

4.0 Intervention and Ventilation Shafts

4.1 Introduction

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4.4 Kennington Green Intervention and Ventilation Shaft

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4.1 Introduction

4.1.1 This section outlines the site analysis, design considerations and evolution of the designs for the ventilation shafts and associated work sites at Kennington Green and Kennington Park. This section deals with the immediate surrounding influences to the sites. The wider context has been addressed in Section 2.

4.2 Functional and Operational Requirements

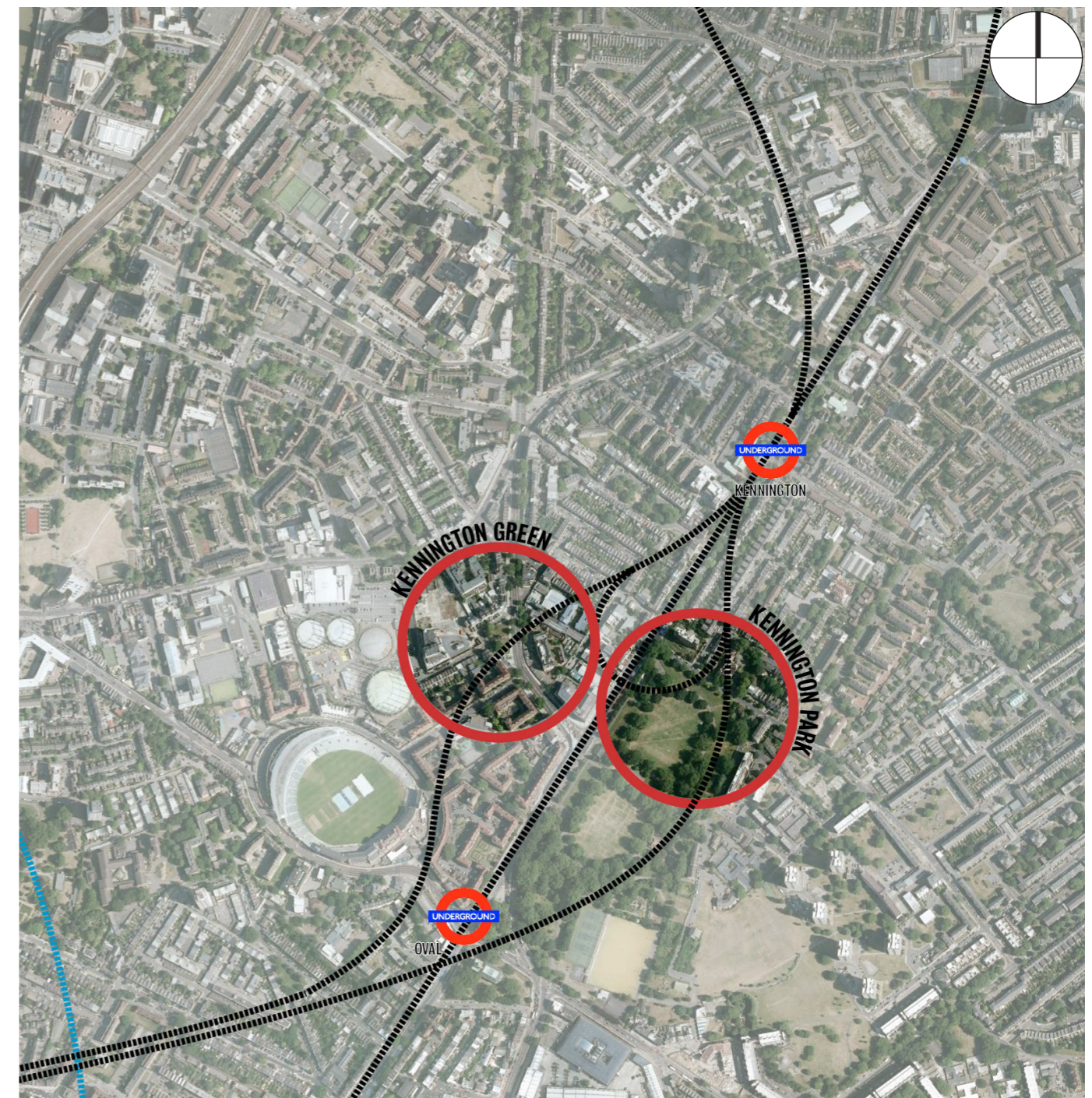
4.2.1 Intervention and ventilation shafts are primarily required for draught relief during the normal operation of the line - pulling air in and pushing it out when a train passes. They would also be required in the event of an emergency situation to manage smoke. The fans in the shaft could either blow smoke away from an incident and up an extraction shaft, or to extract smoke blown to it.

4.2.2 These shafts can also be used for general tunnel cooling if required by LUL. Fans in the shaft can be operated continually at low capacity in order to provide tunnel ventilation and to prevent heat building up within the tunnel or intermittently as needed.

4.2.3 Where these shafts extend above the ground in order to exhaust, or where access is needed in cases of maintenance and emergency, the resulting structures are called head houses. There are two such head houses for the NLE - one at Kennington Green and another at Kennington Park.

4.2.4 Fire safety legislation dictates that there must be a form of emergency access at regular intervals on a new-build underground railway. Both shafts therefore have to provide for intervention by emergency services only. They do not provide a means of emergency escape for passengers.

Figure 4.1 Locations of Intervention and Ventilation Shafts (Indicative)



4.3 Overarching Design Principles

- 4.3.1 There are a number of common principles for the designs of the shafts and head houses based on the requirements listed above, as well as urban design requirements to ensure that the proposed head houses integrate with their surrounding areas.
- 4.3.2 Table 4.2 below sets out the principles common to both, with site-specific principles set out under Sections 4.4 and 4.5.

Table 4.2 Overarching Design Principles for the Head Houses

Project element	Technical requirements	Urban design requirements
Head house	<ul style="list-style-type: none"> ▪ To provide the necessary functional requirements for the head house including: <ul style="list-style-type: none"> ▪ appropriate areas for the ventilation, intervention and maintenance with access to the ventilation shaft and tunnels below ground; ▪ a pressurised, protected staircase for intervention access; ▪ facilities for plant replacement; ▪ sufficient area of louvres on the head house façade to enable air from the below ground tunnels to be vented out through the head house structure; ▪ condensing units ventilating to the outside. 	<ul style="list-style-type: none"> ▪ To respond positively to its context/setting. ▪ To minimise the visual impact of the proposals, particularly of the louvres and condensing units. ▪ Protect and enhance the character and appearance of the conservation areas. ▪ To consider the amenity and access requirements of adjacent properties and users.
Landscape strategy	<ul style="list-style-type: none"> ▪ To provide direct street access for servicing and emergency vehicles. 	<ul style="list-style-type: none"> ▪ To respond positively to its setting and location. ▪ Protect and enhance the character and appearance of the conservation areas and the settings of the listed and locally listed buildings in the vicinity.

4.4 Kennington Green Intervention and Ventilation Shaft

Location

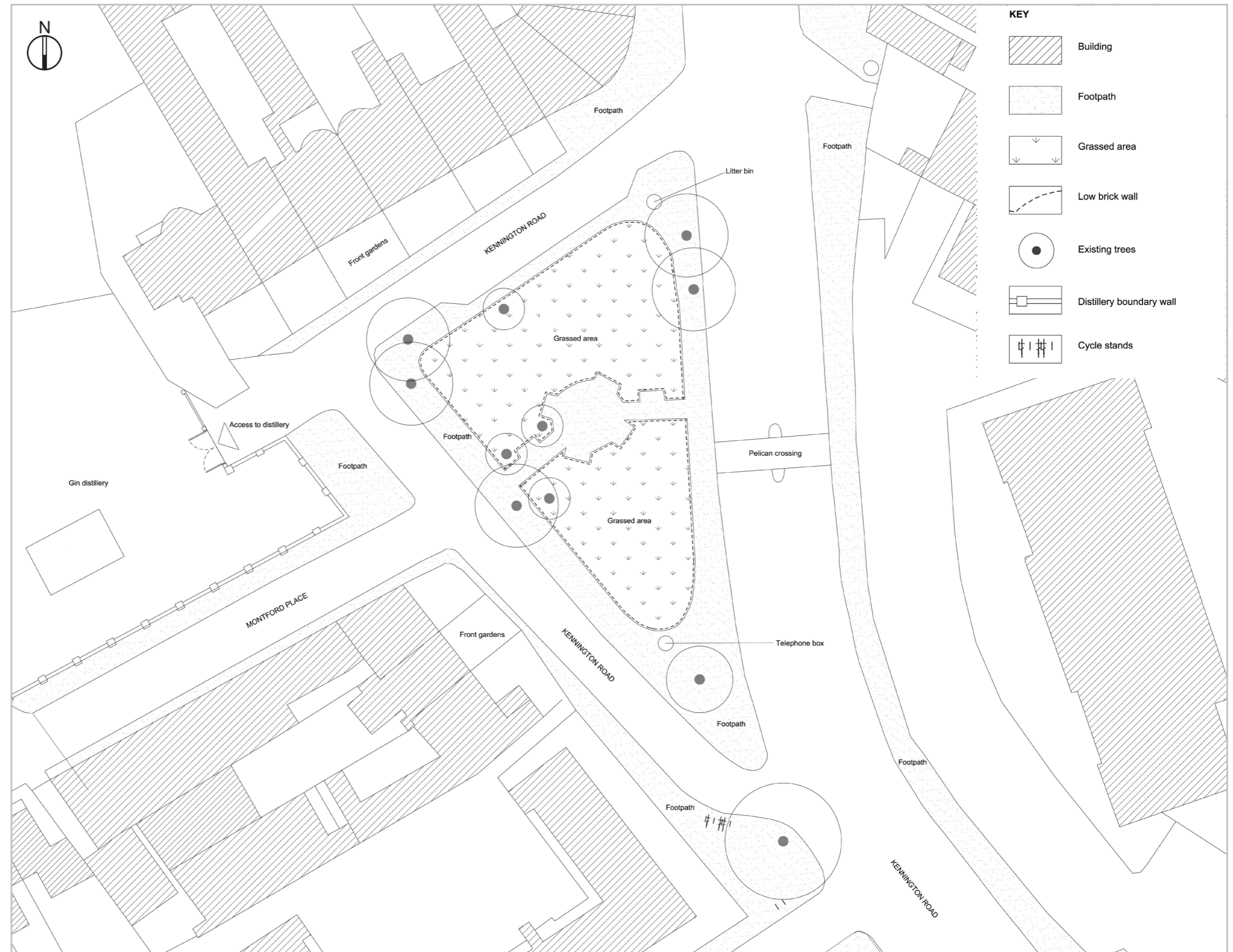
- 4.4.1 The site is located on Kennington Green between Montford Place and Kennington Road.
- 4.4.2 Kennington Green, shown in Figure 4.3, would be required temporarily for the shaft work site, with the permanent head house building constructed entirely within the perimeter of the distillery site on Kennington Green on Montford Place, west of the Green. Following completion, the Green would be fully reinstated, with no visible evidence of the underground structure. Kennington Green is protected by the London Squares Act of 1931.

Context

Surrounding land use

- 4.4.3 The site is located within the Kennington Conservation Area and is bordered by six Grade II and two Grade II* listed Georgian residential properties on the northern and western sides and the Grade II listed Lycee (former Victorian Board School, now flats), together with some commercial units to its north. The terraced houses on Montford Place are also listed.
- 4.4.4 The Beefeater gin distillery is situated in the north west corner of the Green (see Figure 4.3) – this is principally in the form of an access gate to the site. The original 1902 building on the distillery site is locally listed. The rather unattractive rear elevation of the distillery is partially visible from the Green above the corner screen boundary wall.

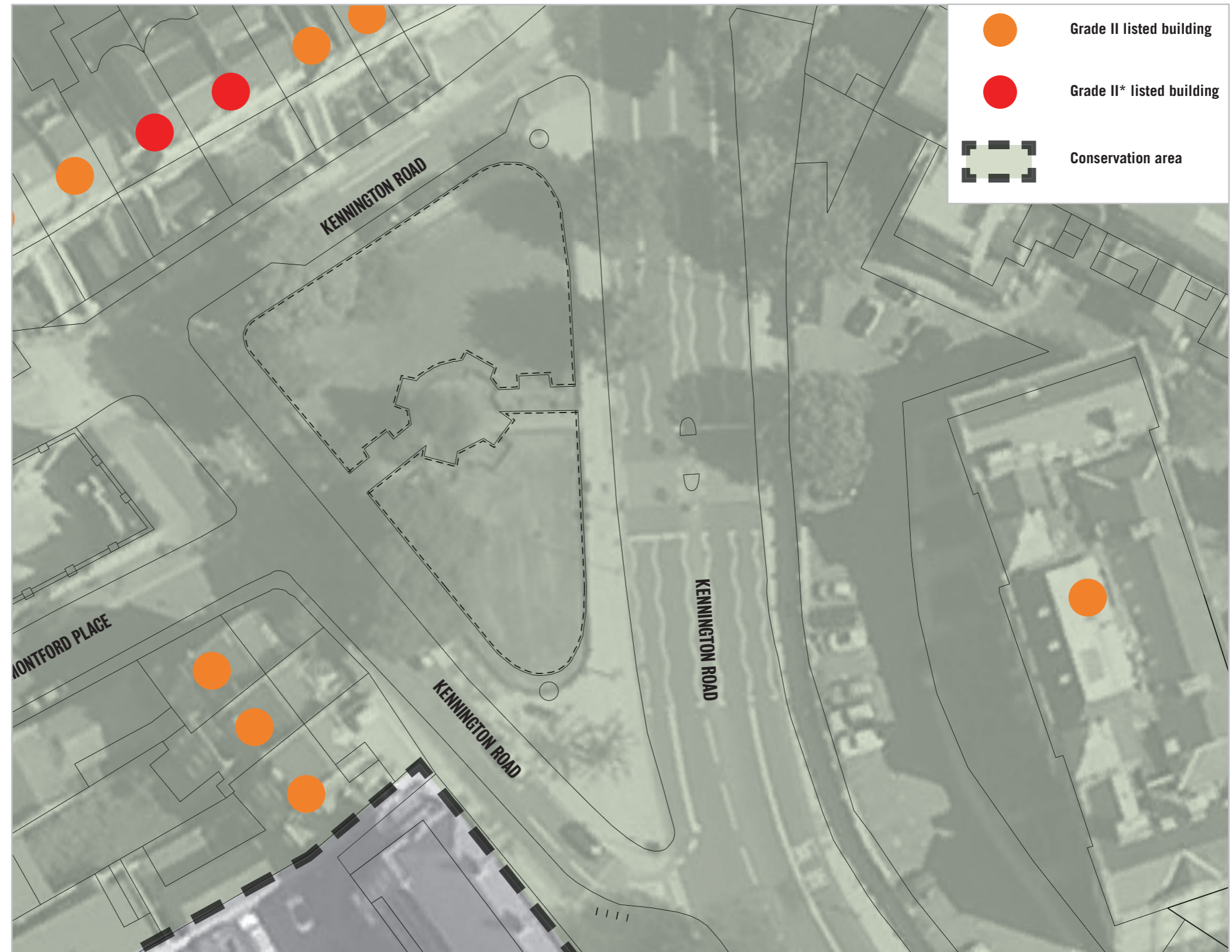
Figure 4.3 Kennington Green - Existing Site Plan



Character

- 4.4.5 Kennington Road on the eastern edge of the Green is a wide four lane (including two bus lanes) arterial road. In comparison, Kennington Road on the northern and western edges of the Green is a smaller, quiet residential road, although the northern arm is used for deliveries to and from the distillery. The listed houses are typical Georgian four storey buildings with mansard roofs and fine detailing. The entire site forms part of the Kennington Conservation Area (further information is provided in the LB Lambeth's Conservation Area Appraisal, March 2012).
- 4.4.6 The presence of the Green helps soften the urban appearance of the area; however, the quality of the public realm is poor with a mixture of different types of paving materials, street lighting and bollards. The areas of grass are enclosed by low brick walls, transected by a path. Benches have been removed and the paved platforms for those benches have been filled in.
- 4.4.7 Vehicular access to the distillery is located at the north west corner of the Green, immediately next to the proposed site for the head house. There is a brick boundary wall screen built in 2002 on the site of the proposed head house, which was designed in conjunction with LB Lambeth following the demolition of a large 1960s bottling store. The design of the screen responds, in part, to its Georgian context with an arched elevation which contributes towards the enclosure of the Green, although the height of the wall is much lower than the adjacent houses (shown in Figure 4.5, in the background of photo number 2).

Figure 4.4 Kennington Green - Heritage Designations: Listed Buildings and Conservation Area



Movement

4.4.8 Kennington Road (A23) is a major arterial road, connecting to Waterloo in the north and Brixton and beyond in the south and a number of bus routes run along it. Oval Underground Station is approximately 500m south of the site. All of the roads bordering the Green are two-way roads with on-street parking on the northern and western sides of the Green only.

4.4.9 Access to the distillery in the north west corner is from the Green, as shown in Figure 4.5, with the majority of related vehicle movements along the northern arm of the Green.

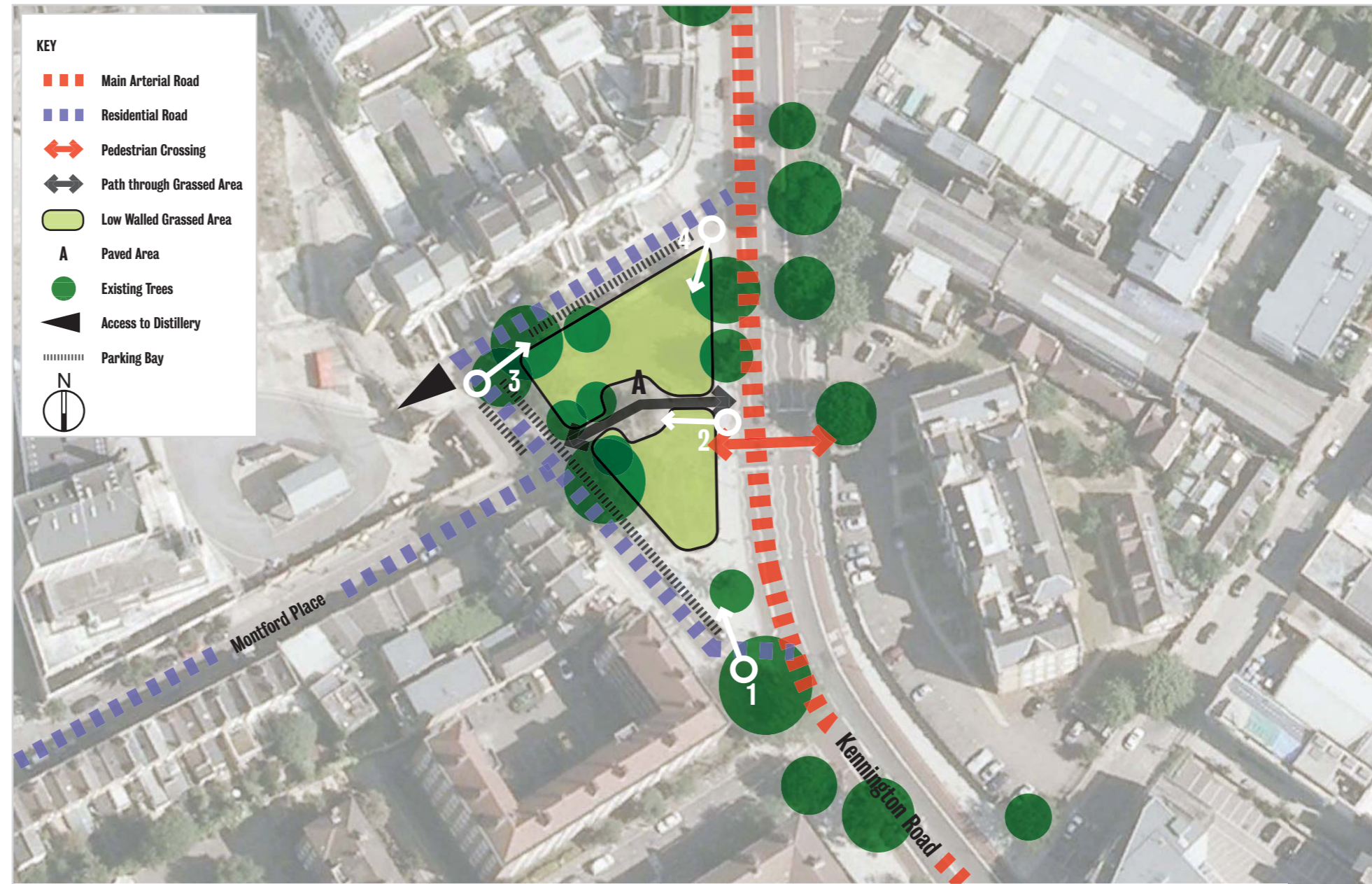
4.4.10 In terms of pedestrian movements, there is an existing pedestrian crossing on the eastern side of the Green to the opposite side of Kennington Road and footways all around the Green and on both sides of adjoining roads. The PERS audit of this site found that the quality of walking environment was particularly poor on the northern side and southwest of the Green with cluttered walkways, footways in need of repair and parked vehicles obstructing the footways. The crossing and path through the Green was provided to link to the former school building east of Kennington Road.

Constraints

4.4.11 In addition to principles identified in Table 4.2 in Section 4.3, there are a number of specific urban design principles which are applicable at Kennington Green. These are as follows:

- The location within a Conservation Area and the proximity of listed buildings;
- Access and operational requirements of the distillery;

Figure 4.5 Kennington Green - Site Analysis



- Consideration of residential amenity and access requirements during construction;
- Location of a pedestrian crossing east of the Green; and
- Location of existing mature trees on the Green.

Site-specific design principles

4.4.12 In addition to principles identified in Table 4.2 in Section 4.3, there are a number of specific urban design principles which are applicable at Kennington Green. These are as follows:

For the head house:

- To respond positively to its setting within a conservation area and to respect the scale, massing and building line of the neighbouring listed Georgian properties.
- To contribute positively to its urban context by increasing the enclosure of the Green and helping to screen the rather unattractive rear elevation of the distillery.
- To mark the entrance to Montford Place.
- To respond to the distillery site.

For the public realm strategy:

- To respond positively to the conservation area and setting of the listed buildings by creating a simple and elegant space and providing an appropriate setting for the surrounding buildings.
- To create a more coherent streetscape and identity for the Green which better links the residential properties with the open space.
- To create a pedestrian-orientated environment through the use of shared surfaces (where pedestrians,

cyclists and vehicles share and use the same surface) on the roads surrounding the Green.

- To provide a buffer of trees along the busy Kennington Road which should define the Green more effectively as an amenity space.

Design development: head house

Consultation

4.4.13 As part of the summer 2011 consultation on the permanent shaft locations respondents were asked to indicate their preferences on two locations for the permanent shaft head houses at Kennington Green as follows:

- Head house to be constructed in the yard of the distillery with the shaft built on the Green and connected to the head house via a subway;
- Head house constructed directly above the shaft on the Green.

The preferred location for the head house was the distillery site.

4.4.14 In autumn 2012, the public were consulted on the plans for the NLE including the proposed construction works for the shaft and head house at Kennington Green, and the reinstatement and improvement of the Green following completion. Although the location was discussed, the appearance of the head house was still in development.

4.4.15 In early 2013, at a consultation event mainly focussed on the reinstatement of the Green, residents were invited to consider which architectural approach they would prefer for the head house. Their response was that it should relate to the traditional architecture of the area.

4.4.16 In March 2013, design ideas for the proposed head house at Kennington Green were presented and discussed at a meeting with local residents. English Heritage were also informally consulted and in response, the elevation to the Green was changed, introducing more pronounced vertical panels to the two elements which make up the head house.

Design evolution

4.4.17 The concept design initially envisaged a structure which was largely concealed by the existing boundary screen of the distillery. However, the technical requirements related to the function of the head house resulted in a structure which exceeds the height of the boundary screen, becoming a built element in its own right.

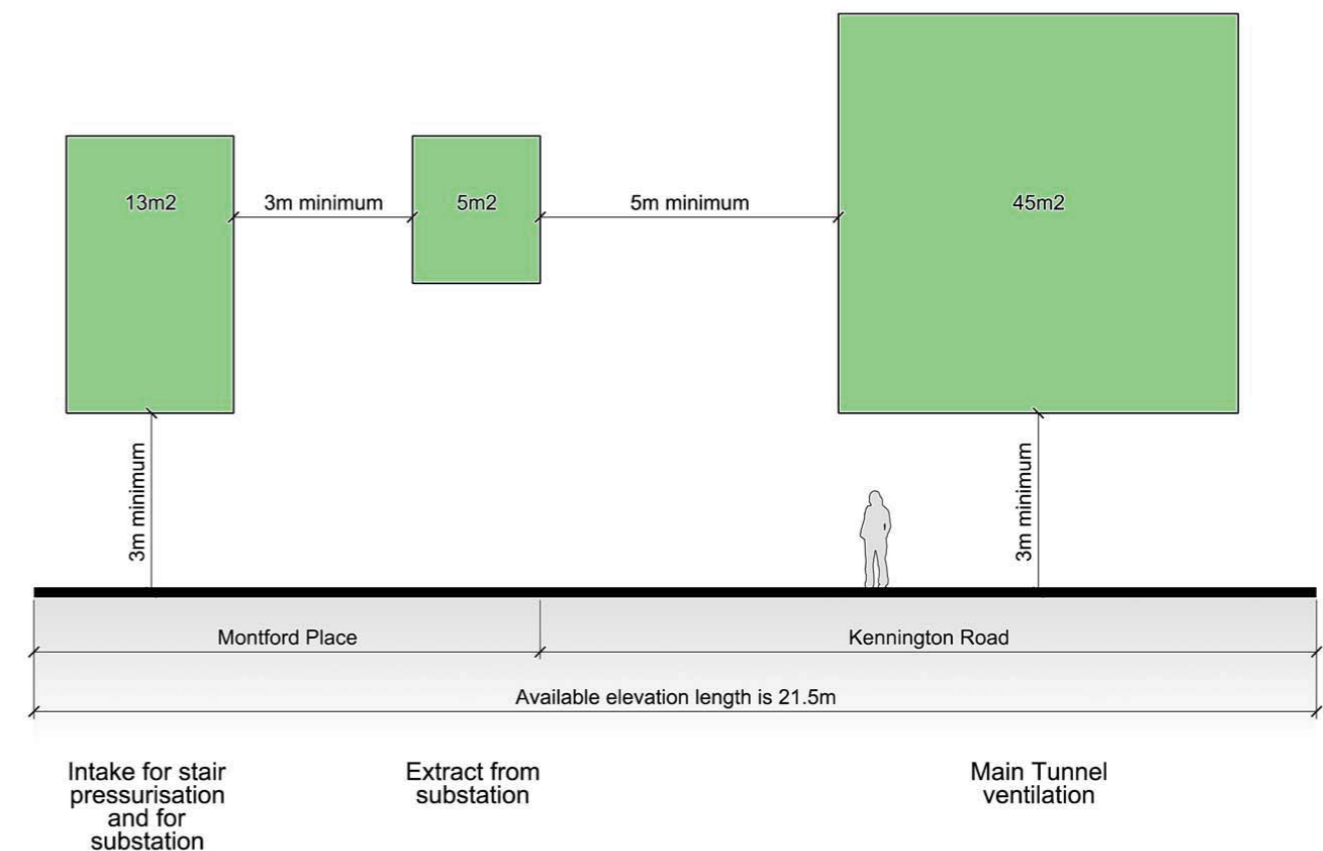
4.4.18 The proposed building height, ranging from 8.4 to 11.1 metres, has been informed by the ventilation requirements for the intervention and ventilation shaft (shown diagrammatically in Figure 4.6 below), the need to consider operational requirements of the adjacent distillery and the scale and character of the surrounding townscape.

4.4.19 All of the above has generated the envelope of the head house building presented in this document.

Proposed head house

4.4.20 The following sections describe the design which is based on the principles identified in Table 4.2 and paragraph 4.4.12 and from the feedback from consultations.

Figure 4.6 Kennington Green - Functional Requirements of the Head House



Amount and layout

- 4.4.21 The head house would be located within the boundary of the existing distillery, on the corner of Montford Place and the north west corner of the Green. The head house would provide, at ground level, 126.5m² of accommodation for the main tunnel ventilation and intervention and maintenance access. In addition, the head house would provide 45m² ventilation, as well as 13m² stair pressurisation and substation intake (combined) and 4m² substation extract of external louvres to allow for ventilation. The intake and extract is orientated away from the distillery, in response to any safety considerations associated with the operation of the distillery.
- 4.4.22 The shaft would be constructed at the southern end of the Green and connected to the head house via a below ground link allowing venting and intervention access. Ground, first, and second basement level plans are shown in Figure 4.7 opposite. The shaft would be 13.5m in internal diameter and 25m deep and located directly over the northbound tunnel. It would incorporate access stairs to the tunnels and ventilation plant (attenuators and fans), as illustrated in Figure 4.8.
- 4.4.23 The Green would be used as the work site for construction as well as containing superficial below ground structures. Following completion, the Green would be reinstated with an improved landscape design, described later in this section.

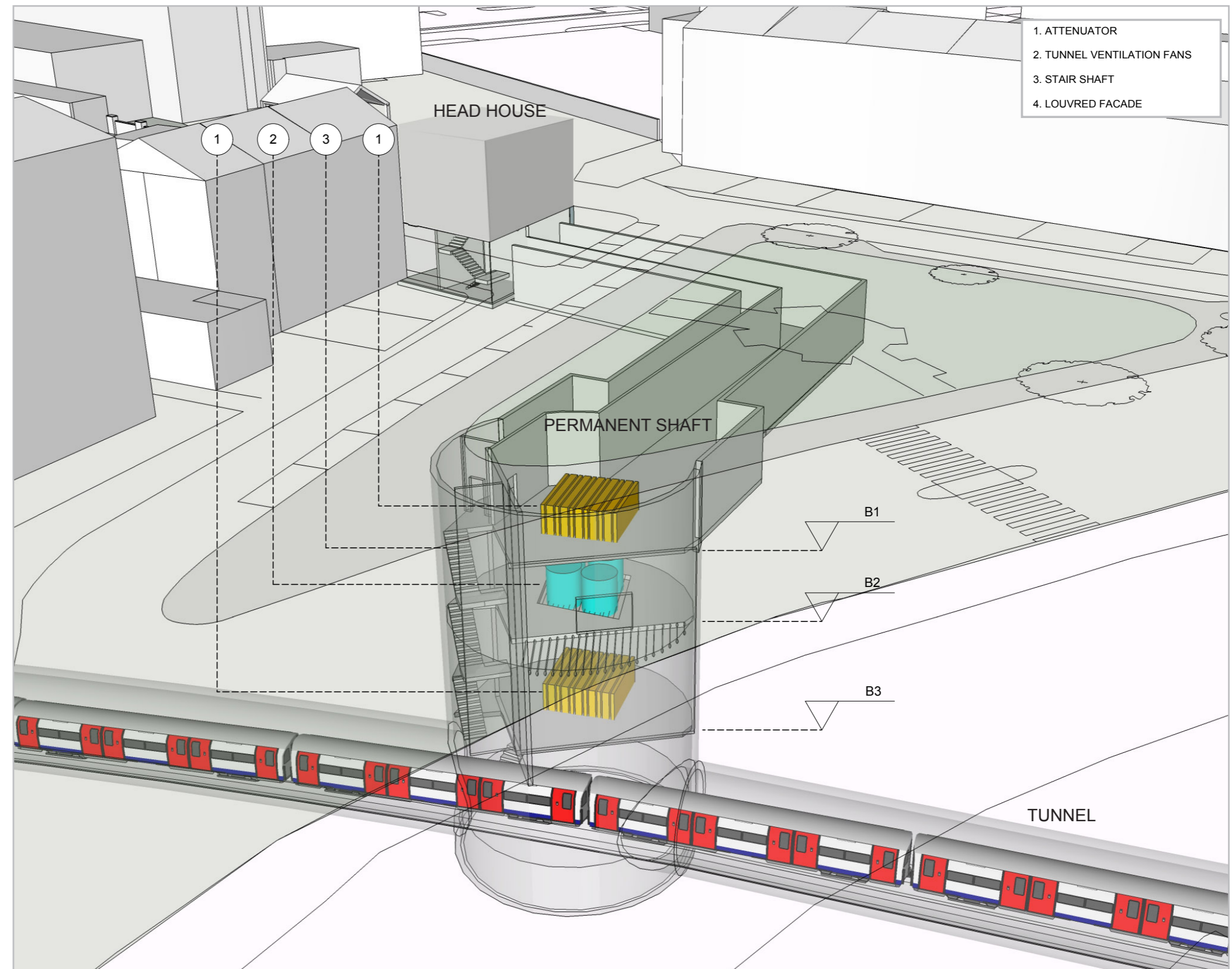
Figure 4.7 Kennington Green - Proposed Layouts of the Head House



Scale

- 4.4.24 The head house is split into two principal massing elements, with a third set back from the Green, to reflect both the massing of some of the adjacent residential buildings and to reduce the scale of the overall structure. The heights of the parapets of these elements are 8.4 metres and 9.6 metres for the two main elements facing the Green and 11.1 metres for the set back element of the head house.
- 4.4.25 The smaller of these massing elements, which defines the corner between the Green and Montford Place, reflects the smaller side extension of the building on the corner of Kennington Road and Montford Place. The larger elements reflect the distillery buildings beyond and the residential buildings defining the northern edge of the Green.
- 4.4.26 Although larger than the current boundary wall, which is over six metres in height, the scale of the head house provides a more effective enclosure to the Green, filling a 'gap' in the urban frontage.
- 4.4.27 This will benefit the character of the conservation area as the structure will be compatible with the adjoining Georgian properties, is closer to the likely scale of the semi-detached properties on this site until the mid 20th century, and will screen more of the unsightly rear elevation of the distillery from the Green.

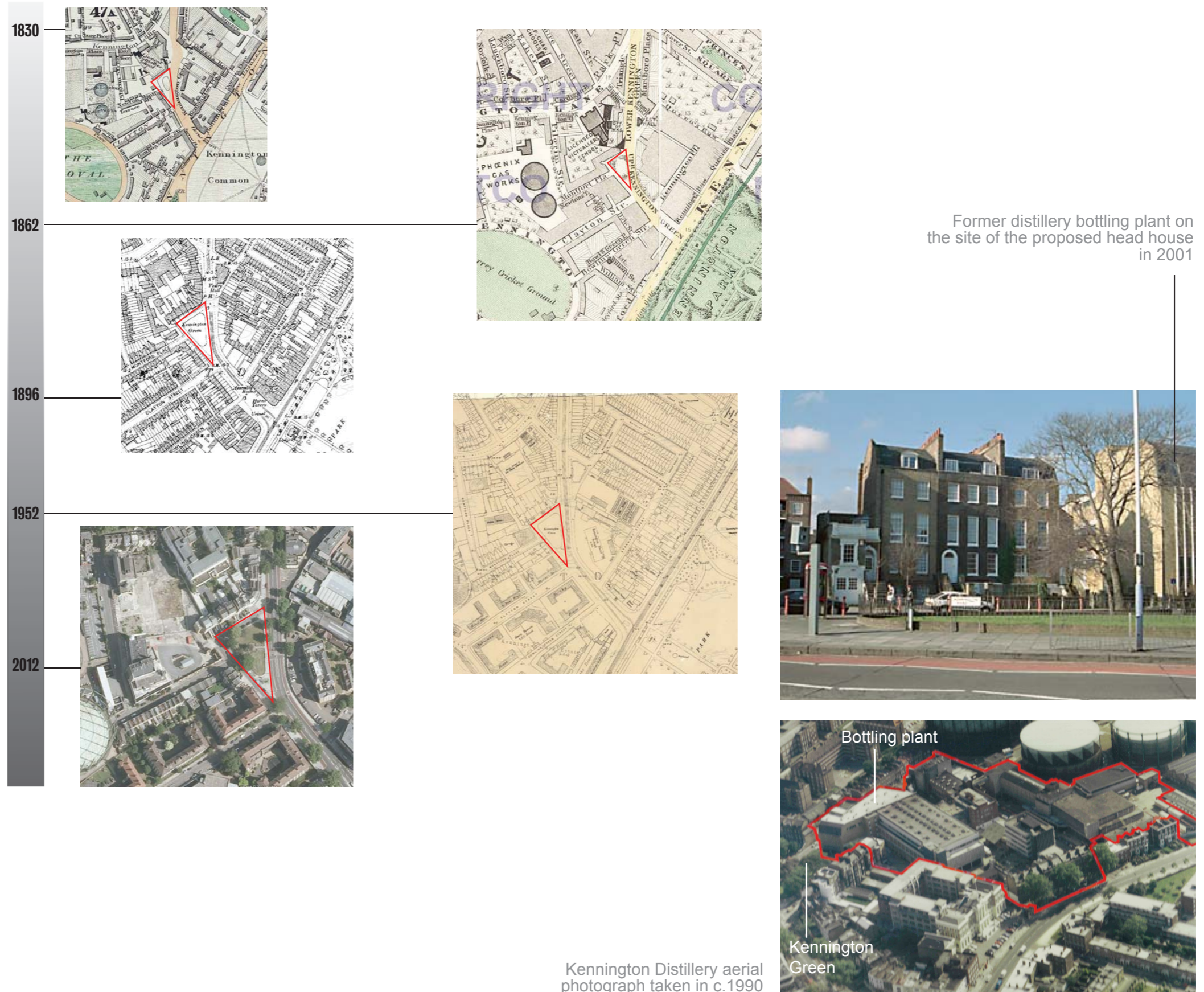
Figure 4.8 Kennington Green - Overview Diagram of the Shaft and Head House



Appearance

- 4.4.28 The new head house would be a freestanding structure between the street and the entrance to the distillery, but flanked on either side by terraced housing dating from the early 19th century, as illustrated in Figure 4.10. This also illustrates how the structure would contribute to a better sense of enclosure of the Green.
- 4.4.29 Until fairly recently, the site contained a 1960s bottling plant, taller than its neighbours, which belonged to the distillery - this can be seen in the photographs in Figure 4.9. Historically however, the site was occupied by two houses, still in evidence on the 1914 Ordnance Survey map, also shown in Figure 4.9. As with the latter, in plan form, the proposed structure would follow the building line of the residential terrace to the south.
- 4.4.30 Although the buildings on the Green are primarily residential, the design approach to the head house elevations reflect the function of the building, but with the addition of vertical panelling on the two elements of the Green elevation to reflect the vertical emphasis of the housing.
- 4.4.31 A large surface area is required for the main tunnel ventilation and this is incorporated in a side venting structure on the roof, set back from the façade to the Green. This ventilation would not be prominent from the Green. The remaining ventilation requirements would be located on the Montford Place elevation but set in deep reveals in order to lessen its visual impact.

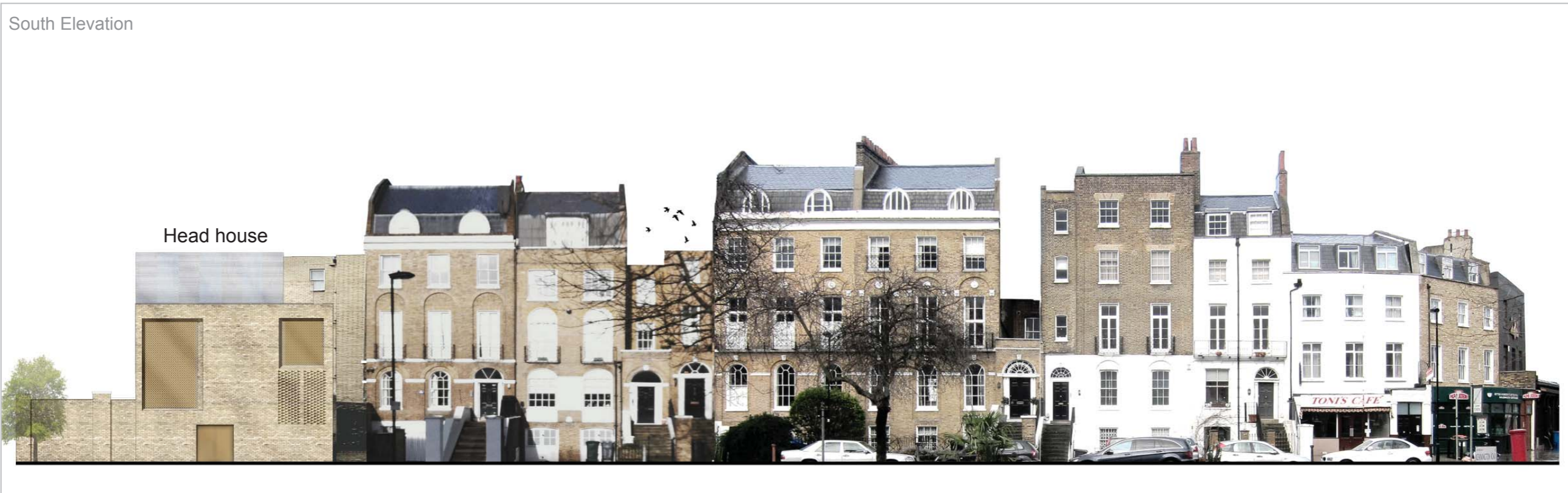
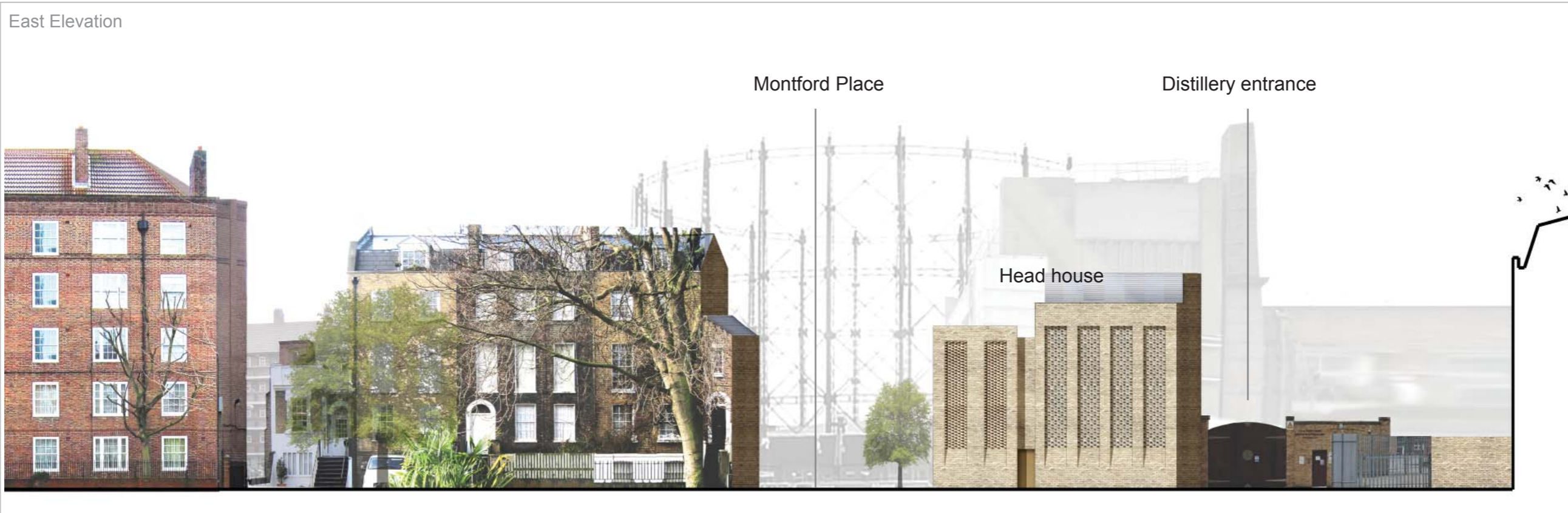
Figure 4.9 Kennington Green - Historical Maps and Images



Former distillery bottling plant on the site of the proposed head house in 2001

Kennington Distillery aerial photograph taken in c.1990

Figure 4.10 Kennington Green - Illustrative Photomontage of Street and Head House Elevations: East Elevation (top) and South Elevation (bottom)



4.4.32 The materials proposed are London stock brick, similar to the adjacent properties and sympathetic to the conservation area. The texture and bond of the brick would be varied to provide visual interest. The brick would be Flemish bond with either missing headers, or protruding headers as a contrast, with flush brickwork at the base of the building. The building would incorporate a subtle combination of new textures whilst also seeking to blend in with the local architectural character. Indeed, the deep reveals for the ventilation panels proposed on the Montford Place elevation and the framed recessed panels on the Kennington Road elevation reflect some of the details found on the adjacent Georgian building facades.

4.4.33 The proportions of the head house relate to the proportions of the adjoining houses, as shown in Figure 4.11. The hierarchy of house and smaller infill piece between is imitated, as is the proportion of solid base, middle section and roof. The vertical proportions relates to the style of the other buildings around the Green.

4.4.34 The impression of the building would be intended to be a subtly proportioned backdrop to the Green which, although very different, would blend into the local architectural character by its materials and quiet composition. This is illustrated in Figure 4.12.

Figure 4.11 Kennington Green - Proportion Study (unfolded elevation)



Roof lines: Comparison of 'roof' elements



Frontages: Comparison of building proportions



Rhythm and Syntax: Comparison of secondary / entrance structures

Figure 4.12 Kennington Green – Illustrative Visualisation of the Head House, looking northwest towards the Distillery



Design development: landscape

Consultation

4.4.35 In October 2012 TfL consulted with residents and parks and conservation officers from Lambeth Council to inform initial ideas for the reinstatement of Kennington Green following completion of construction works. Ideas agreed at this meeting were included in the autumn 2012 NLE consultation. A further two residents' meetings were held in January and March 2013 to refine the detailed design preferences for the Green.

4.4.36 In the autumn 2012 NLE consultation, respondents were asked whether they agreed or disagreed with four statements about the proposed designs for the Green. A tree border, the inclusion of public art, and the inclusion of seating on the Green were all statements that were strongly agreed or agreed with. Opinion was balanced on the removal of the path and the inclusion of a post and chain border.

4.4.37 A further meeting was held in January 2013 to discuss feedback from the public consultation and more detailed design considerations for the reinstatement of the Green. Three design options were presented and discussed with residents as shown in Figure 4.13. These options incorporated the feedback from the 2012 consultation and included some seating on the Green and a tree border.

4.4.38 Residents agreed that:

- London Plane trees should be used on Kennington Road;
- The path across the Green was not of benefit to the space;
- The pedestrian crossing should be relocated;
- The Green should be kept simple and elegant;
- A shared surface for the smaller surrounding roads would be appropriate in this location; and
- Post and chain border should be included in the design.

4.4.39 It should be noted that the path across the Green and the pedestrian crossing mentioned above were originally provided to serve a school on Kennington Road which has since been closed and converted.

4.4.40 Of these three options tabled, the third was preferred by the residents which shows a simple, flat reinstatement of the green, maximising the grassed area.

4.4.41 A third meeting was held in March 2013 where the landscape scheme was also discussed. The proposed scheme was favourably received but local residents requested further amendments. These included changes to the lighting to reflect the traditional style provided in Montford Place. Additionally, residents requested a post and chain boundary to be installed around the Green.

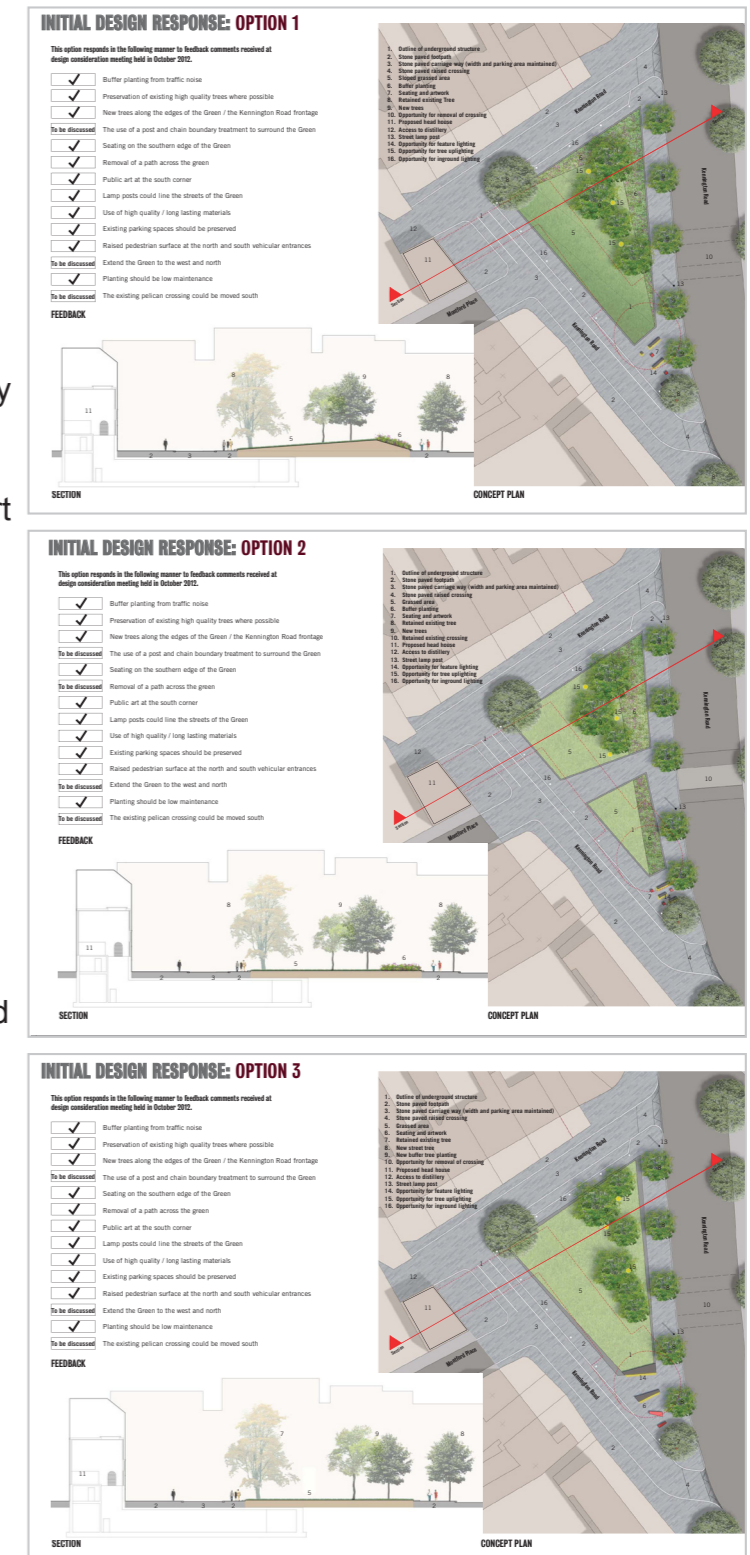
Design evolution

4.4.42 In response to the feedback received from residents at the consultation meetings described above, the final proposal reflects and accommodates the majority of those issues raised at the various stages of the design.

4.4.43 The proposed scheme shows a simple and elegant design, primarily with a single grassed area (residents were keen to see the cross path removed to provide more green space), high quality paving on the small roads defining the Green, traditional style lighting, space for some seating and possibly public art at the southern end of the Green.

4.4.44 Residents were keen to see the grassed area increased, with smaller pavements on the north and west sides, although car parking spaces would be retained. The Green would be bounded by a post chain fence and planting would include trees on the eastern side of the Green (the west was constrained by the infrastructure below ground) and tree planting along the road. It was agreed that this should be London Plane trees to continue the tree lined boulevard appearance of Kennington Lane. TfL would also explore tree planting opportunities on the corner of Montford Place and Kennington Green.

Figure 4.13 Kennington Green - Design Options Presented to Local Residents, January 2013



Proposed landscape

4.4.45 Located on the busy Kennington Road, Kennington Green and the adjoining houses represent a historically rich urban space. The proposed landscape strategy for reinstating the Green, as illustrated on Figure 4.14, seeks to enhance the site's unique identity and to provide a contemporary but sympathetic setting for the Georgian buildings that define it.

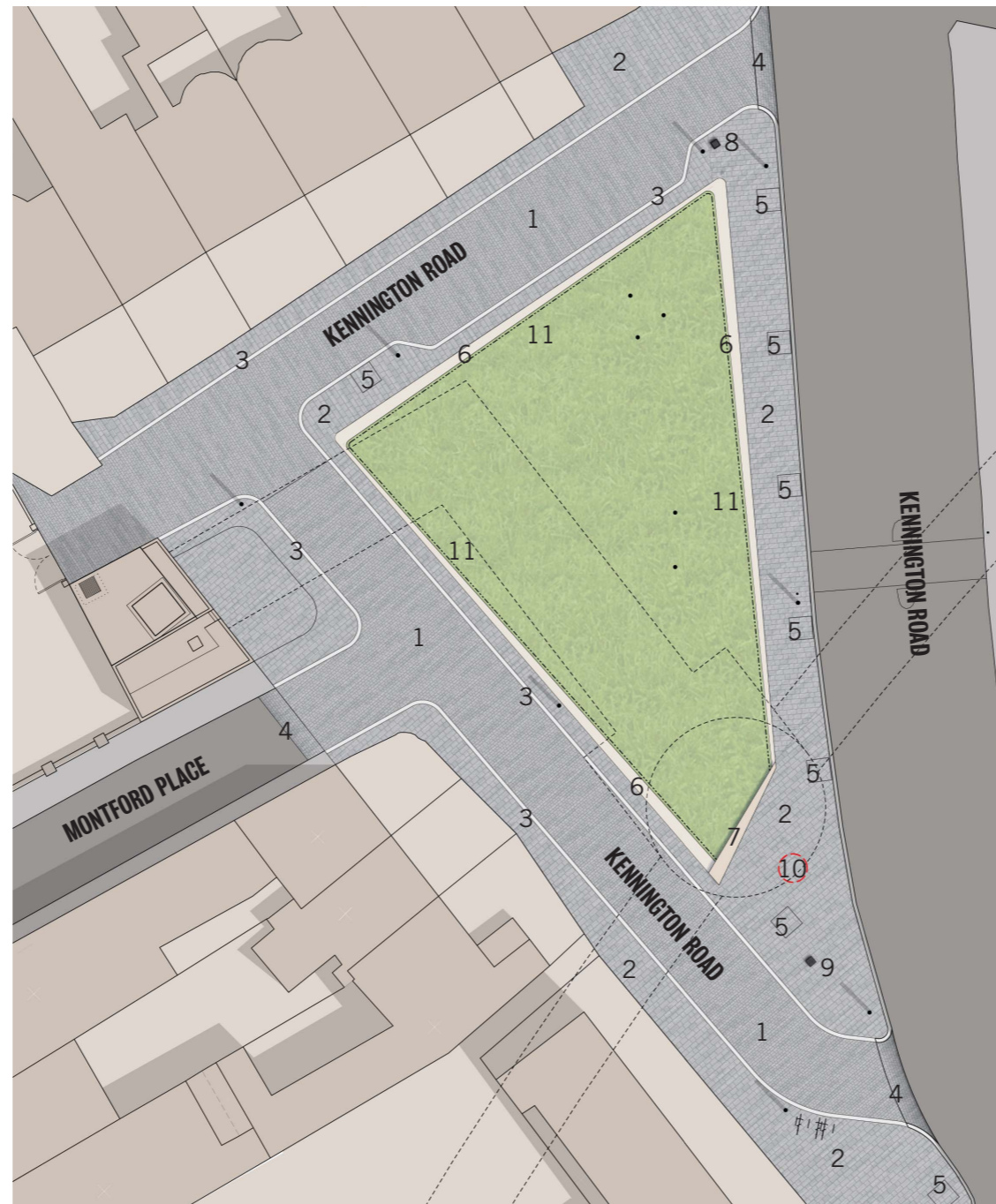
Figure 4.14 Kennington Green - Illustrative Landscape Masterplan



4.4.46 In order to create a more pedestrian-orientated space, a shared surface on the smaller roads boarding the Green is proposed which would significantly enhance the walking environment (currently poor). The existing carriageway would be raised almost to the level of the footway creating a threshold at both junctions with the main Kennington Road. There would, however be a shallow kerb to define pedestrian and shared space. The proposed material is natural stone pavers. Examples of materials to be used are shown in Figure 4.15.

4.4.47 TfL would explore the relocation of the existing pedestrian crossing on Kennington Road which was raised as an issue by residents during the consultation process.

Figure 4.15 Kennington Green - Illustrative Hard Landscape Materials and Furniture



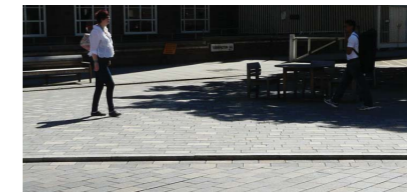
1. Raised and paved carriage way (Granite setts)



2. Footpath (Granite flags)



3. Granite kerb - small upstand



4. Raised vehicular entrance



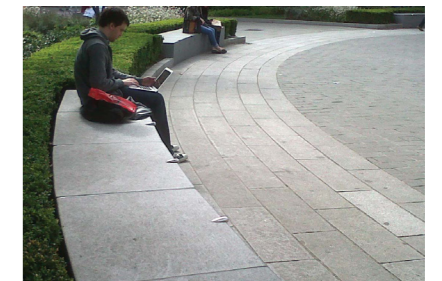
5. Tree grille



6. Wide kerb around the grassed area



7. Stone bench



8. Litter Bin



9. Telephone box

10. Potential location for future artwork (design and location to be confirmed)

11. Low post and chain fence

4.4.48 Within the proposed design, the grassed area would be maximised forming the predominant element of the Green. Where trees are replaced or simply part of the planting scheme, semi-mature specimens would be used. The existing Ailanthus tree and Ginkgo Biloba trees will be retained, as shown in Figure 4.16.

4.4.49 Along Kennington Road, a generous footway width would be retained, appropriate for an arterial road. An avenue of London Plane trees (see Figure 4.16, image 4) would be provided on the eastern side of the Green, which together with the new feature trees on the grassed area, would help to soften the urban appearance of the area.

Figure 4.16 Kennington Green - Illustrative Landscape Masterplan: Species



1. Existing Ailanthus tree



2. Birch tree



3. Amelanchier tree



4. London Plane tree



5. Existing Ginkgo tree



6. Grassed area



4.4.50 The proposed street lighting would match the traditional columns and lamps on Montford Place, as shown in Figure 4.17. South of the grassed area, new seating would be provided.

4.4.51 No changes are proposed to the entrance to the distillery or the amount of parking available around the Green.

Refuse & servicing

4.4.52 Intervention and maintenance access would be via a door in the head house at street level, in the elevation facing the Green and from Montford Place. Service vehicles would park on street using the existing bays.

4.4.53 Plant replacement access is provided directly above the underground shaft, at the southern tip of the green. This would not be a visible hatch; when required (approximately every twenty years) the paving would be removed to allow for the replacement of major plant equipment located in the shaft. The paving would be made good afterwards. Other smaller plant replacement would be through the double doors on the southern elevation of the head house.

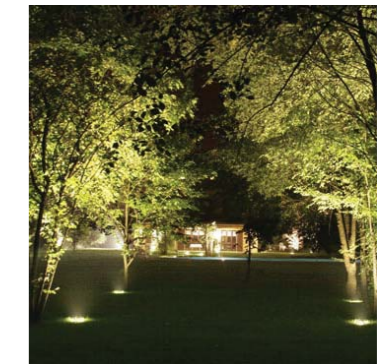
Figure 4.17 Kennington Green - Illustrative Lighting Scheme



● Existing light column



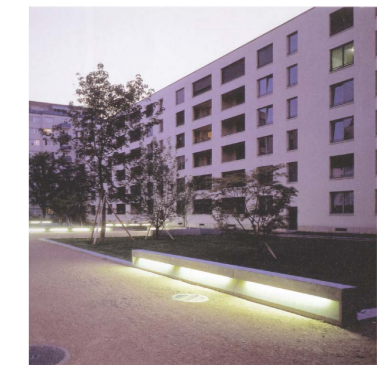
● Tree uplight



● Residential street light column



— Bench underside light



○ Future artwork feature light
To be confirmed as part of artwork design development

● Existing CCTV column

Water tank

- 4.4.54 The owners of the distillery land require a sprinkler water storage tank for their ongoing operations and were due to locate it in the area proposed for the head house. An alternative location for this tank is therefore required and is included in this TWAO application.
- 4.4.55 The water tank will be located north west of the proposed head house adjacent to the distillery, off Montford Place, as illustrated by Figure 4.18. The proposed location is outside of the existing distillery boundary.
- 4.4.56 Figure 4.19 shows the proposed elevations of the water tank and the brick wall along the site boundary, which have been developed to be sympathetic in style and scale to the surrounding architecture, as is appropriate for the conservation area setting.
- 4.4.57 The water tank will be a metal prefabricated unit, enclosed by a red brick wall, 2.4m high, to match the bricks of the distillery building adjacent, as illustrated in Figure 4.20. Access for fuel delivery and maintenance will be from the distillery yard. A plant room hosting a diesel fired pump will be provided.

Figure 4.18 Kennington Green - Water Tank Location Plan

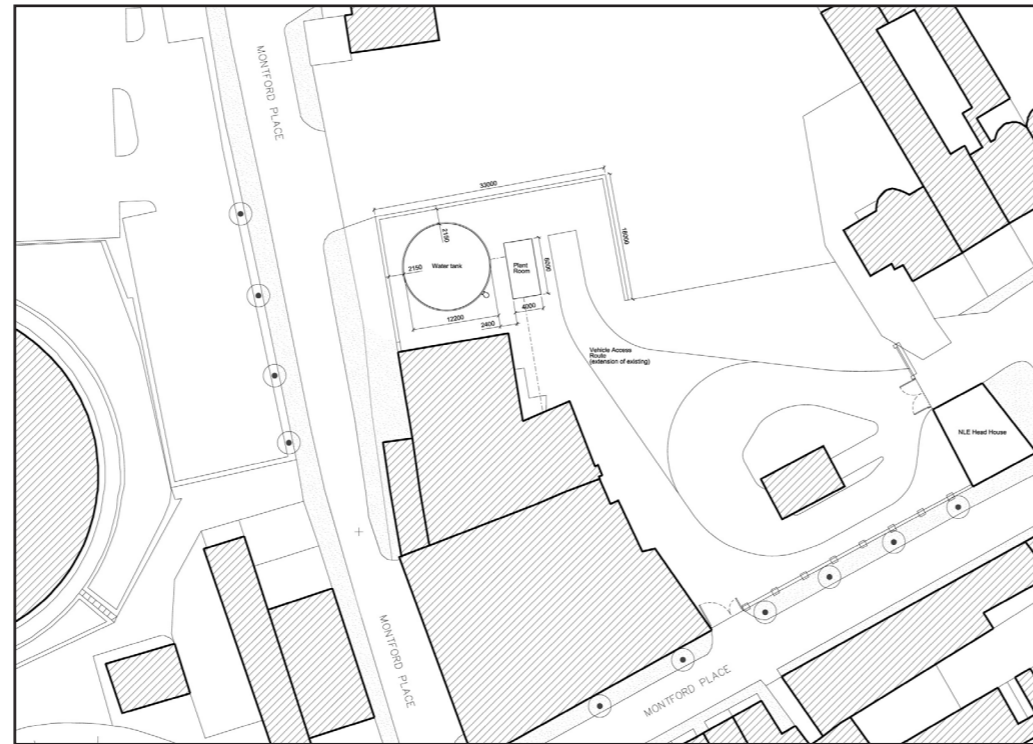


Figure 4.20 Kennington Green - Illustrative Visualisation of the Water Tank



Figure 4.19 Kennington Green - Elevation of the Proposed Water Tank

