Provision of public open space, amenity and play space and landscaping
- k) Flood defence and towpath works
- I) Installation of plant and energy equipment

Planning permission is also sought in outline with all matters reserved for works to the west of Ship Lane which comprise:

- a) The erection of a single storey basement and buildings varying in height from 3 to 8 storeys
- b) Residential development
- c) Provision of on-site cycle, vehicle and servicing parking
- d) Provision of public open space, amenity and play space and landscaping
- e) New pedestrian, vehicle and cycle accesses and internal routes, and associated highways works"

Application B:

"Detailed planning permission for the erection of a three-storey building to provide a new secondary school with sixth form; sports pitch with floodlighting, external MUGA and play space; and associated external works including landscaping, car and cycle parking, new access routes and other associated works"

1.3 Together, Applications A and B described above comprise the 'Proposed Development'.

Background to Submission

- 1.4 The Applications follow earlier planning applications which were refused by the Greater London Authority. The refused applications were for:
 - a) Application A hybrid planning application for comprehensive mixed use redevelopment of the former Stag Brewery site consisting of:
 - i. Land to the east of Ship Lane applied for in detail (referred to as 'Development Area 1' throughout); and
 - ii. Land to the west of Ship Lane (excluding the school) applied for in outline (referred to as 'Development Area 2' throughout).
 - b) Application B detailed planning application for the school (on land to the west of Ship Lane).
 - c) Application C detailed planning application for highways and landscape works at Chalkers Corner.
- 1.5 The LBRuT (the Council) originally resolved to grant planning permission for Applications A and B but refuse Application C.
- 1.6 Following the LBRuT's resolution to approve the applications A and B, the Mayor called-in the applications and became the determining authority. The Mayor's reasons for calling in the applications were set out in his Stage II letter (dated 4 May 2020) but specifically related to concerns regarding what he considered was a low percentage of affordable housing being proposed for the Site and the need to secure a highways solution for the scheme following the LBRuT's refusal of Application C.
- 1.7 Working with the Mayor's team, the Applicant sought to meaningfully respond to the Mayor's concerns on the applications. A summary of the revisions to the scheme made and submitted to the GLA in July 2020 is as follows:
 - i. Increase in residential unit provision from up to 813 units to up to 1,250 units;
 - ii. Increase in affordable housing provision from (up to) 17%, to 30%;
 - iii. Increase in height for some buildings of up to three storeys;

- iv. Change to the layout of Blocks 18 and 19, conversion of Block 20 from a terrace row of housing to two four storey buildings;
- Reduction in the size of the western basement, resulting in an overall car parking spaces reduction of 186 spaces and introduction of an additional basement storey under Block 1;
- vi. Internal layout changes and removal of the nursing home and assisted living in Development Area 2;
- vii. Landscaping amendments, including canopy removal of four trees on the north west corner of the Site; and
- viii. Alternative options to Chalkers Corner in order to mitigate traffic impacts through works to highway land only and allow the withdrawal of Application C.
- 1.8 Application A was amended to reflect these changes.
- 1.9 Notwithstanding this, and despite GLA officers recommending approval, the Mayor refused the applications in August 2021.
- 1.10 The Mayor's reasons for refusal in respect of Application A were:
 - (i) height, bulk and mass, which would result in an unduly obtrusive and discordant form of development in this 'arcadian' setting which would be harmful to the townscape, character and appearance of the surrounding area;
 - (ii) heritage impact. The proposals, by reason of its height, scale, bulk and massing would result in less than substantial harm to the significance of several listed buildings and conservation areas in the vicinity. The Mayor considered that the less than substantial harm was not clearly and convincingly outweighed by the public benefits, including Affordable Housing, that the proposals would deliver;
 - (iii) neighbouring amenity issues. The proposal, by reason of the excessive bulk, scale and siting of Building 20 and 21 in close proximity to the rear of neighbouring residential properties in Parliament Mews and the rear gardens of properties on Thames Bank, would result in an unacceptable overbearing and unneighbourly impact, including direct overlooking of private amenity spaces. The measures in the Design Code would not sufficiently mitigate these impacts; and

- (iv) no section 106 agreement in place.
- 1.11 Application B was also refused because it is intrinsically linked with Application A and therefore could not be bought forward in isolation.

The Proposed New Scheme

- 1.12 This 3rd iteration of the scheme seeks to respond directly to the Mayors' reasons for refusal and in doing so also addresses a number of the concerns raised by the LBRuT.
- 1.13 The amendments can be summarised as follows:
 - i. A revised energy strategy is proposed in order to address the London Plan (2021) requirements;
 - ii. Several residential blocks have been reduced in height to better respond to the listed buildings along the Thames riverfront and to respect the setting of the Maltings building, identified as a Building of Townscape Merit (BTM) by the LBRuT;
 - iii. Reconfiguration of layout of Buildings 20 and 21 has been undertaken to provide lower rise buildings to better respond to the listed buildings along the Thames riverfront; and
 - iv. Chalkers Corner light highways mitigation works.
- 1.14 The school proposals (submitted under 'Application B') are unchanged. The Applicant acknowledges LBRuT's identified need for a secondary school at the Site and the Applications continue to support the delivery of a school. It is expected that the principles to be agreed under the draft Community Use Agreement (CUA) will be the same as those associated with the refused school application (LBRuT ref: 18/0548/FUL, GLA ref: GLA/4172a/07).
- 1.15 Overall, it is considered that together, the Applications respond successfully to the concerns raised by the GLA which also reflect some of the concerns raised by stakeholders in respect of the previous schemes and during pre-application discussions on the revised Proposed Development. As a result, it is considered that the scheme now represents a balanced development that delivers the principle LBRuT objectives from the Site.

2. Former Stag Brewery - Site

Site Description

The site is located in Mortlake, between Lower Richmond Road / Mortlake High Street and the River Thames in the London Borough of Richmond upon Thames (LBRuT), SW14. It is centred on an approximate National Grid reference of 520410E, 176032N.

The site extends to circa 8.6 ha (21.2 acres), divided into two parts by Ship Lane which runs North-South through the centre of the site. The Eastern part is 3.1 hectares and the Western part is 5.5 hectares. The existing site level is approximately 5 to 6 mAOD, with the highest level to the West falling to the East. The site is bounded by the River Thames to the North, Lower Richmond Road and both Mortlake High Street and Mortlake Green to the South and Williams Lane to the West. The site is currently occupied by a number of redundant buildings associated with the brewing process, ranging between 2 to 10+ storey buildings. There is also a private playing field on the site.

There is approximately 353,000 sq ft of existing accommodation on site, totalling 11 number buildings.



Figure 1: Site location and boundary of Stag Brewery, Mortlake

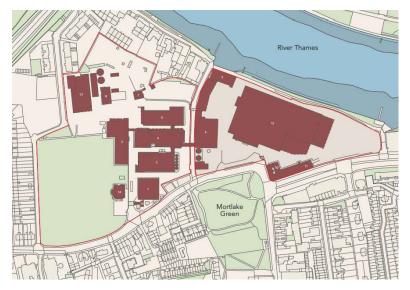


Figure 2: Indicative plan of existing Former Stag Brewery buildings

The proposed site is currently split into two phases of works: Development Areas 1 and 2, plots East and West of Ships Lane respectively, – see below Red Line Boundary.

It has been advised that each plot is to be self-contained from a constructability and practical completion perspective. For example, Phase 1 Basement and Phase 2 Basement on Development Area 1 must be able to be constructed, completed and in use independently of each other. The final construction sequence will have to be confirmed by the client and appointed Contractor(s) but the scheme will be designed to be compatible with either a phased or continuous construction.

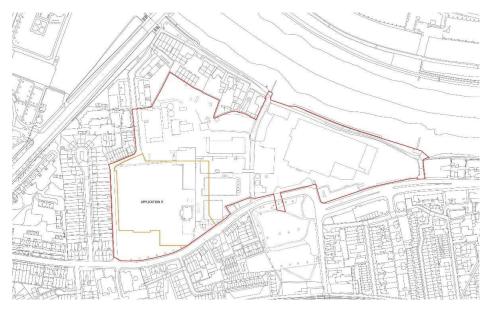


Figure 3 - Red Line Boundary of Former Stag Brewery – Squire and Partners (21/04/2020)

3. Description of the Project

The redevelopment works to the former Stag Brewery site can be described as the following:

- Demolition of all existing buildings is proposed on Site except for the Maltings building, which will be retained in its entirety, and the Former Hotel Building and the Former Bottling Building, where the façade will be retained.
- Alterations and extensions to existing historically notable buildings to comprise residential dwellings.
- Ancillary works such as: landscaping, amenity space, play space, public open space, car and cycle parking.
- Construction of new school building and associated rooftop play area, external play (including Multi-Use Games Area), playing pitch (artificial surface), with floodlighting, public park, landscaping, boundary treatments, car and cycle parking, new access routes and associated works.

4. High Level Construction Programme

A high level outline construction programme has been established for the redevelopment illustrating the main timescales and phases.

Demolition works will commence on former Stag Brewery in March 2023 and are scheduled for completion in October 2023.

Initially, works associated with the construction of the a three-storey building to provide a new secondary school including sports pitch with floodlighting, external MUGA and play space; and associated external works including landscaping, car and cycle parking, new access routes and all other associated work is planned to commence in May 2023 and complete in January 2026.

Construction works associated with Development Area 1 and 2 are scheduled to start in June 2023, progressively, with completion of the development being scheduled for October 2029. See Appendix A for full programme

From our high level summary programme, we anticipate that the peak construction period is Q1 2027.

The programme is based on continuous working with no gap and an overlap in time related to the completion of demolition and start of enabling works and construction. This exact overlap duration will be decided during the development of the procurement strategy as these elements of work will be likely to be undertaken by different contractors at this stage. The redevelopment of areas 1 and 2 can be broken down into 4 construction phases of work as shown in the table below.

Phase No	Blocks
1	Phase 1 comprises B1, B2, B3, B5, B6 on east and B18 and B19 on west.
2	Phase 2 comprises B13, B14, B15, B16 and B17 on West and B4, B7, and B8 on east.
3	Phase 3 comprises on West and B9, B10, B11 and B12 on East.
4	Phase 4 comprises B20 and B21 on West

Table 1: Summary of Construction Phases



Figure 4: Extracted High Level Construction Phasing

5. Outline Scope of Works

The outline scope for the redevelopment works on the former Stag Brewery, Mortlake site can be defined as follows:

- Demolition
- Enabling Works
- Construction of the new basement
- Construction of the Superstructure
- Envelope/Wrap
- Waterproofing and finishes
- MEP Services
- Internal Fit Out

6. Outline Procurement Route

It is considered that the works will be separated in to three distinct procurement packages; however this has yet to be confirmed. The likely packages to be procured are:

- 1. Demolition Package;
- 2. Piling & Enabling Works Package;
- 3. Construction Package.

Subsequent splitting of packages will be outlined by the appointed Main Contractor(s).

7. Outline Construction Method Statement

The methodology outlined within this document will be further developed in line with final designs and the appointment of specialist contractors.

Improvement works to Chalkers Corner are not outlined within this document.

7.1 Asbestos Removal

A suitably qualified Asbestos remediation company will be employed to survey, make

notifications and remove all asbestos from the site in accordance with good practice to a suitably registered waste facility. Works are to be carried out in accordance, but not limited to:

Control of Asbestos Regulations 2012

7.2 Demolition & Enabling Works

The buildings will be demolished by top-down de-construction method by means of mechanical plant and mobile craneage.

In advance of demolition, enabling works will be required to protect any existing infrastructure, buildings or features of value which have been determined to be retained throughout the works. Such protection may include

- Protection of any buildings of significant interest or structures including the Maltings,
 Stag Tavern, War memorial, Northern and Southern boundary structures. Historic
 England, although initially in favour of the development, have made it clear that any
 buildings or structures of historic or townscape merit be retained and protected
 throughout the works.
- Three of the existing buildings of Townscape Merit ("BTM") on the site are being incorporated into the scheme: the Maltings (Building 4) and the adjoining Former Hotel Building and Bottling Plant (Building 5). The external structure of the Maltings Building is being retained whereas only the south and west facades of the Former Hotel Building and south façade of the Bottling Plant are being retained.
- Protection of TPO-protected trees. At this stage in the development, tree surveys
 have been commissioned which are expected to highlight all of the arboricultural
 constraints on the site.
- Decommissioning of certain existing services within the brewery and disconnection
 of certain existing services and utilities connected to the existing site has already
 been undertaken according to our site visit on 08 March 2017. These utilities will be
 safely diverted and protected during the works with the intention that the utilities and
 underground services may require upgrading at a later date to accommodate the
 new development.

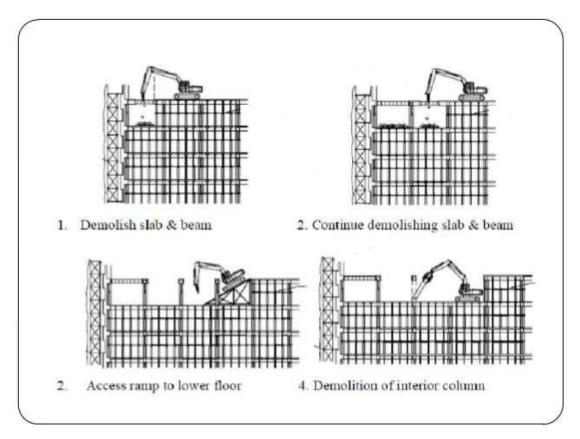


Figure 5: Indicative Sequence for Top-Down Demolition

All spoil/construction waste will be removed from site in accordance with the Waste Management Plan.

All demolition and deconstruction work must be carefully planned and carried out in a way that prevents danger, and reduces as far as possible the impact on the local area and community and is undertaken in accordance with the relevant British Standard Code of Practice; including but not limited to:

- 1. BS 6187:2000 Demolition
- 2. BS 7375:2010 Electrical standard for constructions sites
- 3. BS EN ISO 7518:1999- Construction drawings for demolition and rebuilding DD CEN T/S 13778:2005 – Mobile demolition plant safety requirements

Prior to commencing any operations, the client's representatives, will be required to verify all associated technical information such as presence of services, existing foundation

coordinates, platforms and cut-off levels and the validity of the existing drawings.

During demolition works, the public will be protected at all times by the use of suitable protection barriers, a safe deck/gantry and traffic control measures (where applicable). These measures will be continually reviewed and adapted to meet the ongoing works programme. All temporary works for the project will be fully designed and approved prior to installation.

7.3 Substructure Works

Following the completion of the demolition and enabling works, the Sub-Contractor will install a suitable pilingmat for the benefit of the construction works.

Sheet piling works will then commence to the perimeter of the basement boxes forming a retaining wall and groundwater stop. Sub-structure works will then commence to form the basement boxes. The activities to take place are:

- Deep excavations
- · Ground remediation and preparation of excavated surface
- Construction of basement structure: foundations, RC slabs and columns
- Installation of waterproofing system
- · Dewatering and disposal
- · Backfilling, where required

The design of all temporary works will be such that they can be removed in a coordinated manner to allow the permanent works to proceed. It is considered that all bracing will be internal and not external to the structure.

The basement design will need to allow for temporary wall/bund construction so that each basement area designated to the plot above can be developed independently.

It is assumed that archaeological trenches will be dug in line with basement excavations to allow for the investigation into potential archaeological find on site. This will minimise the potential delays upon any positive finds.

7.4 Superstructure Works

The main construction material & method to be used on former Stag Brewery is in-situ Reinforced Concrete. Reinforced Concrete (RC) frames consist of horizontal elements (beams) and vertical elements (columns).

The superstructure works will follow the sequence of; formation of the columns, propping and decking the slabs, pouring and later striking where the process repeats itself. Any cast-in items required by follow on trades will be free-issued prior to this stage. All propping, formwork and reinforcement will be delivered to site in manageable sections.

Slab pours will be sequenced in line with the Structural Engineers guidelines and any associated Temporary Works.

Core construction methods would be utilised whereby reinforced concrete lift shafts are prioritised for construction early in the programme.

Mobile concrete pumps or placing booms will be advised by the Principal Contractor.

Edge protection and fall prevention systems will be installed by the Concrete Sub-Contractor as the building progresses beyond Level 1.

7.5 Internal & External Works

Once the structure is deemed to be adequately water and weather tight, the internal finishes will be commenced. The initial work will be to the plant rooms, reception areas and communal lobbies.

Safety and task lighting will be provided where appropriate to assist with ongoing work flow during winter or night time working (if required/ permitted by the LPA).

This work will also include the floor by floor mechanical and electrical services installations, partitioning and ceiling works, flooring, basement facilities, roof areas and landscaping. Roof works will only take place once the roof slab has cured sufficiently.

Within the basement, the key plant will include boilers, air handling units, water tanks and electrical switchboards etc.

Internal and external works would be phased to suit handover sequences. Any occupied areas would be provided with segregated walkways and routes if any external works are still being completed prior to completion of final access routes.

It is anticipated that landscaping works would be undertaken in seasonally acceptable periods.

Construction Logistics 8.

8.1 Considerations

The redevelopment is a complex project with close proximity to the Thames, vehicular traffic and various neighbouring buildings. Because of this, it is important to consider how the site will be serviced and the impact of the construction logistics on the surrounding Mortlake area.

Construction works should be carried out on the basis that the works undertaken should cause minimal inconvenience to local businesses or persons are affected; with a desire to cause no inconvenience if achievable with certain construction activities.

The main requirement of the Construction Logistics Plan is to provide the safe, efficient, effective delivery oflabour, materials and associated plant & equipment to their respective work areas.

This FCMS considers use of road networks surrounding the development only. The Project Team has considered whether the river could be utilised for logistics, either for removal of spoil associated with the demolition phase or to transport materials associated with the construction phase. A number of significant constraints have been identified in respect of river use, including the highly tidal nature of the river in this location, the significant use of the river in this location (rowing clubs and leisure users) and the poor quality and condition of the wharf and river wall. Notwithstanding this, and subject to securing appropriate permissions and permits, a River Transport Feasibility Study could be carried out to identify whether there is any scope to use the river and overcome the constraints identified.

The unique site environment, multiple contractors sharing access and working in close proximity requires defined responsibilities in order to manage the complex construction coordination requirements.

Combined construction and handover activities across a project wide area with multiple contractors working to different timescales also needs to be addressed. The introduction of integrated logistics arrangements reduces process duplication, potential for disruption and safeguards planned productivity. The Logistics Strategy will be developed further by the Principal Contractor.

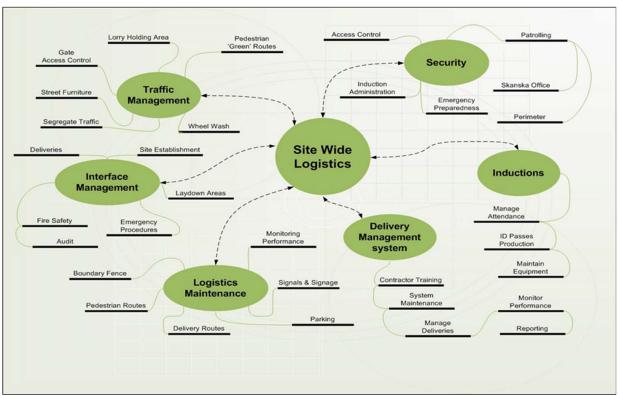


Figure 6: Overview of Logistics Responsibilities

The principles of logistics management apply project-wide. Contractor participation is critical to enable successful mobilization and maintenance of logistics support. Best practice through integration requires input from Contractors to ensure plans and strategies provide added value and performance to the construction process.

The scope of the Logistics Strategy is not inclusive of all roles and responsibilities illustrated above. Logistics processes and procedures are subject to continuous review. During the procurement process Sub-Contractors may propose or suggest options that impact the Logistics Strategy.

Changes will be managed in liaison with the Sub-Contractors and formally issued through the Principal Contractor.

8.2 Traffic Routes

8.2.1 Schedule of Deliveries

All deliveries to site should be undertaken through an electronic Delivery Management System (DMS) that will be managed by the Logistics Contractor, and with all deliveries allocated a specific time slot. Typically, failure to adhere to their time slot may result in a subcontractor's delivery being denied access to the site. There will be no waiting on street for access to the site.

A schedule of predicted size and frequency of vehicles will be finalised by the Contractors. Where practical, and subject to Principal Contractor(s) appointment, vehicle movements/deliveries will be reduced during weekday highway peak hours 8am-9.30am and 4.30pm-6pm.

Currently, it is assumed that all deliveries will be during operating hours. If deliveries are required to take place out of hours, for considered beneficial reasons, they will be agreed with LBRuT prior to commencement of works. The contractor will negotiate timings for deliveries with local business and "other" local building sites through their appointed communications team.

8.2.2 Vehicle Loading and Unloading

As a general principle, all deliveries to site will be off-loaded within the site boundary (to include public footpaths and carriage way by agreement with LBRuT, where required).

However if it is required either due to their timing on the programme or their physical size (e.g. major mechanical plant) it may be necessary to off load from pre-requested suspended car parking bay(s). Where offloading is to occur on the road side, permissions must be sought as required and generally be undertaken out of hours.

Off-site marshalling and storage facilities will be investigated to assist in the management of materials. The waste material will be directly transported to registered waste reclamation centres.

8.2.3 Demolition & Construction Traffic Routes Flow

All Logistic Routes will be planned prior to commencement of works, and route management to reflect TfL requirements, LBRuT sensitivities (either regarding areas, or specific events etc.) and traffic loading due to existing traffic patterns and that of adjacent sites will be taken into consideration.

8.2.4 Road Closures

Full road closures are to be avoided throughout the works on redevelopment with temporary lane closures to be the primary proposal.

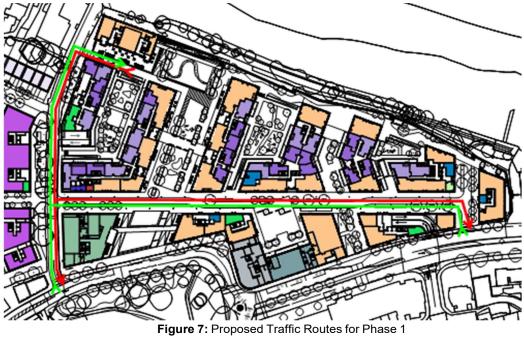
If a full road closure is required it is considered that this would be a temporary requirement and would be undertaken through the LBRuT and TFL road closure procedures.

8.2.5 Site Access

Proposed traffic routes for phases 1 and 2 are outlined and illustrated below. These traffic routes are proposed and are subject to further discussions with the appointed Contractor and Local Authorities.

For Phases 1 & 2 works, it is proposed that the entrance to the respective sites will be via Ships Lane. This location has been selected as it allows for a separate entrance and exit to site whilst utilising existing infrastructure.

For Phase 1, additional access/egress at the corner of Bulls Alley and Mortlake High Street will also be utilised. Gates to site will be designed so as not to encroach on to the footpaths or highway.



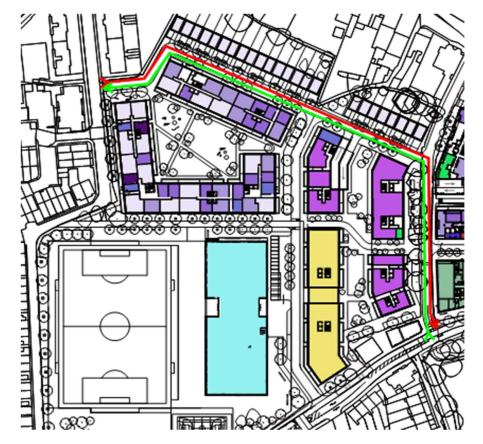


Figure 8: Proposed Traffic Routes for Phase 2

8.2.6 Sheen Lane Mortlake Station

The bus stop/shelter located at Sheen Lane (Stop A highlighted in red square in figure 9 below) will require relocating due to its current location in relation to site access (indicative blue dashed lines in figure 9 below). By undertaking this action, it would enable a further degree of access/egress for Phase 3/4 work and enhanced safety for pedestrians accessing the bus

It is anticipated that the bus stop could be relocated by a distance (to be agreed) to the East of its current location.

This activity will require further discussions with the appointed Contractor, TfL and the Local Authority.

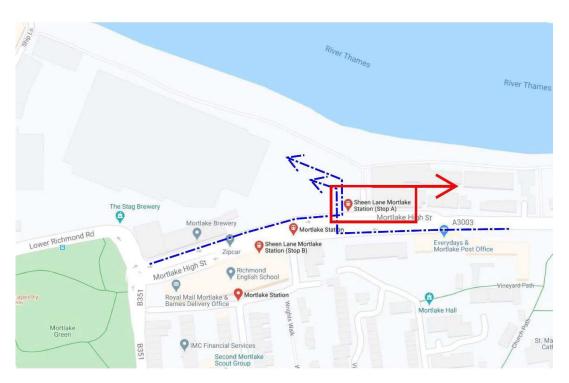


Figure 9: Proposed Bus Shelter Relocation

8.3 Construction Vehicle Trips

Vehicle movements will vary during construction activities across the redevelopment, however it is anticipated that the maximum number of trips will reach a peak during Q1 2027 of 260, to and from site and Q1 2028 of 276 total - to and from site, will take place per day. These traffic movements can be summarised as follows:

- Block 18 fit out progressing so 6 vehicles per day (Its nearing completion)
- Block 19 fit out in progress so 8 vehicles per day
- Block 7 fit out in progress so 8 vehicles per day
- Block 8 envelop in progress so 6 per day
- Block 6 superstructure in progress so 12 per day
- Block 5 GF slab in progress 12 per day
- Block 15 envelope and fit out in progress so 14 per day
- Block 16 Superstructure in progress so 12 per day
- Block 17 Foundations in progress so 12 per day

Vehicle Type	Use				
Rigid Heavy Goods Vehicles (HGV)	Excavated material removal				
Small Articulated Vehicle	Plant, steel rebar, cladding panels, and bricks/blocks,etc.				
Specialised Articulated HGV	Tower Crane (erection & dismantle), MEP Plant,façade panels, Roofing materials, etc.				
Specialised Low Loaders	Occasional Delivery of Plant				
Vans	Plant service, materials, general deliveries, etc.				
Cars	Couriers				
Motorbikes	Couriers				

Table 2: Summary of Vehicle Type and Site Use

8.4 Parking on Site

There will be no on-site parking provided for operatives working on Stag Brewery. Parking should not be allowed on site and all Contractors and Sub-Contractors on site should be advised through their contract documentation that no parking is available on site and that site personnel and visitors should use public transport.

8.5 Wheel Wash Management

Due to the layout and interfaces within the redevelopment, the site will have designated loading areas. These areas will also serve as wheel wash areas for vehicles leaving the confines of the sites during the demolition and substructure works.

All ground or surface water run-off will be strictly controlled in line with environmental legislation and best practice to prevent pollution of drains and watercourses.

8.6 Operative Access

The number of construction workers on-site at any one time will depend on the different phases of the development. The maximum number of operatives on site is estimated below:

Number of workers on site:	High
Fit-out and Main Works	1000 – 1200

Table 3: Estimated Number of Construction Operatives on Site at Peak

As mentioned in section 8.4 – Parking on Site, it is anticipated that the majority of construction workers will travel to the site by public transport and personnel will be given detailed information on travel options.

8.7 Hoarding

An early activity to take place will be to protect and enclose the site and buildings where access is to be provided to the contracting team and where external works are to take place adjacent to public areas.

The hoarding arrangement will reflect the construction methodology, which will need to be further developed by the appointed Contractor(s) and agreed with LBRuT prior to commencing the works.

The hoarding will be 2.4 metres in height.

A solid hoarding will be employed to the whole perimeter of the site that will be agreed in advance with LBRuT and TFL to ensure that it is compliant with their needs. The Hoarding will be in alignment with the all statutory guidelines and policies.

Signage will be displayed on the hoarding for health and safety purposes, advertising, Considerate Contractors and general site signage. All signage will be agreed with the local authority in advance of installation.

8.8 **Scaffolding and Associated Access**

8.8.1 **Pedestrian Protection**

Full pavement width hoarding is anticipated to the road frontages with temporary pedestrian tunnels to maintain pedestrian access. The pedestrian access will be fully lit throughout, and on the highway side there will be baulk timbers that will be lit along their length. The area will be regularly maintained to ensure it is kept clean and maintained to acceptable standards.

The Scaffold Tunnel will be constructed such that it is weather proof from above as well as protected from the unlikely event of any falling material - see figure 10 below. Where the pedestrian tunnel extends beyond the pavement into the highway (if necessary) the levels will be locally adjusted to create a level walking surfaces.

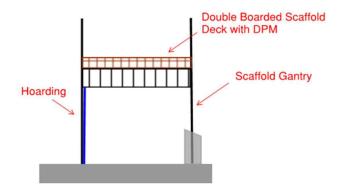


Figure 10: Typical Protected Pedestrian Tunnel (Not to Scale)

8.8.2 Full Building Scaffolding

Fully wrapped scaffolding will be utilised within the redevelopment site to provide protection during the demolition works. The wrap will protect adjacent roads, walkways and buildings from debris, falling materials and dust.

The Scaffolding will be reduced in height appropriately during the top-down demolition – see figure 11 overleaf.

8.8.3 Safety Fans

Safety fans will be utilised throughout the project on all structures once work has progressed beyond the first floor level. Like the Full Building (Body) Scaffolding, the safety fans will prevent object falling and as such protecting the public, site operatives and adjacent property.

The safety fans will be installed by either the Concrete or Steelwork Sub-Contractor depending on the form of construction – RC frame of composite structure. See figure 12 below.



Figures 11 & 12: Full Building Scaffolding and Safety Fans

8.9 Site Set Up

8.9.1 Site Accommodation

Site accommodation will be situated in multiple locations across the redevelopment. The appointed Principal Contractor(s) will situate and configure their welfare facilities in line with the development plots awarded. Indicative locations of site compounds are located on the

phasing drawings, refer Appendix B.

The strategy for main contract awards is to be finalised post application.

During the demolition stage, a minimum site set up (consisting of 6 portable cabins) in envisaged. As construction works begin and progress, the site set up will be reconfigured into a stacked (not exceeding 3 cabins in height) accommodation area.

Typical site accommodation will include:

- Main Contractor management offices and meeting room(s)
- Sub-Contractor facilities
- Welfare facilities including canteen, drying and changing rooms and toilet and shower facilities
- Security office

Due to the size of the site, and subject to the number of contract awards, it is anticipated that the canteen(s) would be leased out to a catering contractor(s) for the durations of the respective works.

8.9.2 Working Hours

The working hours for the construction activities will be in line with the requirements of the control of pollution act 1974, Part III, section 60, namely;

- Monday to Friday 8.00 am to 6.00 pm
- Saturday 8.00 am to 1.00pm
- Sunday and Bank Holidays (normally) No working

Where working is required outside of the above hours due to unforeseen circumstances or planned work that can only occur outside of the core hours e.g. road closure requirements, then these will be undertaken following forward and timely discussions with LBRuT.

The site will be open from 07:00am to enable operative access to welfare.

8.9.3 Fire Precautions & Alarms

All fire precautions will be taken, and fire checks made at the end of each working day, before personnel leave the site. Fire points will be set up within easy reach of the work areas, storage points and hot works locations. Throughout the works, "hot works permits" will be required as standard for all hot works. The process will be managed by the Main Contractor.

Each building will be temporarily fire alarmed back to separate security monitoring areas. The contractors will co-operate to agree fire communication, evacuation strategies, drills for both themselves and relevant third parties (where applicable).

8.10 Tower Cranes

During the construction of the redevelopment, the use of tower cranes will be required to progress and deliver the contract works.

It is assumed at this stage that no cranes will be required during demolition works and that the use of mobile cranes will be utilised to carry out these works.

It is envisaged that over sailing licences may be required for the out of hour's free slewing condition throughout the works period. Due to this it is anticipated that luffing jibs will be used on all static cranes to provide better radii control, minimise over sailing and better management in high winds.

All Cranes will have electronically limited rotation of the jib to prevent them over sailing the adjacent buildings and roadways. Crane jibs for the works are estimated at 40 - 45m.

All cranes will be suitably sized by the Principal Contractor to ensure that there will be no height clashes with the existing adjacent buildings. Due to the requirement of multiple cranes within a tight area, the crane strategy will be developed further by the contractor.

Where mobile cranes are needed for specific operations their use and impact will be agreed with the appropriate parties a minimum of 28 days prior to the works being undertaken.

8.11 Hoists

External hoisting positions will be required during the construction and fit out of the plots within Stag Brewery. The hoists will be required to bring operatives, equipment and materials to their respective work faces.

External twin passenger/goods hoists will serve all floors, on each building, by leaving sections of the external works out (leave-downs) on each floor to be infilled later once the hoist has been removed.

All hoists will be suitably sized by the Principal Contractor to ensure that they can accommodate plant/materials that cannot be placed at their end location by the tower crane.

8.12 Waste Management

Control of waste material on site is a key factor in the successful outcome of the project and BREEAM requirements. Sub-Contractors are to follow directives in the Construction Environmental Management Plan (CEMP).

The Sub-Contractors are responsible for the management and removal of all their waste from their work sites. Ito the designated skip provided.

The Principal Contractor will produce a detailed 'Waste Management Plan' - a requirement of the CEMP.

The Principal Contractor will coordinate and lead the role of collating and reporting waste produced by both the SWIC team and the Sub-Contractors. The Sub-Contractors are responsible for providing the information to the Principal Contractor in the format provided. The Waste Management Plan shall set out aspirations for waste management activities that should be achieved, such as;

- recover at least 85% of waste construction materials (by volume), and aim to exceed 90%
- achieve a waste recovery (diversion from landfill) of 100% for all-hazardous excavation waste

- ensure that at least 15% (by volume) of construction material derives from reused and recycled materials, select the top opportunities to exceed this figure without increasing the cost of materials, and report actual performance
- ensure that at least 35% of total high grade aggregate used in the development
 is recycled or secondary and locally sourced (within 30km); and no transfer of
 materials to or from the site as a result of ground works; excluding materials that
 may be required for the formation of road bases and working areas / piling mats
 on building footprints.

The Principal Contractor will be responsible for managing/cleaning non-attributable wastes from common-user areas only. Common areas include, but are not limited to, roads and footpaths.

8.13 Plant & Equipment

Sub-Contractors are to supply all plant & equipment required to deliver their works. All plant should carry spill kits in case of fuel or hydraulic leaks/spillages. Plant emissions will be controlled by implementing, but not limited to the following measures, where practical:

- using low emission plant fitted with catalytic converters, diesel particulate filters or similar devices
- plant will be well maintained, with routine servicing to be completed in accordance with the manufacturer's recommendations and records maintained for the work undertaken
- avoiding the use of diesel or petrol powered generators and using mains electricity or battery powered equipment
- all Sub-Contractors to provide test certs to for PUWER / LOLER REGS
- engines of all mobile and fixed plant on site are not left running unnecessarily
- using ultra low sulphur fuels in plant

Tabulated overleaf (Table 3: Plant and Equipment) is an indication of the likely and typical types of plant and equipment associated with the works at Stag Brewery.

Plant and Equipment	ration	Norks	ture	cture	ng G	¥	alm & ping
	Site Preparation and Demolition	Enabling Works	Substructure	Superstructure	Cladding	Fit out	Public Realm & Landscaping
	Site	Ë	Ñ	Su			Pu L
360° tracked excavator							
Concrete crusher and handheld compressor breakers							
Concrete ready-mix lorries							
Concrete splitters and concrete saws /Steel muncher machines							
Cranes and hoists							
Cutters, drills and small tools							
Excavators and breakers							
Floodlights / telehandler							
Fork lift trucks							
Hydraulic benders and cutters							
Lorries/vans							
Tarmac laying equipment							
Scaffolding and hydraulic access platforms							
Temporary supports							
Articulated flatbed trucks							
Piling Rig							
Scissor Lift							
Site Dumper							

Table 4: Plant and Equipment

Note

- Excavators ranging in size between 5T and 50T (a number of long-reach excavators will also be required as will grab attachments)
- Cranage covers tower cranes, mobile cranes, spider cranes, etc.

8.14 Potential Environmental Impacts during Construction

Strategies to mitigate potential sources of noise and vibration generated during the enabling, demolition and construct phases will be developed with consideration of local residents and neighbours whilst maintaining a safe, sustainable and efficient construction methodology. The mitigation of both dust and noise are considered through the below specific project proposals:

- The use of Silent Sheet piles and Continuous Flight Auger (CFA) pile methods are low-noise construction techniques, reducing both vibration and noise; note:
 Watermans report dated April 2020.
- Maintaining site operational hours during daylight hours only where possible;
- Provision of environmental dust screens and dust suppression through water jets.

Recognition is given to traffic and pedestrian management, as well as the segregation of construction activities. The use of just-in-time deliveries will look to minimise material delivery waiting times and reduce congestion and pollution on local highways. The segregation of construction traffic and public vehicles will be maintained wherever possible and deliveries will be aimed for times avoiding traffic rush-hours.

Whilst on-site construction traffic will utilise custom-built temporary haul roads throughout all phases. These roads will be constructed with a temporary asphalt/concrete surface to avoid the site becoming waterlogged. Awheel-wash facility will be identified for use at all exit points form the site and manned power-wash stations will be identified for exit points where wheel-wash facilities do not provide suitable means of cleaning.

Clear directional signage and consistent drop-off/pick-up areas are recommended to be maintained. This will provide continuity regardless of which haulage contractor is involved in the scheme at any given time. The Principal Contractor will also need to implement a strong site induction targeting specific areas of site access and deliveries.

Overland flow and land contamination shall be dealt with the installation of silt traps and sediment pits strategically located within development phase boundaries. These traps/ pits would be maintained regularly and sediments treated on site if possible.

8.15 Tree Protection during Construction

Tree protection systems will be adapted to site-specific requirements, in line with British standard/ industry standards. Many of the retained trees are also covered by Tree Preservation Order as an additional layer of protection which is to be recognised by the Contractor and precautions to mitigate damage to trees in close proximity to enabling, demolition and construction works will be employed in line with the Arboricultural Survey and Impact Report and Impact Assessment and Drawings. In summary the following protection principles will be adopted:

- Select site access routes and construction plant that can safely access the site given the physical constraints imposed by the height of the existing retained tree canopies;
- Systems to suppress dust, hydrocarbons, cementitious and other phytotoxic elements should be employed to prevent damage to the adjacent trees;
- No materials/plant to be stored within the canopy spread of trees;
- In order to minimise damage to shallow tree roots, it is recommended that the depth of any excavation work within the CWA is minimised;
- Where any existing surface within the CWA is removed, this area should be protected from excessive compaction from people/plant;
- Consideration should be given to the use of permeable paving/surfacing systems
 within the root protection area of retained trees in order to assist with the long-term
 passive infiltration of air and water into the root-zone;
- Where new underground services cannot be routed outside the CWA, excavation for these should be undertaken by hand or air-spade to prevent damage to retained tree roots.

8.16 Mitigation Measures

Industry accepted practical means of preventing, reducing and minimising noise generation will be adopted in agreement with LBRuT.

Appropriate procedures need to be followed in order to mitigate noise, vibration and air pollution (e.g. throughdust and fume generation) impacts. Noise complaints from Sub-Contractors or local residents and businesses must be immediately investigated.

Measures may include, but not limited to:

- No works will be undertaken outside the specified working hours; except in cases of emergency, where safety is an issue, or where conditions of dispensation apply
- The contractor will comply with the requirements of the COPA 1974, with particular reference to Part III of the Environmental Protection Act 1990, The Control of Noise at Work Regulations 2005 and the Health and Safety at Work Act 1974
- All plant and equipment to be used for the works will be properly maintained, silenced where appropriate to prevent excessive noise and switched off when not in use and where practical
- Hydraulic machinery and plant will be used in preference to percussive techniques where practical
- The contractor will erect and maintain throughout the construction period temporary hoarding around all working areas to assist in the screening of noise and dust generation from low-level sources
- Noise and dust levels will need to be controlled by the constant monitoring of air quality & noise levels including positioning of monitoring equipment & agreement and implementation of trigger and action levels
- Loading and unloading of vehicles, dismantling of equipment such as scaffolding or moving equipment or materials around the site will be conducted in such a manner as to minimise noise generation

8.17 Soil Contamination Mitigation Trees

The Arboricultural Survey Report and Impact Assessment submitted with the application details that changes to soil levels or works within Root Protection Areas (RPAs) will be avoided unless a Construction Working Areahas been identified where works are to progress under an Arboricultural Method Statement.

The intention is to remove contaminated soils as required in all areas apart from the Root

Protection Areas of retained trees. Soil levels will be maintained (with the potential for a minor increase, as approved on a tree-by-tree basis by an Arboriculturalist). The Arboricultural Report is to be updated following detailed design (secured via condition and updated and submitted with the future reserved matters applications of the outline areas of Application A not yet in detail) which would assess the proposed alterations to soil levels around existing trees and provide protection / mitigation measures where required in accordance with the principles of BS5837:2012. Such protection methodology for existing tree retention will be included in a Construction Management Plan/Arboricultural Method Statements as per recommendations.

The summary table below identifies the Potential Impacts and their respective Mitigation Measures which should be adopted in line with the planning and implementation of tree protection measures as per the approved Arboricultural Survey and Impact Assessment Report.

Table 5: Summary of Potential Impacts and Mitigation Measures

Issue	Potential Impacts	Mitigation
Noise	Increased road noise levels from Vehicles, Increased noise levels from plant during demolition, excavation, piling and general construction works.	Defined working hours, plant mufflers, localacoustic screening, Vehicle routing, engines turned off and all measures outlined in the considerate constructors scheme.
Vibration	Increased vibration levels from; Vehicles, plant during deconstruction, piling and general construction works, working hours, selection of appropriate plant and work procedures.	Phased deliveries to minimize numbers of vehicles attending site, vehicle routing, engines to be switched off when vehicles are idleor on site
Dust/Air Quality	Windblown dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding of materials. Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.	Regular and controlled monitoring of air quality, including agreement and implementation of trigger and action levels, 'water down' deconstruction activities; switch off vehicle engines when parked.
Waste	Waste generation and its disposal.	Instigate Site Waste Management Plan and recycling programme.
Water	Increased sediment loadings to storm water system. Potentially contaminated storm water run-off.	Do not allow direct discharge of water into sewerage collection system.
Traffic	Traffic congestion caused by site traffic. Local traffic diversions may be required for tower crane delivery and erection/dismantle. Increased vehicle movements mainly consisting of Heavy Goods Vehicles (HGVs). Disruption from abnormal or hazardous loads. Exhaust emissions.	Phased deliveries to minimise numbers of vehicles attending site, switch off vehicle engines when parked, minimise abnormal loads. Vehicle routing.
Storage of Materials & Fuels	Accidental spills, discharges to drains/storm- water systems. Contamination to ground.	All fuel tanks etc. to be bunded, no discharge allowed into the sewerage collection system.

Pedestrian Access	Restrictions on pedestrian access to walkways, footpaths and roads.	Erect protective gantries / Pedestrian tunnels over footways.
Ecology	Water / mud run off into the drains.	Do not allow direct discharge of water into sewerage collection system, utilize interceptors where necessary.
Energy Usage	Indirect impacts associated with energy consumption such as CO2 emissions, depletion of natural resources, air pollution etc.	Site environmental plan to implement.
Retained Trees	Mechanical damage to retained trees from construction activities/plant, compaction of ground with root protections areas, run off of phytotoxic materials, change in soil levels	Implementation of tree protection measures as per the approved Arboricultural report and drawings, and control of work in proximity to retained trees via Arboriculture Methods Statements when required

9. Neighbours and External Considerations

9.1 Considerate Constructors Scheme

AECOM Construction Services are proud to be members of the Considerate Contractors Scheme (CCS), having registered sites at Farringdon Street, Long Street and the Spire, London.

Prior to the commencement of main contract works the Principal Contractor will be required to register and comply with all of the requirements of the CCS ensuring that their project methodology is tailored to the specific requirements of the CCS Code of Practice and the requirements of the London Borough of Richmond upon Thames.

This industry recognised body is the leading initiative to encourage construction projects to recognise their surroundings with sensitivity, employment awareness and positive considerations. It is a voluntary code of practice that encourages:

- · Recognition of neighbours and maintaining a good neighbour policy;
- Minimise environmental damage;
- · Use of sustainable materials, methods and resources;
- · Clean site and local vicinity;
- · Safety.

The project specification will identify a grade to which the Principal Contractor must attain and it is recommended that the Principal Contractor is contractually obliged to achieve this grade (similar approach to BREEAM/CEEQual etc.).

9.2 Public Relations

During the redevelopment works at Stag Brewery, there will be regular communication with residents and local businesses. A regular newsletter will be issued to the surrounding residents to keep all parties informed about the progress to date and forthcoming events. Any specials activities (road closures, wide load deliveries) will be notified by way of supplementary letter issued to the relevant local contacts. In addition, the appointed principal contractor will:

- Provide a named point of contact, to the neighbouring residents and relevant statutory authorities.
- Establish a complaint register, which will be logged and investigated.
- Display local and project information on the site hoarding.

On site communication and neighbour liaison (in conjunction with London Borough of Richmond upon Thames) should also be managed by the appointed Principal Contractor.

It is advised that the Principal Contractor should be instructed to update the local community on construction progress via quarterly local community progress meeting sessions. It is anticipated that these regular updates on construction activities should be held in a nearby community centre, be open to the general public and affected local residents and will likely include:

- Issuing regular letter-drops / web-updates (on the London Borough of Richmond website);
- Organising regular meeting sessions in vicinity;
- Reporting on street cleaning activities around the site;
- Addressing any neighbourly concerns raised at previous meetings;
- Informing residents of any upcoming noisy works such as demolitions/ foundations and other significant construction works;

- Liaison and co-ordination of construction traffic activities with local Schools and other nearby sensitive establishments.
- Notice of any temporary traffic management measures in surrounding roads;
- Overall programme reporting and anticipated completion date.

9.3 Access by Neighbours to their Buildings

In accordance with the CCS requirements, and being a good neighbour, the contractor will conduct full negotiations with the adjacent landlords and tenants to ensure that there is a shared philosophy to deliveries, pick-ups, and access.

An agreed route for communication with all partied will be agreed and refined where necessary for individual needs.

9.4 Construction Logistics and Cyclist Safety

The Principal Contractor(s) will be required to operate both the Fleet Operator Recognition Scheme (FORS) and Construction Logistics and Cyclist Safety (CLOCS) safety Schemes whilst working on site at Stag Brewery.

9.5 Rodents and Vermin

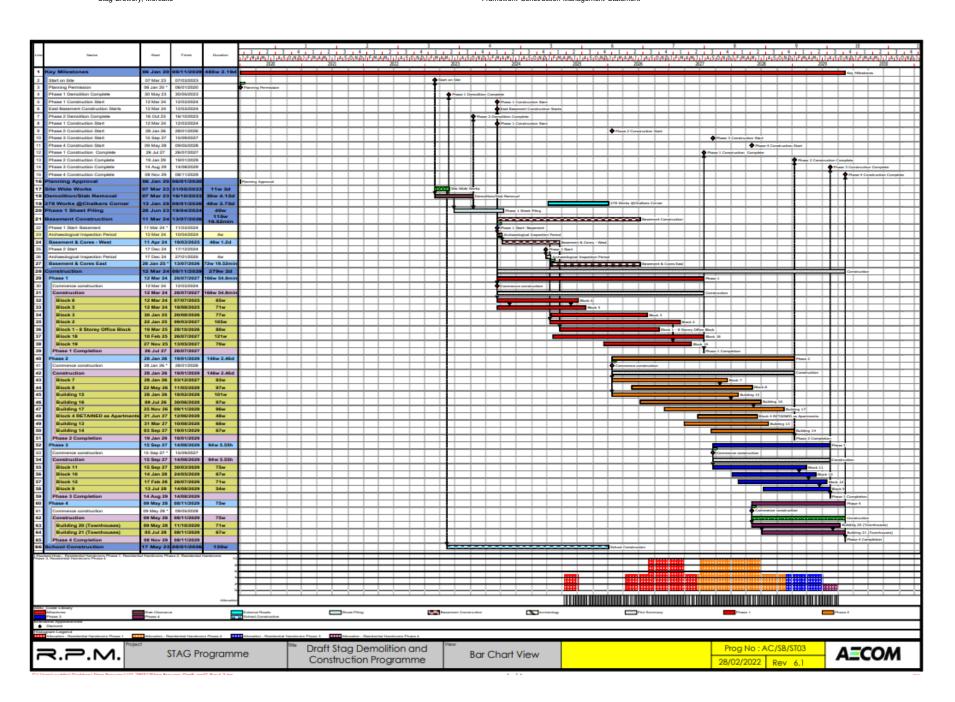
The existing Former Stag Brewery buildings will be assessed for the presence of rodents and vermin prior to demolition.

Should any rodent or vermin issues be present, an external contractor will be appointed to eradicate these

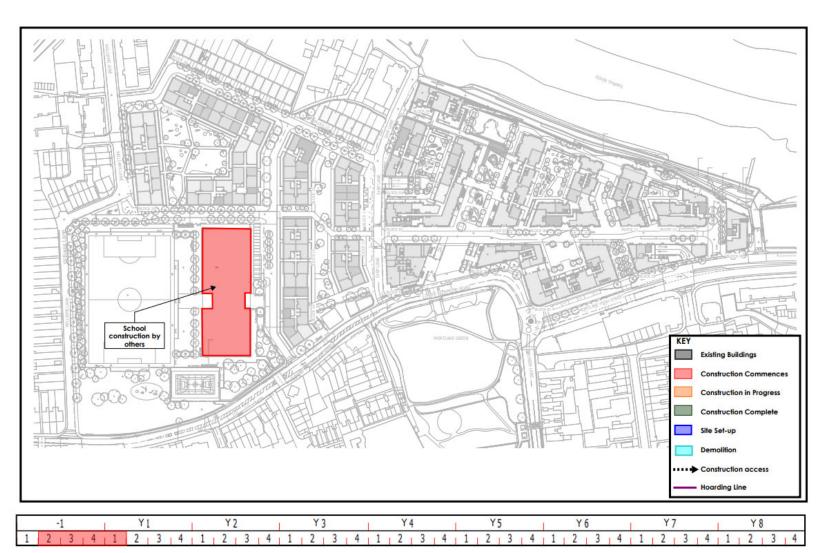
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Appendices

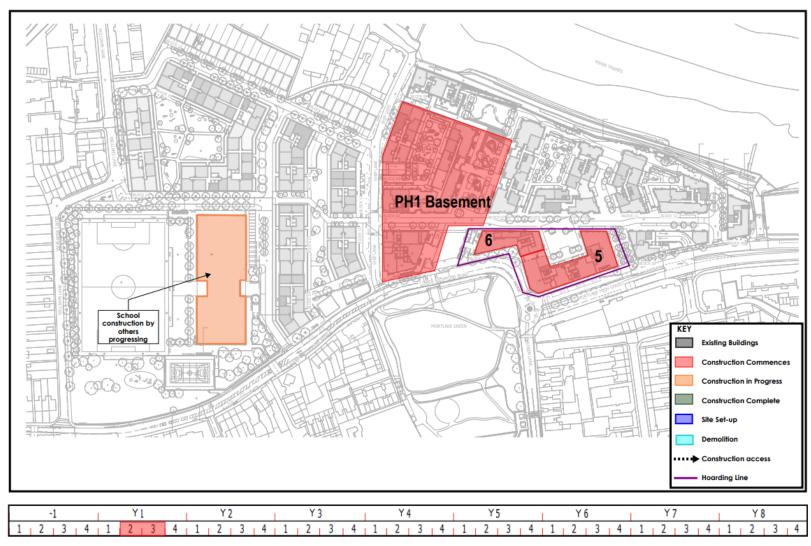
Appendix A High Level Summary Programme



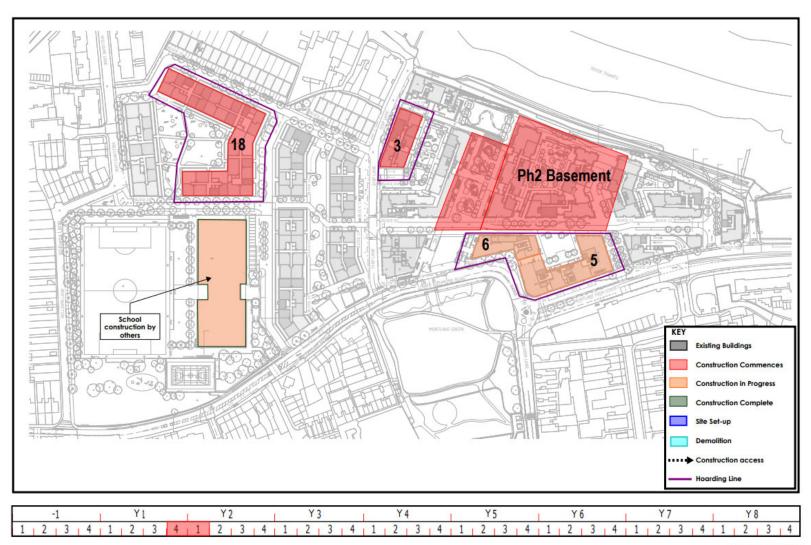
Appendix B High Level Phasing Plan



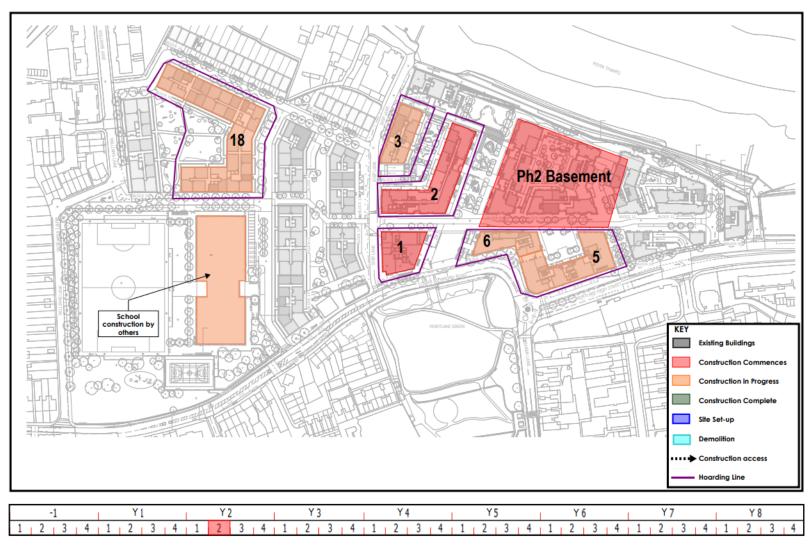
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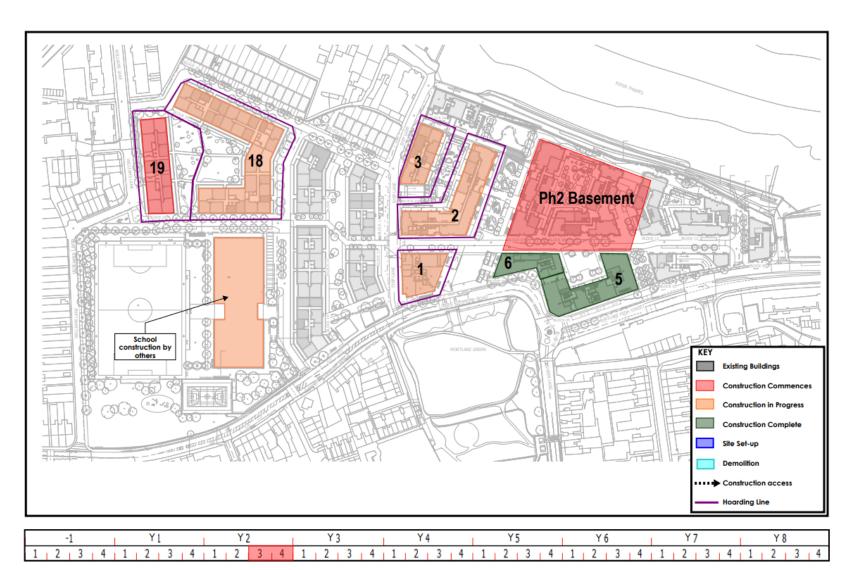
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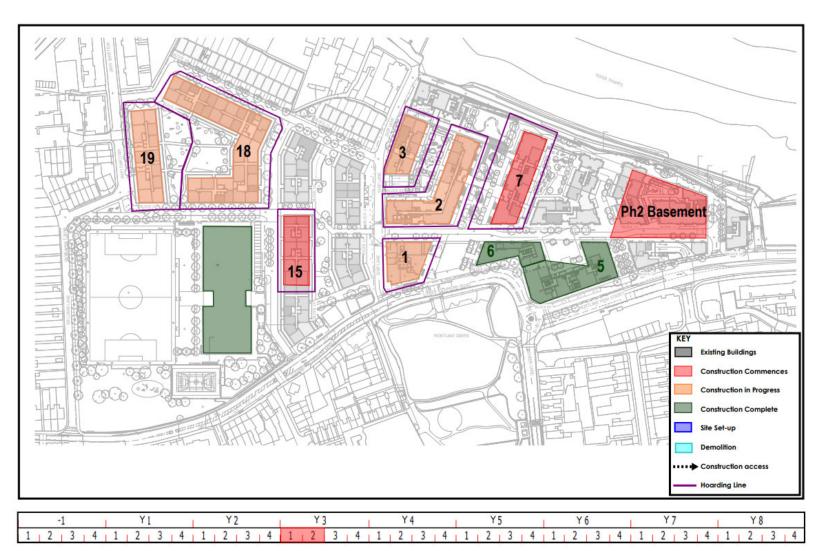




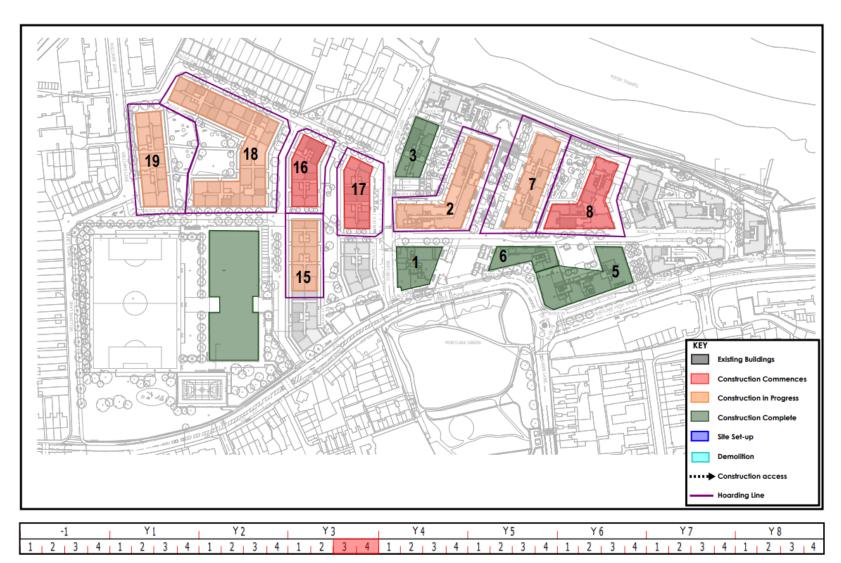




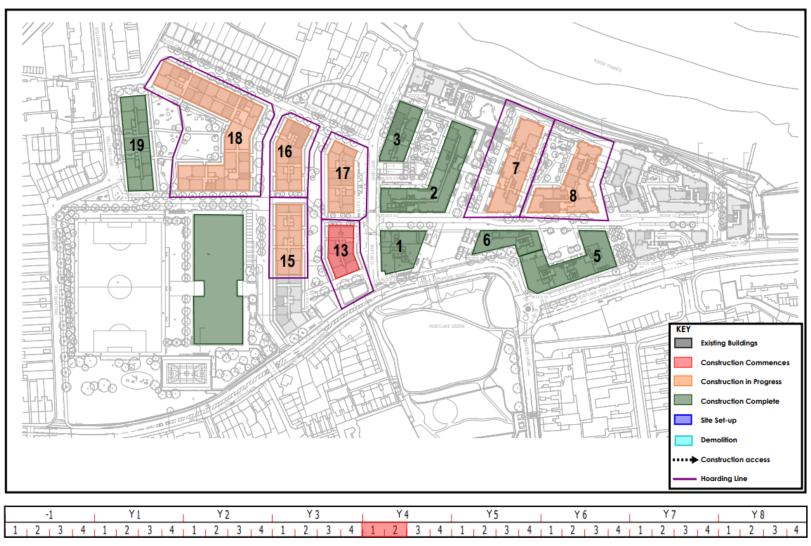
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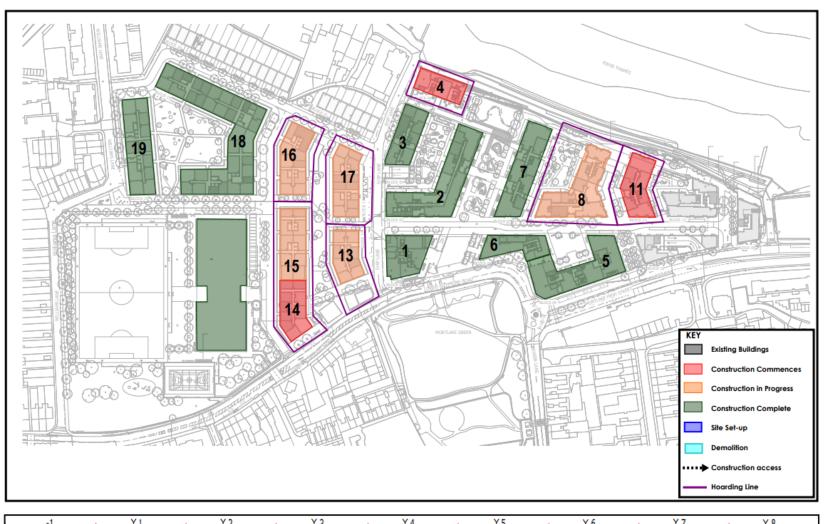


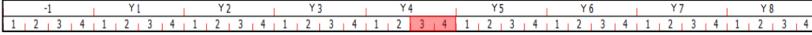




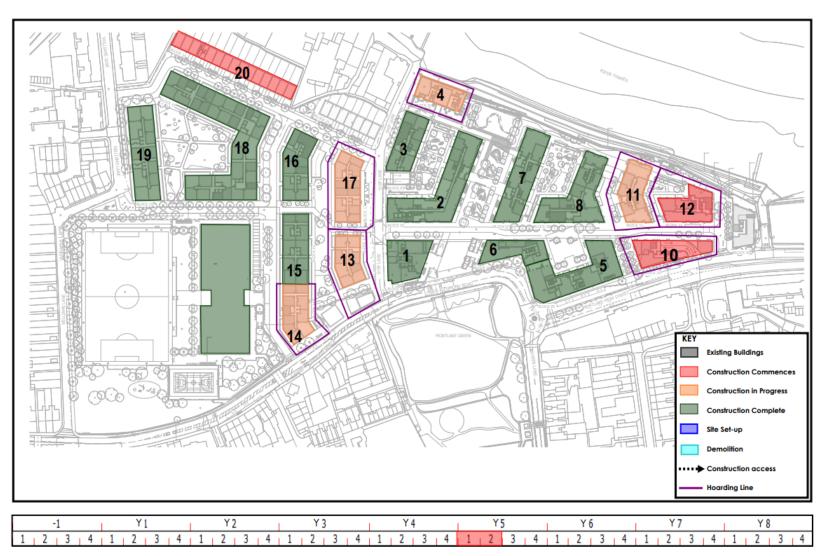








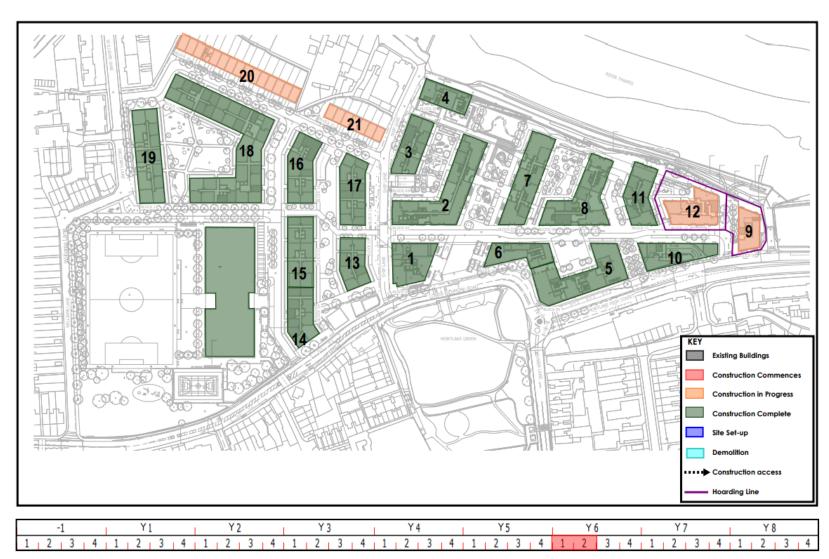






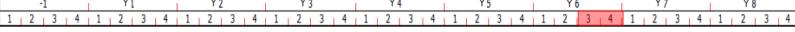












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