

Transport Statement

Hampton Waterworks

5 February 2024

Prepared for
Waterfall Planning Ltd



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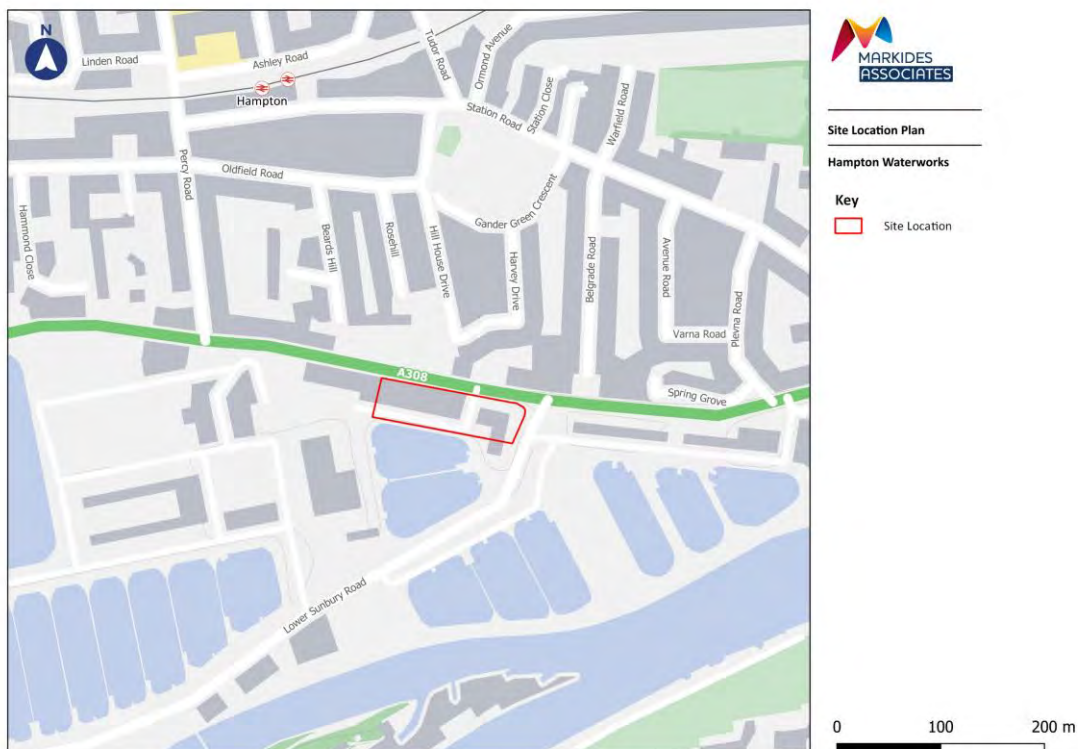
1. Introduction

1.1 Preamble

1.1.1 Markides Associates (MA) have been instructed by Waterfall Planning Ltd (the applicant), to prepare a Transport Statement (TS) in support of their development proposals at Upper Sunbury Road, Hampton, TW12 2DS. The site sits within the authoritative boundary of London Borough of Richmond-upon-Thames (LBRT) which is also the relevant highway authority.

1.1.2 The site is located off Upper Sunbury Road. It is currently accessed via a simple priority junction on Lower Sunbury Road which forms the main access to the Hampton Waterworks. The southern boundary of the site is formed by a pond which is part of the water treatment site. To the north, the site is bounded by Upper Sunbury Road and to the east it is bounded by Lower Sunbury Road. To the west, the site is bounded by a residential property. A site location plan is shown in **Figure 1.1**.

Figure 1.1 Site Location



1.1.3 The site is currently vacant and comprised 2,125m² Sui Generis space and two residential cottages.

1.1.4 The development proposals are for the conversion of two waterworks buildings into residential buildings with part of one building retained for commercial use. The existing semi-detached cottages and storehouse are proposed to be retained and will be in residential use.

1.1.5 In summary, the proposed development includes 36 residential units, 318.8m² flexible business space (Use Class E(g)) and 39 parking spaces. The proposed layout is included in **Appendix A**.

1.2 Pre-application Consultation and Other Supporting Documents

1.2.1 In accordance with the pre-application engagement with LBRT and TfL, the following transport related documents are submitted in support of this application:

- Travel Plan Statement (TPS);
- Servicing and Car Parking Management Plan (SCPMP), which covers matters normally included in a Delivery and Servicing Plan (DSP), and a Parking Design and Management Plan (PDMP); and,
- Construction Logistics Plan (CLP).

1.3 TS Aim and Structure

1.3.1 This TS provides an appraisal of the traffic and transportation matters associated with the development proposals. The TS provides a review of the site's accessibility and presents the results of a trip generation assessment. It also promotes mitigation strategies where necessary and sets out how the proposals reflect national, regional and local transport related planning policy and guidance.

1.3.2 Following this introduction, the TS comprises the following sections:

- **Section 2** outlines the relevant transport related national, regional and local planning policy;
- **Section 3** describes the existing transport infrastructure conditions in the area around the site;
- **Section 4** outlines the Active Travel Zone (ATZ) in relation to the site;
- **Section 5** provides a description of the development proposals including vehicle swept paths, servicing and delivery access and site access layouts;
- **Section 6** sets out the anticipated trip generation arising from the development proposals;
- **Section 7** provides a summary and conclusion of the TS.

2. Policy Review

2.1 Introduction

2.1.1 This section includes a review of transport related planning policy at national, regional and local levels.

2.2 National Planning Policy

National Planning Policy Framework (NPPF) (December 2023)

2.2.1 The NPPF sets out Government planning policy, provides a framework within which local planning policies should be produced, and is a material consideration in planning decisions.

2.2.2 With regards to transport, the NPPF states that: “Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

2.2.3 Paragraph 116 continues that applications for development should:

- *Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second- so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *Allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

2.2.4 Paragraph 117 states that: “All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

2.3 Regional Policy

The London Plan (March 2021)

- 2.3.1 The 2021 London Plan was published on 2nd March 2021.
- 2.3.2 Chapter 10 of this document deals with transport and Policy T1 sets the overarching approach to transport strategy for the city. Policy T1 states that development Plans and development proposals should support the delivery of the mayor’s strategic target of 80 per cent of all trips in London to be made by foot, cycle, or public transport by 2041, and the proposed transport schemes set out in Table 10.1.
- 2.3.3 Policy T1 continues, *“All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London’s transport networks and supporting infrastructure are mitigated.”*
- 2.3.4 The London Plan additionally includes a new concept; ‘Healthy Streets.’ These are defined by 10 indicators as follows:
- Pedestrians from all walks of life;
 - Easy to cross;
 - Shade and shelter;
 - Places to stop and rest;
 - Not too noisy;
 - People choose to walk, cycle, and use public transport;
 - People feel safe;
 - Things to see and do;
 - People feel relaxed; and,
 - Clean air.
- 2.3.5 Policy T2 states that development proposals should demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance; reduce the dominance of vehicles on London’s streets whether stationary or moving; and be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport.

2.4 Local Planning Policy

London Borough of Richmond upon Thames Local Plan (adopted July 2018)

- 2.4.1 The Council's Local Plan sets out policies and guidance for the development of the borough over the next 15 years. It looks ahead to 2033 and identifies where the main developments will take place, and how places within the borough will change, or be protected from change, over that period.
- 2.4.2 Paragraph 2.2 of the Local Plan states that whilst cars will still be a significant part of the borough's future, the borough's improved transport network and interchanges will encourage many residents as well as those who work and visit the borough to make journeys using high quality public transport and walking and cycling routes.
- 2.4.3 Furthermore, paragraph 2.3.1 states that the council will promote safe and sustainable transport choices, including public transport, cycling and walking, for all people, including those with disabilities. The council will encourage improvements to public transport, including quality and connectivity of transport interchanges, and support the use of Smart City technology and practices.
- 2.4.4 Policy LP 30 Health and Wellbeing states that the council will support development that results in a pattern of land uses and facilities that encourage sustainable modes of travel such as safe cycling route, attractive walking routes and easy access to public transport to reduce car dependency.
- 2.4.5 Policy LP 44 Sustainable Travel Choices states that the council will work in partnership to promote safe, sustainable and accessible transport solutions, which minimise impacts of development including in relation to congestion, air pollution and carbon dioxide emissions and maximise opportunities including for health benefits and providing access to services, facilities and employment.
- 2.4.6 Policy LP 45 Parking Standards and Servicing states that the council will require new development to make provision for the accommodation of vehicles in order to provide for the needs of the development while minimising the impact of car-based travel including on the operation of the road network and local environment, and ensuring making the best use of land. Appendix 3 of the document sets out the maximum vehicle and maximum cycle

parking standards which apply in LBRT, which are shown in **Table 2.1** for residential and employment uses.

Table 2.1 Maximum Residential and Employment Parking Standards

Land Use	Parking Standards	Cycle Parking Standard
Residential (including conversion/extension of existing)	PTALs 0-3: 1- 2 bedrooms, 1 space	As per London Plan
	PTALs 0-3: 3+ bedrooms, 2 spaces	As per London Plan
Employment Use	As per London Plan. Servicing to be provided off street unless in town or district centre	As per London Plan

2.4.7 The London Plan parking standards for employment uses (the most comparable former land use class) are shown in **Table 2.2** while the cycle parking standards for both B1 and residential land uses are shown in **Table 2.3**.

Table 2.2 Parking Standards for Employment Uses (London Plan)

Location	Maximum Parking Provision*
Central Activities Zone (CAZ) and inner London	Car free [^]
Outer London Opportunity Areas	Up to 1 space per 600 sqm gross internal area (GIA)
Outer London	Up to 1 space per 100 sqm (GIA)
Outer London locations identified through a DPD where more generous standards apply	Up to 1 space per 50 sq.m. (GIA)
<p>*Where Development Plans specify lower local maximum standards for general or operational parking, these should be followed</p> <p>[^] With the exception of disabled persons parking, see Policy T6 .5 Non-residential disabled persons parking</p>	

Table 2.3 Minimum Cycle Parking Standards – London Plan

Land Use		Long-stay	Short-stay
C3-C4	Dwellings (all)	<ul style="list-style-type: none"> • 1 space per studio or 1 person 1 bedroom dwelling • 1.5 spaces per 2 person 1 bedroom dwelling • 2 spaces per all other dwellings 	<ul style="list-style-type: none"> • 5 to 40 dwellings: 2 spaces • Thereafter: 1 space per 40 dwellings
E(g)(i)	Business Offices	<ul style="list-style-type: none"> • areas with higher cycle parking standards (see Figure 10.3): 1 space per 75 sqm <p>LBRT is identified as borough where higher cycle parking standards apply.</p>	<ul style="list-style-type: none"> • first 5,000 sqm: 1 space per 500 sqm • thereafter: 1 space per 5,000 sqm (GEA)
E(g)(ii) / E(g)(iii)	Light Industry and Research and Development	1 space per 250 sqm (GEA)	1 space per 1000 sqm (GEA)

3. Existing Transport Conditions

3.1 Site Location and Existing Use

- 3.1.1 The site is located off Upper Sunbury Road, Hampton and is within an area occupied by Hampton Waterworks.
- 3.1.2 The site is currently accessed via a simple priority junction on Lower Sunbury Road which forms the main access to the Hampton Waterworks. The southern boundary of the site is formed by a pond which is part of the water treatment site. To the north, the site is bounded by Upper Sunbury Road and to the east it is bounded by Lower Sunbury Road. To the west, the site is bounded by a residential property.
- 3.1.1 The site is currently vacant and comprises 2,125m² Sui Generis space which was used as office/light industrial, and two residential cottages.

3.2 Local Highway Network

- 3.2.1 A308 Upper Sunbury Road is a 30mph road which runs from its junction to the M3 (3.5km to the west of the site access) to its junction to the A309 Hampton Court Way (2.3km to the southeast of the site access). It is a single carriageway road varying in width between 5.5m and 9.5m.
- 3.2.2 The Transport for London Road Network in the vicinity of the site comprises the A316 (southwest-northeast) and the A312 (south-north). The A316 is a dual carriageway road which connects the Kempton Park area to Chiswick, ending at the A316 / A4 junction. The A4 then connects to central London to the east ending at Hyde Park Corner and it connects to the M4 to the west. The A316 also connects to the A312 which links to the M4 to the north and ends at its junction with the A40 further to the north.
- 3.2.3 LBRT is the relevant highway authority whilst TfL is responsible for the maintenance, management and operation of the traffic lights on Upper Sunbury Road.

3.3 Accessibility by Foot and Cycle

- 3.3.1 The proposed development is located approximately 6-minute walk to Hampton Rail Station and it benefits from being located within walking distance of a range of land uses that act as

typical local amenities or facilities for residential land uses such as employment, education, retail, leisure and health.

3.3.2 Examples of these land uses, and their associated walk distance are summarised in **Table 3.1** and **Figure 3.1**.

Table 3.1 Trip Attractors

	Facility	Distance (m)	Travel Time (mins)	
			Walk	Cycle
Community Centre	Linden Hall Community Centre	550	7	3
Library	Hampton Library	150	1	1
Supermarket	Hampton Supermarket Premier	400	5	2
	Waitrose	450	6	2
	Costcutter	1200	15	4
	Sainbury's	2200	26	7
Sports Centre	Hampton Sports and Fitness Centre	2100	26	8
Post Office	Hampton Post Office	450	6	2
Medical Centre	Hampton Medical Practice	900	11	3
Pharmacy	Boots	550	7	2
	Boots	800	10	3
Schools	Hampton Junior School	500	7	3
	St Mary's Hampton CE Primary School	950	12	3
	Twickenham Preparatory School	800	10	2
	Hampton Prep School	750	10	3

3.3.3 **Table 3.1** therefore confirms that there are a range of amenities within close proximity of the site. The close proximity ensures that future residents and employees can access these amenities by the most sustainable forms of travel, on foot and by bike, ensuring they are not reliant on travel by private car.

3.4 Pedestrian Infrastructure

3.4.1 To the east and west of the site there are footways on both sides of Upper Sunbury Road, ranging in width between 1.2m-2m. There is a pedestrian crossing on Lower Sunbury Road at its junction with Upper Sunbury Road, with dropped kerbs and tactile paving being

provided. Further to the east, at a distance approximately 25m from the junction, a pedestrian refuge island is provided with dropped kerbs and tactile paving, enabling safe crossing of Upper Sunbury Road.

- 3.4.2 To the west of the site access, there are footways on both sides of Upper Sunbury Road, ranging in width between 1.2m-1.8m. There is a public footpath located approximately 130m to the west of the proposed site access and on the north side of Upper Sunbury Road. The footpath has three steps and connects to Beard's Hill to the north. There are footways on both sides of Beard's Hill which are approximately 2m wide. A public footpath is also provided at the northern end of Beard's Hill which connects to Station Road to the north. The eastbound and westbound bus stops on Station Road are located 30m-40m to the west of the footpath along Station Road. The Hampton Rail Station entrance is located within 10m of the bus stops to the west.
- 3.4.3 In addition, there are dropped kerbs and tactile paving on Percy Road at its junction with Upper Sunbury Road. Further to the north, dropped kerbs are provided on Oldfield Road. Further dropped kerbs are provided on Station Road, at its junction with Percy Road.

3.5 Cycling Infrastructure

- 3.5.1 Off-road cycle routes are located to the west and north of the site on Oldfield Path, Oldfield Road, Hatherop Road, Tudor Road and Tudor Avenue. Broad Lane is classified as a Main Cycle Road connecting Hatherop Road to the west and High Road to the east. High Road connects to off-road paths in Bushy Park, linking to the High Street / Hampton Court Road / Horse Fair roundabout. Horse Fair is classified as a quiet cycle road and it connects to Kingston via main local cycle routes, namely Wood Street.
- 3.5.2 Furthermore, the local cycle routes described above connect to the National Cycle Route (NCR) 4 which runs to the south of the Royal Paddocks and along the northern side. NCR 4 is located approximately 3.3km to the east of the site access and connects to Kingston-upon-Thames, Roehampton and Parsons Green. Further to the northeast it connects to central London. In addition, NCR 4 runs along Hampton Court Bridge connecting to the southern side of River Thames. To the south of the bridge, NCR 4 connects to Hurst Park, Walton-on-Thames, Weybridge, Meadowlands and Staines. At a national level, the NCR 4 is a long-distance route between London and Fishguard via Reading, Bath, Bristol, Newport, Swansea, Carmarthen, Tenby, Haverfordwest and St Davids.

3.5.3 A plan showing the local cycle routes is attached in **Appendix B** .

3.6 Public Transport

3.6.1 The sections below detail the public transport nodes and services available in the vicinity of the site. **Figure 3.2** shows the nearest bus stops and rail stations located in proximity to the site.

Bus Services

3.6.2 The site is served by two bus routes stopping within easy walking distance of the site. A bus stop is located on Upper Sunbury Road, approximately 250m to the west of the site access. An additional bus stop is located on Percy Road with the two bus stops being located 50m apart.

3.6.3 Further bus stops are located by Hampton Rail Station, approximately 400m from the site access.

3.6.4 The services that stop at the bus stops closest to the site are summarised in **Table 3.2**. The relevant bus stops and routes are shown in **Figure 3.2 overleaf**.

Figure 3.2 Public Transport Plan

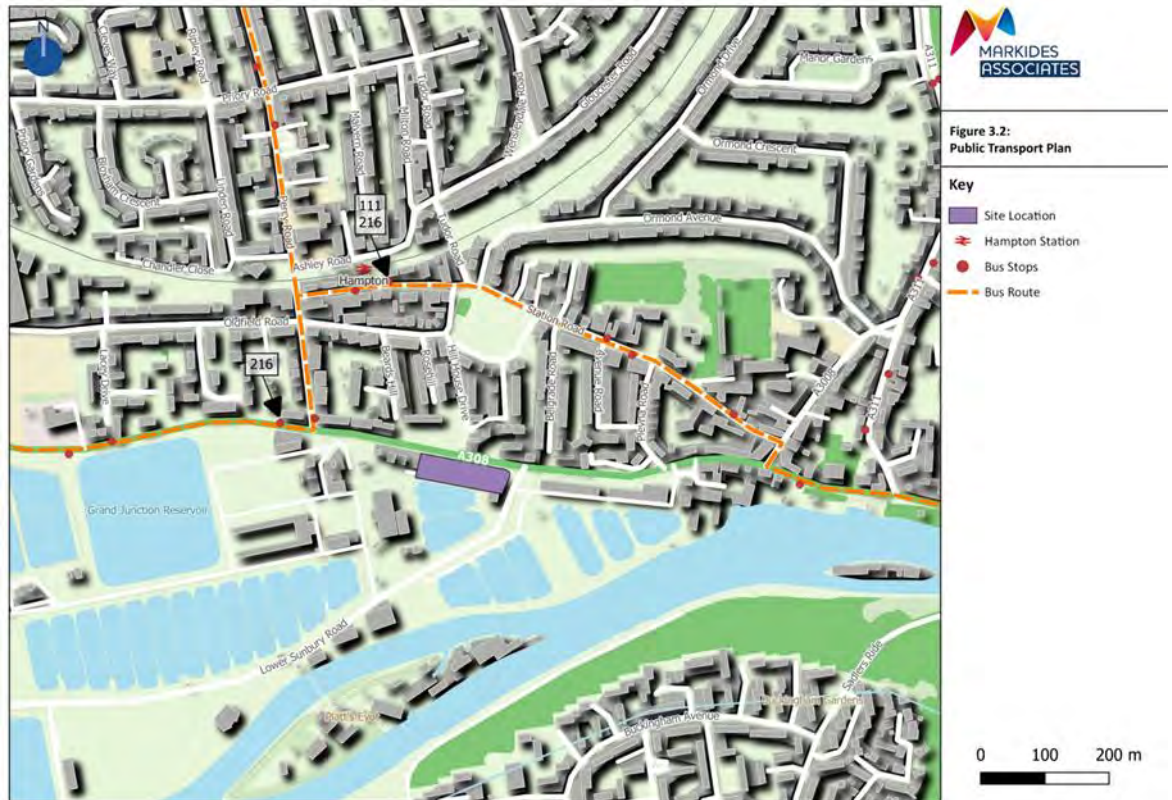


Table 3.2 Local Bus Services

Service	Key Destinations	Peak Hour Frequency			Weekday Services	
		Weekday	Saturday	Sunday	First	Last
Nearest Stops: Percy Road (Stop A) and Oldfield Road Percy Road (Stop B)						
216 Staines Bus Station – Kingston	Staines Bus Station (54 mins), Ashford (27 mins), Ashord Common (19 mins), Sunbury-on-Thames (12 mins), Hampton Court Palace (7 mins), Kingston upon Thames (17 mins)	3-4 services per hour	3-4 services per hour	2 services per hour	06:47	00:03
Nearest Stop: Hampton (Stops K and D)						
111 - Heathrow Central Bus Station – Kingston	Heathrow Central Bus Station (1h 11 mins), Cranford (1h 4 mins), Heston (51 mins), Hounslow Heath (33 mins), Hanworth Park (24 mins), Hampton Court Palace (15 mins), Kingston Upon Thames (22 mins)	Every 7-12 minutes	Every 9-21 minutes	Every 11-21 minutes	24-hour bus	24-hour bus

3.6.5 These services give access to a number of destinations as shown in **Table 3.1**, including Staines (54 mins), Ashford (27 mins) and Kingston-upon-Thames (17 mins). During the weekday peak period, there are up to 9 services per hour running within the area.

3.6.6 Based on the above, it is considered that the site benefits from good accessibility by bus.

Rail Services

3.6.7 The nearest rail station to the site is Hampton, which is located approximately 400m from the site and sits on the rail service from Shepperton to Waterloo that serves Teddington (8 mins), Kingston (12 mins), New Malden (19 mins), Wimbledon (25 mins), Clapham Junction (33 mins) and Vauxhall (38 mins). The service runs every 30 mins.

3.6.8 Clapham Junction and London Waterloo provide frequent services to a range of locations including Basingstoke, Woking, Guildford, Portsmouth, Reading, Epsom and Egham.

Public Transport Accessibility Level

3.6.9 Public Transport Accessibility Levels (PTALs) are a theoretical measure of accessibility of a given point to the public transport network, taking into account walk access time and service availability. All bus routes within 640m and underground/railway stations within 960m are taken into account. The PTAL score ranges between 1a and 6b, where 1a represents a poor level of accessibility and 6b an excellent level.

3.6.10 A PTAL assessment using the TfL land use planning PTAL assessment tool WebCAT¹ has therefore been undertaken. The WebCAT assessment of the site location identifies a PTAL rating of 2 across the site in the base year assessment. The full PTAL report is included as **Appendix C**.

3.6.11 Whilst the PTAL rating is low, a recognised weakness of the PTAL methodology is that it does not take into account any qualitative appraisal of the public transport routes that are available, including journey times, destinations served and opportunities for ongoing connections. In this case, all these other parameters are very good.

¹ <https://tfl.gov.uk/info-for/urban-planning-andconstruction/planning-with-webcat/webcat>

3.6.12 It has been demonstrated that the site is accessible by sustainable modes, including walking, cycling and public transport, confirming that there are a number of transport opportunities available to future residents and employees at the site.

3.7 On-street Parking Occupancy

3.7.1 As part of the pre-application discussions with LBRT, it was requested that a survey of on-street parking availability was carried out. Parking surveys were carried on 13, 14 and 15 May 2019 in the locality of the site during the following time periods:

- One snapshot on Sunday night, during 00:00-06:00;
- One snapshot on two weeknights, during 01:00-05:30; and,
- Snapshots on two different weekdays, during 06:30-08:00 and 17:30-19:00.

3.7.2 The parking survey results show that there is parking availability on Lower Sunbury Road and Belgrade Road. The two roads combined have maximum parking occupancy of 50% and they provide at least 61 parking spaces throughout the survey period. It is not expected that this will have materially changed since the time of the surveys.

3.7.3 In conclusion, the survey results show that there are parking opportunities in the locality of the site.

3.7.4 The full parking survey results are attached as **Appendix D**.

3.8 Pedestrian Surveys

3.8.1 As part of the pre-application discussions with LBRT and TfL, it was agreed that a pedestrian survey should be conducted on Upper Sunbury Road, in the vicinity of the site. Pedestrian surveys were undertaken on Thursday 30th June 2022 to cover the area from the Percy Road / Upper Sunbury Road junction to the Upper Sunbury Road / Lower Sunbury Road junction. The pedestrian survey area is shown in **Figure 3.1**.

Figure 3.1 Pedestrian Survey Area

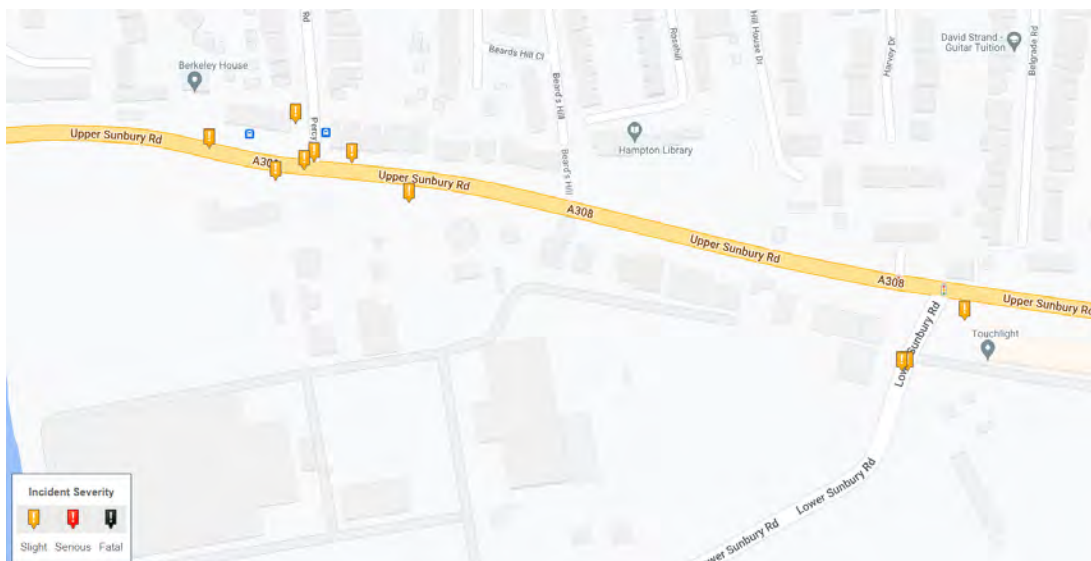


3.8.2 The pedestrian survey results showed that 73 pedestrians and cyclists cross the road between 0700-1000 and 29 between 1600-1900; this equates to approximately 1 pedestrian every 2 minutes in the morning peak period and a pedestrian every 6 minutes in the PM peak. The full results of the survey are shown in **Appendix E**.

3.9 Collision Data

3.9.1 Personal Injury Accident data has been obtained from Crashmap for the section of road shown in **Figure 3.2** below. Data was obtained for a period covering 5 years between 2017 and 2021, during which 10 personal injury accidents were recorded. A plan showing the collision locations is included as **Figure 3.2**. The full collision data is included in **Appendix F**, with a summary of the number and severity of accidents per year set out in **Table 3.3** below.

Figure 3.2 Collision Data Locations



Source: Crashmap.co.uk

Table 3.3 Personal Injury Accidents Assessed on Annual Basis

Year	Slight	Serious	Fatal	Total
2017	3	0	0	3
2018	2	0	0	2
2019	1	0	0	1
2020	4	0	0	4
2021	0	0	0	0
Total	10	0	0	10

3.9.2 The table above shows that on average there are 2 collisions per year, with a range of 0-4 accidents per annum. The highest number of collisions occurred in 2020 with 4 accidents in the year. It can be concluded from **Table 3.3** that all the 10 accidents that have occurred are classified as slight with 0 serious or fatal accidents. The rate of accidents occurring per year is generally consistent and at low levels, with 0-4 accidents occurring per year over the period in question. There were no fatalities identified in the study area during the period examined.

3.9.3 It should be noted that there are no accidents between the site access and the footpath of Beard’s Hill.

3.9.4 Based on the above, whilst pedestrian safety was raised during pre-application discussions as a potential issue in the vicinity of the site, the accident data presented in this section does not confirm any pedestrian safety issues at the stretch between the two junctions.

- 3.9.5 A more detailed examination of the accident statistics in locations where clusters of accidents are evident is included in the following paragraphs.

Percy Road / Upper Sunbury Road

- 3.9.6 Seven PIAs occurred at the junction between Percy Road and Upper Sunbury Road (A308) in the 5-year period between 2017 and 2021, of which all were slight. Two of the seven accidents that occurred at this junction involved a cyclist and a motorised vehicle, three involved a collision between two motorised vehicles and the remaining two accidents were a collision involving five cars and one singular car colliding with a lamppost. No accidents involved pedestrians.

Lower Sunbury Road / Upper Sunbury Road

- 3.9.7 Three PIAs occurred at this junction between Lower Sunbury Road and Upper Sunbury Road in the 5-year period between 2017 and 2021, all of which were classified as slight. Two of the three accidents here involved a motorised vehicle and cyclist, whilst the remaining accident was between two cars. No accidents involved pedestrians.

4. Active Travel Zone Assessment

4.1 Preamble

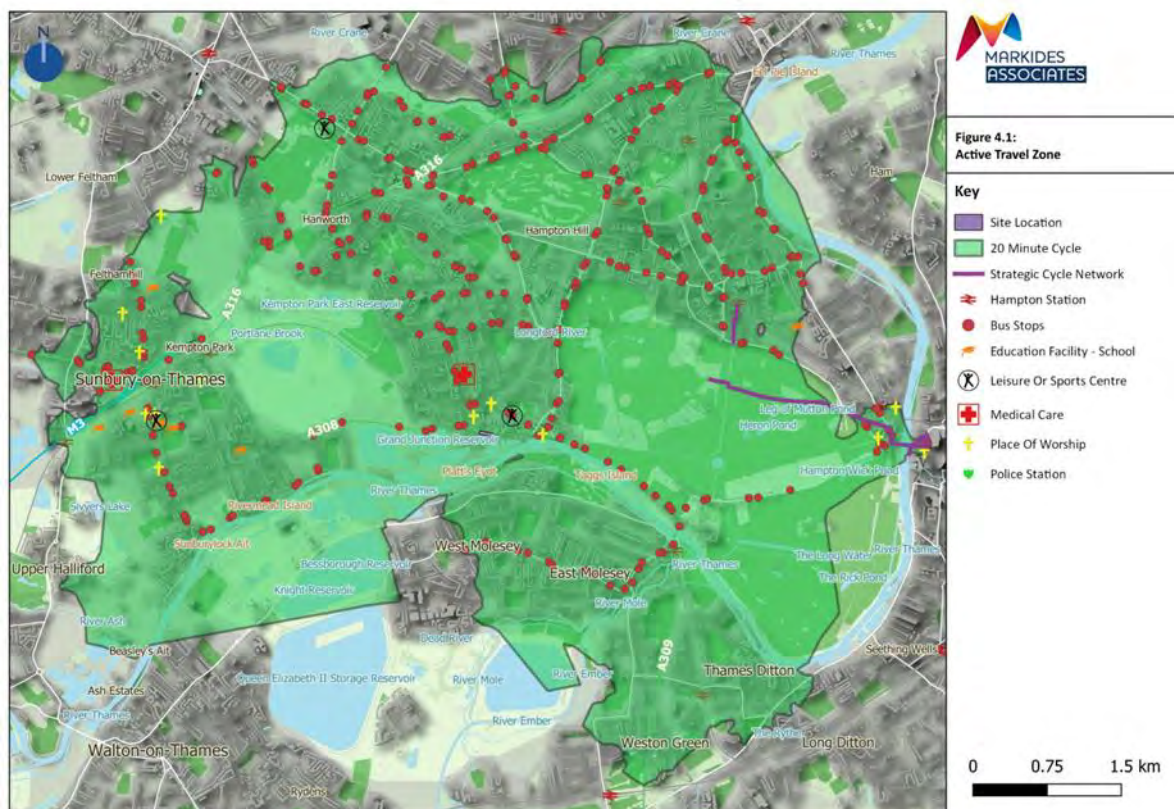
4.1.1 This section of the report outlines the accessibility of the site in terms of walking and cycling, as well as assessing the key routes between the site and the most likely trip generators by active modes. It also examines the site in the context of the local area and its access to services, including local greenspace, and the permeability of local roads. This assessment has been undertaken in accordance with the latest TfL Transport Assessment guidance dated June 2019.

4.2 The Active Travel Zone

4.2.1 The Active Travel Zone (ATZ) represents an area that is inclusive of all destinations which can be reached within a 20-minute cycle from the site, including public transport access points, cycle infrastructure and key land uses such as schools, health centres and places of worship.

4.2.2 **Figure 4.1** illustrates the ATZ which is based upon a 20-minute cycle from the site.

Figure 4.1 Active Travel Zone



4.3 Local Services and Facilities

- 4.3.1 The local services and facilities have been described in **Table 3.1**, where it is demonstrated that these trip attractors can be accessed by modes other than the private car and realistically on foot by most able-bodied residents.

4.4 Classification of Key Services

- 4.4.1 **Figure 4.1** classifies the key destinations from low to high priority in terms of active travel and the likelihood of users of the proposed development travelling to other key destinations from the development.

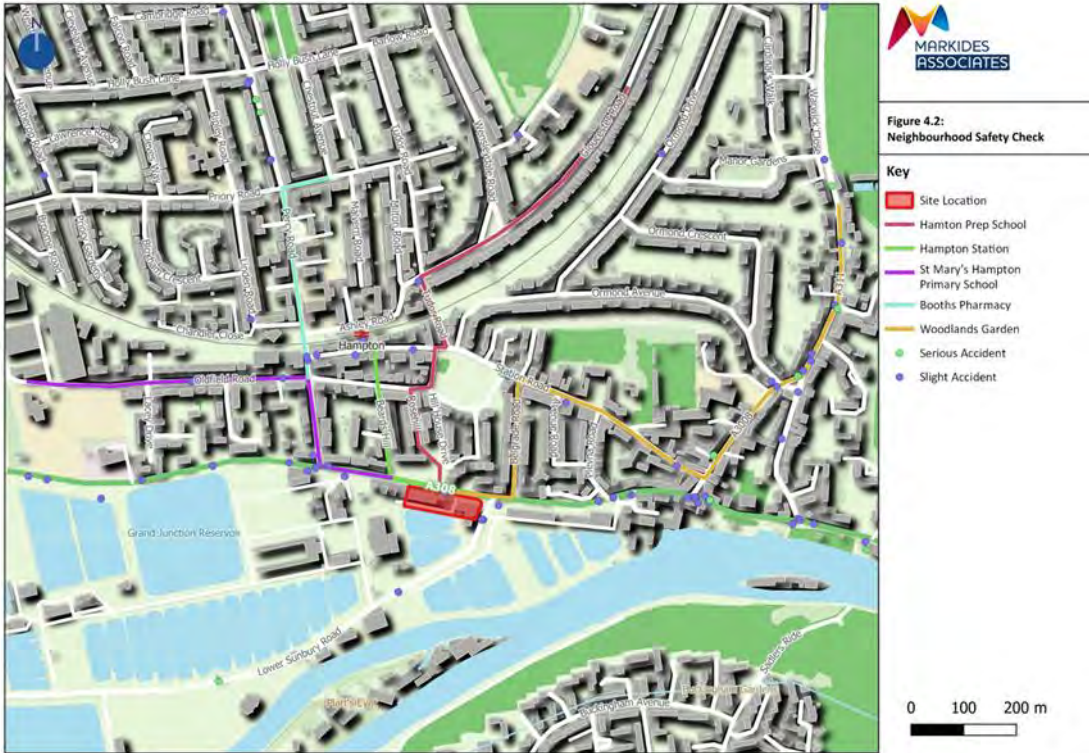
Table 4.1 Classification of Key Destinations in the ATZ

Key Destination	Priority	Justification
Rail Station	High	The travel mode share for people travelling to and from the proposed development is significant (11%) and therefore rail stations would be key destinations and as a result, are classified as high priority.
Bus Stops	High	Significant bus mode share for people travelling to and from the proposed development (9%). Therefore, bus stops would be key destinations and are classified with a high priority.
Town Centre	High	There is not an identified town centre in Hampton included in TfL's data, yet the region to the north of the train station, given its proximity to the site location and the range of services and amenities offered there, is likely attract a significant number of trips from the development. Therefore, this destination has been considered as a high priority for the residents.
Supermarkets	High	Local supermarkets and other food stores will be a necessity for residents of the proposed development, thereby justifying their high priority classification.
Schools	Medium	The development is comprised of up to 36 residential dwellings of mixed sizes, including three and four-bedroomed flats. It is likely therefore that some of these units will be occupied by residents with school age children. The medium priority has been awarded to schools as not all flats may have children that need to travel to school.
Parks or Open Spaces	Medium	As the development does not offer a significant amenity space for residents, they may wish to go to a nearby park or open space on a nice day, particularly if they have children. Parks or open spaces have therefore been classified as a medium priority.
Medical Centres	Medium	Over time, it is likely that residents at the development will need to visit a medical centre, be it a GP surgery or pharmacy. Given the anticipated demographics thought to inhabit the development (young – middle aged couples, possibly with children), it is not envisioned that medical centres will be a daily requirement for most residents, so they have been classified as a medium priority.
Leisure Centres	Low	Some residents at the development may wish to join a leisure centre, but this facility is unlikely to be a necessity for most residents. Therefore, leisure centres have been classified as a low priority.
Places of Worship	Low	Some residents at the development may wish to visit a place of worship, but this facility is unlikely to be a necessity for most residents. Therefore, places of worship have been classified as a low priority.
Higher Education Facilities	Low	Some residents at the development may attend higher education facilities but given the demographic of people thought to be living in the development, it is not thought that higher education facilities would comprise a significant share of residential trips. Therefore, higher education facilities have been classified with a low priority.

4.5 Casualty Analysis

- 4.5.1 The Mayor’s Transport Strategy is committed to Vision Zero to end deaths and serious injury on London roads and transport networks. The strategy sets out the goal that, by 2041, all deaths and serious injuries would be eliminated from London’s Road and transport network.
- 4.5.2 Within the vicinity of the site, casualty data obtained from TfL’s London Collision Map for the 5-year period 2014-2018 has been obtained. A review of those casualties has been undertaken to determine the number of incidents which has resulted in people being killed or seriously injured (KSI) on the important walking and cycling routes illustrated in **Figure 4.2**.
- 4.5.3 This review also aimed to identify whether there are any routes where there appears to be a clustering of KSI casualties. A cluster is defined as two or more serious casualties, or one or more fatal casualties.
- 4.5.4 Clustering was identified along the A308/A311, approximately 500m to the northeast of the site. It is not considered that the existing condition could be affected by the development proposals.

Figure 4.2 KSI by Severity



4.6 Healthy Neighbourhood Characteristics

4.6.1 The Healthy Neighbourhood Characteristics map is shown as **Figure 4.3**, illustrating:

- Public Transport Facilities
- Green Spaces

Figure 4.3 ATZ Neighbourhood Healthy Characteristics Check



4.6.2 In general, there is no critical deficiency in facilities in the area, with public transport access considered to be good. In addition, a range of services and amenities can be accessed easily on foot or by cycle. Generally, the speeds and volumes of traffic on the local highway network within the neighbourhood area allow for crossing the roads without much difficulty.

4.7 ATZ Assessment

4.7.1 An ATZ assessment was conducted on 9th December 2021 along 5 pre-determined routes within the neighbourhood area. These routes linked the site with the key destinations identified earlier in this report and include the following:

- Route 1: Site – Rose Hill – Tudor Road – Gloucester Road – Hampton Prep School
- Route 2: Site – Percy Road – Boots Pharmacy

- Route 3: Site – Belgrave Road – Station Road – A3008 – Woodland Gardens
- Route 4: Site – Beards Hill – Hampton Station
- Route 5: Site – Percy Road – Oldfield Road – St Mary’s Hampton CE Primary School

4.7.2 The assessment involved the assessor walking along each of the routes, from the site to the key destination, and taking a photograph every 150m along the route. Each of the 5 routes are illustrated with up to 6 photographs each, taken during the assessment, from the route and these have been provided through the route and are labelled accordingly.

4.7.3 The worst part of each journey has been identified in **Table 4.2** to **Table 4.6**, which also provide a brief description as to why the area shown in the relevant photograph does not meet each of the Healthy Street indicators 3-10. The table also makes recommendations about measures that could be adopted to improve this situation.

4.7.4 Please note that the Key Route Assessments have been undertaken in compliance with the ATZ assessment guidance published by TfL (2019), whilst the assessment provides an overview of improvements to each element identified they do not present proposed mitigation measures to be provided on behalf of the applicant unless specifically identified.

Route 1: Site – Rose Hill - Tudor Road – Hampton Prep School



1. Rose Hill



2. Rose Hill



3. Tudor Road



4. Wensleydale Road



5. Gloucester Road



6. Hampton Prep School

Table 4.2 Route 1: Site – Rose Hill – Tudor Road – Gloucester Road – Hampton Prep School Indicators

Healthy Street Indicator	Reason for not meeting	How to Improve
Route 1: Photograph 2 (Rose Hill)		
Easy to cross	There are limited dropped kerbs and there is no tactile paving along Rose Hill. Parked cars disrupt visibility of oncoming traffic making it harder to cross safely.	Improve existing pathways with dropped kerbs and introduce tactile paving.
People feel safe	The street is a residential one with limited pedestrian activity. There are very few streetlights meaning visibility is poor and the road could be intimidating to walk down at night.	Introduction of more streetlights for increased visibility could make this route a more appealing one.
Things to see and do	Apart from front gardens and a library at the end of the road, there is little to see and do on Rose Hill.	Encouraging residents to have more active frontages would help to make this a more appealing destination for pedestrians and cyclists.
Places to stop and rest	There are no places to stop and rest on Rose Hill although there are benches at the nearby village green.	Installing more benches would help provide additional formal places to stop and rest for pedestrians and cyclists.
Not too noisy	Due to the nature of the road, traffic is not too high and therefore noise is minimal.	None.
Clean air	Again, due to the nature of the road, the air is relatively clean.	None.
Shade and shelter	Shade and shelter are limited along Rose Hill.	Having taller bushes and planting more trees would provide more shade and shelter from extreme weather.
Route 1: Photograph 5 (Gloucester Road)		
People feel relaxed	The street is relatively well maintained yet cars parked either side of the road make it narrow for cycling when encountering oncoming traffic. Pinch point on one side of the road where a tree obstructs the footpath making it very narrow at this point and difficult for wheelchair users to navigate around.	Widen road/footpath or remove objects at the narrower parts of the footpath.

Route 2: Site – Percy Road – Priory Road – Boots Pharmacy



1. Percy Road



2. Percy Road



3. Percy Road



4. Percy Road

Table 4.3 Route 2: Site – Percy Road – Boots Pharmacy

Healthy Street Indicator	Reason for not meeting	How to Improve
Route 2: Photograph 2 (Percy Road)		
Easy to cross	The crossing points along this route are poor, parked cars block the view of the road, making it difficult for wheelchair users to cross the road as they would be unable to see the oncoming traffic from behind parked cars. There is no tactile paving.	Reduce how close vehicles can park to the dedicated crossing points and introduce tactile paving.
People feel safe	The narrow nature of this road means there is little space for people driving or cycling to be able to stop or maneuver if a person stepped into the carriageway. Cyclists do not have much space and may feel intimidated by vehicular movements.	Lowering the speed limit and allocating more space to walking and cycling on the road would help alleviate this problem.
Things to see and do	There are limited things to see and do along this part of the route, aside from frontal gardens yet these are blocked by parked cars on both sides of the road.	The introduction of more active frontages such as front gardens, window boxes and hanging baskets would help to make the street more attractive and interesting.
Places to stop and rest	There are no formal places to stop and rest along Percy Road.	Benches could be installed to provide somewhere to stop and rest.
People feel relaxed	The footway is narrow with bins taking up part of this space which cause a trip hazard.	Improve the footways and encourage residents not to leave their bins on the footway.
Not too noisy	Due to the nature of the road, traffic is not too high and therefore noise is minimal.	None.
Clean air	Again, due to the nature of the road, the air is relatively clean.	None.
Shade and shelter	Shade and shelter along Percy Road is limited.	Planting trees would provide shelter and create a friendly environment.

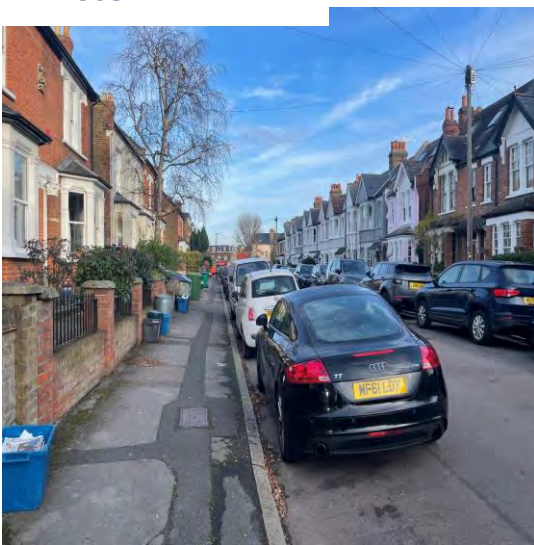
Route 3: Site – Belgrave Road – Station Road – A3008 – Woodlands Gardens



1. A308



2. Belgrave Road



3. Belgrave Road



4. Station Road



5. Station Road/A3008

Table 4.4 Route 3: Site – Belgrave Road – Station Road – A3008 – Woodland Gardens

Healthy Street Indicator	Reason for not meeting	How to Improve
Route 3: Photograph 3 (Belgrave Road)		
Easy to cross	The crossing points along this road are poor, there is no tactile paving, and the dropped kerbs are uneven making them dangerous. Parked cars make it difficult to cross for wheelchair users as any oncoming traffic is not visible.	The introduction of tactile paving and improvement of the existing pathways would help provide safer ways to cross the road.
People feel safe	This is a side street with little pedestrian activity; therefore, some people may feel unsafe.	Ensuring the area is well lit at all times of the day and encouraging more active frontages would help people to feel safe.
Things to see and do	Shops and social activity along Belgrave Road are limited, although there are front gardens in which residents may be gardening.	Increased planting and encouraging residents to make the front of their buildings interesting and attractive through art, front gardens, window displays etc. would make the road a more interesting and engaging place to spend time.
Places to stop and rest	There are no places to stop and rest along this part of the route.	Installing benches would provide people with a place to stop and rest.
People feel relaxed	Cars are double-parked making the street narrow, as a result, there is little room for cyclists.	Allocate more road space to cyclists, widen footpaths to provide more space for pedestrians.
Not too noisy	Due to the nature of the road, traffic is minimal and therefore noise is limited.	None.
Clean air	Again, due to the road being a side street, the air is relatively clean.	None.
Shade and shelter	There is very limited shade and shelter along Belgrave Road.	Planting more trees would help provide shade and shelter whilst also making the area more appealing.

Route 4: Site – Beards Hill – Hampton Station



1. A308



2. Beards Hill



3. Beards Hill



4. Beards Hill

Table 4.5 Route 4: Site – Beards Hill – Hampton Station

Healthy Street Indicator	Reason for not meeting	How to Improve
Route 4: Photograph 1 (A308)		
Easy to cross	Whilst there are crossing points, including dropped kerbs and tactile paving, the pavement is narrow at certain points.	A pedestrian crossing facility would be helpful in providing pedestrians and cyclists a safer way to cross the road.
People feel safe	There is heavy traffic along this road and moving at a high speed the pavement is narrow, this could make people feel unsafe.	A lowering of the speed limit at this location would mean people walking and cycling would not feel intimidated.
Things to see and do	There are currently no shops or places to carry out social activities along this part of the route.	Planting of more bushes and plants along this road may make this part of the route more appealing.
Places to stop and rest	There are no formal stopping places to rest.	Benches would provide a place to stop and rest.
People feel relaxed	The pavement is narrow. Traffic is heavy and there is no designated cycle lane, as a result, cyclists are in conflict with vehicular movements.	Providing a cycle lane and pedestrian crossing facility would be helpful in reducing overcrowding and conflict between the road users.
Not too noisy	Due to heavy traffic flow, including bus and HGV movements, there is a reasonable amount of noise throughout the day.	Encouraging and promoting active forms of travel in this area through allocating more space to walking and cycling would help to reduce the number of motorised vehicles on the road, thus reducing the noise levels.
Clean air	With the high levels of traffic, the air is not the cleanest.	Assigning more space to cycling and walking may discourage the use of polluting vehicles such as cars.
Shade and shelter	Although there are bushes and some trees along the road, there is little shade and shelter from the inclement weather.	Taller bushes/trees would help to provide more shade and shelter.
Route 4: Photograph 3 (Beard's Hill)		
People feel relaxed	There is a lot of litter along this part of the route from wheelie bins making it a less appealing and desirable location.	Reducing the amount of litter by providing more litter bins and encouraging residents not to leave their wheelie bins on the footway would make this area appear cleaner and tidier.

Route 5: Site – Percy Road – Oldfield Road – St Mary’s Hampton CE Primary School



1. Oldfield Road



2. Oldfield Road/Hammond Close



3. Oldfield Road/St Mary’s Hampton Primary School

Table 4.6 Route 5: Site – Percy Road – Oldfield Road – St Mary’s Hampton CE Primary School

Healthy Street Indicator	Reason for not meeting	How to Improve
Route 5: Photograph 1 (Oldfield Road)		
Easy to cross	There are few formal crossings along this section of the route for users who want to cross from one side of Oldfield Road to the other. As seen in the photograph, there is no tactile paving.	Introduce tactile paving and improve the existing footways.
People feel safe	This is a residential area and there is little pedestrian activity, people may feel uneasy when walking down here on their own.	Ensuring the area is well lit with streetlights and regenerating the area to have more active frontages would help people to feel safe.
Things to see and do	There is little to see and do along this part of the route apart from frontal gardens, yet these are sometimes blocked by parked cars.	Planting more greenery such as bushes and plants may make this part of the route more visibly appealing.
Places to stop and rest	There are no formal stopping places for resting.	Benches could be installed that provide a range of seating options.
People feel relaxed	Wheelie bins take up part of the footway which cause a trip hazard.	Improve the footways and encourage residents not to leave their wheelie bins on the footway.
Not too noisy	Due to the nature of the road, there is little through traffic and therefore noise is limited. However, noise levels may rise during mornings and afternoons when parents pick up and drop off their children.	Allocate time periods for dropping off and picking up children to limit the time period in which noise levels may rise.
Clean air	Again, due to the residential nature of the road, the air is relatively clean. Yet parents dropping off children at school may worsen the air quality when leaving their engines running.	Encourage parents to travel to school with their children by active modes of transport rather than by car.
Shade and shelter	There is limited shade and shelter along Oldfield Road.	Planting trees would provide shelter and are also aesthetically pleasing.

4.8 Summary

- 4.8.1 This chapter has provided an ATZ assessment in accordance with the latest TfL Transport Assessment guidance dated June 2019.
- 4.8.2 The assessment has identified key active travel destinations that will be of high priority to the site's users, as well as identifying the most important routes to key active travel destinations. Healthy Streets Indicators have also been assessed against specific parts of these routes to identify where improvements could be made.
- 4.8.3 Whilst the assessment undertaken above provides an overview of improvements to each element identified (in accordance with TfL guidelines) none of the above improvements identified above are required in order to mitigate the impact of the development.
- 4.8.4 However, the Applicant proposes pedestrian infrastructure improvements on Upper Sunbury, which are further discussed in **Section 5.3**.

5. Development Proposals

5.1 Development Description and Area Schedule

- 5.1.1 The development proposals are for the conversion of two waterworks buildings into residential buildings with part of one building retained for commercial use. The existing semi-detached cottages and storehouse are proposed to be retained and will be in residential use.
- 5.1.2 In summary, the proposed development includes 36 residential units, 318.8m² of flexible business space E(g) and 39 parking spaces. The proposed layout is included in **Appendix A** and the accommodation schedule is shown below:

Table 5.1 Accommodation Schedule

Use	Accommodation size	Number of units / GFA
C3 Residential	1 bed	16
	2 bed	11
	3 bed	7
	4 bed	2
	Total	36
E(g) Commercial	-	318.8m ²

5.2 Site Access Arrangements

- 5.2.1 The internal layout provides a one-way system with separate entry and exit.
- 5.2.2 Vehicular access will be via a currently unused simple priority junction on Upper Sunbury Road.
- 5.2.3 A new vehicular egress will be introduced which provides 2.4m x 43m visibility splays as shown in **Appendix G** and therefore complies with Manual for Streets guidance for 30mph roads. The existing pillars at the egress and the walls in its vicinity have been shifted by approximately 0.9m into the site to promote highway and pedestrian safety.
- 5.2.4 Vehicle swept path analysis of a large car entering and existing the site is shown in **Appendix G**.

5.3 Improvements on Pedestrian Infrastructure

Background

5.3.1 As part of the Decision Notice for a similar application made in 2020, LBRT and TfL stated that any subsequent application should assess the requirement and possibility of providing a new pedestrian crossing facility on Upper Sunbury Road.

5.3.2 Pre-application discussions have since been held between LBRT, TfL and MA and a number of options have been reviewed. During a meeting on the 20th of July 2022, TfL confirmed that the introduction of a pedestrian crossing facility into the signalised junction at Upper Sunbury Road / Lower Sunbury Road would not be preferable for the following reasons:

- The anticipated negative traffic impact on the junction and impact on bus journey times; and,
- The anticipated development impact on pedestrian flows, which is anticipated to be low.

5.3.3 Based on the above, alternative solutions were investigated to provide a pedestrian crossing on Upper Sunbury Road. It was agreed that an informal crossing should be assessed.

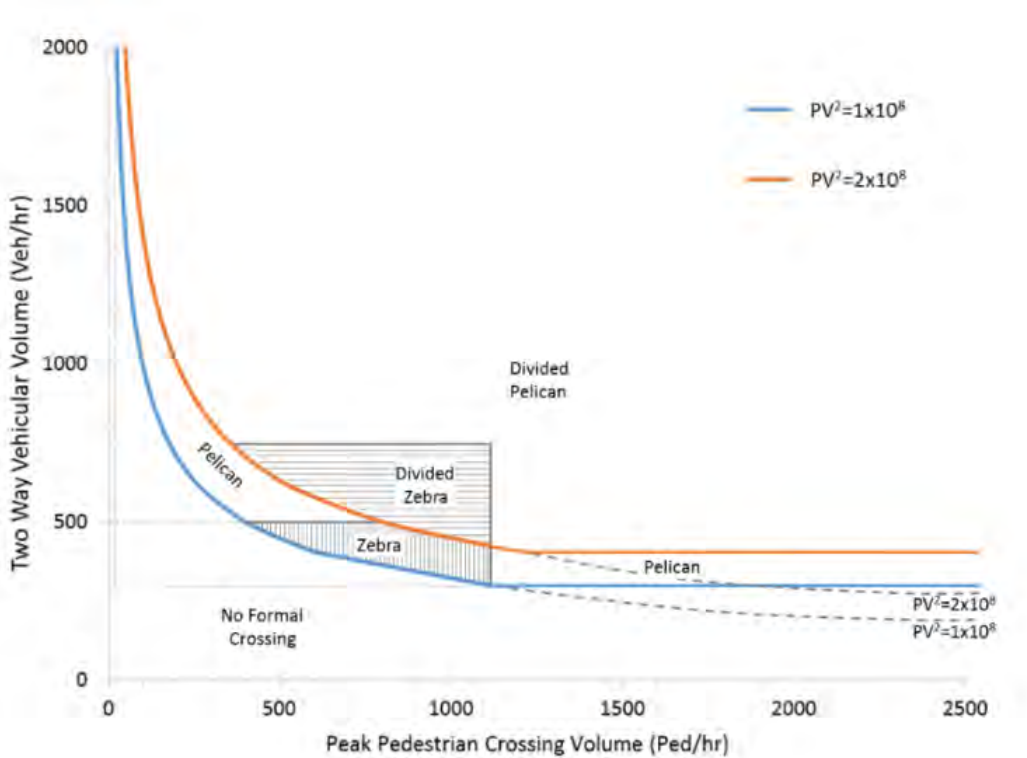
Pedestrian Crossing Warrants

5.3.4 During the pre-application discussions, LBRT requested a PV^2 assessment to assess the requirement for the pedestrian crossing, where:

- P represents the peak pedestrian crossing volume (pedestrians/hour)
- V represents the two-way vehicular traffic volume (vehicles/hour)

5.3.5 The pedestrian crossing warrants were first reported by the Department of Transport in 1987. These warrants are presented in the form of a graph, demarcating the types of crossing facilities that should be provided. The recommended threshold values for PV^2 were 1×10^8 and 2×10^8 . This graph has been presented in **Figure 5.1**.

Figure 5.1 PV² Based Pedestrian Crossing Warrants Graph



Source: Figure source

5.3.6 The PV² has been calculated for the AM peak (0800-0900) and PM peak (1700-1800). The calculations and assumptions used are shown in **Table 5.2**.

Table 5.2 Calculation of the PV² factor

Parameter	AM Peak 0800-0900	PM Peak 1700-1800	Assumptions / Notes
Existing pedestrians crossing the road	27	7	Based on the pedestrians that crossed Upper Sunbury Road in the section between the Percy Road and Lower Sunbury Road junctions.
Development walking trips	12	11	Calculated using the combined walking and public transport trip rates presented in Appendix H applied to the proposed residential C3 and office E(g) uses. The calculations have accounted only for the proposed uses. The net impact, accounting for the existing and extant uses, has not been accounted for. On this basis, the numbers presented are robust.
Total pedestrians using the crossing	39	18	Sum of the existing pedestrians and the development walking trips.
Baseline Traffic	1102	770	Surveyed in 2019, with the results presented in Appendix I . Each of the two numbers is the average of the neutral weekdays surveyed for each peak period.
Baseline + Development Traffic	1058	720	The development is anticipated to lead to a net reduction as presented in Section 6 .
P Value	39	18	Total pedestrians anticipated to use the crossing per hour.
V Value	1058	720	Total traffic anticipated on Upper Sunbury Road, in the vicinity of the site.
PV² x 10⁸	0.4	0.1	The results are lower than 1 x 10 ⁸ . On this basis, a formal pedestrian crossing facility is not warranted.

5.3.7 The PV² presented in **Table 5.2** demonstrate that considering each of the peak periods, the PV² calculation is significantly lower than 1 x 10⁸. On this basis, the provision of a formal pedestrian crossing is not warranted.

5.3.8 Whilst PV² shows that a formal pedestrian crossing is not warranted, it is appreciated an improvement of the pedestrian facilities in the vicinity of the site is sought by LBRT. On this basis, pedestrian crossing types have been investigated to evaluate the suitability of a pedestrian crossing facility on Upper Sunbury Road.

Informal Pedestrian Crossing

5.3.9 Following consultation with LBRT / TfL in July 2022, it was agreed that an informal crossing would be assessed to connect the two sides of Upper Sunbury Road.

5.3.10 The combined carriageway and footway width to the west of the site egress is approximately 9.3m. Considering the carriageway width is 5.7m, there is not enough space to introduce a pedestrian refuge island in the middle of the road and footways on both sides of the road. The road dimensions are shown in **Figure 5.2**.

Figure 5.2 Road Dimensions on Upper Sunbury Road



5.3.11 Based on the above, providing an informal crossing is not feasible at this location.

5.3.12 It is concluded that the only feasible option at this location is to introduce a zebra crossing. Given the anticipated hourly pedestrian flows are low, the anticipated traffic impact from the introduction of a zebra crossing is anticipated to be minor. Further work has been undertaken to assess the suitability of a zebra crossing, as presented below.

Zebra Crossing

5.3.13 With regards to the introduction of zebra crossings, the Traffic Signs Manual (TSM) Chapter 6 (2018) states the following:

Where there is a need for a crossing, pedestrian numbers and vehicle flows are moderate, and the 85th percentile traffic speed does not exceed 35 mph, then a Zebra crossing may be suitable.

5.3.14 The pedestrian crossing numbers are considered low as shown in **Table 5.2**. On this basis, the disruption to traffic is anticipated also be low.

- 5.3.15 Upper Sunbury Road is a 30mph road with 85th percentile speeds of 33.4mph, which is within the acceptable speed threshold of 35mph presented in the TSM.
- 5.3.16 Following the above assessment, a zebra crossing has been designed and is presented in **Appendix J** . A Stage 1 Road Safety Audit (RSA) was carried out for the proposed zebras crossing, which raised no minor issues. The final RSA and signoff from the safety auditor are also attached in **Appendix J** .
- 5.3.17 Based on the above, the proposed zebra crossing would be the preferable option at this location to improve vehicle/pedestrian safety and protect the most vulnerable users. A summary of the factors assessed is provided in **Table 6.3** below.

Table 5.3 Assessment of different factors related to the proposed zebra crossing

Factor	Result / Impact
Survey / existing situation	27 in the AM peak and 7 in the PM peak
Development Scenario pedestrians	11-12 pedestrians per peak hour, assuming that all pedestrians will want to cross
Development scenario traffic flows	720-1058 per peak period. Equates to a maximum of 1 vehicle every 3.4 seconds.
Accidents	There have been no accidents involving pedestrians in the vicinity of the proposed pedestrian crossing in the last 5 years. Refer to Section 3.9 .
85th percentile speed	33.4mph

Conclusion

- 5.3.18 As part of the Decision Notice for the 2020 planning submission, LBRT and TfL stated that a subsequent application should assess the requirement and possibility of providing a new pedestrian crossing facility on Upper Sunbury Road.
- 5.3.19 TfL confirmed that the incorporation of a pedestrian crossing facility into the signalised junction at Upper Sunbury Road / Lower Sunbury Road would not be preferable. On this basis, it was agreed that alternative pedestrian crossing facilities would be evaluated.

- 5.3.20 Based on the assessment of different options, it is concluded that a zebra crossing is acceptable at this location. The Stage 1 RSA confirmed that there are no safety issues associated with this pedestrian crossing option.
- 5.3.21 Whilst the development proposals will not have a significant impact on pedestrian flows, the zebra crossing solution is presented as a pedestrian infrastructure improvement that would also benefit future residents and the surrounding community. On this basis, the proposed zebra crossing is intended to be agreed and secured via the S106 agreement.
- 5.3.22 Finally, the proposed zebra crossing is anticipated to improve the Healthy Streets indicator 'easy to cross' for most ATZ routes presented in **Section 4.7**. The proposed crossing is anticipated to contribute towards the promotion sustainable modes of transport for the site residents / employees as well as the surrounding community.

5.4 Parking

Introduction

- 5.4.1 Based on the standards presented in **Table 2.1** and **Table 2.2** and the proposed development schedule, there is a maximum parking requirement for:
- 45 parking spaces for the residential use;
 - 3 parking spaces for the employment use;
 - 48 parking spaces in total.
- 5.4.2 The internal layout provides 39 parking spaces. These are split between the proposed uses with 36 spaces assigned to the residential units and 3 spaces assigned to the commercial use. Vehicle swept path analysis has been carried out for the critical spaces and confirms that all spaces are accessible by a large car, as shown in **Appendix G**.
- 5.4.3 The parking spaces will be marked to indicate whether they are allocated to the residential or employment use. Further details on how the parking spaces will be allocated are included in the accompanying SCPMP.
- 5.4.4 In accordance with the requirements of the currently adopted London Plan, 20% (8 no. spaces) of the parking bays will incorporate 'Active' Electric Vehicle Charging Points (EVCP), with all remaining spaces provided as 'Passive' EVCP points.

5.4.5 Based on the standards presented in **Table 2.3** and the proposed development schedule, there is a minimum requirement for:

- 55 long stay cycle parking spaces; and,
- 3 short stay cycle parking spaces.

5.4.6 The internal layout provides 69 long stay and 16 short stay cycle parking spaces. On this basis, the development is compliant with the London Plan standards presented in **Table 2.3**.

5.4.7 In terms of car parking provision, the NPPF states that in setting local parking standards, local planning authorities should take account of a range of factors, including local car ownership levels.

5.4.8 On the basis that the current LBRT standards are a maximum and that the NPPF suggests that car parking should reflect local car ownership levels, further investigation into the level of car parking demand generated by the site is required.

Local Car Ownership

5.4.9 It is possible to estimate the car parking demand associated with the proposed development scheme using 2011 Census data for the Hampton Ward, within which the site is located. Reference has therefore been made to the 2011 Census data table 'CT0103: Accommodation Type by Tenure by Number of Rooms by Car or Van Availability'.

5.4.10 Analysis of the Census 2011 data for Hampton has been conducted and shows that the car ownership for privately owned flats is 0.98 cars per dwelling. Applying this ratio to the proposed 36 units suggests that the parking demand for the residential part of the development is 35 spaces. On this basis, the proposed residential provision of 36 spaces is considered sufficient.

5.4.11 Further details on the car parking will be managed are included in the accompanying SCPMP.

5.5 Refuse Collection and Deliveries

5.5.1 The refuse and recycling bin storage will be located within the site boundary. The impact on the current refuse collection regime which is in place in the area surrounding the site will be minor as the refuse collection arrangements will only include two-three additional stops within the site.

- 5.5.2 Residents will not be required to carry waste more than 30m and waste collection vehicles are able to get within 25m of the storage points. On this basis, the proposals meet the requirements in Manual for Streets on refuse collection.
- 5.5.3 Vehicle swept path analysis showing the proposed servicing and delivery arrangement is shown in **Appendix G** .
- 5.5.4 Further details on the servicing and delivery arrangements are provided in the accompanying SCPMP.

6. Trip Generation

6.1 Introduction

6.1.1 This section of the TS estimates the vehicular trip generation associated with the existing and proposed uses and calculates the net trip generation change resulting from the proposed development.

6.2 Vacant Site Trip Generation

Introduction

6.2.1 The site is currently vacant and comprised 2,125m² Sui Generis space used as office/light industrial, and two residential cottages.

6.2.2 The exact split between the office and light industrial use is unknown at present. Due to the nature of the existing site and due to the light industrial use occupying considerably more floor space than the office use, it is assumed that 75% of the mixed-use space operated as light industrial while 25% operated as offices.

Office Use

6.2.3 The TRICS database has been used to obtain vehicular trip rates for the office part of the existing site. The sites selected from TRICS have been reviewed to match the existing site in terms of land use characteristics.

6.2.4 The following assumptions have been applied during the site selection process:

- Land Use: offices;
- TRICS sites located in Greater London have been selected;
- Sites located in town centre locations have been deselected; and,
- Sites with comparable GFA have been selected.

6.2.5 The vehicular trip rates derived from the TRICS output (included in **Appendix H**) have been applied to the office use and the derived peak hour trip generation is shown in **Table 6.1**.

Table 6.1 Vehicular Trip Rates per 100m² and Trip Generation for E(g)(i) Office

Mode	AM Peak		PM Peak		Daily Flows	
	In	Out	In	Out	In	Out
Vehicular Trip Rate	0.326	0	0.109	0.435	1.631	1.413
Trip Generation @ 531m² office full site use	2	0	1	2	9	8

6.2.6 **Table 5.1** shows that the currently vacant office use is estimated to have generated two trips in the AM peak and three trips in the PM peak.

Light Industrial Use

6.2.7 The TRICS database has been used to obtain vehicular trip rates for the light industrial part of the existing site.

6.2.8 The following assumptions have been applied during the site selection process in TRICS:

- Land Use: Employment, Industrial Unit; and,
- TRICS sites located in Greater London have been selected.

6.2.9 The vehicular trip rates derived from the TRICS output (included in **Appendix H**) have been applied to the industrial use and the derived peak hour trip generation is shown in **Table 6.3**.

Table 6.2 Vehicular Trip Rates per 100m² and Trip Generation for E(g)(iii) Light Industrial

Mode	AM Peak		PM Peak		Daily Flows	
	In	Out	In	Out	In	Out
Vehicular Trip Rate	0.441	0.3	0.24	0.401	4.989	5.53
Trip Generation @ 1,594m² light industrial full site use	7	5	4	6	80	88

6.2.10 **Table 6.3** shows that the currently vacant light industrial use is estimated to have generated 12 trips in the AM peak and 10 trips in the PM peak.

Existing Residential Use

6.2.11 Further to the existing office and light industrial use, the two existing dwellings have been considered to assess their trip generation. Similarly, the TRICS database has been used to obtain vehicular trip rates for the existing residential part of the site.

6.2.12 The following assumptions have been applied during the site selection process in TRICS:

- Land Use: houses privately owned;
- TRICS sites located in Greater London have been selected;
- Sites located in town centre locations have been deselected; and,
- Sites with PTAL 2 have been selected.

6.2.13 The vehicular trip rates derived from the TRICS output (included in **Appendix H**) have been applied to the two cottages and the derived peak hour trip generation is shown in **Table 6.3**.

Table 6.3 Vehicular Trip Rates per dwelling and trip generation for C3 use

Mode	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Vehicular Trip Rate	0.087	0.32	0.146	0.097	2.135	2.169
Trip Generation @ 2 units	0	1	0	0	4	4

6.2.14 **Table 6.2** shows that the two cottages are estimated to have generated one vehicular trip in the AM peak and no trips in the PM peak.

6.3 Proposed Trip Generation

Proposed E(g) Use

6.3.1 The development proposals include 318.8m² commercial use, which could comprise any of the following uses:

- E(g)(i) Offices;
- E(g)(ii) Research and development of products or processes; or
- E(g)(iii) Industrial processes.

6.3.2 The TRICS database is utilised to obtain vehicular trip rates for the commercial element of the site.

6.3.3 There are no available surveys of E(g)(ii) sites in TRICS. However, it is anticipated that E(g)(ii) sites would follow similar travel patterns to E(g)(iii) sites. Based on the above, the TRICS database is utilised to estimate the trip generation for the proposed E(g)(i) / E(g)(iii) uses.

6.3.4 The TRICS selection assumptions adopted for the existing site office and light industrial use have been utilised to estimate the trip generation for the proposed E use.

6.3.5 The vehicular trip rates derived from the TRICS output have been applied to the proposed E area and the derived peak hour trip generation is shown in **Table 6.4**.

Table 6.4 Vehicular Trip Rates per 100m² and trip generation for E(g) Use

Mode	AM Peak		PM Peak		Daily Flows	
	In	Out	In	Out	In	Out
Vehicular Trip Rate	0.326	0	0.109	0.435	1.631	1.413
Trip Generation @ 318.8m² E(g)(i) office use	1	0	0	1	5	5
Vehicular Trip Rate	0.441	0.3	0.24	0.401	4.989	5.53
Trip Generation @ 318.8m² E(g)(iii) industrial processes use	1	1	1	1	16	18

6.3.6 **Table 6.4** shows that E(g)(i) use would generate one trip in the AM peak and one trip in the PM peak, while E(g)(iii) use would generate two trips in each peak period. On this basis, the trip generation for the E(g)(iii) is adopted within this report, to provide a robust assessment of the anticipated commercial use.

Proposed Residential Use

6.3.7 The trip rates for the proposed residential use have been estimated. The following assumptions have been applied during the site selection process in TRICS:

- Land Use: privately owned flats;
- TRICS sites located in Greater London have been selected;
- Sites located in town centre locations have been deselected; and,
- TRICS sites located in areas of PTAL 2 have been selected.

6.3.8 The vehicular trip rates derived from the TRICS output (included in **Appendix H**) have been applied to the currently used office area and the derived peak hour trip generation is shown in **Table 6.5**.

Table 6.5 Vehicular Trip Rates per unit and trip generation for C3 use

Mode	AM Peak		PM Peak		Daily Flows	
	In	Out	In	Out	In	Out
Vehicular Trip Rate	0.035	0.106	0.125	0.057	0.934	0.929
Trip Generation @ 36 flats	1	4	5	2	34	33

6.3.9 **Table 6.5** shows that the proposed residential use is anticipated to generate five vehicle trips in the AM peak and seven trips in the PM peak.

Net Trip Generation

6.3.10 The net vehicular trip generation has been calculated and is shown in **Table 6.6**.

Table 6.6 Net Vehicular Trip Generation

Mode	AM Peak		PM Peak		Daily Flows	
	In	Out	In	Out	In	Out
Net Trip Generation (based on full existing lawful use)	-6	-1	1	-6	-43	-49

6.3.11 **Table 6.6** shows that the development proposals will result in net reduction by seven trips in the AM peak and net reduction by five trips in the PM peak, based on the full existing lawful use of the site. A significant net reduction is anticipated across the day.

6.3.12 The effect of this level of change of traffic flows on the capacity of the surrounding network would be imperceptible and the effects of development traffic can be concluded to be negligible.

6.3.13 Based on the low traffic impact from the proposed development, the impact on traffic safety is anticipated to be negligible.

7. Summary and Conclusions

- 7.1.1 Markides Associates have been instructed by Waterfall Planning Ltd (the applicant) and have prepared a TS in support of their development proposals for a site located at Upper Sunbury Road, Hampton, TW12 2DS.
- 7.1.2 The site is currently vacant and comprises 2,125m² Sui Generis space and two residential cottages.
- 7.1.3 The development proposals are for the conversion of two waterworks buildings into residential buildings with part of the one building retained for E(g) commercial use. The existing semi-detached cottages and storehouse are proposed to be retained and will be in residential use.
- 7.1.4 The proposed development includes 36 residential units, E commercial use of 318.8m² and 39 parking spaces. The proposed layout is included in **Appendix A**.
- 7.1.5 Within this TS report it has been demonstrated that the proposed parking provision is sufficient for the development and the development proposals will not have an impact on on-street parking.
- 7.1.6 Furthermore, the anticipated trip generation is considered insignificant, and the effects of the development traffic can be concluded to be negligible. This will mean that the proposals will not have a severe impact on the operation of the local highway network.
- 7.1.7 The proposed zebra crossing will contribute to the promotion sustainable modes of transport for the site residents / employees as well as the surrounding community.
- 7.1.8 On this basis, MA are of the view that there are no transport related reasons why the planning application should not be supported.

APPENDIX A – PROPOSED SITE LAYOUT

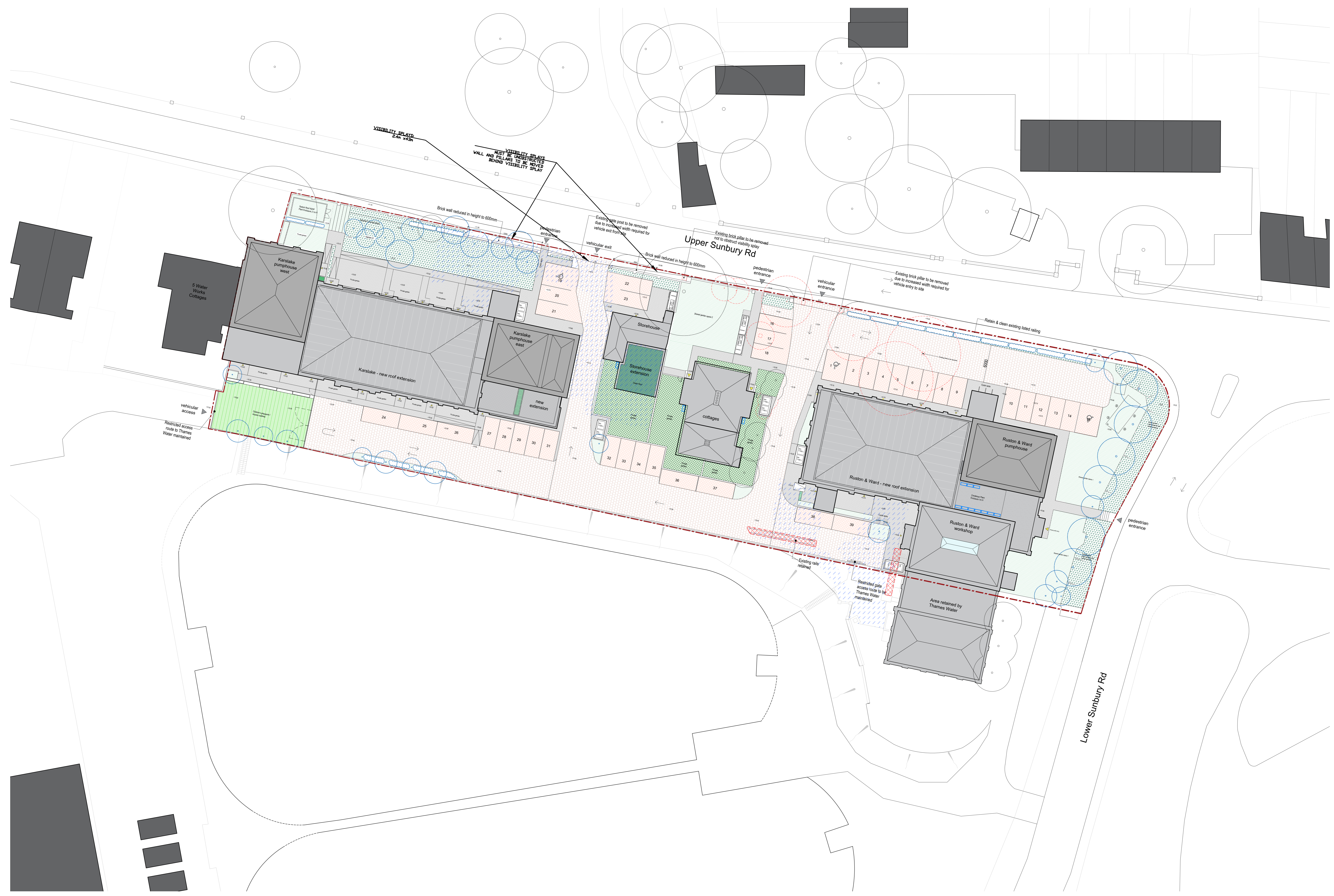
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REV.	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY
-	11.10.2019	INITIAL ISSUE	MC	KW
A	04.11.2019	LEVEL ADJUSTMENTS	MC	KW
B	04.06.2020	LEVEL ADJUSTMENTS, ADDITIONAL TREES TO GATEPOST BOUNDARY	SJ	RH
C	06.05.2020	MAIN VEHICULAR EXIT AMENDED	SJ	RH
D	15.05.2020	AMENDMENTS TO TREES AND LANDSCAPING	SJ	RH
E	27.05.2020	HABITAT PLANTING (SHOWN)	SJ	RH
F	25.07.2022	DESIGN REVIEW AMENDMENTS	DC	JF
G	04.11.2022	PLANT ENCLOSURE ADDED; AMENDMENT TO PLAY AREA	LW	JF
H	26.05.2023	HISTORIC ENGLAND FOR COMMENT	JF	JF
I	06.12.2023	UPDATE TO TREE SURVEY	LW	JF
J	19.02.2024	UPDATE TO HIGHWAYS COMMENTS	LW	JF

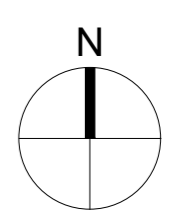
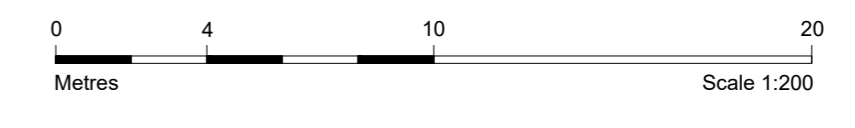
NOTE:
 - DRAWINGS ARE DESIGN INTENT FOR THE PURPOSE OF PLANNING APPROVAL.
 - ALL DRAWINGS ARE SUBJECT TO FURTHER DESIGN DEVELOPMENT AND COORDINATION WITH ENGINEERS INFORMATION.
 - ALL LIGHTING AND WATERWORKS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN.
 - EXISTING HISTORIC BRICK AND STONE FACADES TO BE CLEANED AND RESTORED.
 - INTERNAL VOLUMES TO BE STRIPPED OUT, REMOVING 20TH C WORK AND RESTORING ORIGINAL FABRIC.
 - INDUSTRIAL HERITAGE DETAILS: BRICK, ELECTRICAL SWITCHES, LIFTING CRANES, ETC. TO BE CLEANED AND RETAINED.
 - ALL EXISTING ORIGINAL WINDOWS TO BE RETAINED AND RESTORED, WITH NEW HIGH PERFORMANCE SECONDARY GLAZING INSERTED BEHIND.
 - ALL EXISTING WINDOWS WHICH ARE NOT ORIGINAL TO THE BUILDING TO BE REPLACED WITH HIGH PERFORMANCE WINDOWS TO MATCH EXISTING DESIGN.

Key

[Pattern]	Asphalt
[Pattern]	Shared surface paving
[Pattern]	Pedestrian paving
[Pattern]	Car parking bays
[Pattern]	Private amenity space
[Pattern]	Shared soft landscaping
[Pattern]	Children's play area/ shared access surface
[Pattern]	Habitat planting
[Symbol]	Trees:
[Symbol]	Existing & retained
[Symbol]	Removed
[Symbol]	New
[Symbol]	Existing cobbles to be retained & relocated
[Symbol]	Existing cobbles to be retained in situ
[Symbol]	New location of retained cobbles



SCALE 1:200
 Proposed Site Plan



IN PROGRESS



client: WATERFALL PLANNING LTD

project: HAMPTON WATERWORKS

drawing title: PROPOSED SITE PLAN

sheet size: A1
 scale: 1:200 @ A1

status: PLANNING
 drawing no: 1685-A-P100
 revision: J

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APPENDIX B – LOCAL CYCLE ROUTES