Greggs Bakery

Construction Method Statement

Royal Borough of Richmond

Ref: U0179001

November 2024 (Rev C)

PURE LOGISTICS

LONDON SQUARE

PURE LOGISTICS

LONDON SQUARE

Quality Control

Issue/revision	Draft Report	Final Report
(A) Date	July 2024	August 2024
(B) Date	September 2024	October 2024
(C) Date	November 2024	November 2024
(D) Date	November 2024	November 2024
Prepared by	Barry Mitchell	Barry Mitchell
Checked by	Piotr Wojda	Piotr Wojda
Authorised by	Peter Holmes	Peter Holmes

York Road
Uxbridge
UB8 1RN
londonsquare.co.uk

Greggs Bakery Scheme

Contents

Part **1**:

Introduction

Greggs Bakery Scheme

Introduction

Introduction

LSQ have developed a planning application for the Demolition of existing buildings (with retention of a single dwelling) and redevelopment of the site to provide up to 116 residential units and 175 sqm commercial floorspace (Use Class E) with associated hard and soft landscaping, car parking and highways works and other associated works

This Outline Construction Logistics Plan (CLP) accompanies the Transport Assessment (TA). A detailed CLP will either be secured by Planning Condition or be an obligation within the development's Section 106 agreement.

Site Location

The site is located in Twickenham within the Royal Borough of Richmond.

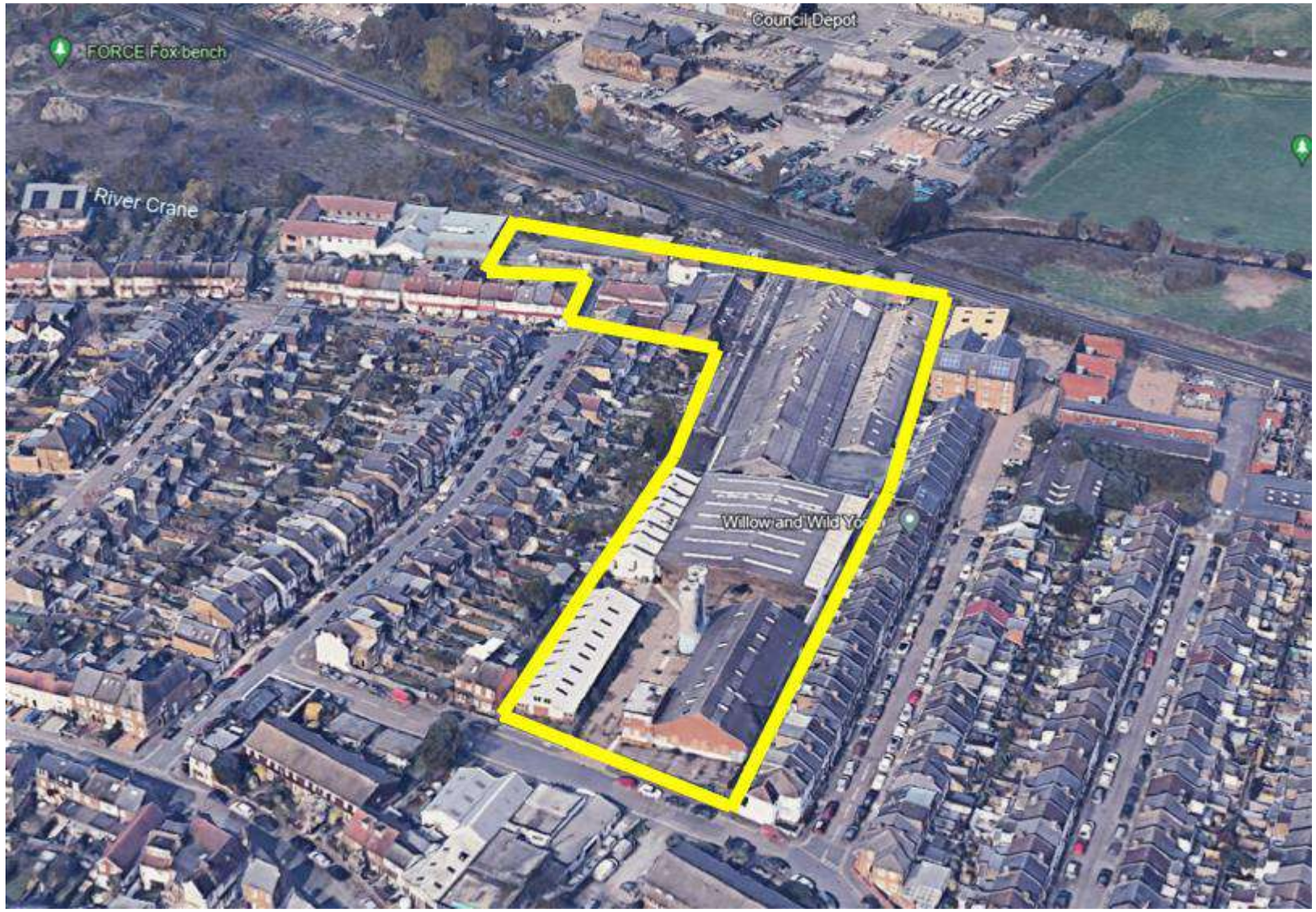
As illustrated in **Figure 1-1** with the site boundary detailed in yellow, the site is bounded by Gould Road to the west, Edwin Road to the south.

The site is located immediately west of Twickenham Station, which is a national rail service. It is also south of Twickenham Stadium.

The existing use of the site is for industrial purposes and includes ancillary office floorspace associated with the bakery operations that previously operated from the Site.

The bakery operation is now redundant, and Greggs ceased the bakery use on the Site in 2018.

Figure 1-1: Site Location



Greggs Bakery Scheme

Proposed Development

PURE LOGISTICS

Introduction

Figure 1-2 and **1-3** (overleaf) presents an overview of the proposals. The description of the development is as follows:

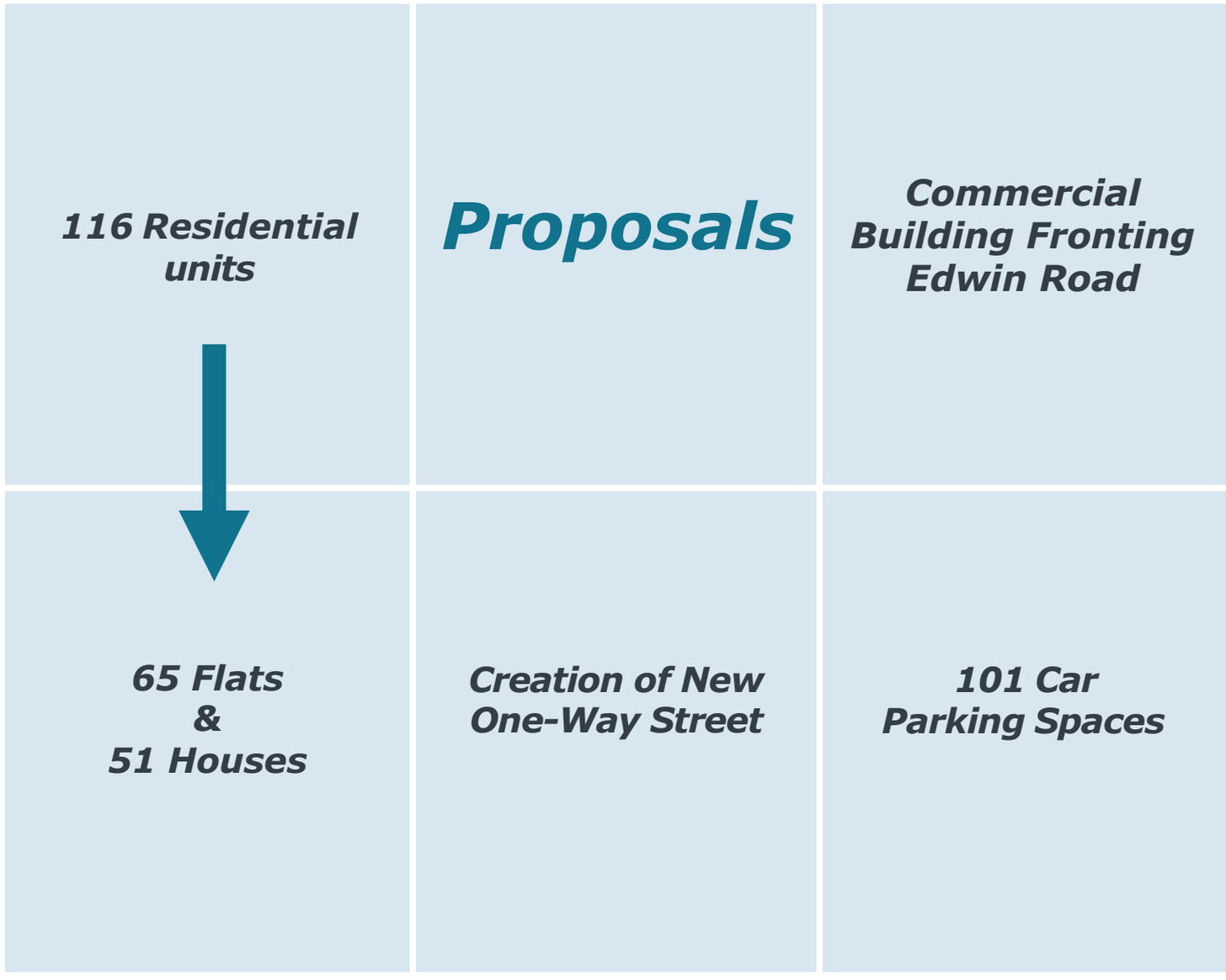
Demolition of existing buildings (with retention of a single dwelling) and redevelopment of the site to provide up to 116 residential units and 175 sqm commercial floorspace (Use Class E) with associated hard and soft landscaping, car parking and highways works and other associated works

A more detailed breakdown of the accommodation schedule is provided in **Table 1-1**.

Table 1-1: Indicative Accommodation Schedule

Land Use	Unit Size / Numbers
1 Bedroom	33
2 Bedroom	33
3 Bedroom	46
4 Bedroom	4
Total	116

Figure 1-2: Overview of the proposals



Greggs Bakery Scheme

Proposed Development

Figure 1-3: Overview of Proposed Development

Land Use	Unit Size / Numbers
1 Bedroom	33
2 Bedroom	33
3 Bedroom	46
4 Bedroom	4
Total	**116**

Greggs Bakery Scheme

Purpose & Objectives, Report Structure

Purpose & Objectives

Construction Method Statement details how works on a development will be undertaken during the construction phase to prevent harm resulting from the scheme. What details a method statement contains will vary from scheme to scheme, and from site to site. A scheme in a residential area may need to consider measures to prevent disturbance as the result of noise, dust and vehicles. A scheme next to a watercourse would need to consider potential sources of pollution, and measures which may need to be put in place.

This CMS will demonstrate compliance with the guidance found in the CLP for highways and transport elements. concerned with the highways and transport elements. The Construction Method Statement which is developed post planning will cover matters relating to construction by the Principle Contractor.

This CMS seeks to support the achievement of the following objectives:

- To demonstrate that construction materials can be delivered, and waste removed in a safe, efficient and environmentally friendly way.
- To identify deliveries that can be reduced, re-timed or even consolidated, particularly during peak periods.
- To help cut congestion on local roads and ease pressure on the environment.
- To promote highway and pedestrian safety together with the amenity of the area
- To improve vehicle and road user safety.
- To ensure air quality is maintained during construction.
- To improve the reliability of deliveries to the site; and
- To reduce fuel costs and carbon emissions for freight operators.
- Ensure compliance to the London Borough Richmond Upon Thames, Construction Code of Practice, January 2022

Report Structure

The Construction Method Statement has been prepared in order to prevent disturbance as a result of noise, dust and vehicles for the proposed development site. This document will include items of what will be included in the detailed CLP. The scope and approach of the construction logistics will be discussed and agreed with TfL and the LBRuT.

Following this brief introduction, the structure of this report is as follows:

- **Part A:** Size, Number, Routing and Maneuvering of Vehicles
- **Part B:** Site Layout Plan
- **Part C:** Parking
- **Part D:** Plant/Materials Loading and Unloading
- **Part E:** Plant/Materials Storage
- **Part F:** Local Highway Licences / Suspensions
- **Part G:** Security Hoardings
- **Part H:** Wheel Wash Facilities
- **Part I:** Recycling/Disposing Waste
- **Part J:** Control of Noise/Vibration and Dust
- **Part K:** Highway Licences for Construction Traffic
- **Part L:** Programme Phasing
- **Part M:** Arboricultural Method Statement
- **Part N:** Construction Programme
- **Part O:** TfL Guidance for CLP
- **Part P:** Communication Residents / Local Businesses
- **Part Q:** NRMM
- **Part R:** Vehicle Holding Area
- **Part S:** Delivery Forecast
- **Part S:** Construction Code of Practice (January 2022)

Part **A**:

Size, Number, Routing and Maneuvering of Vehicles

Greggs Bakery Scheme

Vehicle Size

Fig A-1 Maximum Size - 12m Rigid Length Example Vehicle Type shown in Fig A-1

Fig A-2 12m Swept Path Anaysis for accessing the site at Edwin Road

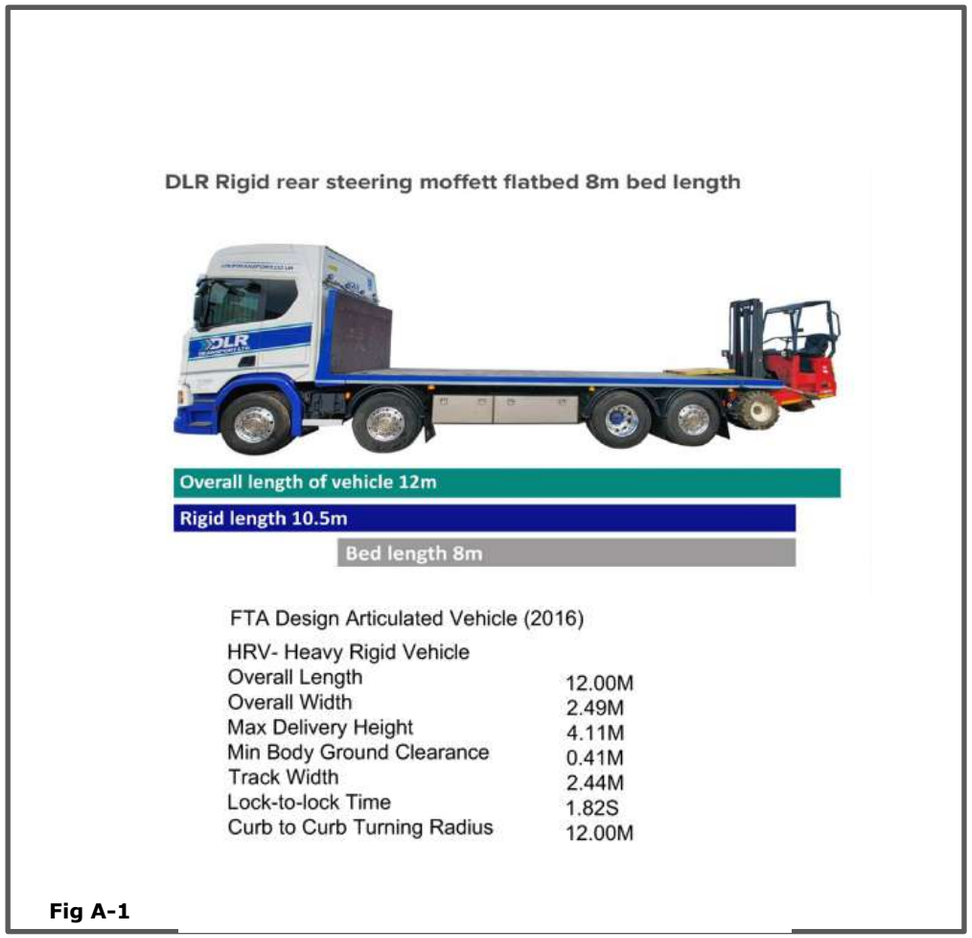


Fig A-1

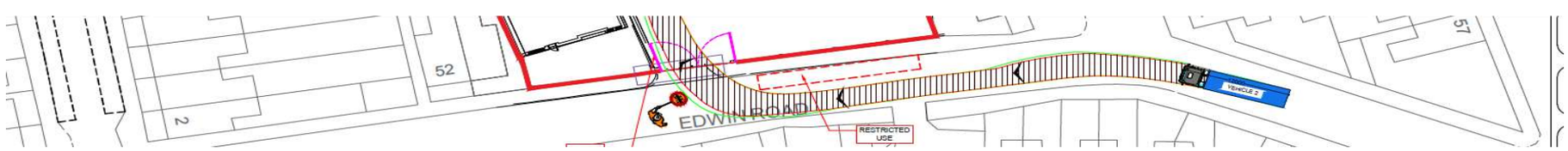


Fig A-2

Greggs Bakery Scheme

Vehicle Numbers

Figure A-3: Existing site vs proposed development servicing demand – peak

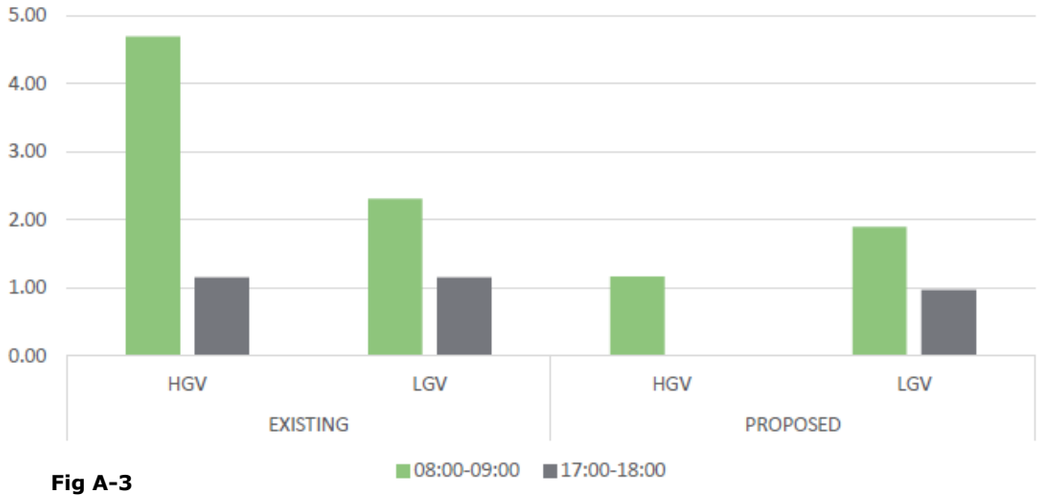


Fig A-3

Figure A-4 Existing site vs proposed development servicing demand – daily

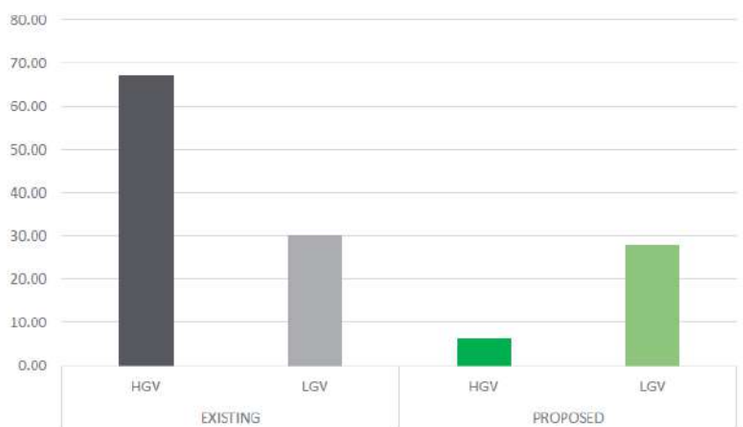


Fig A-4

One of the key benefits in transport terms of delivering a residential-led scheme compared to its previous use as an industrial factory is a substantive reduction in the number of HGV movements and the associated highway safety benefits of this on the surrounding residential streets.

The TRICS database has been used to forecast servicing demands.

Daily servicing trip generation rates are set out within Table 5-20, and a daily profile of the exacted servicing demands at the proposed development is provided in Figure 5-7.

On average, a total of 14 LGV and 3 HGV deliveries per day are expected to be generated by the residential units and commercial units, with up to four in a given hour.

Figure A-3 shows the proposed development will result in a reduction of four HGVs in the AM peak hour
and one HGV in the PM peak hour.

Figure A-4 shows the daily servicing demand generated by the existing and proposed development sites.

Greggs Bakery Scheme

Vehicle Routing

Figure A-5 Access/Egress Routes from the A316

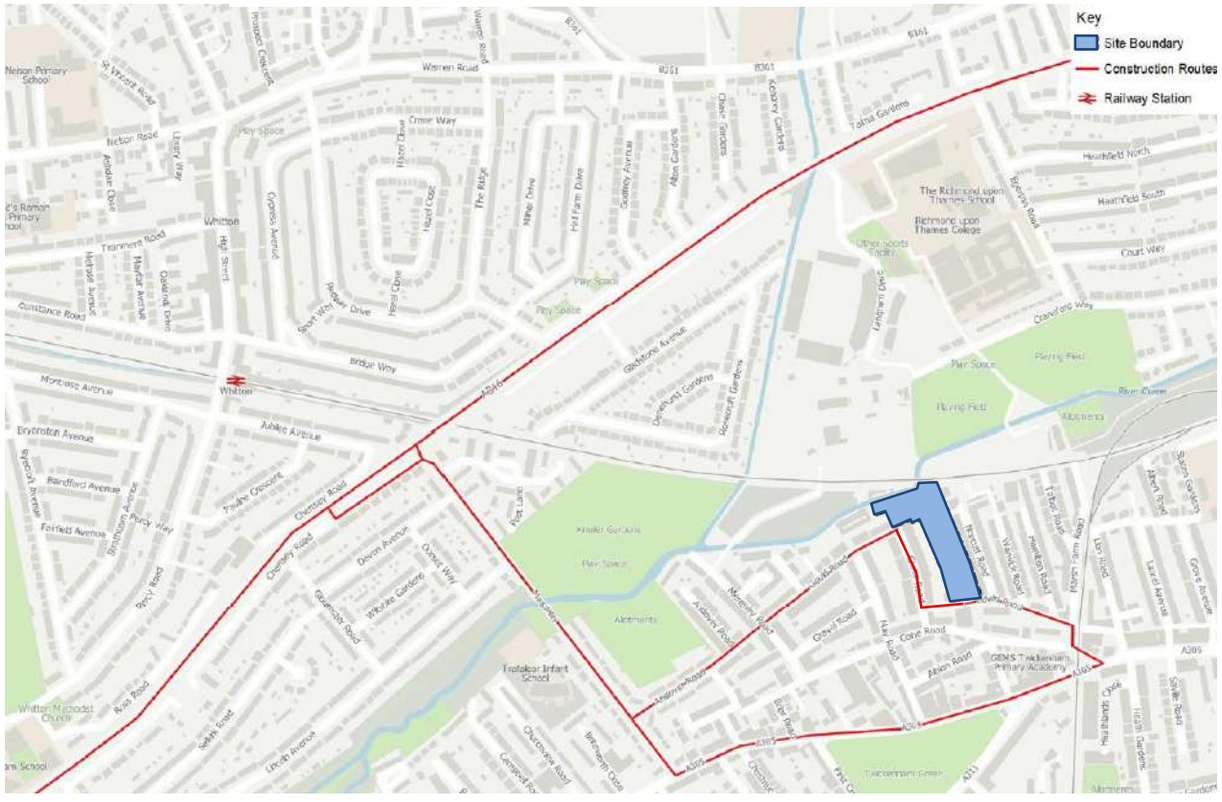


Fig A-5

Construction Access/Egress Routes

Deliveries will route to/from the site via the A316, whether they are coming from Central London to the east or the M25 to the west.

To access the site a one system will be implemented after demolition, normal delivery vehicles will route south on Meadway before continuing east on The Green (A305). Vehicles will then route north on Colne Road and Marsh Farm Road before travelling west on Edwin Road.

To egress the site, vehicles will route west on Gould Road before turning north on Meadway and accessing the A316. Sufficient clear signage to ensure construction vehicles only use designated routes will be provided.

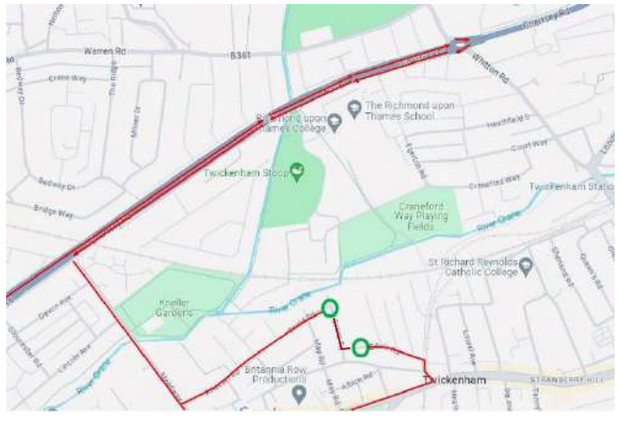
Until demolition is complete egress will be via the entrance on Edwin Road as noted above.

For abnormal & oversize deliveries due to height restriction on Coln Road, these vehicles will access via route off the Green, north on Meadway, along Andover & Gould Road, South on Crane Road, travel East on Edwin and access site. Egress will be the same route.

No construction vehicles will be allowed to travel off the identified access, and egress routes and no waiting will be permitted on the access or egress routes. We recognise that our neighbours and residents along the routes are often best placed to advise us if drivers are not complying with these requirements.

Residents will be able to contact our Site Manager to report any non-compliance. For a first offence, suppliers will be reminded of the site access route requirements. For a second offence, suppliers will have a % proportion of their load fee withheld. For a third offence, suppliers will be sought to be replaced.

Fig A-5b



Vehicle Movement

Site Access/ Egress

Key

Fig A-5c **Access/Egress Routes from East on the A316 roundabout**

Greggs Bakery Scheme

Vehicle Maneuvering

Figure A-6 Access Edwin Rd during Demo Phase

Fig A-6

Figure A-7 Egress Edwin Rd during Demo Phase

Fig A-7

Figure A-8 Access Gould Rd during Demo Phase

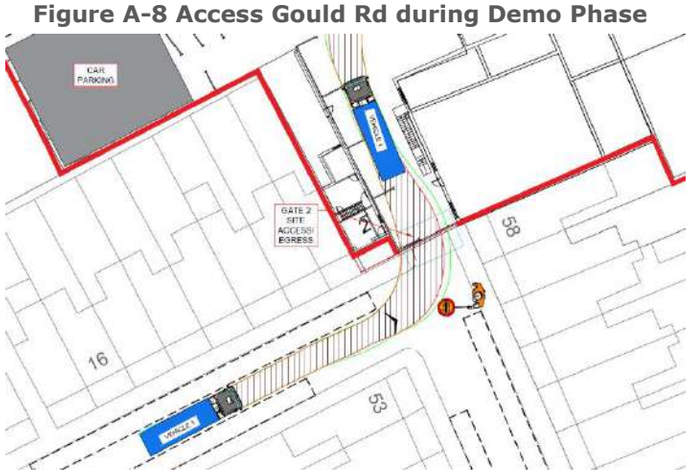


Fig A-8

Figure A-9 Egress Gould Rd during Demo Phase

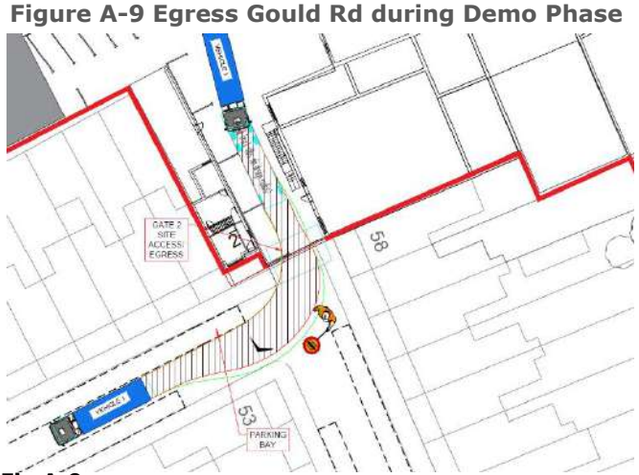


Fig A-9

Construction Vehicle Manoeuvering

To minimise the likelihood of congestion during the works, strict monitoring and control of vehicles entering and egressing the sites will be implemented.

Construction deliveries will be carefully planned with delivery times agreed with each contractor using the PURE Delivery booking system. Delivery schedules will be produced in order to look at the profiles of up-and-coming deliveries, and to regulate deliveries and eliminate bottle necks. This will ensure deliveries are restricted to allocated slots only time.

Swept path analysis has been done to show the vehicles manoeuvring safely into and out of the site gates at Edwin Road and Gould Road.

There will be suitable physical segregation with signage installed to demarcate safe pedestrian routes. The vehicle entry gates point will be isolated from site pedestrians by use of physical barriers.

Trained Traffic Marshals will safely manage this process and they will additionally have Site Access Traffic Marshal (SATM – CLOCS) Training as well as Elite Traffic Marshal Training (TfL).

Part **B**:

Site Layout Plan

Greggs Bakery Scheme

Layout Plan – Access

Figure B-10 Site Access Plan

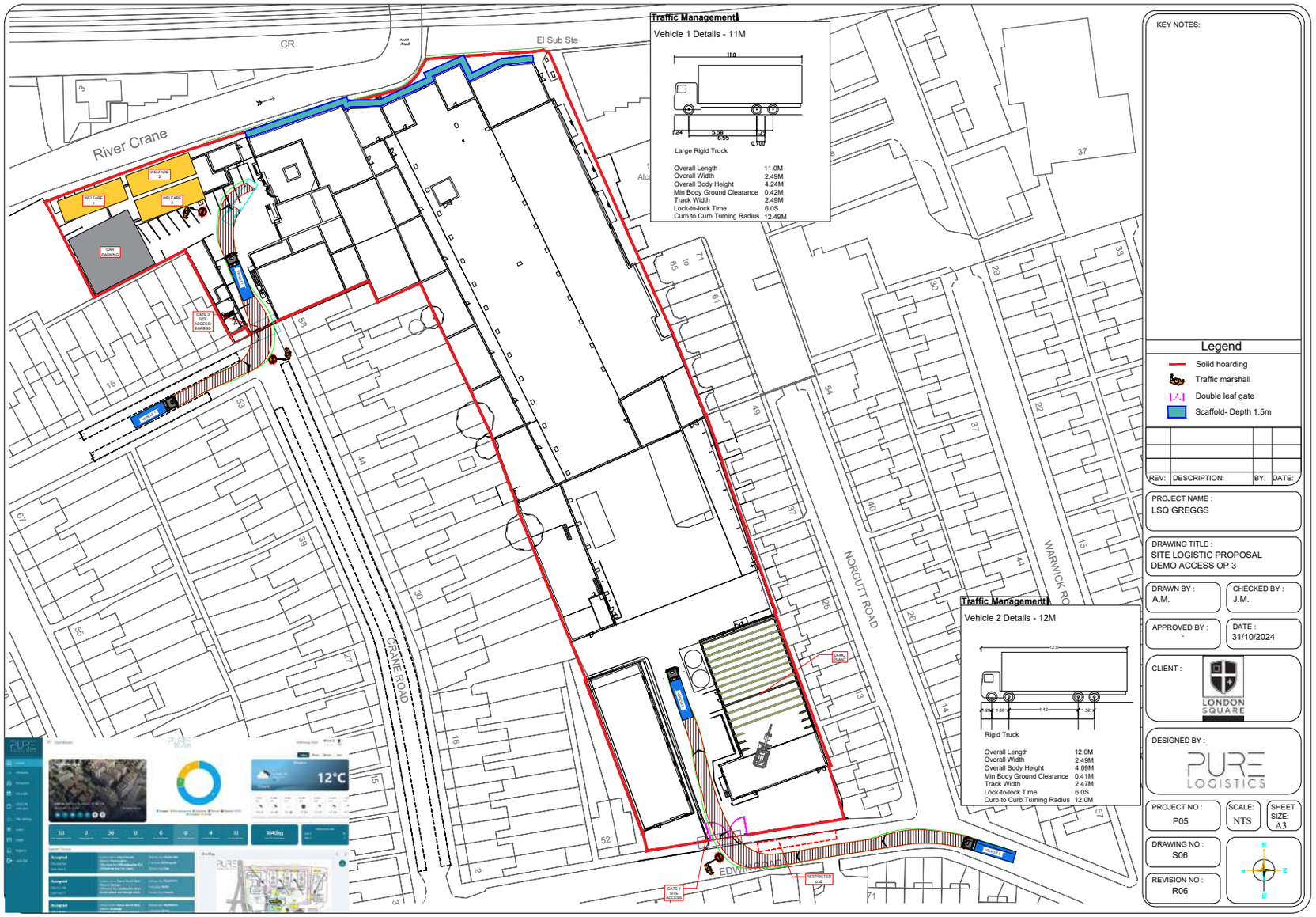


Fig B-10

Site Access

Swept Path Analysis have been carried out to demonstrate the site vehicles accessing site forward with no requirement for reversing at both Edwin Road and Gould Road.

Suitable physical segregation with signage will be installed to demarcate safe pedestrian routes.

The vehicle entry gates point will be isolated from site pedestrians by use of physical barriers.

The competent trained Traffic Marshal will use Stop Work signs to control the flow of traffic during access.

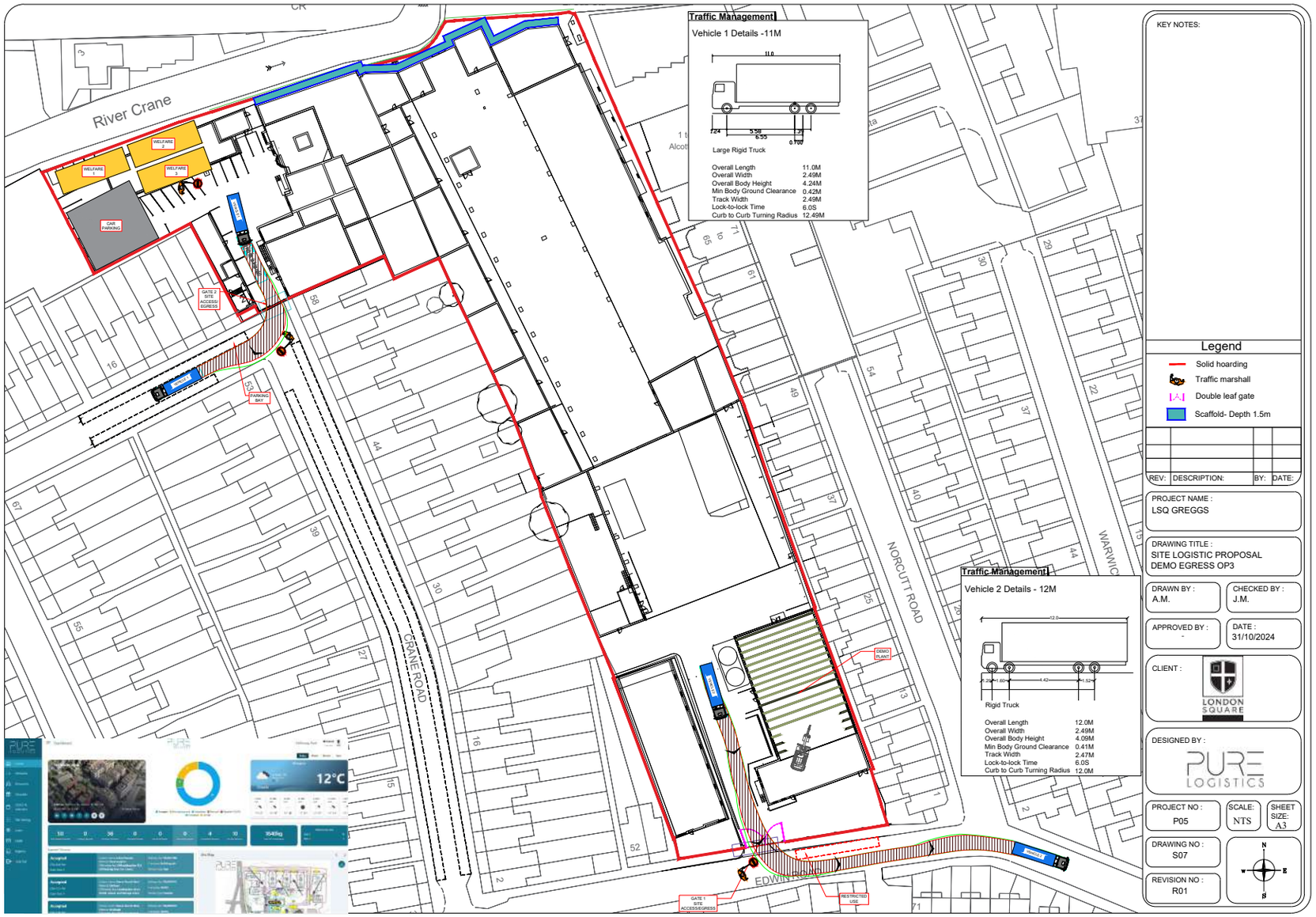
As best practice a pole mounted CCTV camera will be erected to capture any vehicles that do not comply with the delivery strategy plan

Appropriate signage will be discussed and agreed with the LBRuT team to ensure that roads and footpath users are given the correct guidance regarding the variations to existing road networks and to assist locals with route diversion and safety.

Greggs Bakery Scheme

Layout Plan – Egress

Figure B-11 Site Egress Plan



Site Egress

Swept Path Analysis have been carried out to demonstrate the site vehicles egressing site forward with no requirement for reversing at both Edwin Road and Gould Road.

Suitable physical segregation with signage will be installed to demarcate safe pedestrian routes for the egress process.

The vehicle entry gates point will be isolated from site pedestrians by use of physical barriers.

The competent trained Traffic Marshal will use Stop Work signs to control the flow of traffic during egress.

As best practice where possible a pole mounted CCTV camera will be erected to capture any vehicles that do not comply with the delivery strategy plan

Appropriate signage will be discussed and agreed with the LBRuT team to ensure that roads and footpath users are given the correct guidance regarding the variations to existing road networks and to assist locals with route diversion and safety.

Part **C**:

Parking

Figure C-12 Limited Staff Parking on Site

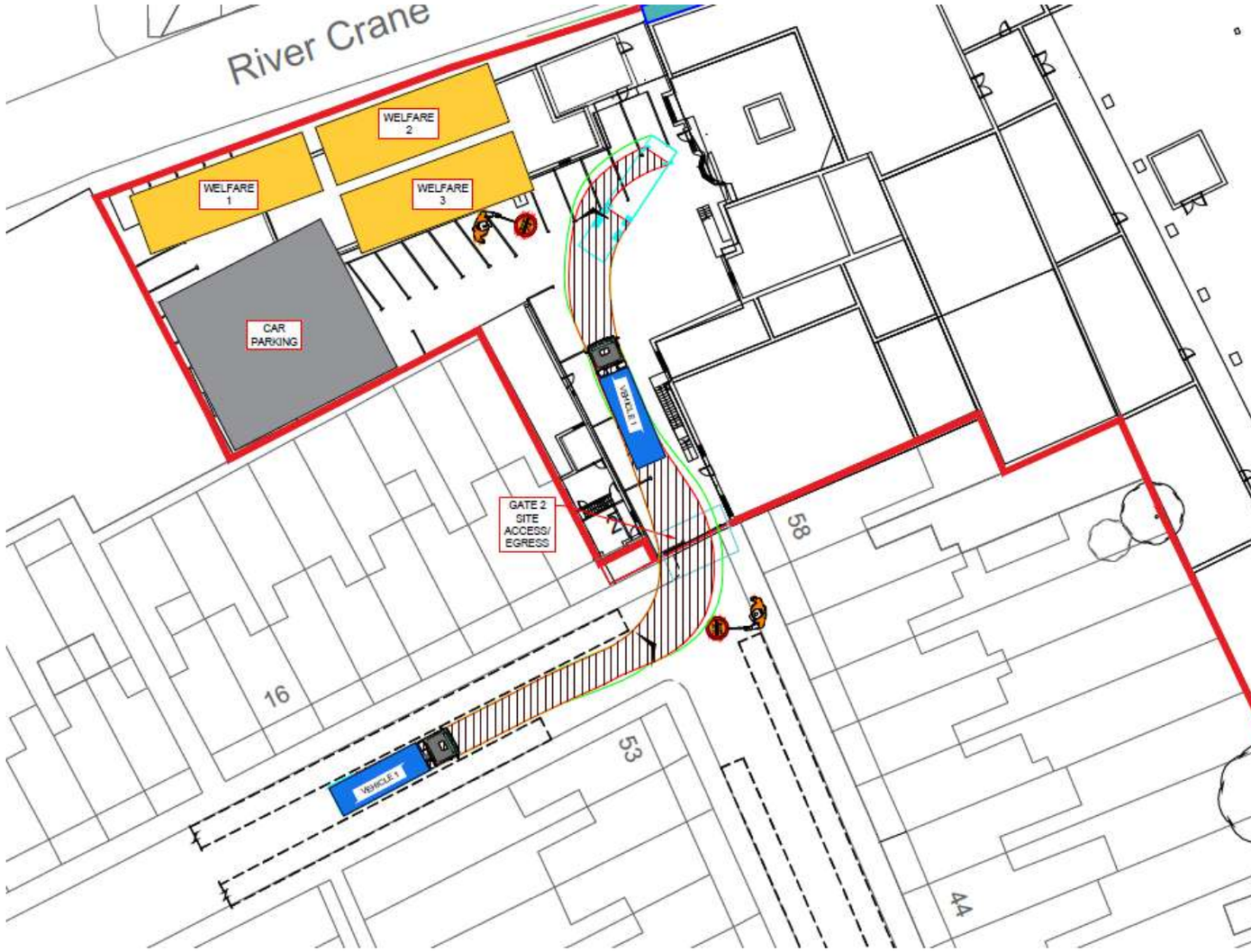


Fig C-12

Staff Parking

With regard to employee/visitor parking provision at the site when originally operational as an industrial site, the limited amount of parking resulted in employees parking within the surrounding roads, which prior to 2018 were not part of a Controlled Parking Zone, thus causing issues of high parking stress and conflict with residential car owners in neighbouring streets.

As part of the proposed development the site would have 3nr. staff/visitor parking spaces on site and ensure no local parking by any other construction workers outside the boundary. This will be managed through a bespoke permit only system.

Also 3nr business parking permits will be applied for visitors & officials to use.

All other workers would be recommended to use the local transport system which will be notified in all staff inductions.

Anyone found not to be following the restriction may be removed from the project.

Part D:

Plant/Materials Loading and Unloading

Greggs Bakery Scheme

Plant/Materials Loading and Unloading

Figure D-13 Location of Self Erecting Crane (IGO T85) and Offloading Bay

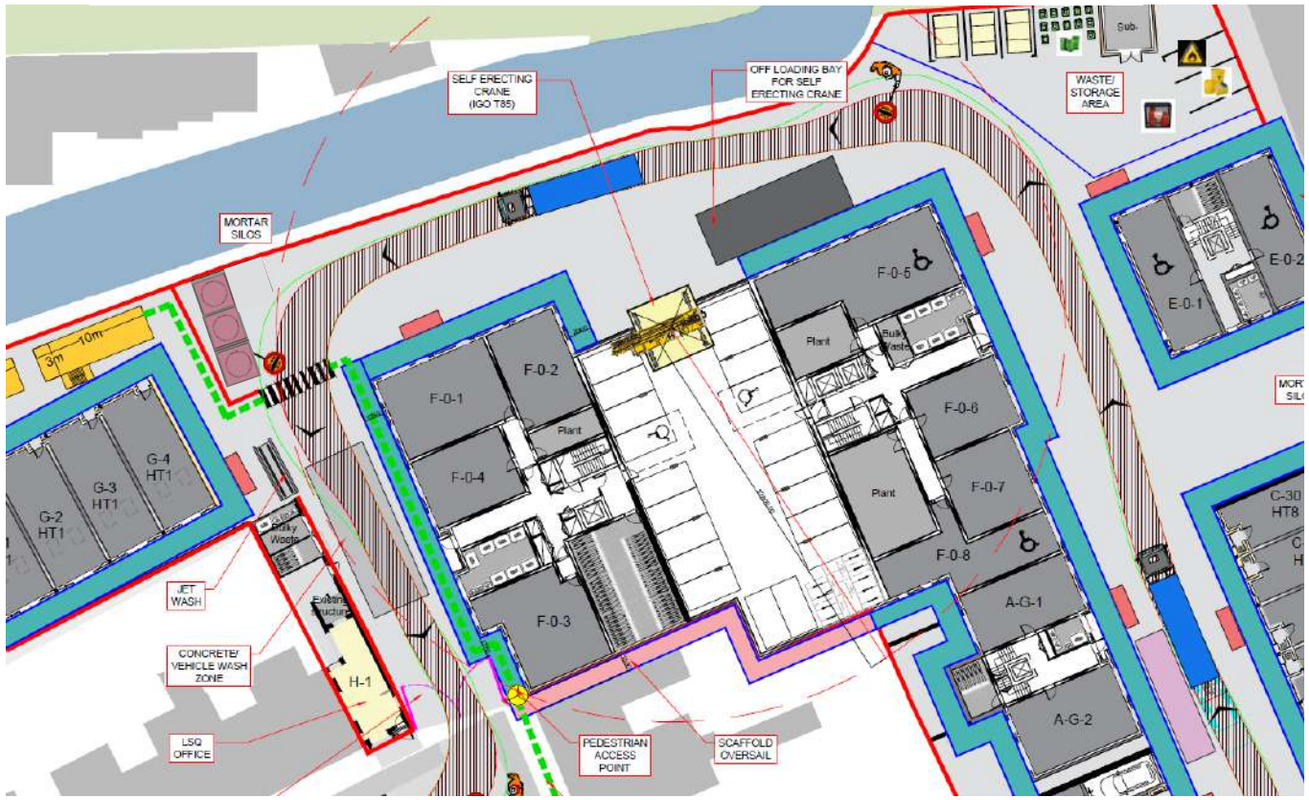


Fig D-13

Figure D-14 Self Erecting Crane (IGO T85)

Fig D-14

Figure D-15 Vehicle Segregation

Fig D-15

Loading/Unloading - North

A self-erecting crane has been positioned to ensure that they fully cover the footprint of the flats in the North elevation of the project along with sufficient cover for the relevant offloading areas.

All lifting operations are to be carefully planned out, with a lifting plan approved by an appointed person. An onsite crane supervisor will oversee all lifting operations, with assistance from slinger/signalers.

The following process will be followed for the safe loading and unloading of vehicles:

- Risk Assessment and Method Statement, the contents of which must be communicated to all parties involved with the loading/unloading process.
- The type of delivery vehicle, the method of unload, the equipment required, and the eventual storage or installation position all need to be agreed in advance of any delivery arriving on site.
- Logistics manager to confirm clear areas for storage to the Delivery Administrator
- Vehicles only to be off loaded or loaded when on level ground.
- Safe techniques for unloading/loading i.e. methods of attaching crane hooks etc. must be employed by the logistics team.
- No operatives are to climb onto the bed of a vehicle without fall protection in place and a safe means of access.
- All vehicle information to be provided to the PURE Delivery System prior to arrival on site.
- Safe vehicle segregation to all site personnel using barriers and drop arm barriers where necessary

Greggs Bakery Scheme

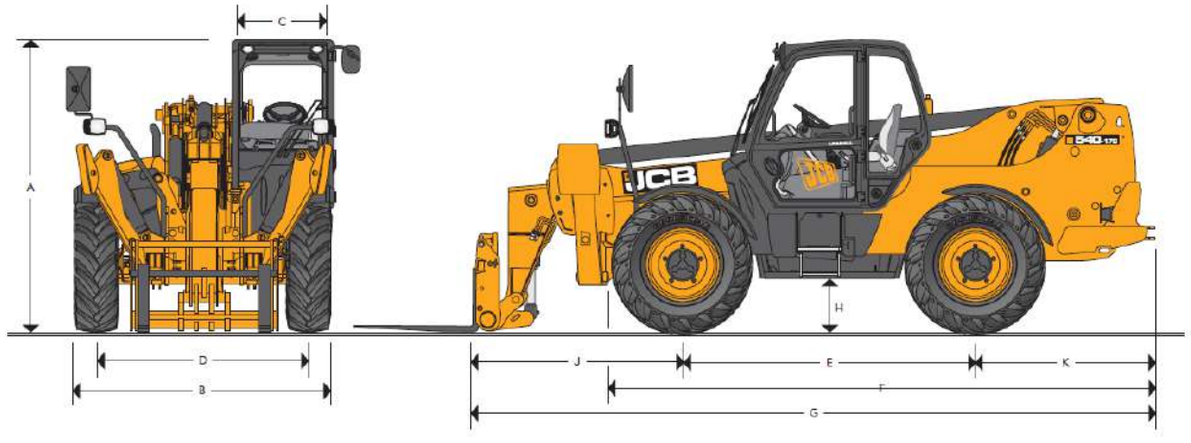
Plant/Materials Loading and Unloading

Figure D-16 Location of Telehandler Route and Strategic Loading Bays

Fig D-16

Figure D-17 LJCB 540-170 Loadall

MAX. PAYLOAD: 4.0 tonnes (8820lb) MAX. LIFT HEIGHT: 16.7 metres (54ft 9in)



STATIC DIMENSIONS					
Machine model		540-170	Machine model		540-170
		m (ft-in)			m (ft-in)
A	Overall height	2.69 (8-10)	J	Front wheel centre to carriage	1.94 (6-4)
B	Overall width (over tyres)*	2.44 (8-0)	K	Rear wheel centre to rear face	1.67 (5-5)
C	Inside width of cab	0.94 (3-1)		Overall width with stabilisers fully deployed	3.35 (11-8)
D	Front track	1.90 (6-3)		Outside turn radius (over tyres)	4.1 (13-5)
E	Wheelbase	2.75 (9-0)		Carriage roll back angle degrees	39
F	Overall length to front tyres	5.08 (16-8)		Carriage dump angle degrees	88
G	Overall length to front carriage	6.36 (20-10)		Weight kg (lb)	12060 (26586)
H	Ground clearance	0.40 (1-4)		Tyres	16.5/80-24

*Dependant upon tyre specified.

Fig D-17

Loading/Unloading - South

A JCB 540-170 has been procured to ensure that loading bays on the South elevation of the project are safely loaded to the front of their demise.

The telehandler driver will be a competent CPCS qualified operative working under a clear schedule of common lifts signed off by the Project Appointed Person.

The PURE Delivery system will control the safe management of the telehandlers schedule for all planned loads.

Part E:

Plant/Materials Storage

Greggs Bakery Scheme

Plant/Material Storage

Figure E-18 Plant/Material/Skip Storage

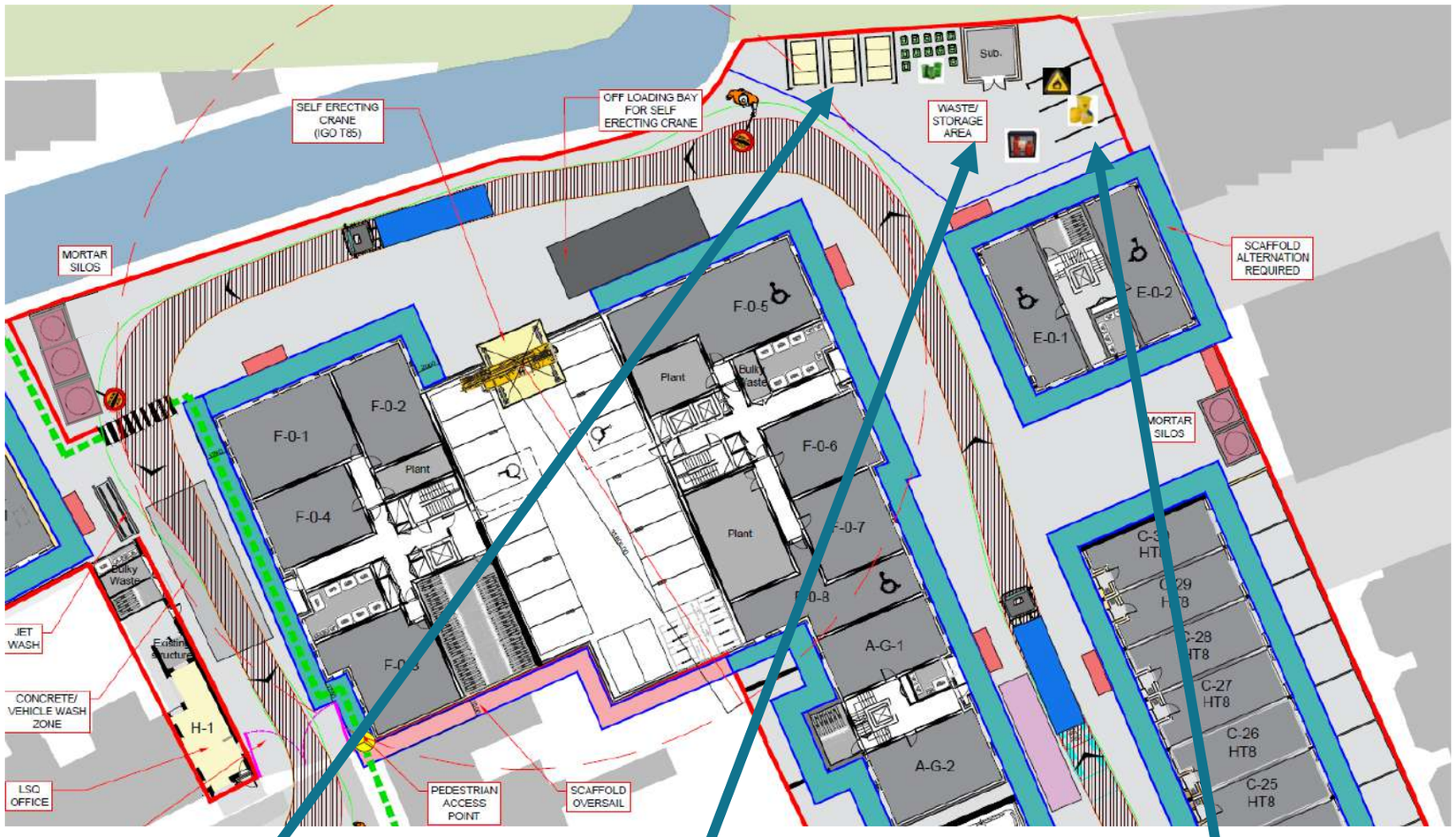


Fig E-18

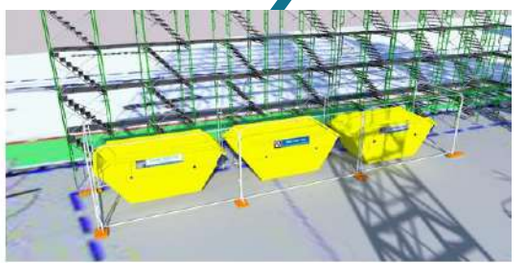


Fig E-18a

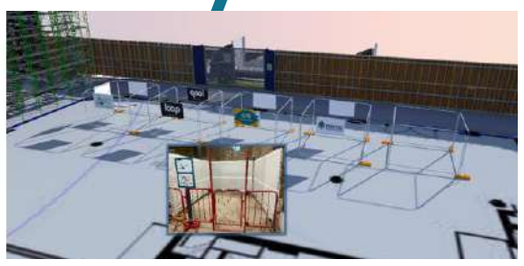


Fig E-18b

Fig E-18c

Storage

The project has multiple on-site storage points that will be used throughout the construction phase.

We have identified an area on the Northwest of the development that will be used to create a waste management recycling zone and storage area for material.

Due to the close proximity of the River Crane, we will require acceptability from the EA for this location.

The project will work on a just in time delivery strategy which will allow for most material to be delivered and sent to the workface immediately.

There will be no requirement for skips to be located on the Highway.

Use of Logistics Consolidation Centre

It is considered that the number of materials to be delivered, and thus the number of vehicle trips, will mean that it is not envisaged that the use of a logistics or consolidation centre will be required. However, it is noted that our Logistics provider has a Consolidation Centre, located approximately 9km to the North in Greenford.

The use of this will be investigated further and any future use of this facility will be detailed in the full CLP.

Part F:

Local Highway Licences / Suspensions

Figure F-19 Plot 17 Hoarding Requirement

Fig F-19

Figure F-20 Plot 17 TM Footpath Design

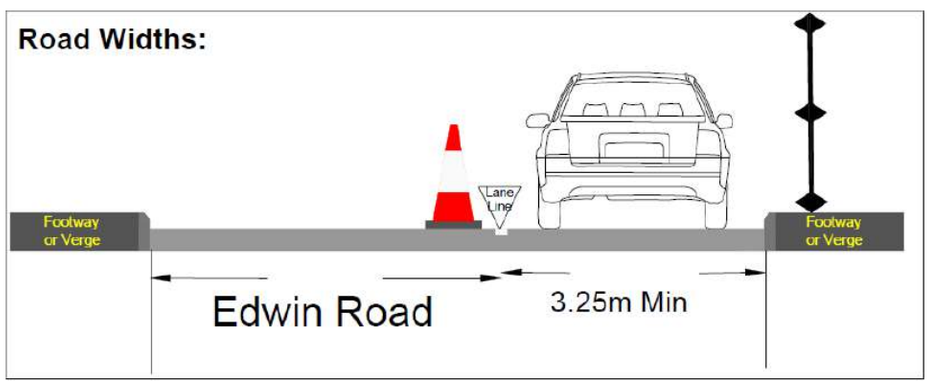


Fig F-20

Suspensions

There is only a requirement for one footpath closure. No requirement for road space, bus stops and/or parking bays.

Edwin Road Footpath Closure

For the requirement of building Plot 17 a footpath closure is required.

We have developed a traffic management plan to ensure that all highway requirements are met.

Once the closure is confirmed a hoarding will be built and the closure will be required for around 12 months.

One parking bay will be suspended. Two remaining bays will remain open but will be restricted to business use only

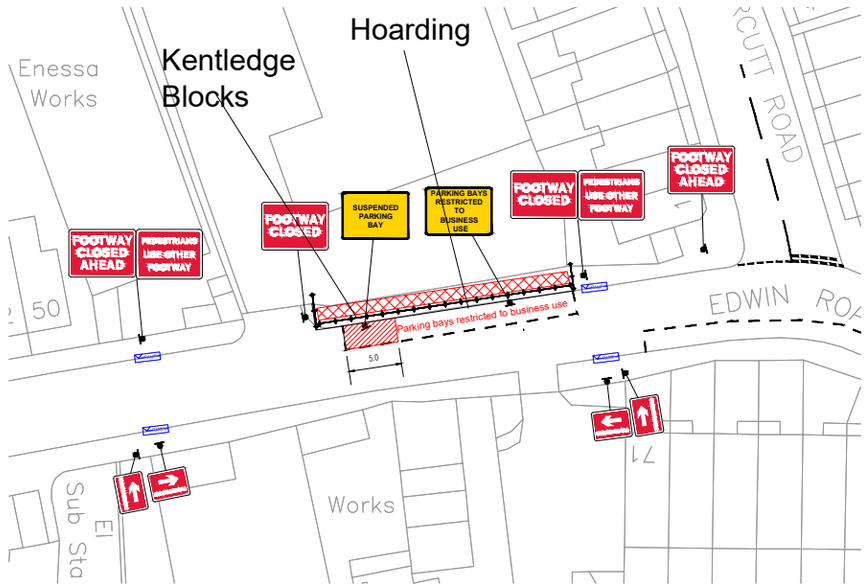


Fig F-21

AIP

In pre-submission discussions with LBRuT, it was concluded that no AIP was required in relation to the section of footpath on Edwin Road that directly abuts Plot 17 **(Fig F21b)**.

The footpath will be reinstated under the S106 obligations under a S278 agreement.

Vehicular Crossover

Noted as detailed informative (U009119) it has been concluded that no vehicular crossovers works are required to the development site.

This is due to the site having two existing entrances/exits, vehicular crossovers, that were used for HGV access **(Fig F-21c/d)**.

Therefore, these are substantial enough for the construction works of the development.

Figure F-21b Plot 17 Footpath

Fig F-21b

Figure F-21c Gould Rd

Fig F-21c

Figure F-21d Edwin Rd

Fig F-21d

Part G:

Security Hoardings

Greggs Bakery Scheme

Security / Hoardings

Fig G-21

Fig G-23

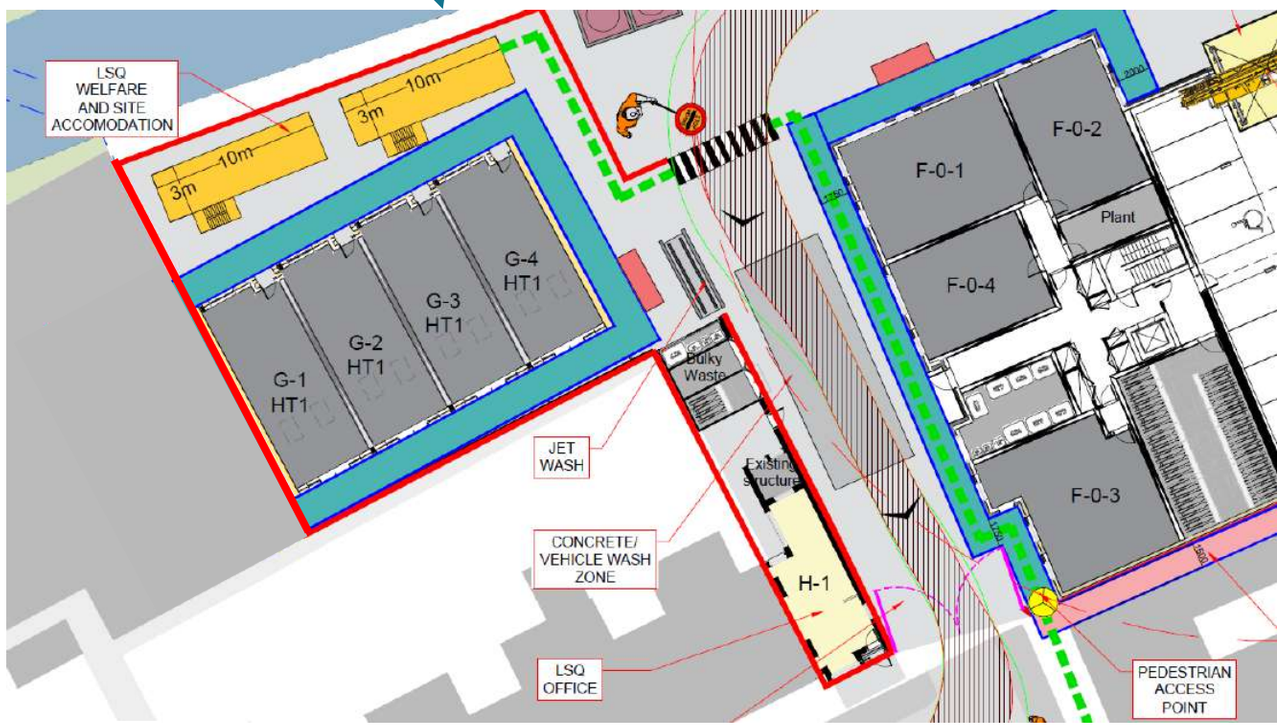


Fig G-22

Security / Hoardings

The site will be secured by a permitter boundary to comply with the London Borough of Richmond Upon Thames requires. **Fig G-21** & **Fig G-24** show the boundary as a red line.

There will be a comprehensive security and access control service installed when available, which includes a web based access control equipment, including computers, software and turnstiles (**Fig G-23**), site inductions, gatehouses and access barriers and CCTV installation.

Facial recognition scanner access control security system (1no. full height turnstiles) will be in use for all personnel to access site, ensuring only authorised personnel to access site, ensuring only authorised personnel may gain access to the site and ensuring the boundary is secure.

The boundary will be maintained weekly and adapted as and when necessary for construction activities, throughout the duration of the project phases to suit progress whilst maintaining security.

Due to the location of the development with varying existing boundaries the following methods will be used;

- 2.4m Plywood hoarding (which may include decorative dibond)
- Permanent timber boundary treatment of 1.8m high fencing with 300mm of trellis, totalling 2.1m, which where possible will then have hessian installed. See **Fig G-24**
- Heras fencing (with debris netting where possible) See **Fig G-25**
- Pedestrian barriers may be used for short periods if works are constrained.

Fig G-24

Fig G-25

Part H:

Wheel Washing Facilities

Greggs Bakery Scheme

Wheel Washing Facilities

Figure H-25 Wheel Wash Edwin Rd - Demo

Fig H-25

Figure H-26 Wheel Wash Gould Rd - Demo

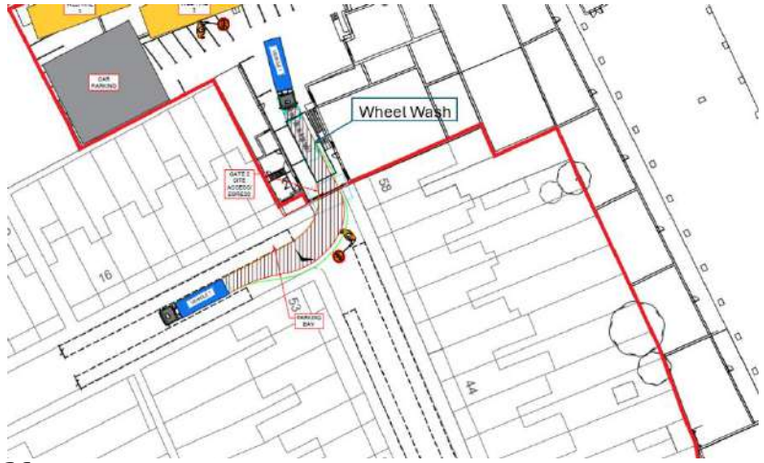


Fig H-26

Figure H-27 Wheel Wash – Construction Phase

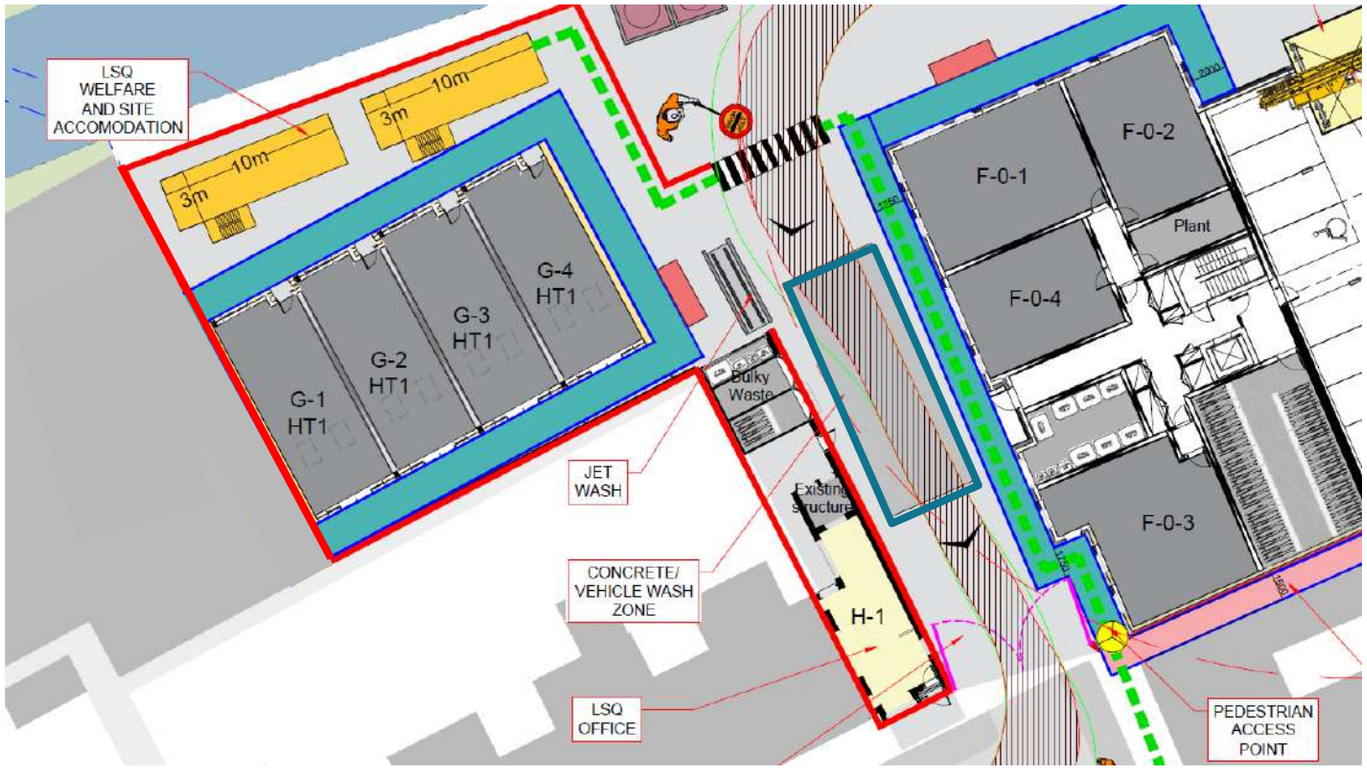


Fig H-27

Wheel Wash

During the demolition phase a wheel wash will be in full operation at 2 locations.

Edwin Road **(Fig H-25)**

Gould Road **(Fig H-26)**

For the construction phase there will be a one-way system and a concrete slab will be installed near the Gould Road exit. **(Fig H-27)**

All wheels of construction vehicles leaving site will be cleaned using a high-pressure jet wash.

Part I:

Recycling / Disposing Waste

Greggs Bakery Scheme

Recycling / Disposing Waste

Waste Disposal

A Site Waste Management Plan (SWMP) shall be produced for the project. This will be in line with BRE requirements, client/company procedures and management tool to identify and plan for the following:

- The waste streams, EWC category, and quantities (in tonnes) that will be generated by the works.
- Waste Hierarchy as stated on Waste (England and Wales) Regulation 2011
- The proposed method of storage, handling and transportation of waste.
- The means of disposal and the relevant consents and licensing conditions in compliance with statutory requirements.
- The reporting and monitoring procedures.

All redundant materials will be disposed of via an appropriately licensed waste operators and all waste transfer notes will be maintained on site or at a suitable office location and will be available for inspection at all times.

A strategy will be adopted to ensure that any surplus material will be managed so far as is reasonably practicable to maximise the environmental and development benefits from surplus material.

During demolition general waste skip will always be provided in the site compound. Additional skips for individual waste streams will also be provided to match current work activities.

These skips will include:

- Wood
- Concrete
- Cable
- Metals

Greggs Bakery Scheme

Recycling / Disposing Waste

Figure I-28 Waste Management Zone

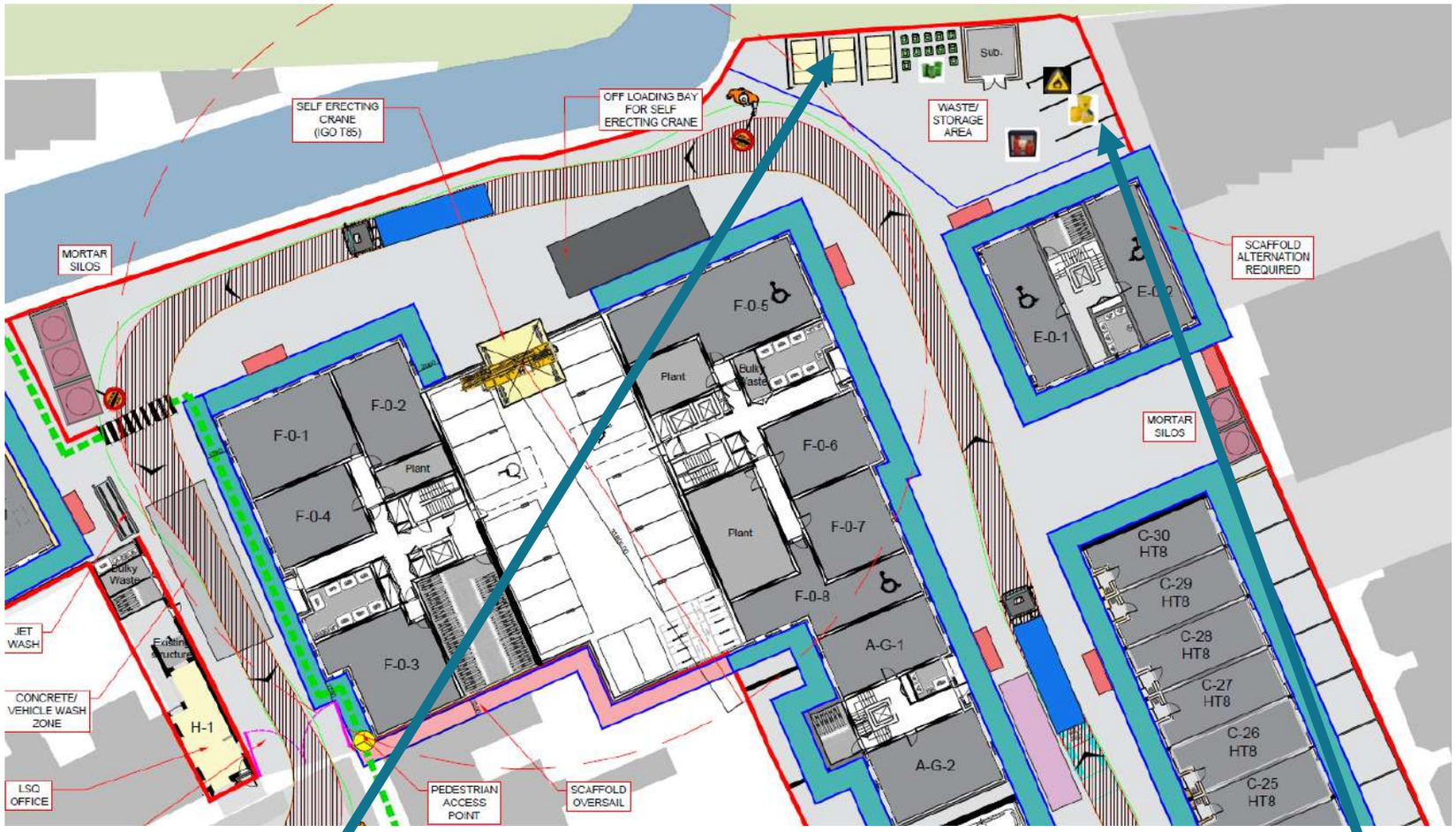


Figure I-29 Skips

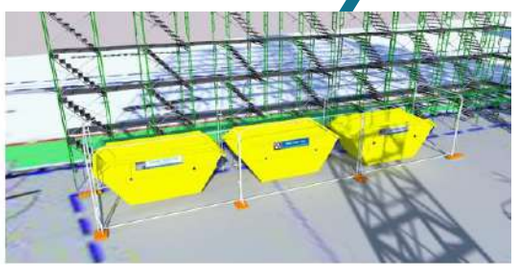
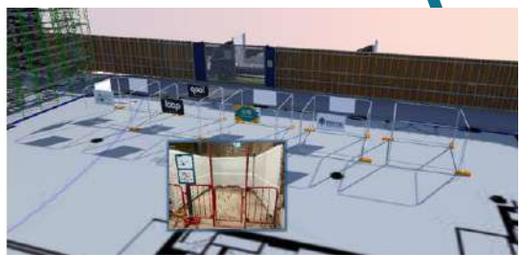


Figure I-30 Recycling Zone



Waste Strategy

Operational Process

- Keep the site tidy and control the waste regularly.
- Use containers/skips suitable for the type of waste being stored.
- Check that containers and skips are not corroded or worn out to minimise the risk of accidental spills or leaks.
- Use colour coding to mark waste containers and skips clearly with their intended contents.
- Ensure labels on containers and skips are kept in good order.
- Segregate waste before putting it into the designated containers skip.
- Locate skips away from gullies and drains.
- Always use dust suppression.

Waste Strategy Plan

- Monthly reports to be reviewed each month
- Tonnage to be cross checked against forecast
- BREEAM targets to be reviewed and targeted
- Circular Economy Schemes to be used
  - Community Wood Recycling
  - PROTEC Closed Loop
  - Recycled Crush
- Regular workshops to educate, share awareness and show case the plan/target provided to:
  - Trade Contractors
  - Site Team

Greggs Bakery Scheme

Recycling / Disposing Waste

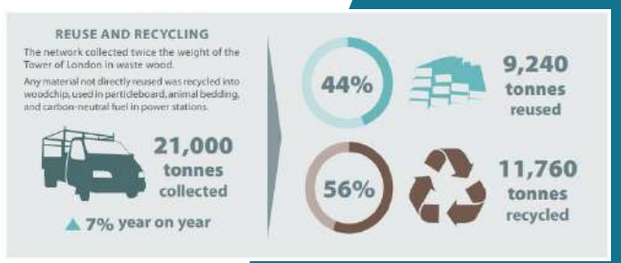
TIMBER RECYCLING

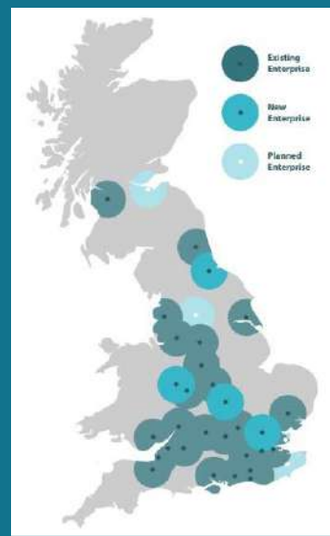
Community Wood Recycling

Pure Logistics will work with Community Wood Recycling to ensure all timber on our projects is recycled. We will ensure all timber is stored in our timber recycling area before arranging regular weekly collections

COMMUNITY WOOD RECYCLING MODEL

COMMUNITY WOOD RECYCLING NETWORK





Greggs Bakery Scheme

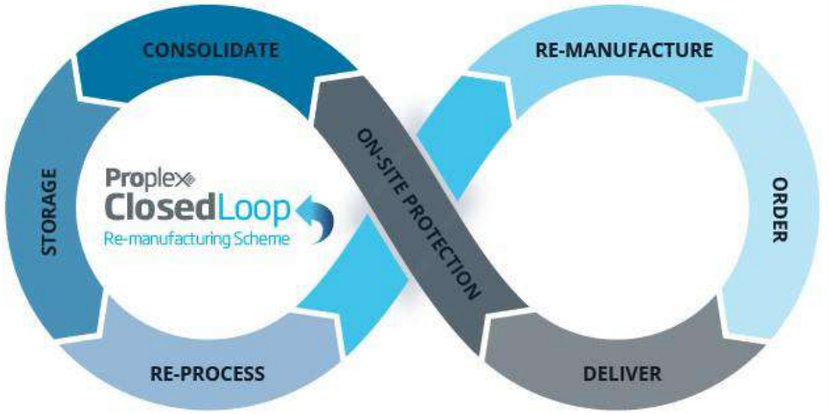
Recycling / Disposing Waste

CLOSED LOOP

PROTECTION
Correx used to protect finished areas

KEEP
All Correx offcuts are transferred to the waste recycling area

PROTEC TEMPORARY PROTECTION



COLLECTED
Correx collected by PROTEC using Closed Loop

RE-MANUFACTURE
Correx reused

Part J:

Control of Noise/Vibration and Dust

Greggs Bakery Scheme

Noise / Vibration and Dust

Dust Management

London Square will take all practicable steps to minimise the risk of air pollution. These steps include:

Erecting Hoarding, Scaffolding and Monarflex sheeting to confine the dust arisen during works. Fine water spray techniques will keep the dust to a minimum. The wheels of vehicles leaving site will be cleaned using a high-pressure jet wash.

The following mitigation measures will be considered to minimise dust and other emissions from site activities and disruption or nuisance to neighbouring occupiers:

- Maintaining solid 2.4m high hoardings (where possible).
- Use of existing buildings/walls/fences as screens as far as possible.
- Spraying water at work faces, loading operations and site access roads.
- Dampening of exposed soil and stockpiles if necessary.
- Where Possible the location of stockpiles of brick, concrete, soil, and other materials away from dusts sensitive properties, taking into account prevailing wind, if necessary.
- Erecting windbreak netting around material stockpiles and vehicle loading/unloading areas.
- Regular inspection and cleaning of local highways and site boundaries for dust deposits.
- Loading of material into lorries within designated bays/areas.
- Sheeting of lorries leaving site carrying loose deconstruction material.
- No burning of any materials on site; and
- All site personnel trained in best practice for dust control by regular Environmental Toolbox talks.
- Low Sulphur diesel lorries.
- Monitoring site perimeter.
- No engine idling of road vehicles, small plant, or generators.
- Delivery of materials and other equipment kept to a minimum.
- London Square only use plant and vehicles that are in good repair and conform to the manufacturer or legislative/British Standard emission standards. Plant maintenance and defect reports shall be held on site in designated file. Wherever possible, plant shall not be left running for long periods when not directly in use. Where appropriate electrically powered machinery and plant shall be used instead of petrol or diesel powered.
- Plant and equipment are serviced regularly to ensure good working order, all plant to comply with NRMM regulations – Stage IV emission standard. DPF filters are fitted where applicable.
- Road vehicle exhaust emissions are the main source of air pollution in the UK, and the main pollutants are nitrogen dioxide (NO2) and small particles known as PM10. Of primary relevance to construction and demolition activities is PM10, of which constructive-derived dust can contribute significantly to a worsening of local air quality conditions.
- Monitoring, recording, and reporting Monthly CO2 emission generated by site activities, waste removal and associated works by use of the PURE Delivery System.
- Dust nuisance occurs more readily during prolonged dry weather and especially in strong winds. The site management will ensure that during such weather conditions vigilance is maintained and plans are in place for dealing with these situations.

The environmental monitoring to be implemented for dust at this project has been assessed so that the following monitoring arrangement shall suffice the scope of works for Greggs Bakery.

- Real time monitoring for Dust
- Attended portable monitoring for dust where applicable.

Parameter
150ug/m3 Trigger (Amber)
190ug/m3 Action (Red)

London Square will take all practicable steps to minimise the risk of air pollution.

Greggs Bakery Scheme

Noise / Vibration and Dust

Noise/Vibration Management

London Square will use noise mitigation measures at this project, to ensure the minimum adverse impact on the residential dwellings, business, and leisure facilities around areas of work. These measures will include considerate positioning of plant and the use of silencers on generators where practicable.

London Square will use BPM to minimise Noise and vibration from the works including:

- Stationary plant such as temporary generators will be located as far as practicably away from the nearest sensitive receptor.
- Plant will be used in accordance with the manufacturers' recommendations.
- Plant such as mobile cranes which may be used intermittently will be shut down between work periods or throttled down to a minimum.
- Acoustic covers to engines will be kept closed when engines are in use.
- Appropriate screens or enclosures will be provided where required.
- Breaking and other noisy operations will be monitored to ensure compliance with site conditions.
- Site personnel will be instructed in environmental matters and BPM to reduce noise and vibration.
- They will be informed in the site induction into the surrounding environment.
- Pulverisers will be used when practicable (in lieu of pneumatic hammers).
- Loading of material into vehicles within designated bays only.
- Sensitive location of drop zones and loading areas.
- All deliveries to be scheduled to occur during daytime hours only and engines to be switched off when waiting. (No Vehicle Idling)
- All plant to comply with relevant national or international standards, directives and recommendations including NRMM.

London Square actively instigates and invests in the use of newest and quietest machines and plans on-site best location for static plant and equipment to minimise noise, dust, and vibration.

We aim to meet at regular intervals with the client and Local Authority Environmental Health Officers to discuss works progress and any noise or dust nuisance.

Whenever it is anticipated that noise and vibration levels resulting from work activities will be excessive, notification to these parties will be made.

It has been assessed that the following monitoring arrangement shall suffice the scope of works for Greggs Bakery

- Real time continuous monitoring for noise, dust & vibration for demo phase ONLY
- Real time monitoring for dust for construction phase
- Attended portable monitoring for noise & vibrations if required
- External or internal monitoring

For Noise London Square will undertake continuous monitoring with position agreed by the Environmental Protection Team during the demolition phase to ensure compliance with following limits;

Parameter
75db(A)Leq Trigger (Amber)
80db(A)Leq Action (Red)

Noise Level
Short Term 75db(A)Leq,15 min 80db(A)Leq 15 min
8am to 6pm 70db(A)Leq,10 hr 75db(A)Leq 10 hr

London Square actively communicates with neighbours in writing, in particular to households, regarding the work taking place when noise levels are expected to be significant, as it may be the case on this project from time to time.

Upon request a copy of letters can be sent to the appropriate Local Authority and Environmental Health Officers and will be available for inspection.

A baseline monitoring for (Noise, Dust and Vibration) was carried out on the surrounding site elevation on prior to commencement of works on site which is detailed on page 40. Further monitoring will commence as agreed and instructed by client /and/or the principal contractor at this project.

London Square has provisionally pinpointed monitoring receptor points.

Vibration
For Vibration the following limits have been set:

- 1mm/s PPV at occupied residential buildings
- 3mm/s PPV at occupied commercial premises where work is not of an especially sensitive vibration sensitive nature

Figure J-31 Monitor Locations

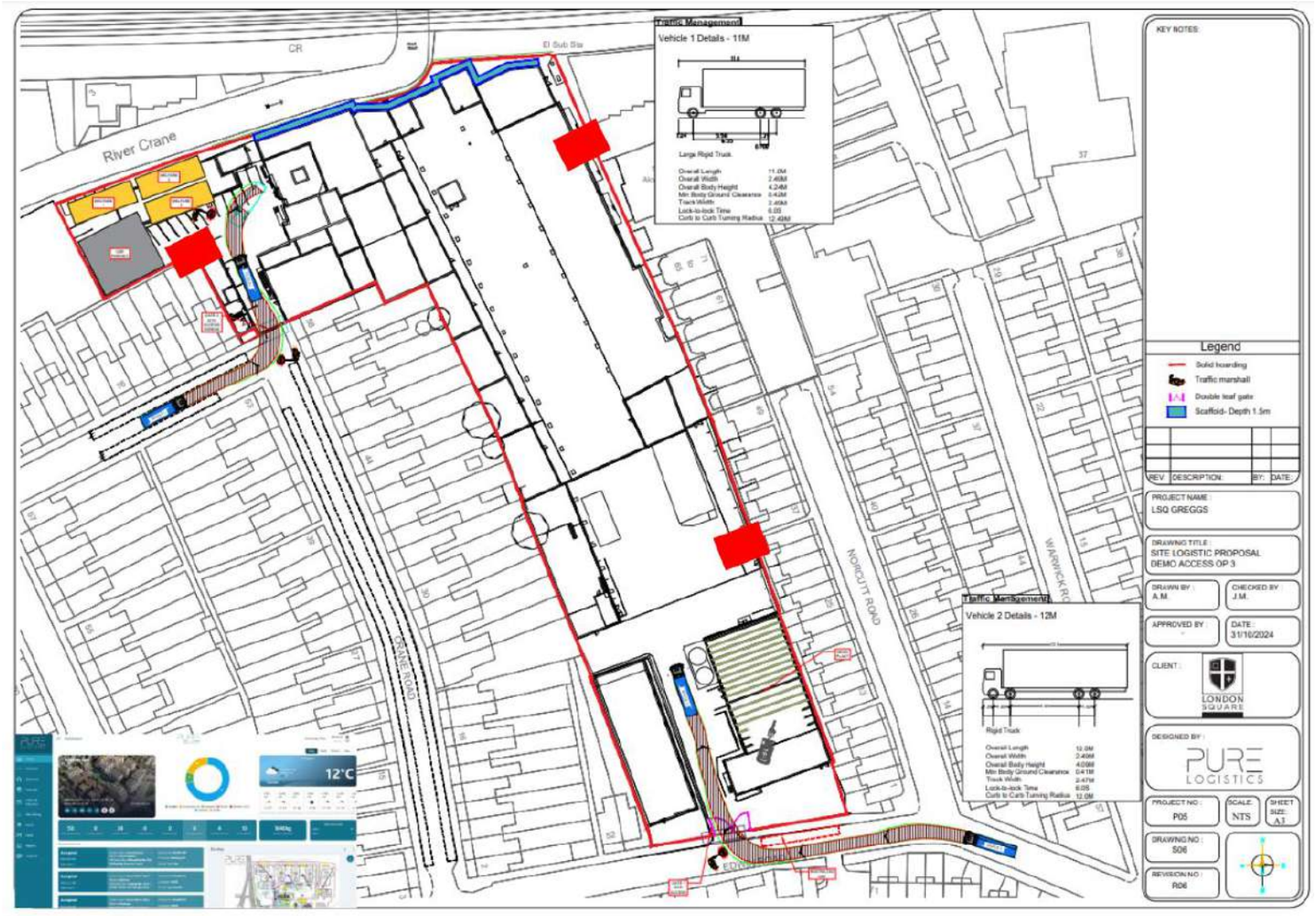


Fig J-31

Monitoring Strategy

A monitoring strategy has been put in place to record data at agreed intervals (e.g. hourly) throughout each day of the monitoring period.

The decision taken for the locations of the fixed monitoring equipment was made based on the proximity of demolition works to the most affected noise sensitive receptors (NSRs), those being the residents on the corner of Gould Road and Crane Road, and those closest to the site boundary on Norcutt Road. An additional monitor was recommended for mobile setup to be moved during the various stages of demolition to be located in the optimum position at the most affected NSRs in relation to the areas on-site where demolition works were to be carried out at any given time. Initially these would be the resident who's rear façade is closest to the site boundary and thus demolition works, these being the residents further down Norcutt Road around No.37.

Fig J-31 shows the initial survey proposed locations carried out by Socotec.

In addition, the sensors will immediately and automatically report any value that exceeds a defined trigger level.

- Baseline monitoring survey has been carried out on the site boundary upon purchase completion.
- The planned locations have been reviewed and confirmed. Regular review of these will take place.
- All monitors are installed and commissioned.
- The monitor systems will record real time monitoring for noise, dust and vibration.
- Attended portable monitoring for noise and vibrations will be carried out when required.
- External or internal monitoring for resources and plant.
- Our environmental specialist has recommended the strategic location timelines to maximise the monitors in different parts of the development phase

Baseline Assessment (see appendix iii)

A pre-construction baseline noise assessment was made in the area using the fixed and mobile monitors with the combined results showing ambient noise levels averaged to 53dB(A) Leq,T over a 3 hour measurements period that was considered representative of ambient noise levels in the urban area.

Demolition and construction noise threshold levels were determined based on the baseline assessment made and with guidance from 'BS 5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' ABC method of determining the potential of significant effect at dwellings when the site noise level, rounded to the nearest decibel, exceeded the listed value.

Due to the site noise likely exceeding 65dB LAeq,T and lower ambient noise levels, Category A, of the ABC method, was deemed to be the appropriate value to set the initial threshold limit at. Due to the nature of the urban area a period of 5 minutes threshold exceedance was also initially suggested with a 3dB difference between an Amber and Red alerts, based on the low ambient noise levels measured during the baseline assessment and the density and proximity to NSRs in this urban area.

Vibration threshold levels were selected with guidance from 'BS 5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration' for transient vibration guide values for cosmetic damage of an unreinforced or light framed structure / residential or light commercial building; theses being a limit (Red alert) at 15mm/s ppv and an Amber alter at 10mm/s ppv.

With continuous vibration monitoring required for the entirety of the demolition phase and locations for monitoring and methodology including reporting agreed by the Environmental Protection Team prior to commencement of demolition.

Although construction hours are allowed from 7am – 7pm weekdays and 7am – 1:30pm Saturdays no noisy works will take place from 7am-8am and 6pm-7pm.

This will mean a restriction on the use of power tools, heavy machinery and all other noisy works.

The limits for both noise and vibration set by the EHO noted on page 38 will be adhered to at all times.

Code of Practice

In all aspects the assessment for Dust, Noise and Vibration has been built around the Best Practice detailed within BS5288:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites;

Code of Practice.pdf

London Square adhere to this to ensure that disturbances due to noise, vibration, dust, smoke and pollutants are kept to an acceptable level.

The code highlights best practice for emission controls and will be followed for the duration of the construction build.

Best practicable

(1) This section shall apply for the construction of references in this Part of this Act to best practicable means.

(2) In that expression "practicable" means reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications.

(3) The means to be employed include the design, installation, maintenance and manner and periods of operation of plant and machinery, and the design, construction and maintenance of buildings and acoustic structures.

(4) The test of best practicable means is to apply only so far as compatible with any duty imposed by law, and in particular is to apply to statutory undertakers only so far as compatible with the duties imposed on them in their capacity of statutory undertakers.

(5) The said test is to apply only so far as compatible with safety and safe working conditions, and with the exigencies of any emergency or unforeseeable circumstances.

(6) Subject to the preceding provisions of this section, regard shall be had, in construing references to "best practicable means", to any relevant provision of a code of practice approved under the preceding section

Part K:

Highway Licences for Construction Traffic

Greggs Bakery Scheme

Highway Licences for Construction Traffic

Figure K-32 Plot 17 Traffic Management Plan

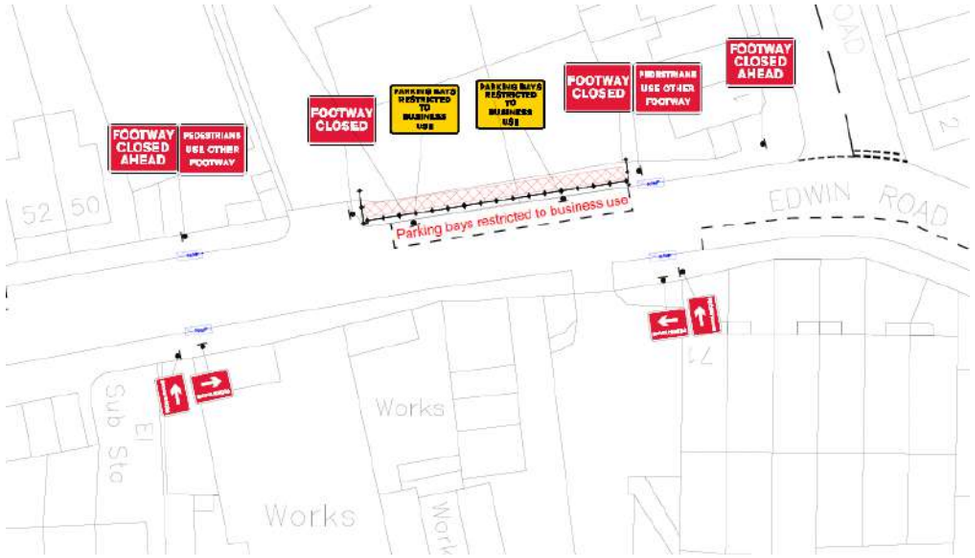


Fig K-32

Figure K-33 Plot 17 Hoarding Requirement

Highway Licences

1) Footpath Closure (Edwin Road) – **Part F**
2) Hoarding License (Edwin Road) – **Part F**
3) Change parking use on Edwin Road to "Business Use Only"

3) <u>Change parking use on Edwin Road to "Business Use Only"</u>

From discussions with the local automotive business (Turner Automotive) directly opposite on Edwin Road and to minimise local disruption, they have advised they have several parking permits and would like to keep these bays operational to reduce any impact to their trading from our construction works and that this would be beneficial with the bays being changed to "Business Use Only". They also confirmed they are happy with restricted access with the hoarding as they only use the driver's door to access/egress vehicles.

As an experienced developer and being part of the Considerate Constructors Scheme, we always strive to listen to community feedback and concerns and assist where possible to minimise the impact of our development works. We would like to promote and work with the local businesses especially the ones directly opposite whom will be our neighbour for the duration of the development works.

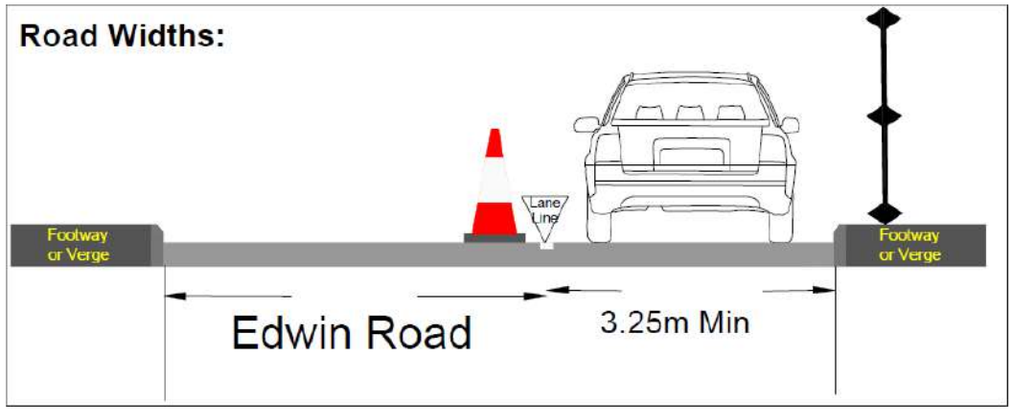


Fig K-34

Greggs Bakery Scheme

Highway Licences for Construction Traffic

AIP

In pre-submission discussions with Richmond Council, it was concluded that no AIP was required in relation to the section of footpath on Edwin Road that directly abuts Plot 17 **(Fig K34b)**.

The footpath will be reinstated under the S106 obligations under a S278 agreement.

Vehicular Crossover

Noted as detailed informative (U009119) it has been concluded that no vehicular crossovers works are required to the development site.

This is due to the site having two existing entrances/exits, vehicular crossovers, that were used for HGV access **(Fig K-34c/d)**.

Therefore, these are substantial enough for the construction works of the development.

Figure K-34b Plot 17 Footpath

Fig K-34b

Figure K-34c Gould Rd

Fig K-34c

Figure K-34d Edwin Rd

Fig K-34d

Part L:

Construction Phasing

Greggs Bakery Scheme

Construction Phasing

Overview

The development has a number of challenges similar to the majority of residential development sites. Planned measures to help mitigate any potential conflicts or challenges are presented in **Part A** of this CMS. **Table 2-1** details the anticipated construction phases key issues and proposed responses to counter these.

Table 2-1: Construction Phases Key Issues

Challenges	Response
Improving road safety for vulnerable road users	The Gould Road/Edwin Road experiences a medium volume of pedestrian traffic due to the nature of its location and proximity to Twickenham Station. As part of the permanent scheme, a kerb build-out at the Gould Road/Edwin Road junction will be introduced to reduce crossing distances and improve the safety of road users.
Managing the peaks on demolition and construction	A 'Just-In-Time' (JIT) procedure will be in operation to discourage vehicles arriving at the same time. This procedure will require that vehicles arriving at the site are confirmed with the site management before they are accepted for loading or unloading. There will be no waiting and stacking of vehicles on borough roads unless otherwise agreed with by LBRuT and the developer will ensure that knowledge of this restriction is communicated to any other firm supplying or removal material from the site by road.
Safe Coordination of Vehicles	The PURE Delivery System will be in place from the beginning of the project to ensure all deliveries are planned/booked 24 hours in advance so that they can be coordinated/managed safely. This will reduce any impact on the local residents. This system has live tracking allowing for advanced control/management with a dedicated Logistics Manager to control the decision-making process.
Public Relations	There will be on-site management with the site manager, acting as the key point of contact with the local community. A key aspect of the successful management of this project will be establishing and maintaining a good relationship with all surrounding neighbours. The CLP has prepared a strategy for preventing potential issues related to construction traffic and the movement of goods and supplies to/from the site and this is touched on in the CMS. However, any difficulties encountered during construction will be reported/recorded in a full log and resolved as soon as possible.
Minimising impacts of construction on residents	The construction traffic supply route is described in **Part A** of this report and the routes have been identified in order that construction traffic, as far as possible, avoids sensitive residential areas and streets with significant or sensitive trip generators such as schools. Trafalgar Infants School and Brights Horizons is located on Meadway, that will be used as the primary access / egress route to the site. As part of the detailed CLP, it is envisaged that the London Square will liaise with the school to confirm start / finishing times, with a view to minimising any construction traffic during those times.
Identification and use of viable construction consolidation sites	The detailed CEMP and CMS will be used to manage routing and arrival profile of construction vehicles to minimise disruption to the surrounding area. The contractor does not envisage needing consolidation but will seek to identify viable opportunity for construction consolidation sites (such as Coyle's in Greenford), if appropriate.
Safe movement of vehicles	Swept path assessments have been undertaken to confirm the largest construction vehicle (Rigid) anticipated can safely access the site. Furthermore, qualified banksmen will be utilised to ensure the safe passage of pedestrians, cyclists and any other vulnerable road users when deliveries are expected. The traffic marshals will receive additional training for SATM (CLOCS) and Elite Marshal Training (TfL and CCS Best Practice)

Construction Phasing

*(*dates subject to change based on start date from discharge of pre-commencement conditions*)*

The project is expected to be completed in two phases, summarised below:

- **Phase 1** - Demolition. This will include:
  - **1A** – October 24 – November 2024
  - **1B** – November 24 – December 2024
  - **1C** – December 24 – January 2025
  - **1D** – January 25

- **Phase 2** - Construction. This will include:
  - **2A** – Jan 25 – June 25
  - **2B** – Feb 25 – June 26
  - **2C** – Apr 25 – Dec 26
  - **2D** – Mar 26 – Dec 26
  - **2E** – Dec 26 – Feb 27

It is also important to note that the Outline CLP will be a live document, to reflect the fact that live site environments are subject to change.

(See Appendix iiii)

Figure L-35-38 Demolition – Phase 1

Figure L-35: Demolition Phase 1A

Figure L-36: Demolition Phase 1B

Figure L-37: Demolition Phase 1C

Figure L-38: Demolition Phase 1D

Greggs Bakery Scheme

Construction Phasing

Construction Phasing

*(*dates subject to change based on start date from discharge of pre-commencement conditions*)*

The project is expected to be completed in two phases, summarised below:

- **Phase 1** - Demolition. This will include:
  - **1A** – October 24 – November 2024
  - **1B** – November 24 – December 2024
  - **1C** – December 24 – January 2025
  - **1D** – January 25
- **Phase 2** - Construction. This will include:
  - **2A** – Jan 25 – June 25
  - **2B** – Feb 25 – June 26
  - **2C** – Apr 25 – Dec 26
  - **2D** – Mar 26 – Dec 26
  - **2E** – Dec 26 – Feb 27

Figure L-39-43 Construction – Phase 2

Figure L-39: Construction Phase 2A

Figure L-40: Construction Phase 2B

Figure L-41: Construction Phase 2C

Figure L-42: Construction Phase 2D

Figure L-43: Construction Phase 2E

Greggs Bakery Scheme

Construction Phasing

Occupational Phasing

*(*dates subject to change based on start date from discharge of pre-commencement conditions*)*

The occupational handover will be carried out in 9 phases summarised below:

- **OP** - Handover. This will include:
  - **Phase 1**
  - **Phase 2**
  - **Phase 3**
  - **Phase 4**
  - **Phase 5**
  - **Phase 6**
  - **Phase 7**
  - **Phase 8**
  - **Phase 9**

Figure L-44: Occupation Phase 1

Figure L-45: Occupational Phase 2

Figure L-46: Occupation Phase 3

Figure L-47: Occupation Phase 4

Figure L-48: Occupation Phase 5

Greggs Bakery Scheme

Construction Phasing

Occupational Phasing

*(*dates subject to change based on start date from discharge of pre-commencement conditions*)*

The occupational handover will be carried out in 9 phases summarised below:

- **OP** - Handover. This will include:
  - **Phase 1**
  - **Phase 2**
  - **Phase 3**
  - **Phase 4**
  - **Phase 5**
  - **Phase 6**
  - **Phase 7**
  - **Phase 8**
  - **Phase 9**

Safe occupational handover will be sectionally managed with access control being managed by segregated barriers with vision panels and a trained traffic management team who will ensure that all residential access is prioritized.

The planned phasing allows for London Square to work there way out of the development finishing with the last sections towards Gould Road.

Figure L-49: Occupation Phase 6

Figure L-50: Occupation Phase 7

Figure L-51: Occupation Phase 8

Figure L-51: Occupation Phase 9

Part **M**:

Arboricultural Method Statement

Full Arboricultural Report

See Appendix i

TREES FOR REMOVAL		
Category and Definition	**Criteria**	**Identification on Plan**
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).	DARK RED
	Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.	
	Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low-quality trees suppressing adjacent trees of better quality. (**NOTE**: Category U trees can have existing or potential conservation value which it might be desirable to preserve)	

TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	**Criteria - Subcategories**			**Identification on Plan**
	Mainly Arboricultural Values	Mainly Landscape Values	Mainly Cultural Values, including Conservation	
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN

TREES TO BE CONSIDERED FOR RETENTION				
Category B ***Trees of moderate quality*** *with an estimated remaining life expectancy of at least 20 years*	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural benefits.	MID BLUE
Category C ***Trees of low quality*** *with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm*	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or temporary/transient landscape benefit.	Trees with no material conservation or other cultural value.	GREY

Figure M-52: Tree Constraints Plan

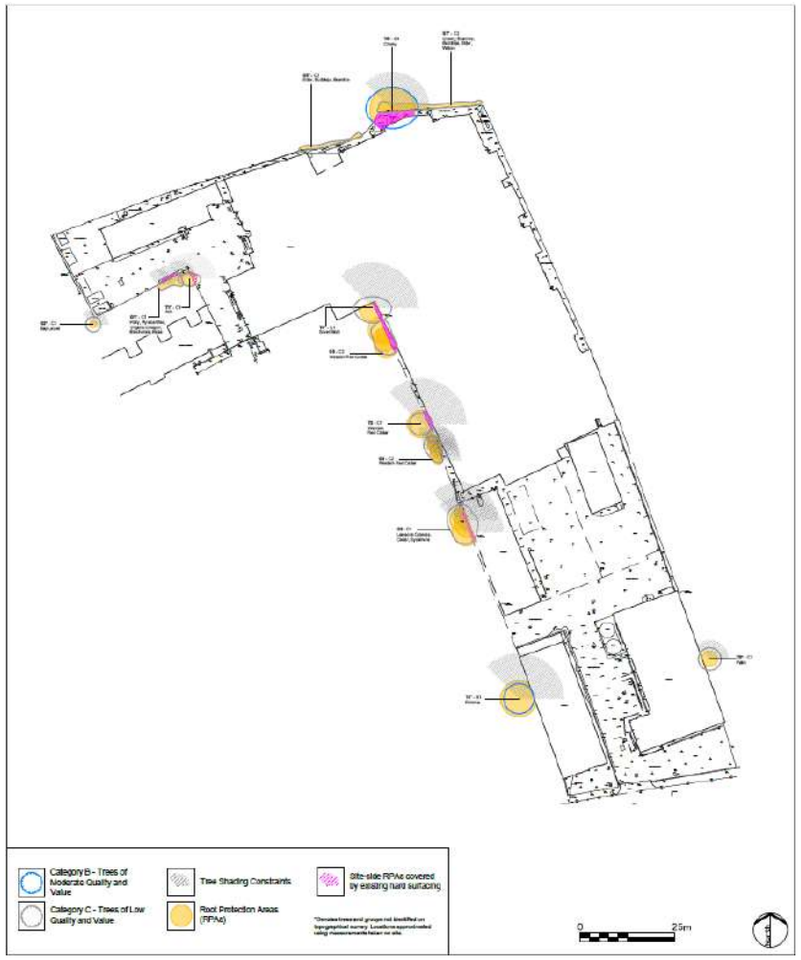


Figure M-53: Tree Protection Plan

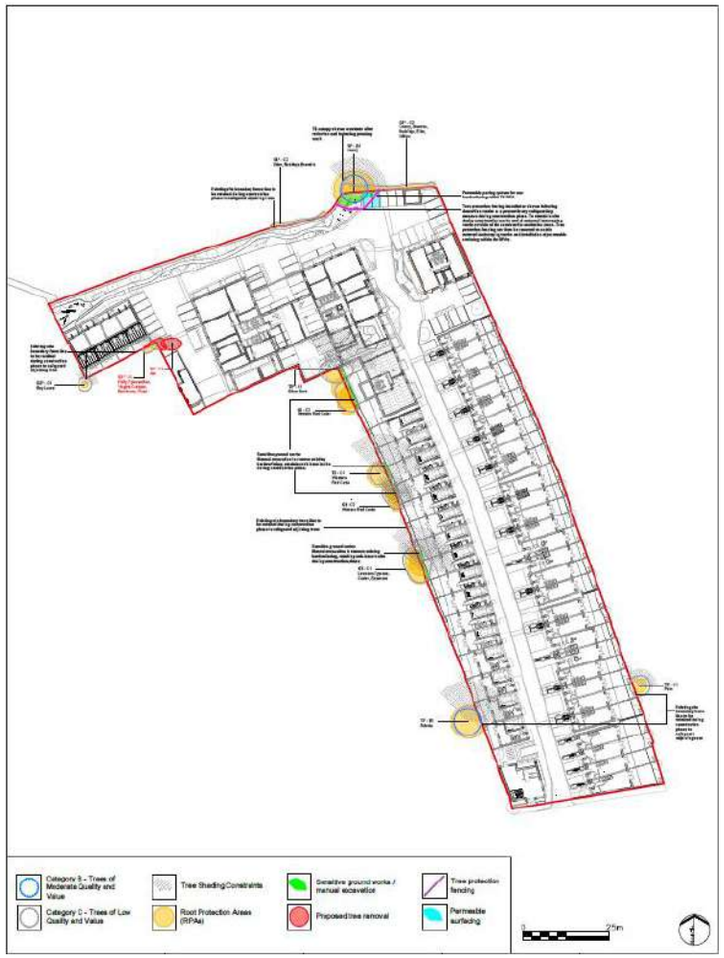


Figure M-54: Tree Survey Schedule

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m) N	E	S	W	Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Notes	RPA Radius (m)	Root Protection Area (m2)
G3	Lawsons Cypress, Cedar, Sycamore	10 - 12m	to 280	2.00	2.00	2.00	2.00	0.00	Young to Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 4no specimens, bases obscured. Garden trees, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 3.36m**	_
G4	Western Red Cedar	4 - 6m	to 140	2.00	2.00	2.00	2.00	3.00	Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 8no specimens, bases obscured. Garden trees, topped with canopy deadwood across lower canopies. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 1.68m**	_
G5	Western Red Cedar	10 - 12m	to 280	2.00	2.00	2.00	2.00	5.00	Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 5no specimens, bases obscured. Garden trees, with canopy deadwood across lower canopies. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 3.36m**	_
G6	Elder, Buddleja, Bramble	4 - 6m	50 - 75	0.50	0.50	0.50	0.50	0.00	Young	Fair	Fair	C2	Self-set trees and brambles beyond northern site boundary. Limited age. Unmanaged.	**0.9m**	_
G7	Cherry, Bramble, Buddleja, Elder, Willow	4 - 6m	50 - 75	1.00	1.00	1.00	1.00	0.00	Young	Fair	Fair	C2	Self-set trees and brambles beyond northern site boundary. Limited age. Unmanaged.	**0.9m**	_

Figure M-55: Tree Survey Schedule

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Notes	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
T1	Ash	7m	est. 120+100	1.50	3.00	2.00	3.00	3.00	Early Mature	Good	Good	C1	Stem and base obscured. Garden tree, bifurated with dense middle to upper canopy. Lifted over Greggs entrance. Hard-surfacing across Greggs side RPA. Growing behind brick boundary wall.	**1.9m**	11
T2	Western Red Cedar	13m	est. 300	3.00	3.00	3.00	3.00	4.00	Early Mature	Fair	Fair	C1	Off-site beyond western site boundary. Stem and base obscured. Garden tree, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**3.6m**	41
T3	Silver Birch	12m	est. 300	3.00	5.00	4.00	5.00	4.00	Mature	Good	Fair	C1	Off-site beyond western site boundary. Stem and base obscured. Garden tree, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site buildings to north and west of stem. Growing behind concrete boundary wall.	**3.6m**	41
T4	Robinia	12m	est. 400	4.00	4.00	4.00	4.00	1.00	Mature	Good	Good	B.1	Off-site garden tree beyond western site boundary, viewed from afar. Appears in sound health with dense and rounded crown.	**4.8m**	72
T5	Palm	5m	est. 5x75	3.00	3.00	3.00	3.00	0.00	Early Mature	Good	Good	C1	Ornamental garden planting beyond eastern site boundary. No significant issues observed.	**2m**	13
T6	Cherry	10m	est. 500	7.00	8.00	6.00	8.00	2.50	Fully Mature	Good	Fair	B.1	Off-site beyond northern site boundary security fencing. Stem and base obscured. Forked at 2.5m. Lifted over site-side, growing over on-site building. Hard-surfacing across site-side RPA.	**6m**	113
G1	Holly, Pyracanthra, Virginia Creeper, Berchemia, Rose	2 - 4m	est. 50 - 75	0.50	0.50	0.50	0.50	0.00	Young to Early Mature	Good	Fair	C2	Off-site. Bases obscured. Ornamental shrubs and garden trees, lifted over site-side. Hard-surfacing across site-side RPA. Growing behind brick boundary wall.	**0.9m**	_
G2	Bay Laurel	2 - 4m	est. 50 - 75	0.50	0.50	0.50	0.50	0.00	Young to Early Mature	Good	Good	C2	Off-site garden trees beyond north western site boundary, viewed from afar. Appears in sound health with dense and rounded crowns.	**0.9m**	_

Part N:

Construction Programme

Figure N-56: Construction Programme (*dates subject to change based on start date from discharge of pre-commencement conditions*)

Name	Duration	Start	Notes	Finish
Demo	15w	04/03/2024		21/06/2024
T1	1w	04/03/2024		08/03/2024
T2	7w	11/03/2024		30/04/2024
C1	7w	01/05/2024		20/06/2024
HOUSES	94w 1d	06/01/2025		23/11/2026
BLOCK B COMMERCIAL UNIT (Sales & Marketing)	36w 3d	06/01/2025	This will be Sales	24/09/2025
WEST TERRACE Blk D - Houses No.1-4	58w 1d	20/01/2025		23/03/2026
WEST TERRACE Blk D - Houses No.5-8	55w 1d	10/02/2025		23/03/2026
WEST TERRACE Blk D - Houses No.9-12	55w 1d	03/03/2025		06/04/2026
WEST TERRACE Blk D - Houses No.9-12	55w 1d	03/03/2025		06/04/2026
WEST TERRACE Blk D - Houses No.13-16	62w	24/03/2025		16/06/2026
EAST TERRACE Blk C - Houses No.1-4 [Front block]	53w 3d	20/01/2025		09/02/2026
EAST TERRACE Blk C - Houses No.5-8	56w 3d	10/02/2025		23/03/2026
EAST TERRACE Blk C - Houses No.9-12	55w 1d	03/03/2025		06/04/2026
EAST TERRACE Blk C - Houses No.13-16	55w 1d	24/03/2025		27/04/2026
EAST TERRACE Blk C - Houses No.17-20	55w 1d	14/04/2025		19/05/2026
EAST TERRACE Blk C - Houses No.21-23	54w	08/05/2025		03/06/2026
EAST TERRACE Blk C - Houses No.24-26	54w 3d	27/05/2025		24/06/2026
EAST TERRACE Blk C - Houses No.27-30	55w 1d	12/06/2025		14/07/2026
BLOCK G [4 units - House Type 8]	50w 2d	14/11/2025	~170m2 Build early an use as site offices	23/11/2026
BLOCK H - [1 unit]	34w	17/02/2025	This will be Sales	17/10/2025
PUBLIC REALM	21w 2d	28/10/2025		10/04/2026
HANDOVERS	68w 1d	26/02/2025		15/07/2026
APARTMENTS	83w 4d	14/04/2025		18/12/2026
BLOCK A [6 units]	73w 4d	14/04/2025	~250m2	08/10/2026
BLOCK F [53 units]	83w 4d	14/04/2025	~850m2	17/12/2026
HANDOVERS	77w 4d	30/05/2025		18/12/2026

Construction Target Programme

Demo – 15-week stage

Houses – 94-week stage

Apartments – 83-week stage

Total target programme – 120 weeks

Emergency Contacts

<u>24-hour emergency contact numbers</u>

Key Contact List

1) Peter Holmes – 07816 077 259
2) Piotr Wojda – 07858 237 127
3) Logistics Manager - TBC

Part O:

TfL Guidance

Figure O-57: Impact Schedule

Planned Measures	Committed	Proposed	Considered
Measures Influencing Construction Vehicles & Deliveries			
Safety & Environmental Standards & Programmes	✓		
Adherence to Designated Routes	✓		
Delivery Scheduling	✓		
Re-timing for Out-of-Peak Deliveries		✓	
Re-timing for Out-of-Hours Deliveries		✓	
Use of Holding Areas & Vehicle Call-off Areas			✓
Use of Logistics / Consolidation Centers			✓
Split Delivery Vehicle Sizes			✓
Measures to Encourage Sustainable Freight			
Use of Electric Vehicles			✓
Material Procurement Measures			
DfMA & Off-site Manufacturing			✓
Re-use of Material on Site			✓
Smart Procurement		✓	
Other Measures			
Collaboration Amongst Other Sites in the Area			✓
Implementation of a Staff Travel Plan			✓

Measures influencing construction vehicles & deliveries

Safety & Environment Standards & Programmes

A collision reporting system will be mandated to ensure all collisions and accidents involving the projects' vehicle and drivers are reported to the project management team and any relevant parties. The 'FORS Manager' reporting tool will be used; www.fors-online.org.uk.

The site will be registered with the 'Considerate Constructors Scheme'. This is a national initiative through which construction sites and companies registered with the scheme are monitored against a code of considerate practice, designed to encourage best practice beyond statutory requirements.

The procurement process for contractors will take into account a commitment to be safer, more efficient and more environmentally friendly by contacting operators registered with a best practice scheme, such as FORS, and Construction Logistics and Cyclist Safety (CLOCS) Champions.

Adherence to Designated Routes

Details of routes to be used for journeys to and from the site are provided in **Part A**. The routes to / from the Transport for London Road Network (TLRN) and Strategic Road Network are specified. These access routes have been reviewed with respect to potential impacts, conflicts and hazards.

A copy of the route plan will be given to all suppliers when orders are placed to ensure drivers are fully briefed on the required route to take. The supplier will be made aware that these routes are required to be followed at all times unless agreed or alternate diversions are in place.

Delivery Scheduling

An in-house delivery management system will be used to control the volume of deliveries to site. This system will work by defining the number of 'resources' a site has and thus can service in 30-minute intervals. It then limits the number of delivery bookings per half-hour to this defined capacity.

Sub-contractors and haulers must be booked in a minimum of 24-hours in advance in order to allow the request to be reviewed and subsequently approved / declined. The system can be accessed by completing a new user application form and submitting it, countersigned by the supplier relationship manager or package manager to the delivery manager.

KPIs will be proposed to indicate that; zero unplanned vehicles, zero non-compliant vehicles and zero instances of project-related vehicles involved in a collision, arrive at site.

Re-timing for Out-of-Peak Deliveries

The following working hours will be adhered to for the proposed redevelopment:

- 0800 - 1800 hrs (Monday to Friday);
- 0800 - 1300 hrs (Saturday); and
- No Sunday, Bank or Public Holiday working unless by prior approval for specific works.

Should construction work outside of these hours be required, the contractor will make an application to the RBG for prior consent for works through Section 61 of the Control of Pollution Act 1974.

Re-timing for Out-of-Hours Deliveries

Re-timing deliveries to occur out of hours will be considered further by the developer and appointed contractor, who will commit to deliveries at these times where possible.

Use of Holding Areas, Vehicle Call-off Areas and Materials Storage

Specific method statements will be developed throughout the various stages of the contract to control the delivery, storage and handling of materials. The construction approach seeks to minimise the need for any holding areas that will be assisted by the JIT procedures mentioned within this report. This will be discussed further in the detailed CLP.

It is envisaged that materials will be offloaded and where possible distributed to the place where they are needed for incorporation into the permanent works. This will be done on a JIT basis.

Measures influencing construction vehicles & deliveries – Cont'd

Use of Holding Areas, Vehicle Call-off Areas and Materials Storage

All materials will be stored in an appropriate environment with any containers of liquid stored in a bunded area to prevent accidental spills. All materials will be stored in a safe and appropriate condition, i.e. plaster board will be covered to prevent moisture damage and bricks safely stacked and no higher than two pallets high.

The contractors will make adequate provision to avoid accumulation of bulk materials on the site to prevent inconvenience or disruption and to eliminate the risk of fire, and dust. The contractors will also ensure the site is left in a clean and tidy manner both during and outside working hours. Roads and access ways will be kept clean.

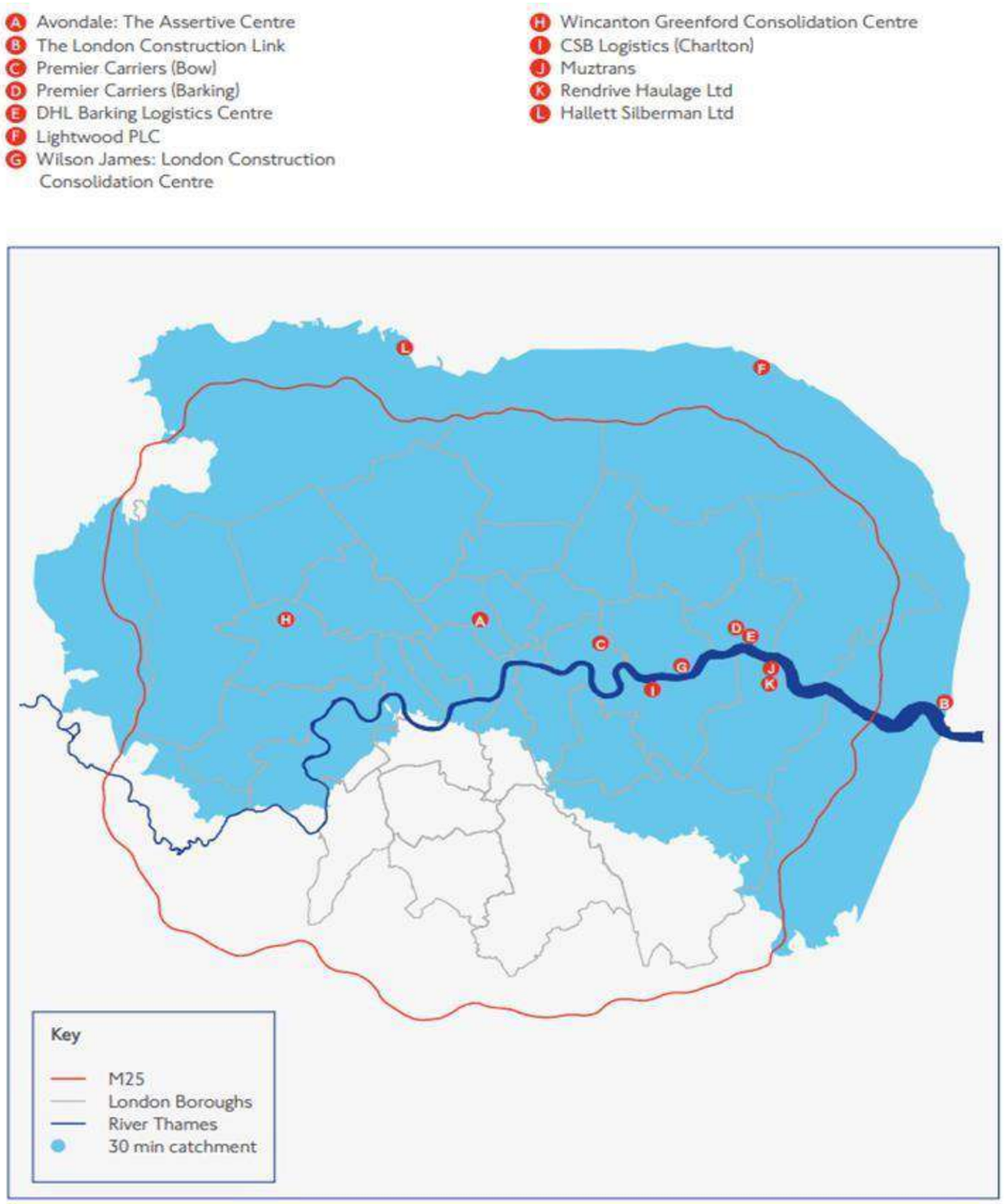
At no time will materials be stored or left unattended outside of the site boundary.

Use of Logistics / Consolidation Centers

It is considered that the number of materials to be delivered, and thus the number of vehicle trips, will mean that it is not envisaged that the use of a logistics or consolidation centre will be required. However, it is noted that the site is in close proximity to the Coyle's Haulage, located approximately 9km to the North.

The use of this will be investigated further and any future use of this facility will be detailed in the full CLP.

Figure O-58: Other Construction Consolidation Centre Coverage Across London



Greggs Bakery Scheme

Strategy to Reduce Impact

Measures to Encourage Sustainable Freight

Use of Electric Vehicles

The use of electric freight vehicles will be encouraged for deliveries to the site. The appointed contractor will work with sub-contractors, suppliers, and haulage / transport suppliers to encourage the use of electric vehicles for freight delivery where possible.

Material Procurement Measures

Design for Manufacture and Assembly and Off-site Manufacturing

Reducing delivery numbers and effective delivery management is a core value of this development. Therefore, the option of off-site construction will be discussed by the contractor in the detailed CLP, where appropriate.

Re-use of Material On-site

Given the existing use and nature of the development, the re-use of materials on site has been considered applicable for this site.

Smart Procurement

The project management team will explore suppliers in the procurement stage that use more environmentally friendly modes of transport (e.g. electric vehicles) to deliver freight, as well as sourcing local suppliers to contribute to the local economy.

Exploration of opportunities to source materials from the same suppliers as other developers with sites nearby will also be explored.

Public Relations

There will be on-site management with the site manager acting as the key point of contact with the local community 'a Resident Liaison Officer' who will be responsible for ensuring appropriate communication and to ensure the distribution of information to the local community and Local Planning Authority relating to relevant aspects of construction and to ensure appropriate arrangements should be made for monitoring and responding to complaints relating to demolition and construction.

The site liaison officer will be required to have a broad knowledge to the background of the scheme and a thorough appreciation of the works that are being undertaken. Additionally, the site liaison officer will have an understanding of the role of the employer.

It is envisaged the primary duties of the site liaison officer will be as follows:

- To answer general questions or provide general information only about the scheme to members of the public.
- To proactively liaise with the residents or people that will be directly affected by the work.
- Recording problems, complaints and / or comments made by residents and working with the supervisor and / or project manager to resolve or deal with the matter; and
- To supply information relating to progress to date, forthcoming works and any other relevant information or photographs to the employer for incorporation into reports to residents and to assist in delivering the report.

Other Measures

Collaboration Amongst Other Sites in the Area

The project management team / contractors will consult with the LBRuT, TfL, and other contractors / developers in the area to minimise disruption, where possible.

Implementation of a Staff Travel Plan

There will be no on-site parking provided for construction worker's vehicles. Restrictions are also in-place to prevent on-street parking on roads surrounding the site. As there are excellent transport links nearby, travel by public transport will be strongly encouraged.

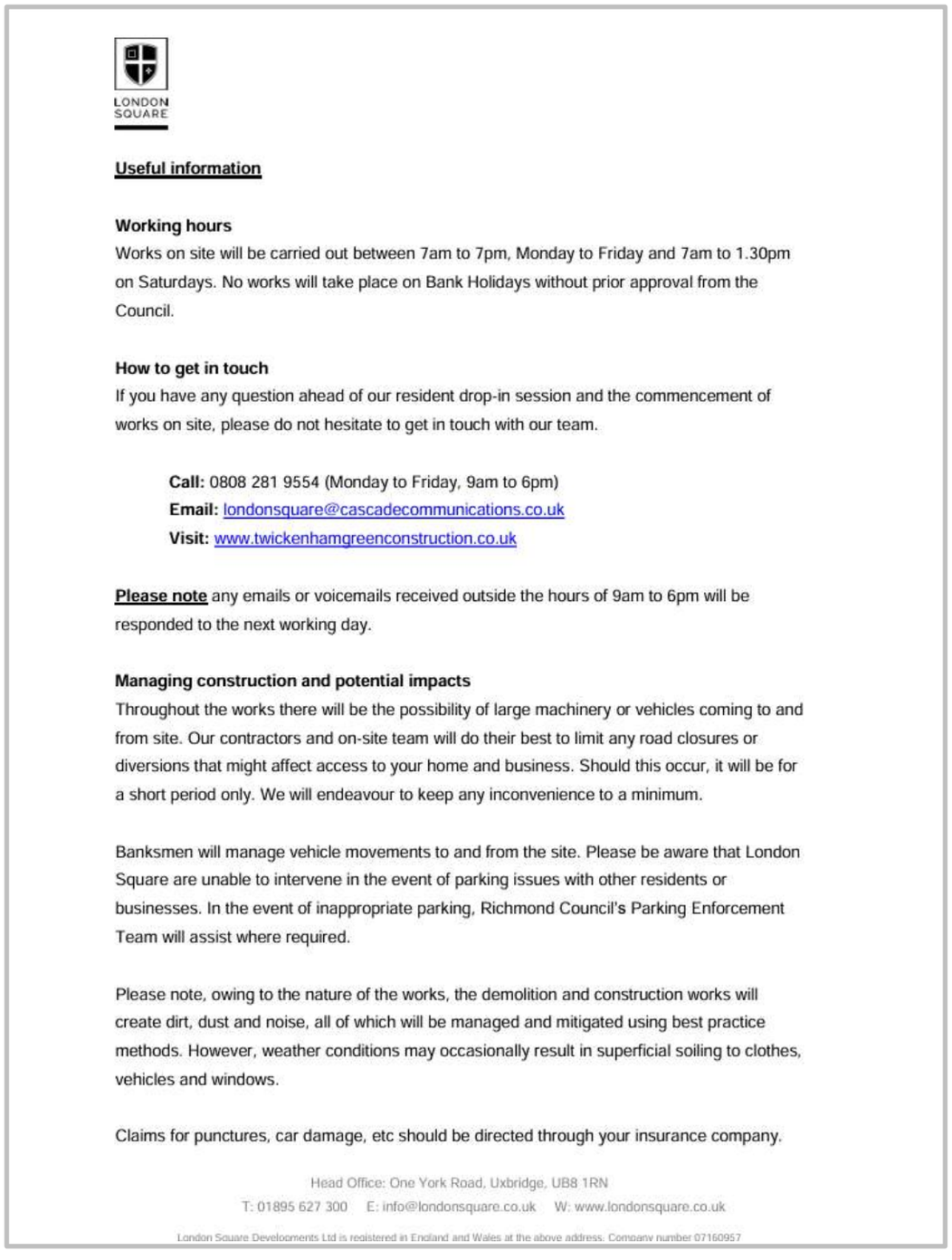
Part **P**:

Communication Residents / Local Businesses

Greggs Bakery Scheme

Communication Residents / Local Businesses

Figure P-59: Communication Letter



LONDON SQUARE

Useful information

Working hours

Works on site will be carried out between 7am to 7pm, Monday to Friday and 7am to 1.30pm on Saturdays. No works will take place on Bank Holidays without prior approval from the Council.

How to get in touch

If you have any question ahead of our resident drop-in session and the commencement of works on site, please do not hesitate to get in touch with our team.

Call: 0808 281 9554 (Monday to Friday, 9am to 6pm)
Email: londonsquare@cascadecommunications.co.uk
Visit: www.twickenhamgreenconstruction.co.uk

Please note any emails or voicemails received outside the hours of 9am to 6pm will be responded to the next working day.

Managing construction and potential impacts

Throughout the works there will be the possibility of large machinery or vehicles coming to and from site. Our contractors and on-site team will do their best to limit any road closures or diversions that might affect access to your home and business. Should this occur, it will be for a short period only. We will endeavour to keep any inconvenience to a minimum.

Banksmen will manage vehicle movements to and from the site. Please be aware that London Square are unable to intervene in the event of parking issues with other residents or businesses. In the event of inappropriate parking, Richmond Council's Parking Enforcement Team will assist where required.

Please note, owing to the nature of the works, the demolition and construction works will create dirt, dust and noise, all of which will be managed and mitigated using best practice methods. However, weather conditions may occasionally result in superficial soiling to clothes, vehicles and windows.

Claims for punctures, car damage, etc should be directed through your insurance company.

Head Office: One York Road, Uxbridge, UB8 1RN
T: 01895 627 300 E: info@londonsquare.co.uk W: www.londonsquare.co.uk

London Square Developments Ltd is registered in England and Wales at the above address. Company number 07160957

Communication Strategy

London Square believe communication is a key element in the success to all their developments.

It is essential that the local residents and businesses are kept up to date with all the developments activities and potential disruption.

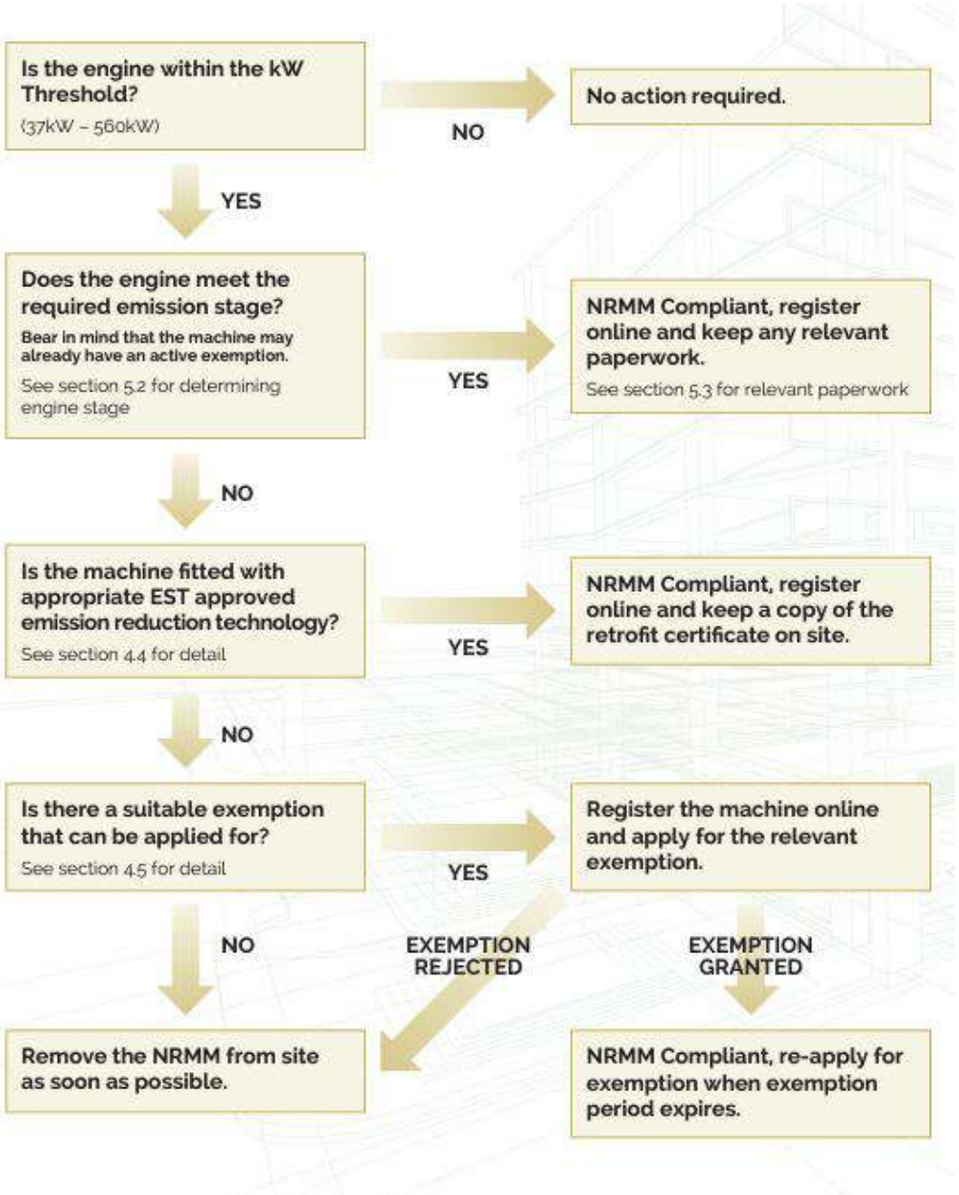
This communication will be shared using the following strategies:

- Dedicated Community Engagement Team
- Social Value Days / Activities
- Monthly Newsletters
- Letter Drops
- Community Noticeboard
- Website
- Quarterly Community Resident Forums
- Project Teams Contact Info Displayed Externally
- Out of Hours Contact Info Displayed
- Updated Works Schedule Shared
- Complaints Log Showing Actions

Part **Q**:

Non-Road Mobile Machinery (NRMM)

Figure Q-60: NRMM Compliance Checklist



NRMM

The use of Construction plant, (specifically materials handling plant), on site is essential to London Squares activities and to ensure that these do not have a significant impact on the environment London Square will undertake the following steps:

1. Only use vehicles and plant that meet a recognised Stage IIIB standard. All vehicles on site will meet the relevant standards for emissions as required by the Department of Transport i.e. MOT emission tests, NRMM requirements. Plant will be regularly monitored and maintained so that they run efficiently therefore burning less fuel and producing fewer emissions. Records will be kept on site showing proof of emissions limits
2. Regularly maintain and clean plant to ensure the best performance from the machinery as possible
3. Plant and vehicles are to be used in accordance with site requirements
4. Where possible or necessary electrical plant may be used as an alternative
5. Re-Fueling procedure to be followed for all vehicles and plant
6. If there are any problems with plant or vehicles then plant maintenance must be notified immediately
7. Operators are expected to carry out examination of their plant on a regular basis. Plant should not be left on if not in use
8. Excessively noisy plant may be restricted to certain hours of work if required
9. All plant will have current certification to say it is in good working order
10. DPF filters are fitted where applicable.
11. All plant will be regularly serviced, and service logs will be kept on site

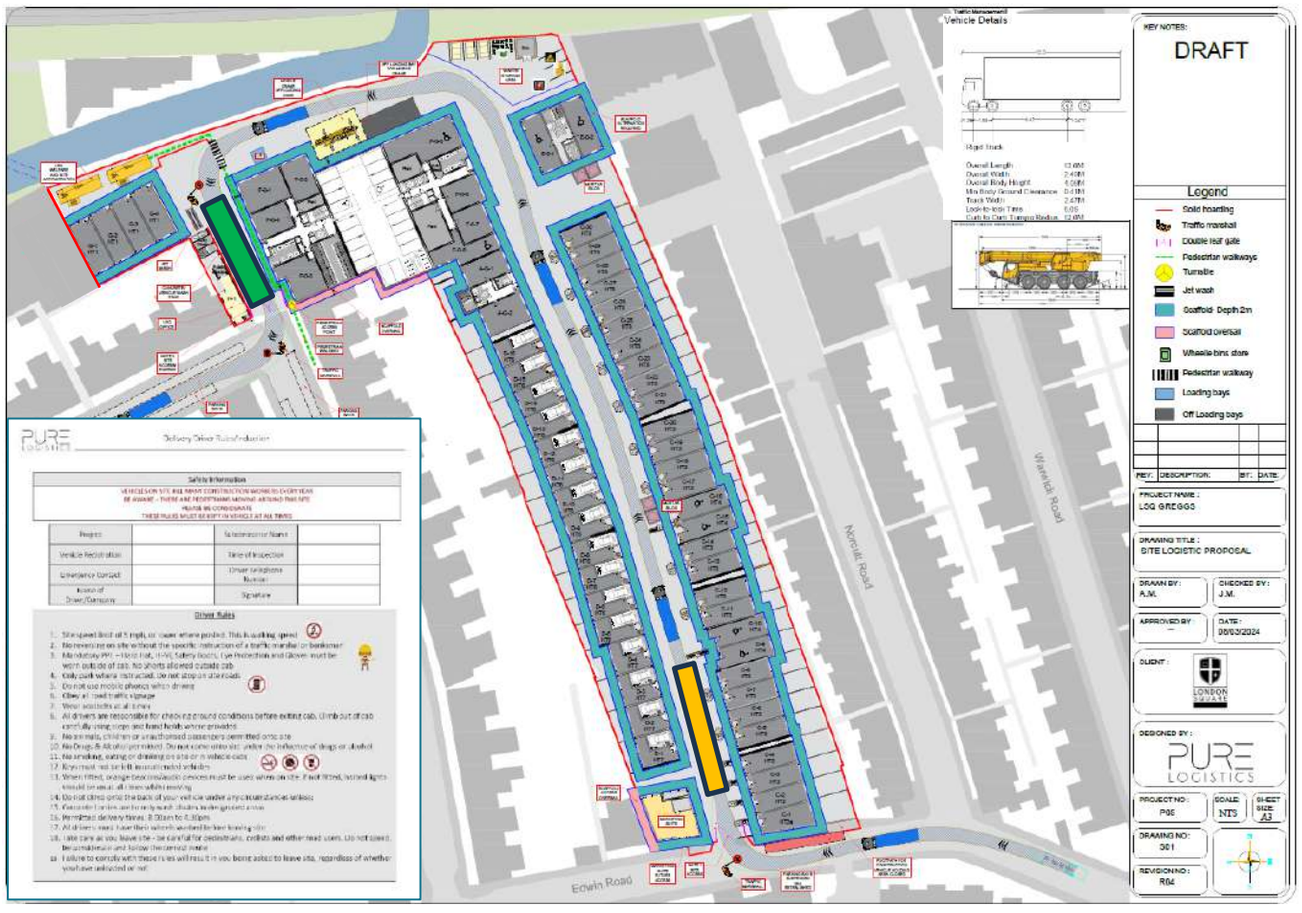
Part R:

Delivery Process

Greggs Bakery Scheme

Delivery Process

Figure R-61: Delivery Strategy



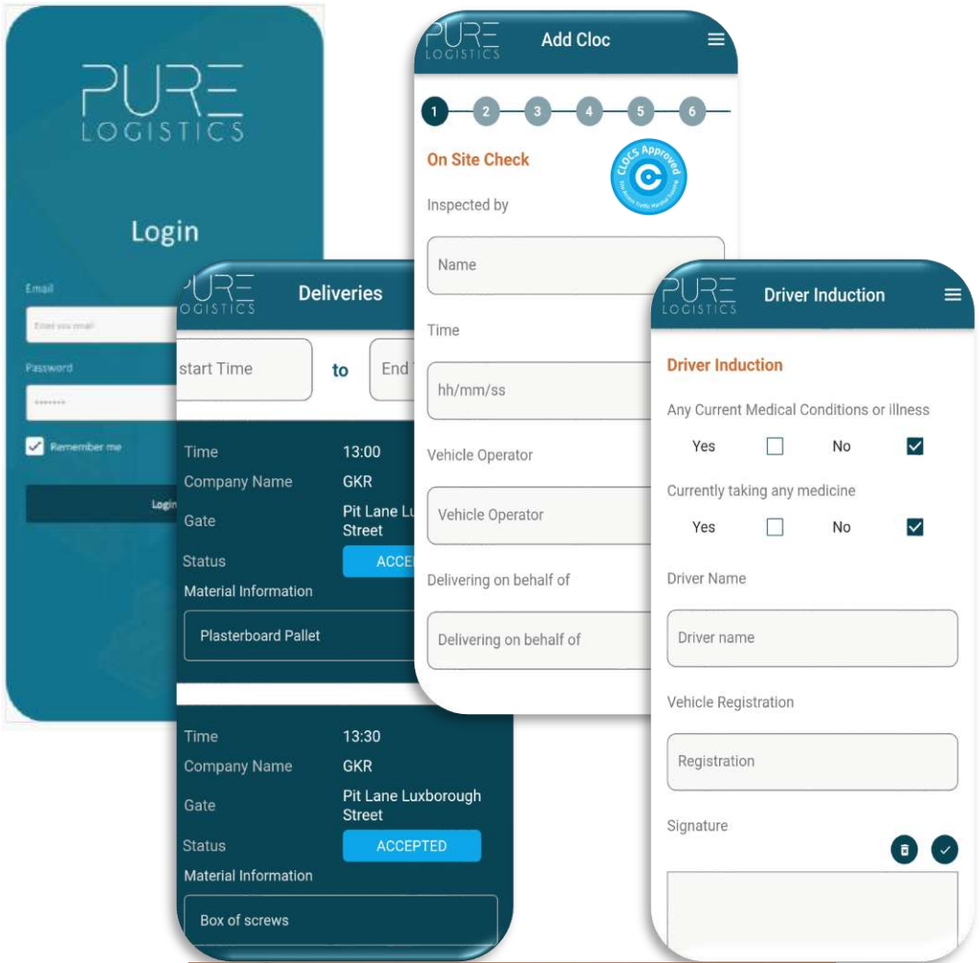
Delivery Strategy

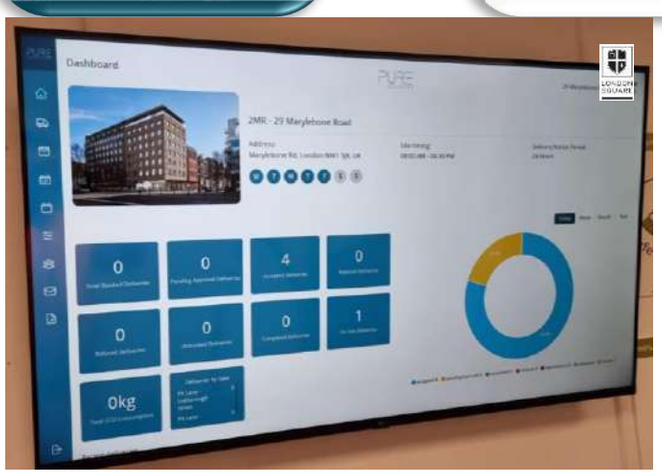
- Deliveries will all be registered onto out PURE Delivery Portal which will show live deliveries daily
- An internal on-site holding point has been identified just inside the gate at Edwin Road where the traffic management team will sign the delivery into the system and carry out inductions before banking the vehicles to their loading bay
- Internal Holding Point for up to 2 vehicles at any one time to ensure no vehicles sitting on Edwin Road
- All deliveries will be booked through our PURE Logistics Delivery Portal and any delivery not booked may be sent away
- Our traffic management team will then use our PURE Logistics Flow App to carry out a CLOCS check ensuring driver compliance and that the correct route was taken. (Paperless)
- Drivers will receive an induction upon arrival with a site rules briefing
- Once off-loaded vehicles will be brought to the vehicle wheel wash
- Wheel Wash located in the exit area for all vehicles egressing the project
- Once the vehicle has exited the project it will be signed out on the Flow App to

Greggs Bakery Scheme

Delivery Process

Figure R-62: Delivery System





Detailed Delivery Process/System

1. Contractor's delivery will be booked through our PURE LX booking system (all contractors will be facilitated with access to the system). Once a booking has been confirmed they will receive an email of confirmation once the delivery has booked. This information will break down their delivery slot, booking details and address for the Main Gate. Also attached will be a copy of the site logistics layout and delivery driver site rules informing them of no waiting on local roads or engine idling.

2. Once the delivery vehicle arrives to the Main Gate it will be checked before being granted access to move to 1 of the 2 vehicle holding points for compliance checks. The checks will consist of the following:

- Which Subcontractor the delivery is for?
- Do the goods match the delivery description
- Registration Number
- FORS/CLOCS Compliance
- Delivery on time and correct delivery day
- Which Loading Bay the delivery is booked for?
- Time of departure

3. Delivery Driver Induction will be briefed, understood and signed and CLOCS Compliance checks are complete

4. Once the driver receives its induction the vehicle is checked in and then will then be handed over to an internal banksman who will take control of the vehicle and safely bank to its allocated loading bay. Once the vehicle is checked our live PURE DELIVERY system will update the vehicle status to show the vehicle being “On Site”.

5. Any deliveries that are late/early must wait in the Vehicle Holding Point until their designated slot or the next available slot becomes available.

6. Un-booked deliveries will be required to attend the Vehicle Holding Point first. The TM will contact the relevant Project Logistics Manager and LSQ before being giving direction as to whether the delivery will be granted access or if they will have to book the delivery for an alternative day. It must also be noted that any vehicle that does not have FORS compliance will be turned away.

7. Subcontractor performance KPI’s will be monitored weekly and any subcontractors not adhering to the project delivery rules will be reprimanded

Part **S**:

Estimated Vehicle Movements

Greggs Bakery Scheme

Delivery Movements

Table 6-1 sets out the indicative construction traffic associated with the proposed development, informed by London Square for the Greggs Bakery.

It is anticipated that the most intensive yearly period in terms of construction vehicle activity will take place in 2025 with approximately 740 construction vehicle trips per month (assuming 22 working days in each month), equating to approximately 34 vehicle movements per day (0800-1800hrs). Over the course of a 10-hour working day, this equates to four vehicles entering the site per hour.

Numerous types of delivery vehicles will be used to bring materials to and from the site. These are likely to include:

- Skip lorries. These will include roll on/roll off skips for major demolition works (approx. size 7.5m long and 2.4m wide) and standard 8-yard skips for waste (approx. size 7m long and 2.4m wide) as well as 12-yard skips.
- Ready mix concrete lorries. (approx. size 8.25m long and 2.45m wide).
- Flatbed delivery vehicles for the delivery of various materials including scaffolding, steelwork, reinforcement, bricks/blocks, timber, roofing materials, plaster, joinery etc. (approx. size 8.5m long and 2.45m wide); and
- Rigid Lorries, for delivery of pre-cast concrete units and other components.

Development	Construction Phase	Timescales	Vehicle Movements Per Month	Peak No. Daily Trips
Greggs	Site Setup + Demolition	Q3 2024 – Q4 2024	150	7
	Piling Work	Q1 2025 – Q1 2025	180	9
	Excavation + Substructure	Q2 2025 – Q3 2025	320	15
	Superstructure	Q2 2025 – Q3 2025	420	19
	Envelope	Q3 2025 – Q4 2025	269	13
	Internal	Q3 2025 – Q3 2026	322	15
	Fit Out, Testing & Commissioning	Q2 2026 – Q3 2026	150	7

The number of vehicles approx. attending site during peak hours (8:00 – 9:30 and 15:00-16:00) would be as per the below:

Development	Construction Phase	Timescales	Vehicle Movements Per Month	Peak No. Daily Trips
Greggs	Site Setup + Demolition	Q3 2024 – Q4 2024	30	1.4
	Piling Work	Q1 2025 – Q1 2025	36	1.7
	Excavation + Substructure	Q2 2025 – Q3 2025	64	3
	Superstructure	Q2 2025 – Q3 2025	84	4
	Envelope	Q3 2025 – Q4 2025	54	2.5
	Internal	Q3 2025 – Q3 2026	65	3
	Fit Out, Testing & Commissioning	Q2 2026 – Q3 2026	30	1.4

Appendix i

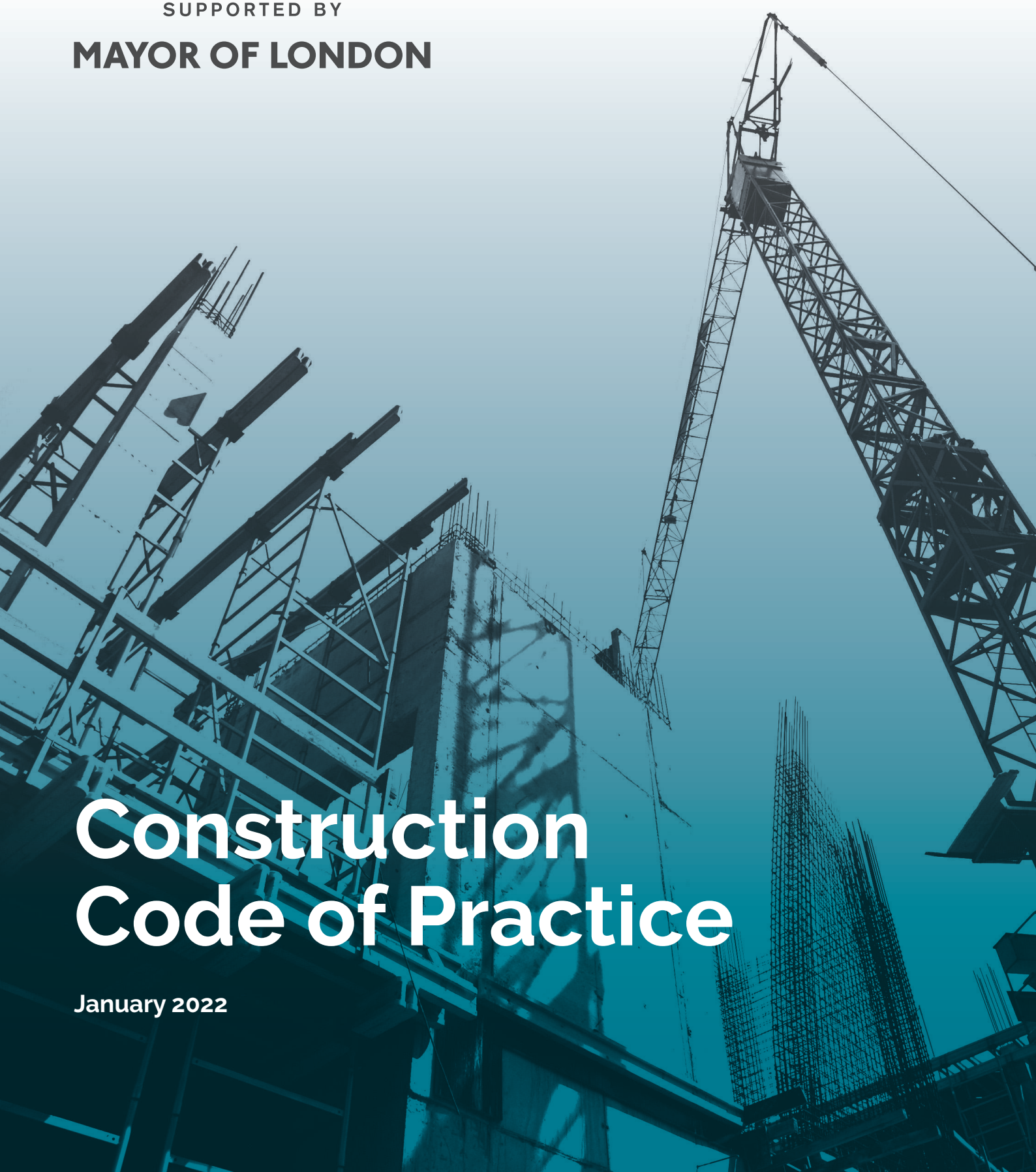
Construction Code of Practice (January 2022)

CLEANER CONSTRUCTION FOR LONDON
Putting Air Quality First

LONDON BOROUGH OF RICHMOND UPON THAMES

SUPPORTED BY

MAYOR OF LONDON



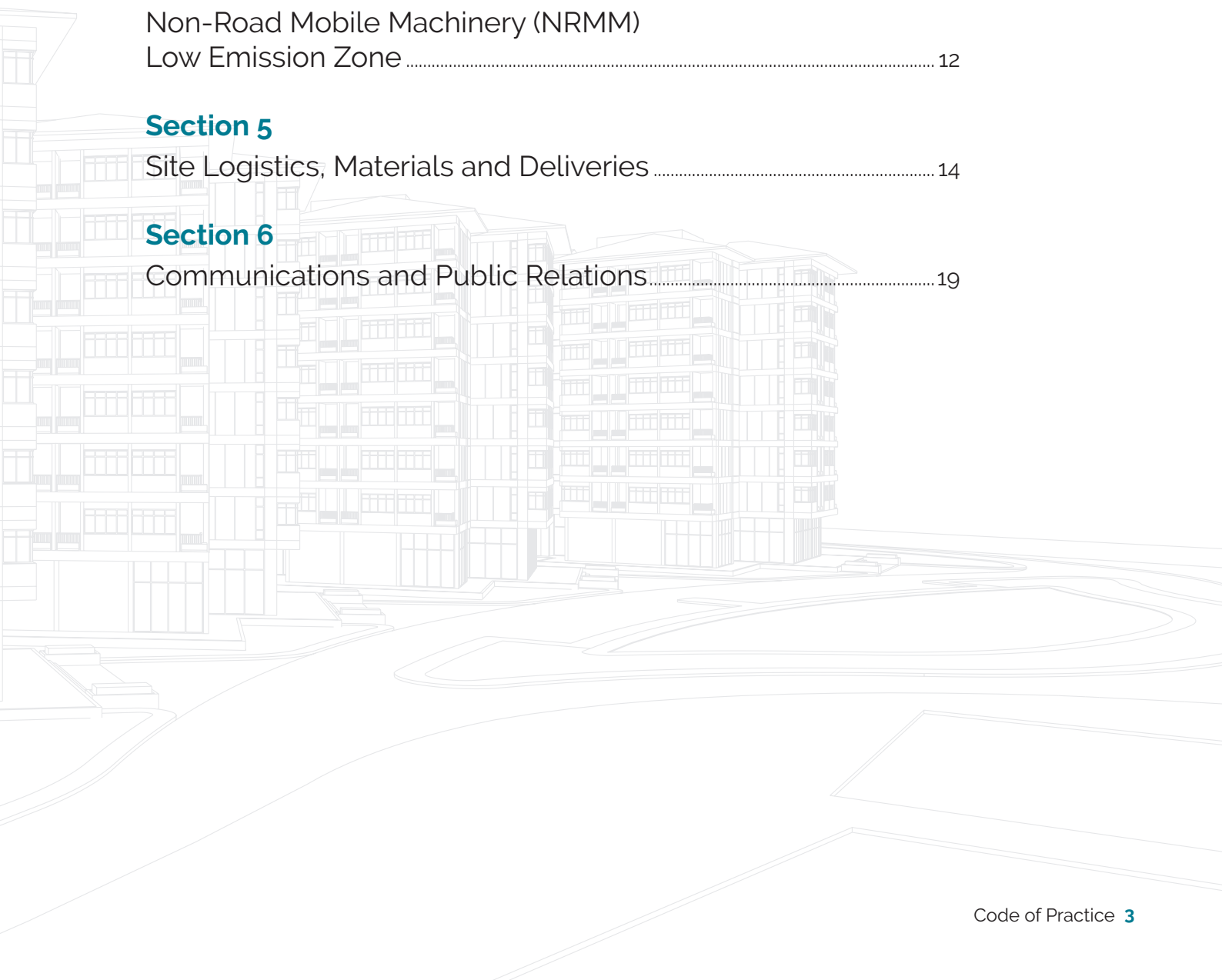
Construction Code of Practice

January 2022

Code of Practice

January 2022

Contents



Section 1 Outline

1.1 Purpose

1.1.1 There is a need to ensure that surrounding residents and businesses are protected from environmental disturbance during construction and demolition works. Local Authorities can take formal action if an unreasonable level of disturbance is caused.

1.1.2 The *Construction Code of Practice* (the Code) is a policy of this local authority and will be attached to relevant planning approvals and building control applications.

1.1.3 Adherence to this Code demonstrates a positive attitude and commitment towards minimising environmental disturbance to sensitive receptors, such as local residents, schools, hospitals and businesses.

1.1.4 The purpose of this document is to ensure that disturbances due to noise, vibration, dust, smoke and pollutants are kept to an acceptable level without imposing unnecessary restrictions on contractors.

1.1.5 The Code is also intended to provide guidance in those circumstances where there is no need to implement the formal procedures detailed in Section 61 of the Control of Pollution Act 1974.

1.1.6 Prior agreement for works involving any deviation from this Code of Practice should be sought from your local authority before those works commence.

1.1.7 It is vital that sites consider the combined impact of other developments in the area.

1.2 Scope

1.2.1 The Code highlights best practice and signposts further guidance for each subject area.

1.2.2 The term 'construction works' in this Code applies to all site activities, including demolition and site set-up.

1.2.3 The Code provides advice on site logistics and deliveries to ensure that the negative effects of vehicle movements are minimised. Many Local Authorities will now request a formal *Construction Logistics Plan* (CLP).

1.2.4 The Code outlines emission controls for *Non-Road Mobile Machinery* (NRMM), introduced by the *Greater London Authority* (GLA) to help mitigate the impact of exhaust emissions from construction machinery on air quality.

1.2.5 Best practice on noise mitigation is outlined in Section 2, in order to satisfy the demands of the *Control of Pollution Act 1974* Sections 60 & 61 and the *Environmental Protection Act 1990* Section 80.

Section 2 Noise and Vibration

2.1 Hours of work

2.1.1 Where there are surrounding sensitive receptors, including residential and commercial premises likely to be affected by noise, the hours of noisy works shall normally be restricted to:

Monday-Friday: 08:00-18:00

Saturday: 08:00-13:00

Sunday and Bank Holidays: No noisy activities on site

2.1.2 Scaffolding is considered as noisy work and contractors should adhere to the hours above.

2.1.3 The Local Authority may set additional conditions, for example where planning conditions further limit hours of work, or formal Section 61 agreements apply.

2.1.4 Instructions should be given to ensure that vehicles and plant arriving at and leaving the site comply with the stated hours of work, unless a specific alternative agreement has been reached with the Local Authority.

2.1.5 Where particularly noisy works are scheduled and there will be a direct impact upon surrounding properties within specified times, the site manager should make contact with local residents to consult on the duration, extent and impact of the works to see if an informal agreement can be reached to minimise the duration of these works or carry them out at specific times.

2.1.6 Dependent on the nature of the works, the Local Authority may require monitoring of noise and vibration. These arrangements will need to be discussed and agreed prior to the commencement of any work carried out on site.

2.1.7 The noise impact of any method of work should always be considered, and minimised where it is practicable to do so.

2.2 Plant and equipment

2.2.1 Noisy plant and equipment shall be situated as far as possible from noise-sensitive receptors.

2.2.2 Plant shall be maintained in good working order so that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum.

2.2.3 Temporary Electrical Supplies for building sites should be used wherever possible and as early as possible. Where not feasible, evidence of this may be required by Local Authorities.

2.2.4 Generators should only be used for emergencies or where mains power supply is not feasible. If use of a generator is unavoidable, these must comply with the London NRMM Low Emission Zone (see Section 4). Hybrid options should be considered to reduce engine running times. You should consult the local authority if you plan to use a generator continuously on a 24 hour basis.

2.2.5 Where practicable, emerging battery-powered, solar, hybrid and hydrogen technologies should be used in preference to diesel combustion engines, as they can significantly reduce both noise and air pollution arising from site.

2.2.6 Static machinery should be housed in a suitable acoustic lined enclosure or acoustic shed if situated in noise sensitive areas or operating at unsociable hours.

2.2.7 Barriers, such as site huts or partitions should be used to reduce noise reaching sensitive receptors wherever practicable. Additionally, old buildings around the site perimeter waiting to be demolished can provide effective noise screening. Spoil from site can be stored in bunds to further mitigate noise transmission.

2.2.8 Anti-idling principles should be adopted. Machines should be switched off when not in use.

2.2.9 Pneumatic tools should be fitted with mufflers or silencers of the type recommended by the manufacturers.

2.2.10 Equipment which breaks concrete, brickwork or masonry by bending, bursting, 'nibbling' or 'munching' shall be used in preference to percussive tools where practicable.

2.2.11 Care should be taken to reduce noise when loading and unloading vehicles.

2.3 Piling

2.3.1 The noise sensitivity of the area should be considered when determining the method of piling to be used. The local authority should be consulted on the chosen method.

2.3.2 Sheet piling should, wherever practicable, be carried out using hydraulically operated or vibratory hammers. The use of conventional impact hammers should, wherever possible, be avoided.

2.3.3 Where surface contamination is present on site, appropriate piling techniques should be adopted to prevent the spread of any contamination.

2.3.4 Rapid Impact Compression techniques are extremely likely to generate complaints and are generally deemed to be unsuitable for the urban environment.

Section 3 Dust and Air Pollution

3.1 Dust Risk Assessment

3.1.1 Some sites will be required to adhere to a *Dust Risk Assessment* outlining formal dust control measures, agreed with the Local Authority through the planning process. This usually sits within the site's Construction Environmental Management Plan (CEMP). Sites where there are no formal agreements in place should adhere to the principles in this Code.

3.1.2 Dust control measures should be proportional to risk, dependant on the proximity of receptors and their sensitivity, as well as the type, scale and duration of works. Detailed guidance on how to carry out a Dust Risk Assessment is available in the Mayor of London's *Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance (2014)*.

3.1.3 The control of dust should be considered in any method of works, and dust emissions minimised wherever it is practicable to do so.

3.2 Dust suppression

3.2.1 Dust pollution should be minimised by the complete screening of the site where practicable, with debris screens, sheets or hoarding at least 2.4m in height. Shielding may not be required in areas where dusty activity is not taking place. Check with the Local Authority for their requirements for the erection of hoarding.

3.2.2 If debris is to be stockpiled on site, it must be covered and/or damped down, and should not protrude above site hoarding or dust shielding. Consider enclosing stockpiles or seeding where stockpiles are expected to stay on site for long durations.

3.2.3 Ensure that vehicles transporting dusty materials to and from site are adequately sheeted.

3.2.4 The handling of spoil should be kept to a minimum. Skips, chutes and conveyors should be completely covered to ensure that dust does not escape, and drop heights minimised to control the fall of materials.

3.2.5 Particularly dusty activities should be damped down and carried out as far from sensitive receptors as possible. Ideally, cutting, grinding and sawing should not be conducted on-site and especially not at height. Prefabricated material and modules should be brought in where possible. Some tools and machinery have dust suppression built in, and should be considered where available.

3.2.6 The chosen method of dust suppression should be proportional to the scale of the development. Dust suppression techniques can range from hosing down, through mist cannons and on to comprehensive site-wide systems.

3.2.7 These measures are also reflected in the Mayor of London's *Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance (2014)*.

3.3 Track-out & run-off

3.3.1 The contractor shall ensure that the area around the site, including the public highway, is regularly sprayed and swept to prevent any accumulation of dust and dirt and to keep the surrounding area looking presentable.

3.3.2 Dusty areas must be damped down before being swept.

3.3.3 If possible only hard-standing surfaces should be used for haulage routes, and suitably located wheel wash facilities should be provided on larger sites. Drive-on wheel washing stations are the gold standard, but a manned jet wash is usually sufficient. If in doubt, consult your Local Authority on the method to be used.

3.3.4 Run-off from site can block local drainage, spread contaminants and later dry and turn into dust. Control measures need to be in place to prevent muddy/silty water running off site. Wheel wash areas should aim to capture or drain run-off water back onto site. The site or construction area should be bunded to prevent run-off and the spread of any contaminants to local waterways and sewers. COSHH regulations for the storage and use of hazardous substances must be complied with at all times.

3.3.5 Muddy sites must provide adequate boot washing facilities for staff.

3.4 Concrete batching

3.4.1 On-site concrete batching does not usually require a permit as a Part B process, but such activities should still follow best practice guidance. Notify the local authority if a concrete batcher is to be used on site and adopt appropriate control techniques identified in the Process Guidance note PG 3/01(12) *Statutory guidance for blending, packing, loading, unloading and use of cement* published by Defra and available on the GOV.UK website.

3.4.2 The batching process should be enclosed until mixing wherever possible, and aggregate stockpiles shielded from wind.

3.5 Crushing machinery

3.5.1 Reuse and recycling of materials on site or for neighbouring sites is encouraged where it can reduce the amount of vehicle activity. Where this is planned it should be referenced in any Construction Logistics Plan. Crushing machinery must still comply with the London *NRMM Low Emission Zone* standards outlined in Section 4 of this Code.

3.5.2 Any plant used for the crushing of materials should be issued with an Environmental Permit by a Local Authority. All work should be carried out in accordance with the conditions of the Permit. Where plant is used to recycle materials, the appropriate Environmental Permit, or exemption, from the Environment Agency shall be obtained. The process operator should notify the local authority in whose area the process is proposed prior to operation. Sites should keep a copy of the permit on-site and adhere to the conditions of their use at all times.

3.5.3 Crushers must be connected to a water supply to suppress dust.

3.5.4 More detailed guidance is available in Process Guidance Note 3/16(12) *Statutory guidance for mobile crushing and screening*.

3.6 Air pollution

3.6.1 Emphasis should be placed on using methods that do not cause unnecessary emissions (e.g. dust or smoke) in all site activities.

3.6.2 Burning of materials is not permitted.

3.6.3 Anti-idling principles should be adopted for air quality benefit. Suitable training and instruction should be given and signage erected to remind operators to switch off engines. Local Authorities can provide anti-idling toolkits through their London-wide Idling Action campaigns.

3.6.4 To prevent unnecessary pollution, sites should be connected to mains power or a Temporary Electrical Supply at the earliest possible opportunity to reduce the reliance on generators. Generators should only be used for emergencies or where a mains power supply is not feasible and electric hybrid options considered to reduce running times. Evidence of this may be required by Local Authorities. If use of a generator is unavoidable, these must comply with the London NRMM Low Emission Zone (see Section 4).

3.6.5 More detailed guidance on reducing emissions from machinery can be found in Section 4.

3.7 Air Quality Monitoring

3.7.1 Air quality monitoring may be agreed with the Local Authority on some sites, where there is an identified high risk of air quality impacts, including the locations and pollutants to be measured.

3.7.2 Continuous monitoring may be required on high risk sites, and levels set whereby emission mitigation measures must be reviewed. Local Authorities may require access to this monitoring data. Where no formal limits have been set vigilance should be kept for high concentrations of airborne dust, and regular checks should be made of the surrounding area for signs of dust escaping site.

3.7.3 When problems with dust levels are identified they must be addressed immediately. Mitigations could include addressing the source, suppression, containment or modifying the method of working.

3.7.4 Detailed guidance on monitoring best practice can be found in the *Control of Dust and Emissions during Construction and Demolition* Supplementary Planning Guidance on the Mayor of London website, and the *Institute of Air Quality Management* (IAQM) website.

Section 4 Non-Road Mobile Machinery (NRMM) Low Emission Zone

4.1 Scope

4.1.1 Non-Road Mobile Machinery (NRMM) is defined as any mobile machine or vehicle that is not solely intended for carrying passengers or goods on the road. Generally, this includes all machinery on site that is not a HGV, van or car, even those with road going registration plates, such as forklifts and dumpers, and those that are not self-propelled, such as generators and compressors.

4.1.2 The London NRMM emission standards only apply to machinery of net power between 37kW and 560kW.

4.1.3 Although the requirements do not apply to all sizes of machinery it is good practice to apply the same standard to all categories of NRMM. Stage V diesel machinery below 37kW is available, as well as electric, diesel hybrid and hydrogen alternatives.

4.1.4 Anti-idling principles should also be adopted for the air quality benefit, switching the engine off when the machine is not in use.

4.1.5 Alternatives to diesel-powered NRMM should be considered, including electric, hydrogen, and hybrid options.

4.1.6 To prevent unnecessary pollution, sites should be connected to mains or temporary power at the earliest opportunity to reduce the reliance on generators and other diesel machinery.

4.2 The requirements

4.2.1 Currently all NRMM on construction or demolition sites within Greater London are required to meet at least Emission Stage IIIB and NRMM on all sites within either the Central Activity Zone (CAZ) or Opportunity Areas (OAs) are required to meet at least Emission Stage IV.

4.2.2 All developments must register their site, on or prior to commencement, on the Mayor of London NRMM Register here: https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/nrmm. Machine details must also be uploaded to this register, prior to or upon their arrival.

4.2.3 Compliance with these standards is the responsibility of the Principal Contractor.

4.2.4 Compliant equipment is not always readily available. In certain cases older fleet can be retrofitted with additional exhaust filters to bring them into compliance. Any retrofitted emission abatement systems must have appropriate approval from the Energy Savings Trust and reduce both NOx and PM emissions to the required levels where possible. A full list of approved products is available here: https://energysavingtrust.org.uk/service/non-road-mobile-machinery-

4.2.5 Where compliant equipment or retrofit are not possible, exemptions can be applied for through the NRMM Register. Exemption applications will often be required to include a written statement from the supplier detailing the reasons why compliant machinery cannot be provided. It is the suppliers responsibility to provide this justification, and the Principal Contractors responsibility to apply for the exemption.

4.2.6 Generators are only manufactured at Emission Stages II, IIIA and V. To be compliant with the NRMM Low Emission Zone you must therefore ask your suppliers for Stage V when bringing a generator to site. If you are unable to source a Stage V generator or equivalent retrofit, written justification must be provided by the supplier detailing the reasons why these options were not possible. If a Stage V generator is possible, it must be used. Cost is not an accepted justification for an exemption except in exceptional circumstances.

4.2.7 Exemptions are not guaranteed. Submitted evidence is reviewed on a case by case basis taking into account the nature of the request and supply at the time of the exemption request. It is advisable to check availability of compliant equipment with several suppliers.

Section 5 Site Logistics, Materials and Deliveries

5.1 Managing site traffic

5.1.1 This is an essential part of minimising the impact of a development on the local environment. If managed efficiently, it can also save on costs. When managing site traffic you must aim to minimise:

- Local traffic disruption and congestion
- Danger to other road users, particularly those that are vulnerable
- Damage to road surfaces, kerbs, planted areas and public spaces
- Air pollution and exhaust fumes

5.1.2 Larger developments should consider improving the local road infrastructure as part of the development with the above concerns in mind.

5.1.3 Many Local Authorities will now request a Construction Logistics Plan (CLP) approved prior to the commencement of works and normally forming part of the planning permission. This is a document that is used to plan traffic and transport to a site to ensure that the impact is kept to a minimum. These are more likely to be required in areas of high traffic density and where there have been identified air quality issues.

5.1.4 Where there is no formal requirement for a CLP sites should adhere to the principles within this code as a demonstration of good practice.

5.2 Desktop survey

5.2.1 Preparations must take place before the commencement of work to ensure that developments make the most efficient use of the surrounding road infrastructure.

5.2.2 Before deciding on the vehicle routes to be used you must first understand the existing road infrastructure at the site location. This is like a risk assessment, but for traffic safety and congestion. You must consider:

- Surrounding road use
- Pinch points
- Traffic restrictions
- Cycle lanes
- Pedestrian walkways
- Vulnerable road users
- The proximity of schools, hospitals, places of worship, residents, and other sensitive receptors.
- Parking restrictions

5.2.3 To make sure the logistical methods proposed in the CLP are suitable, you shall also need to understand what operations you will need to carry out on site. You need to know:

- What types and size of vehicles will need site access
- The number and frequency of deliveries expected
- Material storage necessities
- Available space on site
- Locations of cranes and major equipment associated with loading and unloading
- Expected changes to the above throughout the course of the development

5.2.4 When planning the method of works, try to reduce the number of deliveries required to site. You can do this by:

- Recycling and reuse of materials on site
- On-site storage facilities for equipment, tools and materials that would allow reduced trips by suppliers to the site
- Common procurement or consolidated deliveries with other sites in the area
- Large developments may already have a Construction Consolidation Centre set up at a centralised warehouse facility to amalgamate deliveries before transporting a full vehicle of mixed commodities to several sites.
- Prefabrication of modules or structures where feasible.
- Rail, marine and waterway options can reduce congestion on the road. However, these options can be more polluting than cleaner road-going engines. Methods should be chosen carefully with the overall environmental impact in mind.

5.2.5 Maps and diagrams are essential to clearly demonstrate to site operatives and the Local Authority the logistical arrangements in place. It is recommended that condensed versions are supplied to site operatives specific to the activities they carry out on site.

5.2.6 If local signage is erected it should be in collaboration with the Local Authority. Arrangements should be made to ensure its' proper removal at completion of works.

5.3 Site access and egress

5.3.1 In addition to the impacts in the immediate vicinity of site, knock-on effects beyond the site should be considered.

5.3.2 Locate site entrances, exits and loading points appropriately with haulage routes in mind.

5.3.3 Check that the chosen haulage routes are compatible with the vehicle types accessing the site.

5.3.4 Where vehicle queuing cannot be avoided, this should not take place in the road or parking in such a way that will block footpaths or cycle lanes, or damage the public highway. Grass verges and kerbstones are especially prone to damage.

5.3.5 Consider whether there are areas that can be used as holding points on approach to the site. Such facilities enable delivery vehicles to wait safely and out of the way before being called over to deliver or collect materials.

5.4 Deliveries, collections, loading and unloading

5.4.1 Deliveries and collections should take place within the permitted hours for noisy works.

5.4.2 Delivery times should take into account any area-specific issues, such as commuter traffic, transport hubs and schools.

5.4.3 Where appropriate, use of a booking system to stagger deliveries can help avoid queuing and congestion. In order to be effective there should be consequences for deliveries not adhering to the chosen booking system.

5.4.4 Employ appropriately trained traffic marshals and banksmen to implement all necessary safety precautions on site and at the recognised access, exit and vehicle holding points.

5.4.5 Wherever possible, ensure heavy-duty equipment required for loading and unloading (e.g. Cranes, Forklifts, Telehandlers, etc.) is parked on site when not in use. Avoid parking heavy-duty equipment in the road or in such a way that it will block footpaths or cycle lanes, or damage the public highway or grass verges.

5.4.6 Use of local suppliers should be considered to reduce the distance travelled by delivery vehicles. This can also help to speed up delivery times and feed into the local economy.

5.4.7 Sharing suppliers with surrounding sites is also considered good practice.

5.5 Supply chain management

5.5.1 The party responsible for control of logistical operations should be clear.

5.5.2 Various standards and tools are available to help developers and contractors demonstrate their commitment to good practice. For example:

- Responsible contractors shall be expected to obtain Bronze membership of the *Fleet Operators Recognition Scheme* (FORS) as a minimum, in order to demonstrate that their suppliers are committed to safer and more efficient operations.
- *Transport for London* (TfL) use the *Standard for construction logistics: managing Work Related Road Risk* (WRRR), which requires fleet operators to comply with FORS Silver standard.
- Anti-idling toolkits are available through the London-wide *Idling Action* campaign.

5.5.3 All construction site road vehicles should comply with the London Low Emission Zone (LEZ) and Ultra Low Emission Zone (ULEZ) where these standards apply.

5.5.4 Zero emission technologies for delivery vehicles should be considered as they emerge, such as electric vans for smaller deliveries.

5.6 Staff travel plan

5.6.1 Sites should facilitate the use of low emission modes of transport and promote their use wherever possible.

5.6.2 Some sites may be required to create a formal staff travel plan to show how staff propose to travel to and from work. It must include specific measures as to how walking, cycling, public transport and car shares shall be promoted. This should also include an appropriate monitoring regime with set targets.

5.6.3 Public transport links to the site should be highlighted to staff. Consider signage and using tools such as isochrone maps. Large developments may create sufficient demand to justify the creation of new transport services. Consult Transport for London (TfL) if you feel this could be effective.

5.6.4 Staff-specific transport such as a minibus can be beneficial if transport links are far away or disrupted.

5.6.5 Bike sheds should be provided on site in a safe, secure location with adequate capacity for staff demand.

Section 6 Communications and Public Relations

6.1 Communication and Public Relations

6.1.1 Managing communications and neighbour relations is vital to all developments.

6.1.2 Neighbours surrounding sites are often subjected to additional noise, dust, fumes and traffic movements. Often, unresolved disputes can escalate and in many cases play out in the public eye.

6.1.3 Before works commence, identify and engage with those that your development is likely to impact. This includes any person or premises in the immediate vicinity of site, but most especially:

- Vulnerable groups
- Schools
- Hospitals
- Local businesses
- Local representatives, including residents associations and elected members

6.1.4 Introduce the development and those responsible for managing it, at the earliest stage possible, by letter, in person or by email.

6.1.5 Provide regular updates to neighbours on progress of the work. Give as much notice as possible before carrying out particularly impactful works such as breaking or piling, to allow those concerned to factor this into their household plans.

6.1.6 Ensure there is an effective complaints procedure for concerns to be flagged and an opportunity to resolve these early on. Sites are encouraged to have named contacts for handling complaints.

6.1.7 Where monitoring for noise or air quality is in place, results should be shared with key stakeholders.

6.1.8 Large developments are encouraged to have community events.

CLEANER CONSTRUCTION FOR LONDON

Putting Air Quality First

SUPPORTED BY

MAYOR OF LONDON

Code of Practice

January 2022

Appendix ii

Arboricultural Report

Arboricultural Impact Assessment and Method Statement

Greggs Bakery, Twickenham

3rd July 2024

Tyler Grange

TG Report No. 15378_R02b_JJ_NC

Report No:	Date	Revision	Author
15378_R02b	3rd July 2024	b	Jack Jewell BA(Hons), MLA, CMLI Naomi Charman BSc (Hons), MRes, MArborA

Contents:

Appendices:

Plans:

Section 1: Introduction and Brief

1.1. Tyler Grange Group Ltd (TG) have been appointed by London Square Developments Ltd to undertake a BS5837 Tree Quality Survey and development impact assessment / method statement in support of the approved Full Planning Application for a mixed use redevelopment of the Greggs Bakery site in Twickenham, London Borough of Richmond upon Thames (hereafter 'the site').

1.2. Approval has been granted for:

"Demolition of existing buildings (with retention of a single dwelling) and redevelopment of the site to provide up to 116 residential units and 175 sqm commercial floorspace (Use Class E) with associated hard and soft landscaping, car parking and highways works and other associated works"

1.3. This report provides an assessment of the consented development in relation to the surveyed tree stock, and an Arboricultural Method Statement is included at Section 3 of this report to illustrate how the retained trees will be safeguarded during the demolition and construction phases of the consented development.

1.4. This report has been guided by the recommendations set out within the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (hereafter BS5837).

1.5. A full BS5837 tree quality survey of the site was originally undertaken in October 2022. An updated survey was carried out in June 2024 to inform any facilitative pruning required pre-commencement, details of which can be found in Section 2 of this updated report.

Site Description

1.6. The site's red line boundary is shown at **Figure 1.1** below. The site is located in the London Borough of Richmond upon Thames in south west London, within a predominantly residential area. Immediately north of the site is the River Crane, the railway line and a single residential property, and to the south of the site is a car servicing unit on Edwin Road. To the east and west of the site are established terrace housing and some apartment buildings, and immediately to the north west is 'Crane Mews', a collection of commercial studios, many of which have recently been converted into residential.

1.7. There are a range of buildings covering the site, which comprises an area of 1.1ha. The majority of the site is covered by an industrial shed with ancillary development, offices and associated infrastructure, incorporating a number of associated two and three storey commercial buildings across the remainder of the site.

1.8. The existing buildings have reached the end of their life cycle and are unsuitable for alternative industrial uses, and the site is now fully vacant. The site is subsequently deemed surplus to Greggs' requirements and Greggs have moved their operations to a more suitable site due to the long-standing highways, access and amenity issues associated with this location.

1.9. The immediate surrounding area to the site is predominantly residential, with pockets of commercial and light industrial buildings. This includes a substation to the east of the site, as well as some low-rise industrial units. An area immediately to the south of the site includes workshops and car servicing garages.

Figure 1.1 – Existing site plan and red line boundary

1.10. On site vegetation is limited to occasional stands of buddleia *Buddleja davidii*, ivy *Hedera helix* and bramble *Rubus fruticosus agg.* over several of the buildings and walls occasional ruderal vegetation in the cracks of the hard standing. Fencing, walls and metal hoarding surrounded the majority of the site beyond which are a number of rear garden trees, ornamental planting and introduced shrubs of largely limited quality.

Planning Policy

1.11. The site falls within the local planning authority of Richmond Borough Council. A summary of the local planning policy context relating to arboricultural matters is provided at **Appendix 2** to the rear of this report for reference.

Tree Preservation Orders (TPOs) and Conservation Areas

1.12. At the time of writing TG are awaiting confirmation from the LPA as to whether any trees on or within influence of the site are covered by a TPO, and to confirm whether the site lies within a Conservation Area.

Ancient Woodland, Veteran and Notable Trees

1.13. There are no veteran, notable nor ancient trees and woodlands present on nor within influence of the site.

Tree Survey Summary

1.14. The baseline tree survey was completed in accordance with BS5837, and the methodology as detailed at **Appendix 1** to the rear of this report. In accordance with the above recommendations, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (dbh). Measured topographical survey data was used to inform the locations and surrounding context of the sites individual and groups of trees. Any trees not included within the topographical survey have been approximated using measurements taken during the tree survey and further informed by aerial photography.

1.15. A total of 6no. individual trees (T1 – T6) and 7no. groups of trees (G1 – G7) were identified during the tree survey of the site. The survey findings are illustrated on the TCP located at the rear of this report. The TCP shows the distribution of the trees surveyed together with details of their constraints to new development in accordance with BS5837, including:

- Tree Quality Gradings;[1]
- Root Protection Areas (RPA's);[2]
- Tree canopy spreads;[3]
- Tree Shading.[4]

1.16. Findings for each of the tree groups surveyed are detailed in the Tree Survey Schedule (see **Appendix 4**). This provides a tabulated record of the trees surveyed, including reference numbers, species composition, tree dimensions, life stage, physiological and structural condition, and the arboricultural value of each survey entry.

Tree Grading Summary

1.17. The trees surveyed have been categorised using the 'cascade chart for tree quality assessment' (see **Appendix 3**) recommended by the BS5837. Grading subcategories (1, 2 and 3) are intended to reflect the arboricultural, landscape and cultural values, respectively. The grading system allows

1 The value of arboricultural features surveyed in accordance with the methodology set-out in Appendix 3.

2 A layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. See further explanation at Appendix 3.

3 Dimensions of the trees crown spread and clearance from ground level. See further explanation at Appendix 3.

4 Shade cast by existing trees which may affect the availability of sunlight and daylight within a new development. See further explanation at Appendix 3.

informed decisions to be made concerning the design and impact of potential development in relation to the arboricultural value of the trees surveyed.

1.18. Surveyed trees are a mix of Low Value (Category C) to Moderate Value / Quality (Category B) stock, with no High Value / Quality (Category A) specimens identified, largely owing to the naturalised and industrial partially derelict context.

1.19. Category B trees are denoted by a 'Blue' tree canopy outline as illustrated on the TCP. This level of classification has often been assigned to trees which attract a higher collective rating than they might as individuals, particularly in terms of their visual appearance where contributing to a cohesive group of trees. Category B trees predominantly include specimens or groups with maturity and / or good future potential, whilst not representing a tree or groups of trees with notable or distinct arboricultural functions.

1.20. Category C trees are trees represent trees of low arboricultural quality and value. Category C trees are denoted by a Grey tree canopy outline as illustrated on the TCP.

Section 2: Arboricultural Impact Assessment

2.1. This Arboricultural Impact Assessment has been undertaken to confirm the development impacts in response to the development, as tabulated below. The assessment is informed by a composite of the tree survey findings and the proposed layout which has informed the preparation of a Tree Protection Plan ('**TPP**', ref. 15378/P03a) contained to the rear of this report.

Tree Ref	Commentary
T1	Removal of low value Ash (T1) and cutting back to the site boundary of the stand of ornamental / introduced shrubs (G1) on north western boundary owing to conflicts with Block G. Trees will be replaced via establishment of new site-wide replanting strategy. The removal of T1 and cutting back of G1 relates to on-site trees, only requiring the removal of vegetation which is on-site.
G1 (partial, relating to on-site vegetation only)	
T6	Crown Reduction and Balance - A reduction in length of the tree's branches by up to 3m across all four canopy quadrants. Crown Lift – The canopy should be lifted to 4m above the existing ground level.
G6	Pruning back of G6 to the boundary to accommodate construction of onsite footpath. Cut back vegetation and lift over River Crane to enable access along the river.

Table 2.1 – Proposed Tree Pruning and Removals

Works within Root Protection Areas

2.2. Whilst the proposed dwellings have been designed to avoid the RPAs of the retained tree cover, an area of car parking is proposed within the site-side RPA of T6 and areas of existing hard surfacing will be removed across a number of the site-side RPAs. Such areas are within locations already covered by existing hardsurfacing but as a precaution it is advised that ground works within the new T6 car parking area is undertaken by hand, avoiding significant excavations and retaining existing sub-bases in situ. It is advised that the final surfacing implements a cell-web system under a watching brief to avoid any significant ground compaction where the new hard surfacing will traverse the RPAs.

2.3. Where it is required for hard surfacing is to be removed and or re-surfaced within the RPAs of retained trees it is to be undertaken under direct on-site arboricultural supervision, during the landscaping phase of the development.

Tree Canopies

1 It is advised that facilitation pruning is undertaken as needed to maintain site-side lower canopy clearances of 2.5m from finished floor levels to lower branch tips over new garden areas and parking spaces to achieve viable construction room and unobstructed access under canopies for vehicles and pedestrians.

2.4. Facilitative pruning work resulting from the updated July 2024 assessment of the trees on site is presented in Section 3 of this report.

Mitigation Opportunities / New Planting

2.5. The proposed planting across the site includes for an arrangement of new trees, with approximately 68 individual new trees planted and a mix of new shrub and grassland areas. The quantum and quality of such planting, coupled with the limited tree removals needed to facilitate the development provides a demonstrable net-gain in tree numbers and canopy coverage on-site and an enhancement to the site-wide green infrastructure contribution and overall diversity.

2.6. Policies LP 12, LP 15 and LP 16 all require new planting and habitat provision into development sites which enhances the borough's biodiversity and green infrastructure network with Policy LP 16 Trees, Woodlands and Landscape specifically stipulating the need for *"new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits"*.

2.7. The level of tree loss proposed is considered to be minor, in so far as the localised western boundary losses are not envisaged to be affecting the principal amenity and character of the area when balanced against the quantum and quality of new planting being delivered on-site. There are no trees of high arboricultural value that will be removed to facilitate the proposed development.

2.8. Given the quantum and quality of the trees being removed, balanced against the proposed landscape response and tree planting specifications submitted with this application, it is deemed that local policy objectives pertaining to trees and associated mitigation are met through the delivery of this development.

Demolition and Construction Stage Mitigation

2.9. Central to the mitigation of effects during construction and operation will be the implementation of the Arboricultural Method Statement (AMS) detailed at Section 3 of this report. The AMS provides a practical strategy for the protection of retained trees for the site preparation and construction stages of the development. This Includes:

- specifications for tree protection barriers and ground protection;
- procedures for any specialist construction techniques within RPAs; and
- a Tree Protection Plan.

Section 3: Arboricultural Method Statement

2 The purpose of an Arboricultural Method Statement (AMS) is to safeguard the retained trees on site during the construction process. The following information sets out the methodology and approach for all consented works that could affect such trees.

3.1. Compliance with this AMS will be a requirement of all relevant contractors associated with the development, including initial ground works and landscaping. Copies of this report will be available for inspection on site and all personnel shall be made aware of the key implications of the AMS, namely to ensure that during the construction phase of the development:

- The site manager and all other personnel are provided with this document;
- All requirements of this Tree Protection Scheme are adhered to;
- The Site Manager and site personnel are updated of any approved changes or variations to this document (approval for alterations must be obtained in writing from the LPA);
- Site personnel must work in accordance with this document at all times, or in accordance with any approved variation; and
- The tree protection measures are left in place until the construction phase of development is completed, except with the written consent of the LPA.

Tree Removals Works

3.2. Vegetation removal for the submission is limited to the losses hatched in Red as shown on the TRRP. Tree losses and pruning work is also detailed at **Table 2.1** in Section 2 of this report.

3.3. Works to remove these trees must be carried out in accordance with the 'advance works' provisions set out above and in line with BS 3998:2010. Care should be taken during the removal vegetation to minimise damage to retained trees and disturbance to Root Protection Areas (RPAs).

3.4. Tree works must be undertaken in accordance with BS3998:2010 by a competent tree contractor and should avoid the main nesting season for birds between 1st March and 31st August each year. If such timescales are unachievable, the advice of an ecologist will need to be sought to determine any further necessary protective and precautionary working measures to avoid disturbance to nesting birds and other wildlife. Care should also be taken during the removal vegetation to minimise damage to retained trees and disturbance to Root Protection Areas (RPAs).

Tree Pruning Works

3.5. T6 is located off site and falls under the ownership of Network Rail. However approximately 60% of the tree's crown overhangs the former Greggs site to the south. The upper sections of the canopy of the cherry have damaged an existing corrugated plastic roof which is now collapsing. The tree has historically been pruned casually from the Greggs side with the lower canopy being cut back to the boundary line to facilitate access under the tree's low hanging branches. Branch stubs remain and small areas of decay are present as a result of casual irregular cutting. T6 has also developed sites of epicormic growth which is a stress response to the past pruning works. This could be remedied if these branches were pruned

appropriately from the Network Rail side of the boundary by a suitably qualified arborist. However, reducing the canopy on one side of a tree diminishes its amenity value and is not in line with arboricultural best practice or the recommendations set out in BS3998:2010 Tree work - Recommendations. All work to T6 will need to be carried out by an appropriately qualified tree surgeon and undertaken in line with BS3998:20. The pruning of T6 should be carried out before the consented demolition of the existing site structures begins. By radially reducing the T6's canopy as described above, the canopy conflicts will be reduced in a manner which is of benefit to the tree, whilst enabling protection from any accidental damage on the site-side of the canopy that may result from demolition or construction. A works specification for T6 is shown in Table 2.1.

3.6. G6 has also put on a significant amount of growth since the original tree survey with the northern sections of this group now impeding access along the River Crane. The species composition (Buddleja and Elder) is very tolerant to pruning and if left unchecked this group will cause further access issues along the river as well as obstructing construction of the consented footpath. The works detailed in Table 2.1 are considered initially appropriate in order to manage G6 however the works to this group will need to be flexible as full access to the group was not possible and the growing modes and substrate were not visible. Any additional works above that in the specification in Table 2.1. will be discussed with the project Arboriculturist at the earliest opportunity and details forwarded to the LPA Tree Officer as necessary.

Tree Protection Plan

3.7. The retained trees must be protected from unnecessary damage during the demolition and construction phases of the developments. Robust tree protection on development sites is of paramount importance if existing vegetation is to be retained successfully. The inevitable stress caused by development near existing trees can, if provision for adequate protection is not made, be a strain that can severely damage the trees or even result in their failure.

3.8. Tree protection measures are illustrated on the **TPP** included to the rear of this report. The procedures and working methods are outlined further below.

General Site Precautions

3.9. The following points must be observed during both advanced works and the construction process:

- No fires will be lit on site;
- Cutting down, uprooting, damaging or otherwise destroying any tree that is proposed for retention is prohibited;
- No access will be permitted inside tree protection / non-intervention areas (unless authorisation is obtained in writing from the LPA or overseen by project arborist). Appropriate signage will also be implemented along the tree protection fencing to highlight to contractors the need for careful working methods and importance of establishing construction exclusion zones;
- No materials, equipment or debris will be stored within the RPA at any time;

- If during construction there are any excessive levels of dust build-up on retained trees then trees must be hosed down immediately with a clean water supply;

- Holes for fence posts for permanent plot boundary fencing immediately adjacent to retained RPAs must be dug by hand, avoiding tree roots. Due to the highly alkaline leachate produced during the curing of wet concrete, concrete should not be poured within the RPA unless an impermeable liner has been installed. Holes must therefore be sheathed to reduce the risk of contamination where concrete is to be implemented;

- All construction or tree management works must be undertaken sensitively and with regard to the RPAs and canopies of adjacent retained trees. Any roots encountered which are smaller than 25mm in diameter can be pruned back, preferably to a side branch using a proprietary cutting tool. Roots larger than 25mm diameter should only be severed following on-site agreement with an arboricultural consultant, as they may be essential to the tree's health and stability;

- Prior to undertaking tree works, all risks associated with the work should be identified by carrying out a site-specific risk assessment. All works must be undertaken in accordance with BS3998:2010 (refer to BS 3998:2010 – Section 7) which provides recommendations for site management, best practice guidance for tree works and safety planning;

- Notice boards, telephone wires or other services must not be attached to any part of retained trees; and

- Materials which will contaminate the soil (e.g. concrete, cement, chemical toilets, diesel oil, vehicle washings etc.) must not be permitted within, or close to RPAs of retained trees unless required in order to implement the permanent plot boundary fencing. To avoid any associated damage or injury occurring to the trees as a direct result of contact with contaminants, works including cement mixing, re-fuelling and tool or machine washing will not be permitted within 20m uphill of any retained tree.

Demolition Phase

3.10. Demolition of structures within what would otherwise be an RPA and adjacent to existing tree canopies will proceed with due caution to avoid unnecessary damage to trees, working systematically away from retained trees wherever possible. The bases and foundations of the existing buildings that to be demolished and within the RPAs of retained trees shall be excavated and removed with care, under the control and supervision of the arboricultural consultant.

3.11. Existing site boundary walls and fencing will remain in situ during demolition works so as to retain the current RPA protection afforded around the periphery of the site.

3.12. Demolition will be undertaken inwards from within the footprint of the existing buildings ("top down, pull back"), working in a controlled manner under supervision so as to safeguard adjoining trees. Where the foundations are alongside trees, the break out will be carried out

(under arboricultural supervision) in small sections and the void backfilled and compacted prior to the next section being broken out.

3.13. Where levels of dust build-up on trees occur, it may be necessary to seek the advice of the attending arboricultural consultant on remedial measures, e.g. hose down the tree(s) following any significant accumulation of dust.

3.14. Current ground clearances should be sufficient to accommodate demolition without access pruning.

3.15. Existing hard surfacing across the site-side RPAs acts as an existing ground protection. Where it is required for hard surfacing is to be removed and or re-surfaced within the RPAs of retained trees it is to be undertaken under direct on-site arboricultural supervision, during the landscaping phase of the development.

3.16. The wearing course will be broken up using a hand held pneumatic breaker, hand tools and wheel barrows to break up and remove the surfacing. Where is necessary to remove the sub base this is to be undertaken using a fork to loosen the material and moved using shovels and wheel barrows. There must be no disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil will be applied as soon as practicably possible to prevent desiccation.

3.17. Where it is necessary to operate within the immediate vicinity of a tree canopy, it will be done with the utmost caution and under the control of a banks man.

Watching Brief / Site Supervision

3.18. The engagement of an Arborist to perform a 'Watching Brief" can help ensure the successful retention of trees and implementation of an AMS. If deemed a requirement by the LPA as part of a suitably worded planning condition, it is suggested that a Watching Brief entails regular site visits by an appointed Arborist for the duration of the construction phase, with the frequency of visits to be agreed in writing with the LPA. Such visits should involve regular 'drop-in' visits by the appointed Arborist to oversee the tree protection measures and provide general tree advice when needed.

3.19. Site monitoring by a project Arborist would be appropriate during the following work stages in order to oversee:

- Overseeing consented tree removals to avoid erroneous felling;
- Prior to severing any tree roots that may be encountered during ground works adjacent to retained RPAs that are larger than 25mm diameter; and
- Following implementation of BS5837 Tree Protection Fencing to confirm the alignment and specification.

3.20. It is the responsibility of the Site Manager to request (with sufficient notice) the attendance of an Arboricultural Consultant to oversee such work. It is advised that written confirmation of any visits and advice with supporting photographic evidence if appropriate would be issued to the LPA's Arboricultural Officer following the completion of each site monitoring visit.

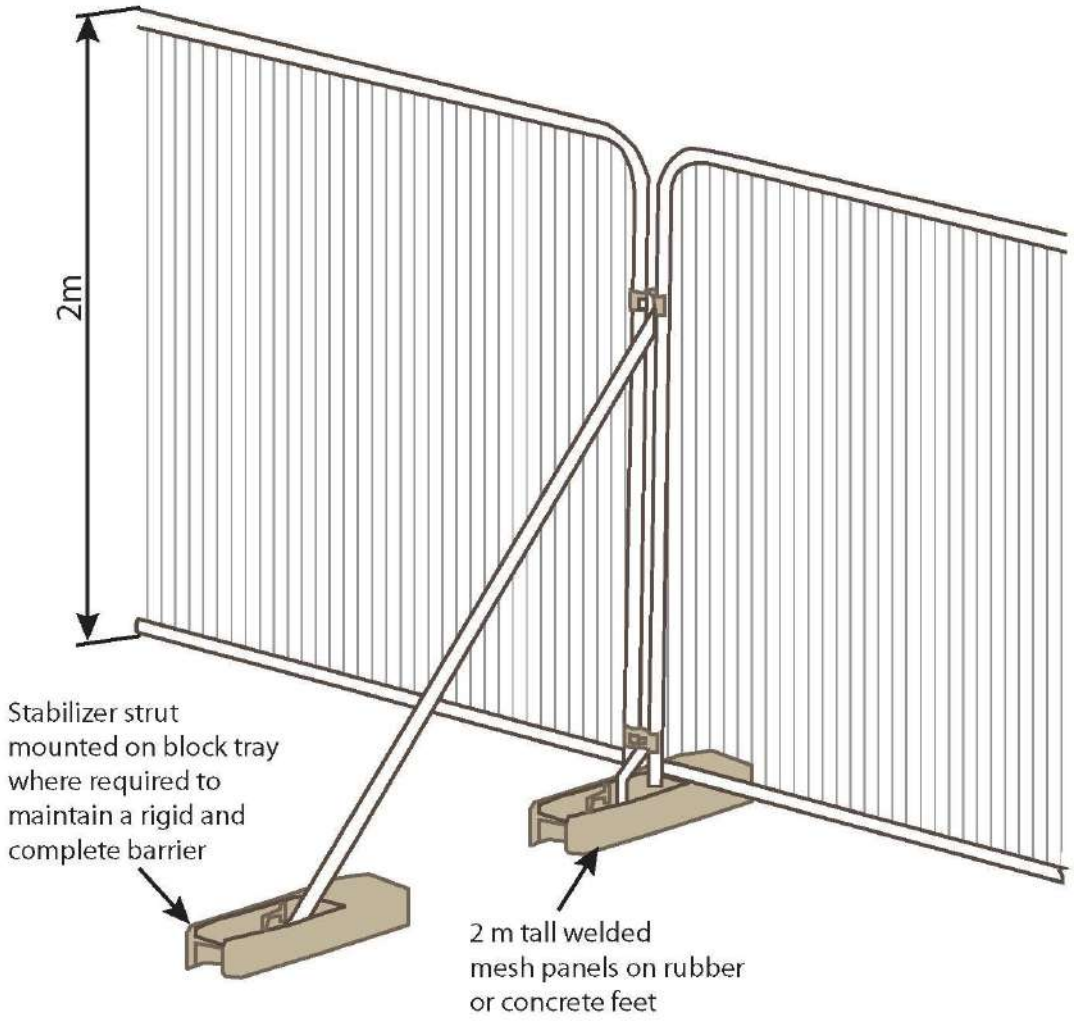
Tree Protection Fencing

3.21. Existing site boundary walls and fencing will remain in situ wherever possible during the site demolition and construction phases as this provides an existing barrier to RPA incursion around the periphery of the site.

3.22. As an added precaution in relation to T6, owing largely to the amount of RPA present within the site associated with this specimen, coupled with the maturity of the tree, additional protective fencing will be erected around T6 in accordance with BS5837, as illustrated with the Magenta line on the TPP contained to the rear of this report. The protective fencing must remain in position for the duration of the site-wide demolition and construction activities. If this fencing is required to be moved to enable access into the RPAs, the fencing will be moved by hand and ground protection boarding installed within any exposed areas of RPA to safeguard the rooting environment of trees no longer being bound by the tree protection fencing.

3.23. Where access into the RPAs is needed the implementation of Grassform (or similar) and Trakmats can provide a gripped and lightweight ground protection solution to safeguard the rooting environment of trees. In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired. Any access across RPAs to undertake tree works must only be undertaken under the guidance of this AMS and overseen by an Arborist to ensure that suitable ground protection is in place.

3.24. The fencing consists of a scaffold framework positioned on rubber block trays as shown on the image overleaf.



3.25. Special attention is essential in maintaining the protective barrier during the construction phase, ensuring that it remains rigid and complete as well as fit for the purpose intended. In order to avoid disturbances to the protective barrier once it is installed, it should be inspected frequently, including during site visits by the project Arborist. Repairs shall be made immediately where required. The protective fencing will remain in position for the duration of the site-wide demolition and construction activities.

3.26. All-weather notices will be attached to the barriers with words such as 'Construction Exclusion Zone – No Access' (see signage examples below).

Protection of Areas of Proposed Landscaping

3.27. Principal areas of proposed planting and structural landscaping can also be safeguarded during the construction phase by secured plastic mesh fencing as this will still offer protection and a visual barrier to any construction works. This will protect proposed planting areas from soil structure damage, ensuring that the ground can be kept in an adequate condition for growth during the construction phase.

3.28. All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained tree. Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved. No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist should be consulted about soil decompaction techniques.

Boundary Treatments / Scaffolding / Permanent Fencing

3.29. Where the scheme requires the erection of permanent boundary fencing or signage in close proximity to, or within, RPAs the existing ground levels will not be altered. No plant, vehicles or machinery will be allowed in the construction exclusion zone at any time unless suitable approved ground protection is used.

3.30. In the event that scaffolding is needed within the defined RPAs (i.e. within any areas between proposed buildings and established protective fencing) then inter-linked ground protection boards placed on top of a compression-resistant layer consisting of 150 mm depth of woodchip laid onto a geotextile membrane must be implemented to safeguard the rooting environment with RPAs. Alternatively, the implementation of Grassform (or similar) and Trakmats can also provide a gripped and lightweight ground protection solution to safeguard the rooting environment of trees.

3.31. In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

3.32. Ground protection must be installed prior to the commencement of any operations within the RPAs and any excavation works undertaken using hand tools to avoid damage to tree roots. Using a brush will expose roots cleanly before deciding whether it will be necessary to prune. Care must be taken not to damage roots including the roots' bark. Any roots encountered which are smaller than 25mm in diameter can be pruned back, preferably to a side branch using a proprietary cutting tool. Roots larger than 25mm diameter should only be severed following on-site agreement with an arboricultural consultant, as they may be essential to the tree's health and stability.

3.33. Fence posts will be located to avoid tree roots (identified during trial digging by hand) and holes within the RPAs must be lined with an impermeable membrane to reduce the risk of contamination where concrete is to be implemented.

Permeable Surfacing within T6 RPA

3.34. Works to implement the proposed car parking spaces within the RPA of T6, as shown on the **TPP**, will be undertaken within an area of existing hard surfacing. Permeable surfacing is proposed as a means of enhancing the site-side RPAs in terms of aeration and drainage.

3.35. Using a Cellweb Tree Root Protection system, or similar, will require that only the upper wearing course of the existing hard surfacing within the RPA will need to be removed as the Cellweb system does not require excavation into the soil, therefore avoiding damage to any potential underlying tree roots. Construction will need to be undertaken by hand and with care not to damage the adjacent canopies or to disrupt the ground condition within the surrounding RPA.

3.36. Cellweb depths would typically comprise 75m depth for footways and to 200mm depths requiring more substantial vehicular traffic. The cellweb will need to be specified in detail by the supplier's engineers prior to implementation. A separation fabric, using the Treetex T-300 Geotextile (Geosynthetics Ltd), will be laid directly onto the ground as a separation and filtration layer. Treetex T-300 also acts as a pollution control layer to protect the soils

beneath. Angular 40/20mm stone will then be laid as a sub-base to allow for variable levels and soil conditions within the site. The Cellweb Tree Root Protection system will then be laid, (strictly as per the manufacturer's specification) and filled with the same stone as infill to provide a load-bearing and permeable structure suitable for pedestrian and vehicular movements.

Amendments

3.37. Issues can arise on development Sites which require amendments to the previously agreed tree protection details. Any amendments to the AMS will be discussed with the Arboricultural Consultant and agreed in writing with the LPA prior to being implemented. Copies of paperwork relating to any amendments shall be attached to the site AMS to provide a definitive record of what has been approved.

Procedures for Incidents

3.38. If any breach of the approved tree protection measures occurs (including any accidental / unauthorised damage to the limbs, roots or trunk of trees, the discharge / spillage of toxins and waste within the RPAs, or unauthorised breaching / failure to implement a tree protection barrier or construction exclusion zone or prescribed arboriculturally sensitive working methodology):

- The site manager must be informed immediately;
- The Local Planning Authority Tree officer (or other Planning Officer) and project Arborist;
- Swift action must be taken to halt the breach and prevent any further breach; and
- All preventative action and details of agreed remedial works must be recorded by the project Arborist and reported to the LPA.

Appendix 1: Methodology, Constraints, Mapping and Limitations

Field Work

A1.1. In accordance BS5837, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (1.5m).

A1.2. Measured topographical survey data (supplied by others) was used to inform tree locations their surrounding context. Any trees not identified on the topographical survey are prefixed with (*) and their locations have been approximated using measurements during the tree survey and further informed by aerial photography where required.

A1.3. The trees surveyed were visually inspected from ground level only. No invasive investigations or climbing inspections were necessary to confirm visual or audible signs of defect or debility and no tissue or soil samples were undertaken. For further clarification please refer to the tree survey explanatory notes in below.

Tree Numbers

'T' prefixes have been used to identify individual trees and commence with 'T1'.

'G' prefixes have been used to identify groups of trees.

'H' prefixes have been used to identify hedgerows.

'W' prefixes have been used to identify woodlands.

Species

A1.4. Species are listed by their common name, both in the schedule and in the report text.

Height and Stem Diameter

A1.5. The stem diameter is measured at 1.5m above ground level and given in millimetres (mm). Tree heights are measured in metres (m) using a clinometer where access and land typography allowed. In instances where access to tree's stem and height measurements were not possible, the dimensions have been estimated by eye.

Crown Spread and Height of Crown Clearance

A1.6. Radial crown spread is measured in metres and is listed for each of the four cardinal points where access has been possible to obtain a measurement. Where access was not possible to measure the spread of the canopy, such distances have been estimated by eye or informed by aerial photography.

A1.7. The measured canopy shapes have been plotted on the **Tree Constraints Plan (TCP)** at the four cardinal points. For groups of trees, the extent of the canopy has been measured as an average across the group and plotted using the topographical survey mapping. In some instances, Tyler Grange will use aerial photography to inform the canopy spread of larger tree groups and woodlands where topographical data is limited for such features.

The distance between the ground level and the first significant branch or radial tree crown, whichever is the lower, has been measured in metres.

Age Class

A1.8. The age of each tree is defined as follows:

Young - within the first third of reaching full maturity;

Semi-Mature - within the second third of reaching full maturity;

Early-Mature - within the last third of reaching full maturity;

Mature - specimen at full maturity; and

Veteran – tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Physiological and Structural Condition

A1.9. The physiological or structural condition of each tree is defined as either; good, fair, poor or dead. For each tree, where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc.

A1.10. An assessment of a tree's physiological condition is defined as:

Good – fully functioning biological system showing expectant vitality for the species i.e. normal bud growth, leaf size, crown density and wound closure.

Fair – fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure.

Poor – a biological system with limited functionality showing clear physiological decline, disease or significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure.

Dead – tree observed to fully dead with no living parts.

A1.11. An assessment of a tree's structural condition is defined as:

Good – no significant structural defects.

Fair – structural defects which could be alleviated through remedial tree surgery or arboricultural management practices.

Poor – structural defects which cannot be alleviated through tree surgery or arboricultural management practices.

Tree Quality Gradings

A1.12. The value of trees has been assessed in accordance with the BS5837 Cascade Chart for Tree Quality Assessment (See **Appendix 3**). Grading subcategories (1, 2 and 3) reflect arboricultural, landscape and cultural values respectively.

Root Protection Areas

A1.13. The **Tree Constraints Plan** shows the approximate extent of Root Protection Areas (RPAs). The RPAs have been plotted and calculated in accordance with the methodology set out in Appendices C and D of BS5837, using the tree stem diameter dimensions obtained during the site visit.

A1.14. Plotted RPAs serve as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

A1.15. Where pre-existing site conditions or other factors indicate that rooting may occur asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution observed on-site. Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:

a) the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);

b) topography and drainage;

c) the soil type and structure; and

d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

A1.16. The plotted RPAs have therefore informed the design of the proposed development where possible. While developing within RPAs should be avoided, special working methods can be adopted to alleviate the RPA disturbance for cases where the development is considered necessary and unavoidable.

Tree Canopies and Shading

A1.17. The distribution of tree canopy cover on and within influence of the site is illustrated on the **TCP**. Canopies have been plotted at cardinal points for individual and groups of trees. The Tree Survey Schedule included at **Appendix 4** to the rear of this report lists the vertical clearance from site ground level to significant tree branching of individual trees. This measurement informs the impacts of accessibility and development beneath tree canopies.

A1.18. The principal tree shadow constraints are shown on the **TCP** and have been plotted in accordance with BS5837 using the current height of surveyed trees. The indicative shade cast by existing surveyed trees signifies the area within which the amenity interests of shading, available daylight and the proximity of trees to any future site uses may be impacted upon should a tree be retained as part of development.

A1.19. Where shading is unavoidable, the potential adverse impact of shadowing should also be reviewed on balance with the positive aspects of retaining a degree of canopy shade.

BS5837:2012 (para. 5.3.4, a) NOTE 1) states that "shading can be desirable to reduce glare or excessive solar heating, or to provide comfort during hot weather. The combination of shading, wind speed/turbulence reduction and evapotranspiration effects of trees can be utilised in conjunction with the design of buildings and spaces to provide local microclimatic benefits".

Limitations

A1.20. The comments made are based on observable factors present at the time of inspection. Although the health and stability of trees in their current context is an integral part of their suitability for retention, it must be understood that this report is not a tree risk assessment and should not be construed as such. While every attempt has been made to provide a realistic and accurate assessment of the trees' condition at the time of inspection, it may have not been appropriate, or possible, to view all parts or all sides of every tree to fulfil the assessment criteria of a risk assessment.

A1.21. No tree can be considered entirely safe, given the possibility that exceptionally strong winds could damage or uproot even a mechanically 'perfect' specimen. It is therefore usually accepted that hazards are only recognisable from distinct defects or from other failure-prone characteristics of the tree or the site. An assessment of the potential influence of trees upon existing buildings or other structures resulting from the effects of trees upon shrinkable load-bearing soils or the effects of incremental root or branch growth, are specifically excluded from this report.

Un-assessable Risks

A1.22. The Wildlife and Countryside Act (WCA) 1981 (as amended) makes it an offence to disturb nesting birds or recklessly endanger a bat or its roost. Bats are also a European protected species and are additionally protected under the Conservation (Habitats & c) Regulations 1994 and 2010 (as amended). The survey findings, constraints, opportunities and design or mitigation recommendations included within that report must be read alongside this document.

A1.23. A lack of recommended work does not imply that a tree does not pose an unacceptable level of risk and likewise, it should not be implied that a tree will present an acceptable level of risk following the completion of any recommended work.

Appendix 2: Arboricultural Planning Policy

A2.1 Under the Town and Country Planning Act 1990 (as amended) the requirement to consider trees as part of development is a material planning consideration and will be taken into account in the determination of planning applications. Arboricultural planning policy that relates to the site is set out by policy at a National and Local level.

National Planning Policy

A2.2 The consideration for existing trees and woodlands in relation to planning and new development is set out within Sections 12 and 15 of the NPPF published in December 2023.

A2.3 Section 12, paragraph 131 states that *"Trees make an important contribution to the character and* quality *of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users."*

A2.4 Section 15, paragraph 174 states that *"Planning policies and decisions should contribute to and* enhance *the natural and local environment by: Subsection B; "recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland"*

A2.5 Section 15, paragraph 180 states that *"When determining planning applications, local planning authorities should apply the following principles:" Subsection C; "that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists".*

The London Plan, The Spatial Development Strategy for Greater London, March 2021

A2.6 Policy G1: Green Infrastructure states that:

- *London's network of green and open spaces, and green features in the built environment, should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits.*
- *Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.*
- *Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:*

- *identify key green infrastructure assets, their function and their potential function.*

- *identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.*

- *Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation."*

A2.7 Policy G7: Trees and woodlands states that:

- *London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.*

- *In their Development Plans, boroughs should:*

- *protect 'veteran' trees and ancient woodland where these are not already part of a protected site.*

- *identify opportunities for tree planting in strategic locations.*

A2.8 *Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.*

Local Planning Policy

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

A2.9 The Plan sets out policies and guidance for the development of the borough until July 2033 or until it is superseded.

A2.10 Policy LP 12: Green Infrastructure requires new development to incorporate "green infrastructure features, which make a positive contribution to the wider green infrastructure network."

A2.11 Policy LP 15: Biodiversity states that *"The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats"*, adding that this will be achieved by *"incorporating and creating new habitats or biodiversity features, including trees, into development sites"*.

A2.12 Policy LP 16 Trees, Woodlands and Landscape states that *"The Council will require the protection of existing trees and the provision of new trees, shrubs and other vegetation of*

landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits", adding that the Council will *"resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value; or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland."*

A2.13 The policy adds that the Council will *"resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees"*, *"require, where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT)"*, *"require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species is encouraged where appropriate"* and *"require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations)"*.

Appendix 3: Cascade Chart for Tree Quality Assessment

Appendix 3: Cascade Chart for Tree Quality Assessment

TREES FOR REMOVAL				
Category and Definition	**Criteria**			**Identification on Plan**
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).			DARK RED
	Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.			
	Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low-quality trees suppressing adjacent trees of better quality. (**NOTE**: Category U trees can have existing or potential conservation value which it might be desirable to preserve)			
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	**Criteria - Subcategories**			**Identification on Plan**
	Mainly Arboricultural Values	Mainly Landscape Values	Mainly Cultural Values, including Conservation	
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN

TREES TO BE CONSIDERED FOR RETENTION				
Category B ***Trees of moderate quality*** *with an estimated remaining life expectancy of at least 20 years*	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural benefits.	**MID BLUE**
Category C ***Trees of low quality*** *with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm*	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or temporary/transient landscape benefit.	Trees with no material conservation or other cultural value.	**GREY**

Appendix 4: Tree Survey Schedule

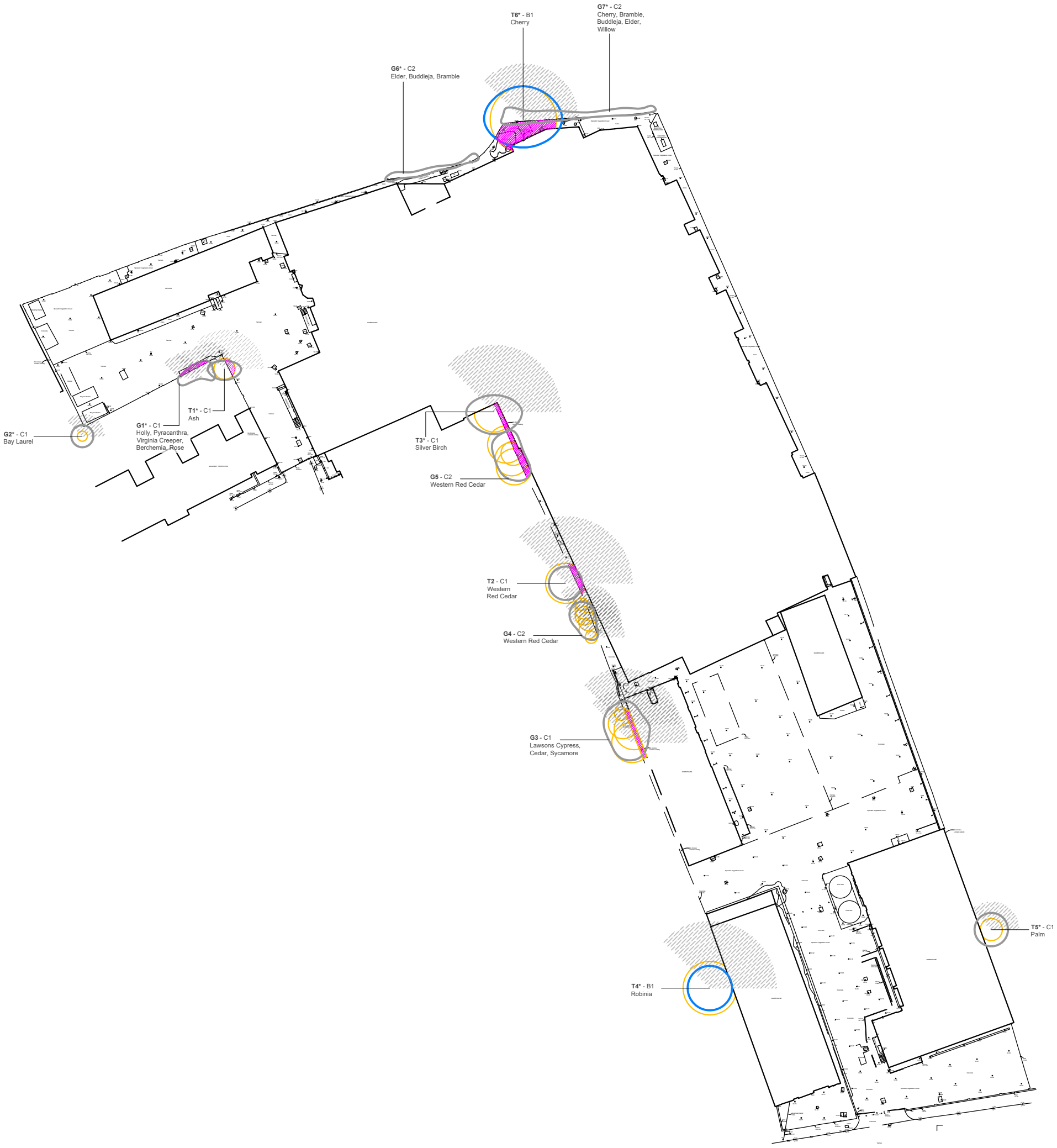
Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Notes	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
G3	Lawsons Cypress, Cedar, Sycamore	10 - 12m	to 280	2.00	2.00	2.00	2.00	0.00	Young to Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 4no specimens, bases obscured. Garden trees, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 3.36m**	_
G4	Western Red Cedar	4 - 6m	to 140	2.00	2.00	2.00	2.00	3.00	Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 8no specimens, bases obscured. Garden trees, topped with canopy deadwood across lower canopies. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 1.68m**	_
G5	Western Red Cedar	10 - 12m	to 280	2.00	2.00	2.00	2.00	5.00	Early Mature	Fair	Fair	C2	Off-site beyond western site boundary. 5no specimens, bases obscured. Garden trees, with canopy deadwood across lower canopies. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**to 3.36m**	_
G6	Elder, Buddleja, Bramble	4 - 6m	50 - 75	0.50	0.50	0.50	0.50	0.00	Young	Fair	Fair	C2	Self-set trees and brambles beyond northern site boundary. Limited age. Unmanaged.	**0.9m**	_
G7	Cherry, Bramble, Buddleja, Elder, Willow	4 - 6m	50 - 75	1.00	1.00	1.00	1.00	0.00	Young	Fair	Fair	C2	Self-set trees and brambles beyond northern site boundary. Limited age. Unmanaged.	**0.9m**	_

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Notes	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
T1	Ash	7m	est. 120+100	1.50	3.00	2.00	3.00	3.00	Early Mature	Good	Good	C1	Stem and base obscured. Garden tree, bifurated with dense middle to upper canopy. Lifted over Greggs entrance. Hard-surfacing across Greggs side RPA. Growing behind brick boundary wall.	**1.9m**	11
T2	Western Red Cedar	13m	est. 300	3.00	3.00	3.00	3.00	4.00	Early Mature	Fair	Fair	C1	Off-site beyond western site boundary. Stem and base obscured. Garden tree, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site building. Growing behind concrete boundary wall.	**3.6m**	41
T3	Silver Birch	12m	est. 300	3.00	5.00	4.00	5.00	4.00	Mature	Good	Fair	C1	Off-site beyond western site boundary. Stem and base obscured. Garden tree, lifted over site-side with canopy deadwood. Hard-surfacing across site-side RPA, canopy conflicts with on-site buildings to north and west of stem. Growing behind concrete boundary wall.	**3.6m**	41
T4	Robinia	12m	est. 400	4.00	4.00	4.00	4.00	1.00	Mature	Good	Good	B.1	Off-site garden tree beyond western site boundary, viewed from afar. Appears in sound health with dense and rounded crown.	**4.8m**	72
T5	Palm	5m	est. 5x75	3.00	3.00	3.00	3.00	0.00	Early Mature	Good	Good	C1	Ornamental garden planting beyond eastern site boundary. No significant issues observed.	**2m**	13
T6	Cherry	10m	est. 500	7.00	8.00	6.00	8.00	2.50	Fully Mature	Good	Fair	B.1	Off-site beyond northern site boundary security fencing. Stem and base obscured. Forked at 2.5m. Lifted over site-side, growing over on-site building. Hard-surfacing across site-side RPA.	**6m**	113
G1	Holly, Pyracanthra, Virginia Creeper, Berchemia, Rose	2 - 4m	est. 50 - 75	0.50	0.50	0.50	0.50	0.00	Young to Early Mature	Good	Fair	C2	Off-site. Bases obscured. Ornamental shrubs and garden trees, lifted over site-side. Hard-surfacing across site-side RPA. Growing behind brick boundary wall.	**0.9m**	_
G2	Bay Laurel	2 - 4m	est. 50 - 75	0.50	0.50	0.50	0.50	0.00	Young to Early Mature	Good	Good	C2	Off-site garden trees beyond north western site boundary, viewed from afar. Appears in sound health with dense and rounded crowns.	**0.9m**	_

Plans

15378/P01: Tree Constraints Plan

15378/P03a: Tree Protection Plan



Category B - Trees of Moderate Quality and Value

Category C - Trees of Low Quality and Value

Tree Shading Constraints

Root Protection Areas (RPAs)

Site-side RPAs covered by existing hard surfacing

*Denotes trees and groups not identified on topographical survey. Locations approximated using measurements taken on site.

0 25m

North

Tyler Grange

Head Office: Marsden Estate, Rendcomb, Cirencester, Gloucestershire GL7 7EX

E:info@tylergrange.co.uk
W: www.tylergrange.co.uk

Rev Description Date

Project title
Greggs Bakery, Richmond

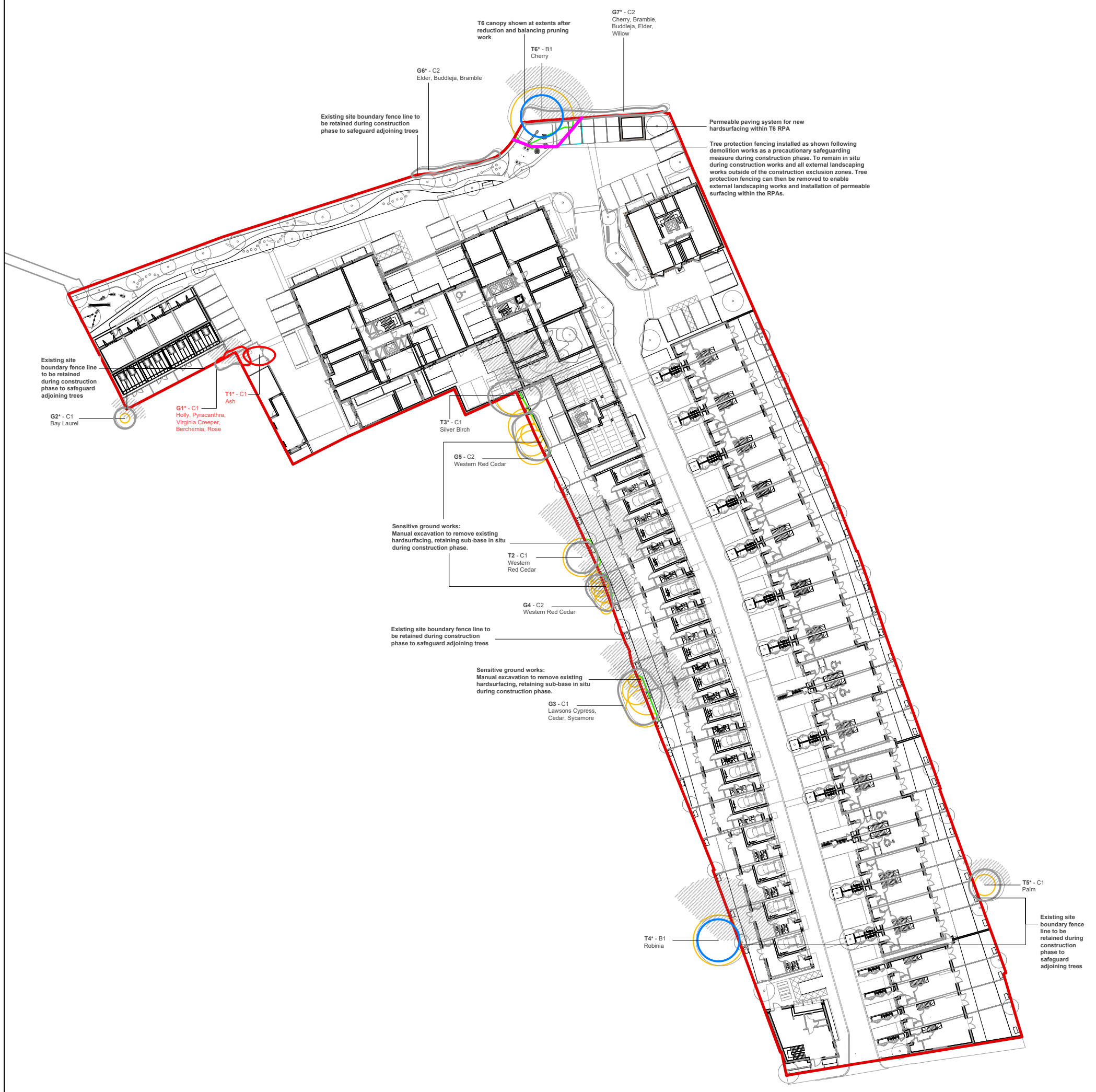
Drawing title
Tree Constraints Plan

Scale 1:750 @ A3
Date October 2022

Drawn JJ

Drawing number
15378/P01

Revision
-



Category B - Trees of Moderate Quality and Value

Category C - Trees of Low Quality and Value

Tree Shading Constraints

Root Protection Areas (RPAs)

Sensitive ground works / manual excavation

Proposed tree removal

Tree protection fencing

Permeable surfacing

0 25m

North

Tyler Grange

Head Office: Marsden Estate, Rendcomb, Cirencester, Gloucestershire GL7 7EX

E:info@tylergrange.co.uk
W: www.tylergrange.co.uk

Rev	Description	Date
B	Update to T6 canopy dimensions	16/07/2024
A	New layout received	28/11/2022

Project title
Greggs Bakery, Richmond

Drawing title
Tree Protection Plan

Scale 1:750 @ A3
Date July 2024

Drawn JJ NC

Drawing number
15378/P03

Revision
B

Tyler Grange

Landscape | Ecology | Arboriculture

Appendix iii

Construction Environmental Management Plan

PURE LOGISTICS
ENVIRONMENTAL MANAGEMENT PLAN
LSQ – GREGGS BAKERY

- **Plan**
  Establish your context and strategies. Determine regluatory and statutory commitments.
- **Do**
  Develop policies and objectives. Provide resources, assign process owners. Focus on improvement. Address risks, opportunities and significant impacts.
- **Check**
  Review system and process performance data, ensure alignment is maintained between context and strategy. Review policy and objectives.
- **Act**
  Agree changes and implement activties to improve the EQMS and its processes.

CONTENTS;

E.1.1 Introduction, Company Details and Scope of Works.

Company Details:
London Square Head Office,
One York Road,
Uxbridge,
UB8 1RN

The purpose of this plan is to present the proposed control measures, and to address the environmental impacts that are applicable to London Square. The identification of these environmental impacts will establish the strategy to be followed to reduce the environmental impacts of operations within London Square.

These procedures will identify what environmental issues need to be managed during works at Greggs Bakery with respect to London Square or their clients. These procedures will also outline the measures to be taken in the instance of an environmental accident/incident e.g. Diesel Spillage.

Scope of works for which this plan impacts are Demolition, Substructure, Superstructure, Waste Management, Delivery Management and Traffic Management.

E1.2 Environmental Policy Statement;

Introduction

The Director responsible for Environmental compliance at London Square has defined the environmental policy of the organisation in relation to the design and construction of commercial and residential properties.

The company recognises the environmental impact that its products and services can have on the local and global environment, and that an effective management system is essential to maximise our contribution to environmental protection.

Scope

This policy applies to all employees, contractors and sub-contractors working for an on behalf of London Square in the design and construction of commercial and residential properties.

Policy

This policy will be communicated to all employees and is available to any interested parties. Our policy principles are to:

1. Integrate environmental factors into our business decisions.
2. Comply with all relevant environmental legislation, regulations and codes of practice that relate to our business.
3. Encourage the development of suitable construction methods, which promote environmental protection and/or minimise environmental impacts.
4. Encourage our contractors and suppliers to pursue best practice and to apply environmentally friendly solutions.
5. Continually improve the environmental performance of London Square.
6. Show a demonstrable commitment to pollution prevention.
7. Develop and maintain our Environmental Management System (EMS) in line with the requirements of ISO 14001:2015
8. Promote ownership and control of environmental impacts of our activities.
9. Optimise and efficiently use resources whilst maximising re-use and recycling opportunities.

Implementation

London Square will implement the above principles via our EMS, setting appropriate objectives and targets based around the environmental impacts of our activities.

Reviewing and Reporting

London Square will review the operation of our EMS regularly at board level and publicise internally our environmental performance.

Targets

As far as is possible to do, London Square aim reduce the amount of their site produced waste going to Landfill to 5%, this is to be achieved by October 2025. This target in line with the national waste strategy (Construction Sustainability), and industry good practice.

Director responsible for Environmental Compliance

Andy Maciejewski

Dated February 2024

E1.3 Environmental Impacts

Where London Square work activities impact on the environment the effects of these activities shall be considered in respect to its locality so that any adverse effects may be identified, evaluated, and actioned accordingly.

London Square will prepare environmental procedures and guidance to meet the statutory requirements and where necessary prepare specific environmental impact assessments.

The major environmental impacts that London Square have been identified on Greggs Bakery where they have contract responsibility in part or fully are: -

Noise

Dust

Vibration

Waste (Construction)

Energy Usage (Project Offices etc.)

Land Contamination – Construction/Demolition Waste, ground contamination etc.

Water Pollution

Storage and use of fuels and oils

Storage and use of chemicals e.g. paints (Minimal Impact)

Construction Demolition traffic (air emissions)

E1.4 Environmental Management and Environmental responsibilities

London Square will fully support the fundamental environmental objectives laid out within our company policy, with the aim of minimising the impact of the company's activities on the environment.

This is done by having a company management system which will control the day to day environmental issues and monitor the effectiveness of the system.

As a company London Square have appointed staff who are competent and are aware of the best practices and satisfactory requirements that are placed on our work. These people are accountable for the practical application of the requirements of these procedures in the workplace. It is expected that all employees on their part are to contribute to achieving the targets of the company policy.

Director responsible for environmental matters (*Andy Maciejewski*) - will familiarise themselves with the requirements of these procedures and will regularly monitor and review the procedures for compliance. The Director will also ensure that there are adequate financial and physical resources available for the successful implementation of these procedures.

Environmental Manager (*Stuart Webb*) – will support the environmental procedures and ensure that the company's activities comply with it. They will ensure that environmental issues identified by clients in pre-tender information are addressed in task activities.

They will create and review the company environmental procedures and any project environmental plan, as well as familiarising themselves with their requirements.

They will also ensure that the Greggs Bakery development complies with the requirements of the procedures through regular inspections and audits and from these draw up action plans to correct any issues.

Sustainability Manager (*Stuart Webb*) – will ensure that all procedures are to current legislation and are reviewed annually. They will evidence the integrity of the supply chain and undertake regular compliance audits on suppliers with a report generated to the QHSE Manager.

Construction Manager (*Graham Hill)* - will familiarise themselves with the requirements of the environmental procedures and ensure that all duty holders are complying with their duties. Liaison with the sites is critical in ensuring that the company's environmental objectives within the policy statement are achieved. The Construction Manager must also ensure that adequate financial and physical resources are available for the successful implementation of these procedures. Also the Construction Manager will authorise expenditure to ensure that the company complies with environmental requirements.

Project Manager (*Peter Holmes*) (Waste Champion) - will familiarise themselves with the requirements of the environmental procedures and will oversee their implementation on Greggs Bakery and carry out weekly environmental reporting and any other required client reports. The project managers will allocate adequate resources to ensure that the Clients requirements are met. Shall halt operations or systems of work where there is a risk of an accident with environmental consequences. *Peter Holmes* will be SEATS trained and use this training to share awareness throughout the site team.

They will take responsibility for ensuring corrective actions are taken to rectify hazards and unsafe acts. They shall deal on a day to day basis with contractors on site in relation to environmental matters where necessary and discuss environmental matters in Daily/Weekly Meetings. They will also monitor activities on the Greggs Bakery development to ensure that the procedures are carried out correctly, but also make recommendations to improve systems/procedures when appropriate. They will be the point of contact for the client with regard to environmental matters, and report any environmental accidents to the Contracts Manager.

Peter Holmes will also familiarise himself with the requirements of the environmental procedures and ensure that all contractors/suppliers are providing materials which comply with environmental legislation and best practice. They will also ensure that all suppliers are vetted prior to exchanging resources.

Operatives – are expected to be familiarised with the environmental procedures and to abide by them at all times. Training will be carried out by management at which times operatives should attend and digest the information presented. This will be done through Toolbox Talks and Presentations. During work activities any environmental hazards identified must be reported to the management team.

Toolbox talk topics for all operatives to be covered are as follows and records will be kept in the safety folder under our Toolbox Talk Training Register:

Noise
Dust
Vibration
Construction Waste and Waste Management
Efficient Energy Usage
Land Contamination Awareness – Construction Waste, ground contamination etc.
Water Pollution
Storage and use of fuels and oils
Storage and use of chemicals e.g. paints
Traffic Management (air emissions)

Contractor's – will familiarise themselves with London Squares requirements of the environmental procedures and ensure that they comply fully with them at all times. If at any point we identify any unforeseen environmental hazard, then it must be reported immediately to London Square management. All documents produced must comply with the environmental procedures laid down by London Square.

Suppliers – must ensure that all products/materials provided to London Square, comply fully with statutory requirements/best practice/future European Directives. Materials must be supplied with the correct documentation and packaging. Before any products/materials are supplied to the company you will be asked to complete a supplier's questionnaire to ensure compliance with our own environmental procedures.