Pell Frischmann

Commissioned by Senior Living Urban (Uxbridge) Limited (Guild Living).

Land off Harefield Road (Units 1 and 2), Uxbridge, UB8 1JS

Detailed Construction Logistics Plan

104182

10/03/2021

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Appendix A Swept Path Analysis

1 Introduction

CLP Objectives

1.1 This Detailed Construction Logistics Plan (CLP) has been prepared by Pell Frischmann to accompany an application for full planning permission being submitted by the Applicant, Senior Living Urban (Uxbridge) Limited (Guild Living), to the London Borough of Hillingdon (LBH). The proposal is for a comprehensive redevelopment of the site comprising demolition of existing buildings to provide residential care accommodation (C2), and nursery (E), car parking, landscaping and associated works.

1.2 Full planning permission is requested from the Local Planning and Highway Authority, which is LBH. Due the size and scale of the scheme, the planning application is referable to the Greater London Authority (GLA) and Transport for London (TfL).

1.3 This CLP has been prepared in accordance with TfL's Construction Logistics Plan Guidance dated July 2017.

1.4 This CLP will be treated as a working document and requires input and consultation from the various project stakeholders.

1.5 The key elements that we have taken into consideration to produce our logistic strategy are:

- Traffic Management
- Pedestrian Routes
- Site Security
- Personnel Access
- Vehicle Access
- Welfare facilities and accommodation
- Delivery Co-ordination factoring in neighboring business requirements
- Material Distribution
- Waste Management
- Fire Safety

Site Context

1.6 The site is located off Harefield Road in Uxbridge. The site currently houses the commercial units Wickes and Halfords.

1.7 A strategic site location plan, showing the location of the site in relation to the wider area and key public transport interchanges, is provided in **Figure 1.1**.

Figure 1.1: Site Location Plan



Source: OpenStreetMap (2020) with Pell Frischmann annotations

1.8 The site is located to the east of Harefield Road and north of Warwick Place within Uxbridge Town Centre. It is bound by the rear gardens of the residential properties of Harefield Road and Lancaster Road to the north; Warwick Place and Beasley Court to the south; Penfield Estate to the east; and Harefield Road to the west.

1.9 The site address is Land off Harefield Road (Units 1 and 2), Uxbridge, UB8 1JS.

Development proposals

1.10 This CLP relates to the proposals for the redevelopment of the site to provide a mixed-use development including the following:

Use Class	GIA (sqm)	Units
Guild Living Residences (C2) Guild Care Suites (C2) Guild Care Residences (C2)	10,717 604 233	153 24 5
Nursery (E)	281	-
Food and Drink (E)	350	-
Wellness Centre (D2)	259	-

Source: Marchese & Partners

1.11 The masterplan is shown in **Figure 1.2**.

Figure 1.2: Masterplan image



Source: Marchese & Partners

Hours of Operation

1.12 Standard hours will be as per the LBH's permissible working hours for noisy work:

- 08:00 to 18:00 hours Monday to Friday; and
- 08:00 to 13:00 hours Saturday.
- At no time on a Sunday or Bank Holiday.

1.13 Operations that need to be undertaken outside of standard working hours, e.g. tower crane erection and removal, will be agreed with LBH with notice being provided to the neighbours at least 14 days ahead of these activities occurring or on the day for extenuating circumstances. TfL will also be made aware of any implications for the Transport for London Road Network (TLRN).

1.14 All work which is intended outside these hours, excluding emergencies, will be subject to prior agreement, and/ or reasonable notice to LBH in terms of Section 61 of the Control of Pollution Act 1974.

Traffic Regulation Orders

1.15 No road closures or parking suspensions are expected at this stage to be required during construction.

Report Structure

1.16 Following this introductory section, the remainder of this CLP is structured as follows:

- **Chapter 2: Context, Considerations and Challenges** – provides details of policy requirements, temporary works on the public highway and any construction constraints.
- **Chapter 3: Construction Programme and Methodology** – provides details on construction details, including the construction programme.
- **Chapter 4: Vehicle Routing and Access** – provides details on the routes to be used and swept path analysis at access points.
- **Chapter 5: Strategies to Reduce Impacts** – a summary of the measures that will be put in place to minimise impacts.
- **Chapter 6: Estimated Vehicle Movements** – a summary of the maximum and average vehicles during each construction phase.
- **Chapter 7: Implementing, Monitoring and Updating** – provides details of how the CLP will be enforced and regular monitoring to will take place during construction.

2 Context, Considerations and Challenges

Policy Context

Intend to Publish London Plan (2019)

2.1 Chapter 10 (Transport) of the draft London Plan with consolidated changes makes specific reference to Construction Logistics Plans as a method to assess and mitigate transport impacts.

2.2 Policy T4(B) states that transport assessments should be submitted with development proposals to ensure that any impacts on the capacity of the transport network (including impacts on pedestrians and the cycle network), at the local, network-wide and strategic level, are fully assessed. Transport assessments should focus on embedding the Healthy Streets Approach within, and in the vicinity of, new development. Travel plans, parking design and management plans, construction logistics plans and delivery and servicing plans will be required in accordance with relevant Transport for London guidance.

2.3 Policy T7: Deliveries, servicing and construction, paragraph F states: "*Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments*."

Paragraph 10.7.4 states that: "*When planning freight movements, development proposals should demonstrate through Construction Logistics Plans and Delivery and Servicing Plans that all reasonable endeavours have been taken towards the use of non-road vehicle modes*."

2.4 Policy T7, Paragraph IA states that "*During the construction phase of development, inclusive and safe access for people walking of cycling should be prioritised and maintained at all times."*

2.5 Paragraph 10.7.6 states that Transport for London's guidance on Construction Logistics and Delivery and Servicing Plans should be adhered to when preparing planning applications. Plans should be developed in line with this guidance and adopt the latest standards around safety and environmental performance of vehicles. The plans should be monitored and managed throughout the construction and operational phases of the development. TfL's freight tools including CLOCS (Construction Logistics and Community Safety) should be utilised to plan for and monitor site conditions to enable the use of vehicles with improved levels of direct vision. This should be demonstrated through a Site Assessment within a Construction Logistics Plan. Development proposals should demonstrate 'good' on-site ground conditions ratings or the mechanisms to reach this level.

The Traffic Management Act (2004)

2.6 The Traffic Management Act (2004) The act makes 'provision in relation to the management of road networks; to make new provision for regulating the carrying out of works and other activities in the street'. It acknowledges that highways may be occupied due to construction activities and identifies appropriate changes levied for any extended occupation.

Fleet Operator Recognition Scheme (FORS)

2.7 FORS is a voluntary national fleet accreditation scheme designed to help improve fleet operator performance in key areas such as environmental performance, safety and operational efficiency.

2.8 TfL expects the achievement of and adherence to the FORS Silver standard is mandated via the procurement process for all fleet operators engaged to support the development.

Context Maps

2.9 **Figure 2.1** shows the site in relation to the surrounding local area, and **Figure 2.2** shows the local cycle routes highlighted.

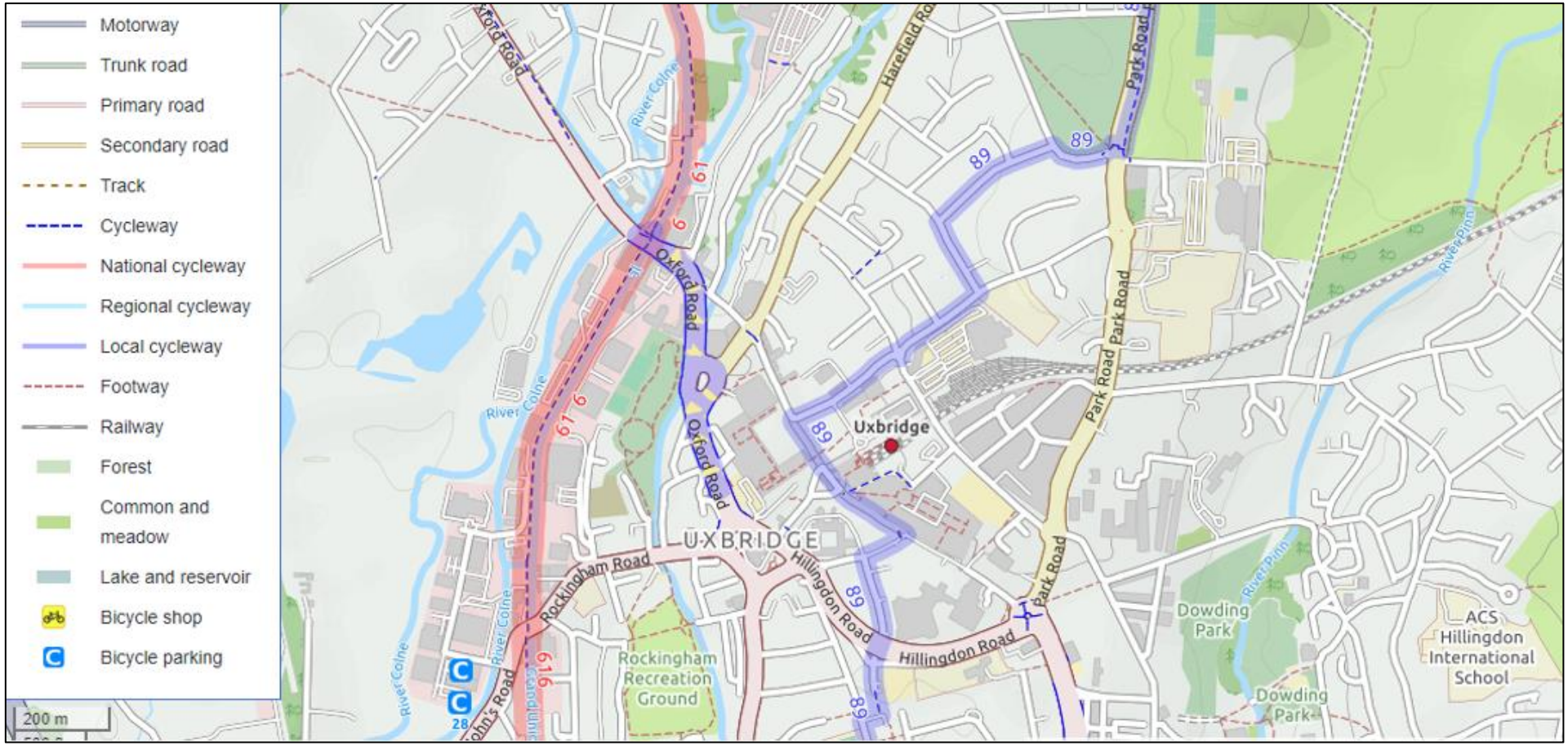
2.10 The existing site road markings are shown on **Figure 2.3**. Currently, the site comprises two low density attached retail warehouse buildings (Use Class A1), currently occupied by Wickes (Unit 1) and Halfords (Unit 2). The buildings are set back within the site which includes a large car park situated in front of the buildings. The site benefits from existing landscaping which is generally limited to eastern and northern boundaries. The site is currently raised above Harefield Road which is fronted by a retaining wall to the car park. The site benefits from existing vehicular and pedestrian access from Harefield Road, with a separate access to a loading bay off Warwick Place.

Figure 2.1: Site Location Plan



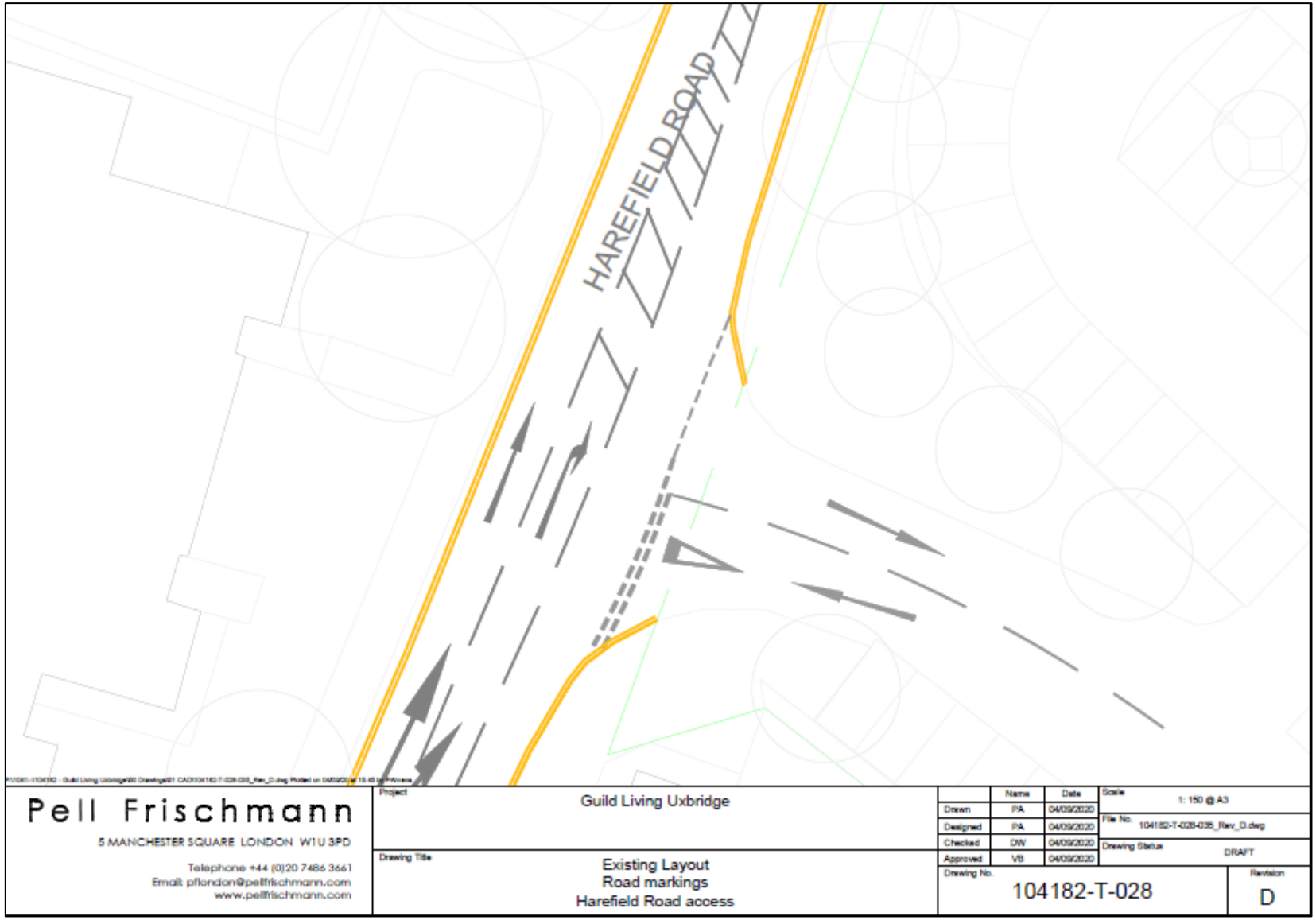
Source: OpenStreetMap (2020) with Pell Frischmann annotations

Figure 2.2: Local Context Plan



Source OpenStreetMap (2020)

Figure 2.3: Local Road Markings – Existing Access



Local Access Including Highway, Public Transport, Cycling and Walking

Highways, Carriageways and Footways

2.11 The site is accessed via its northern edge, from Harefield Road. The site access road is one way and its other end connects to Warwick Place, which in turn connects back at its north-west end to Harefield Road.

2.12 B467 Harefield Road runs along the north-west edge of the site. The existing entrance to the site is currently located along this street, but it also has residential frontage. The proposed access will also meet Harefield Road at the same location.

2.13 High quality footways run along the north-west and south-east sides of the carriageway, becoming raised from the carriageway and separated by a fence approximately 280m north of the site access. The carriageway operates a speed limit of 40mph along the site frontage. There is a controlled parking zone (CPZ) operating in the area around the site.

2.14 Double yellow lines operate on both sides of the Harefield Road carriageway near the current site access, restricting parking at all times. Just north of the current site access, the south-east side commences a single yellow line and the parking bays commence on the north-west side.

2.15 High Street is the busy high street of Uxbridge, with retail frontage and parking bays on both sides of the carriageway and bus stops accommodated on wide footways. It is a two-way street connecting Harefield Road to Uxbridge Underground Station. The southern part of the High Street is pedestrianised, meaning there is no vehicular access from south of the station to the site.

2.16 Harefield Road connects to the B467 at its northern end, which in turn connects to the A40, forms part of the Transport for London Road Network (TLRN), which is managed and operated by TfL. The site is therefore considered to be very well connected to the local, regional and strategic road networks.

Pedestrian Management

2.17 Close attention will be paid to the movement of site traffic in the immediate vicinity and surrounding areas. In conjunction with LBH, the contractors will assess and review traffic routes on a frequent basis as the project progresses and will implement the necessary measures to ensure maximum safety of site personnel and third parties and fluidity of traffic/pedestrian flow.

2.18 Site traffic and pedestrian and vehicular traffic will be kept separate at all times. Work areas will be fenced off from the general public. Risk assessments will highlight the craneage of materials, for example removal of materials from delivery vehicles, so as not to endanger others.

2.19 Secure hoarding will be erected along the site perimeter. The close boarded hoarding will be designed by a hoarding contractor and signed off prior to erection. The hoarding will be constructed to a high-quality finish ensuring that there are no loose timbers or any cracked or de-laminated boards that has the potential to injure the public as they pass by. The hoarding will be painted, and graphics/signage applied. The completed hoardings will be signed off by a temporary works coordinator.

2.20 Hoarding and access gates will be maintained and adapted to suit the progress of the works and the site conditions. Daily inspections will be carried out on all these structures and any damages will be rectified immediately and any graffiti will be removed to maintain a high standard.

2.21 Traffic barriers and suitable signage will be erected to alert pedestrians and vehicular traffic of the works and the temporary safety precautions that are in place. Walkways will be managed to ensure they can be safely accessed by the public at all times and that access to nearby properties is not obstructed. Routes will be clearly signed, well maintained and adequately illuminated.

Parking Suspensions and Temporary Road Closures

2.22 No parking suspensions are expected to be required and no road closures are proposed for during construction

Railway / Underground

2.23 No railway or underground lines will be impacted throughout the duration of the construction phases.

Bus Routes

2.24 No bus routes will be impacted throughout the duration of the construction phases.

Cyclists

2.25 All drivers that service the site will be trained in cycle and pedestrian safety to further ensure the safety of cyclists and pedestrians. All contractors and subcontractors will be required to adhere to the Construction Logistics and Cyclist Safety Standards (CLOCS).

Considerations and Challenges

2.26 From experience, we are acutely aware that the success of any project relies on a robust logistics plan and a strong site management team with controlled supervision at all times. The contractor will be flexible with the site logistics and welcome any input from LBH, Local Businesses, Residents and Ward Members should alternatives be proposed.

2.27 The main challenges with the development are:

- Managing site deliveries/collections whilst ensuring that neighbouring businesses' own daily arrangements are not affected by our works;
- Safely demolishing the existing buildings;
- Managing construction and deliveries during the peak hours so that there is minimal impact on the local highway network and surrounding businesses.

3 Construction Programme and Methodology

3.1 The contractor has developed an indicative outline construction programme. This will be further developed and refined post planning stage.

3.2 The indicative construction programme is shown in **Table 3-1** below. It is based on an estimated start date of July 2021 with an overall programme running until September 2023.

Table 3-1: Construction Programme

Construction phase	Start	End
Site setup and demolition	Jul-2021	Oct-2021
Basement excavation and piling	Nov-2021	Dec-2021
Sub-structure	Dec-2021	Feb-2022
Super-structure	Dec-2021	May-2022
Cladding	Jun-2022	Jan-2023
Fit-out, testing and commissioning	Jun-2022	Sep-2023

Source: Morgan Sindall with Pell Frischmann calculations

Site Set Up and Demolition Stage

3.3 Key vehicular movements/ deliveries are as follows:

- Traffic marshals will be utilized to accommodate the delivery of all large vehicles including the delivery of long reach excavators to site.
- Once main demolition of the build starts there will be grab lorries per day removing debris from site. The lorries will be loaded from within the site boundary.
- Throughout the site set up and demolition stage there will be skips, flatbed lorries, mobile crane and occasional low loaders entering and exiting the site.

Construction Stage

3.4 Key Vehicular Movements/Deliveries are as follows:

Piling/ Sub-Structure Excavation/Temporary works

- The piling rigs will be off-loaded on site. Entry onto site from Harefield Road will be controlled by traffic marshals and the same process will apply when exiting.
- Through the piling process there will be low loaders, skips, articulated lorries and concrete mixer wagons entering and exiting the site. It is proposed that all vehicles can be off-loaded/loaded from within the site.

Tower Crane Erection/Dismantle

- The mobile crane will be facilitated each time within the site boundary. The logistics team will facilitate during the delivery of the articulated lorries carrying the sections of the cranes. The larger delivery lorries for example tower crane sections and piling rigs will be planned for a weekend or out of hours and will be discussed with LBH.
- Through the tower crane erection/dismantling process there will be articulated lorries and parts of the mobile crane being delivered, entering and exiting the site. It is proposed that all vehicles can be off-loaded/loaded from within the site.

Slipform Cores

- Materials will be delivered via concrete mixer wagons, low loaders, articulated lorries and skips, which will be off-loaded on-site. Traffic marshals will be in place to accommodate the safe entry and exit of lorries onto Harefield Road.

Façade Construction

- Deliveries will be well organized to ensure lorries are fully loaded to reduce the number of deliveries required. All deliveries will be booked into the system and the logistics team will facilitate the entry and exit of the lorries.
- Through the façade and roofing process there will be articulated lorries and flat bed lorries entering and exiting the site. It is proposed that all vehicles can be off-loaded/loaded from within the site.

Internal fit-out, deliveries of fixtures, fittings, furniture etc.

- During the last months of the project there will be a large amount of fixtures and fittings to be installed.
- This will involve deliveries of material in smaller vehicles as well as on flatbed and articulated lorries, with an occasional low loader. At this stage in the project the superstructure will be well advanced/almost complete. This could involve multiple deliveries per day for materials for kitchens, bathrooms, flooring and sundry items.

Construction Waste Removal/Skips

- Skip collections/drop-off will be required throughout the entire construction phase of the project. This will be in the form of 8yd skips that will be lifted down from the building by the tower crane when a skip lorry arrives on site.

4 Vehicle Routing and Access

Vehicle Routing

4.1 The most appropriate vehicle route to and from the site has been considered. The exact routing will be agreed prior to construction; however, at this stage the routing is proposed to be to / from the A4.

4.2 **Figures 4.1** shows the construction vehicle routing at a regional level and in the vicinity of the site.

Accessing the Site

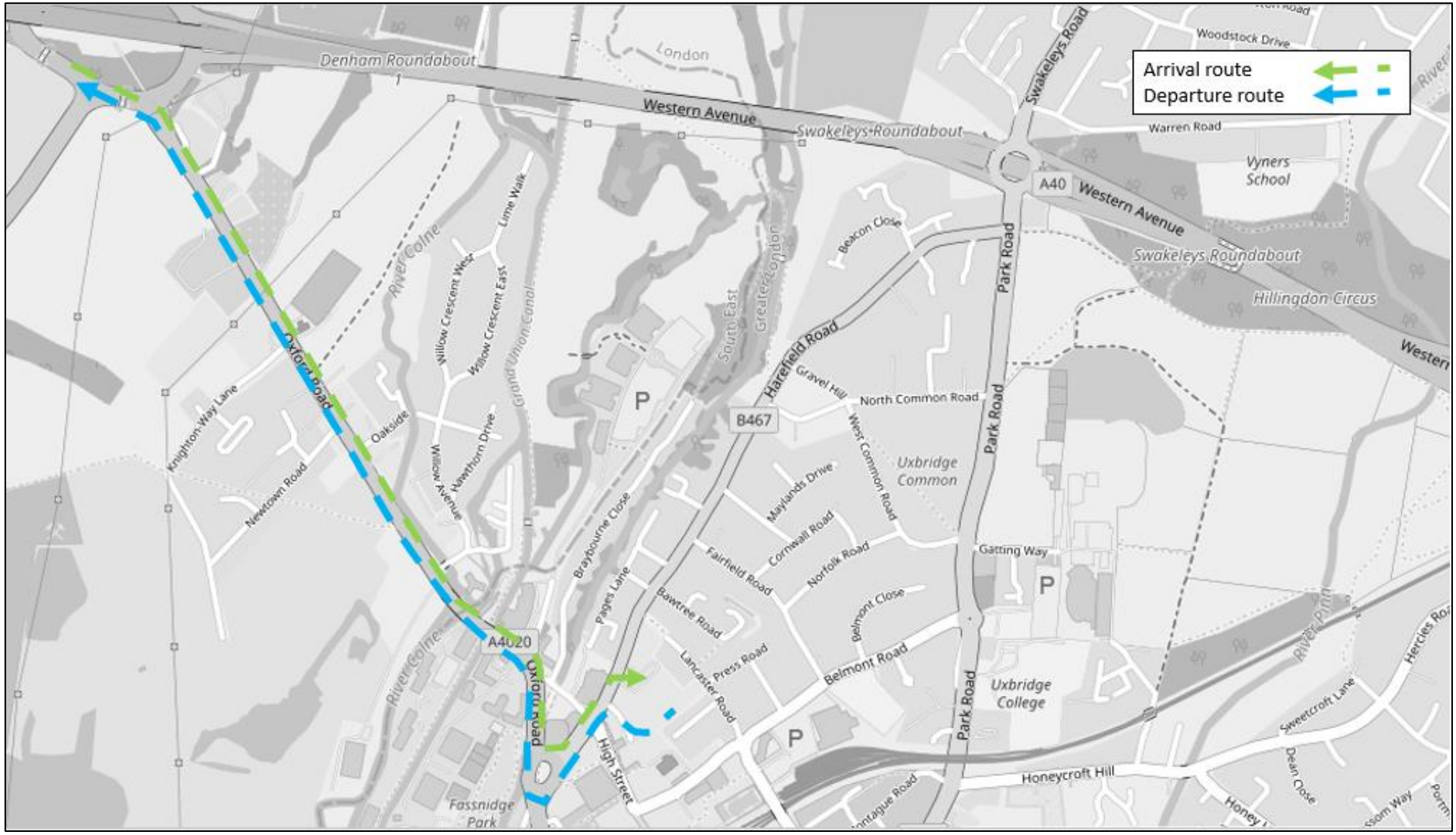
4.3 The site is accessed via its western edge, from Harefield Road which in turn connects at its northern end to Park Road and at its southern end to Oxford Road with a roundabout. The site is egressed via Warwick Place, which adjoins Harefield Road just further south than the site access road.

4.4 There are weight restrictions on Harefield Road just north of the site boundary restricting vehicles to a maximum of 7.5 tonnes (except for loading). This lasts the length of the rest of Harefield Road, until its junction with Park Road. This means that vehicles over 7.5 tonnes (the vast majority of vehicles serving the site) cannot travel in either direction on Harefield Road. Therefore, vehicles cannot be routed from the A40 Western Avenue.

4.5 Therefore, vehicle arrival routing is planned to avoid weight restrictions and therefore comes off the M40 onto the A40, and then travels down the A4020 Oxford Road. The departure route is the same in reverse.

4.6 Both routes are shown on **Figure 4.1**. This connection places the site an approximately 2.1 km journey south of the M40. The M40 forms part of the motorway network. This will be the primary carriageway in which construction traffic will travel along to reach the site.

Figure 4.1: Local Vehicle Routing



Source: OpenStreetMap (2020) with Pell Frischmann annotations

Swept paths

4.7 The vehicle routing into the site will reflect the proposed development's access and egress arrangements, in that the site access road off Harefield Road will serve as the access to the site and the rear access via Warwick Place will serve as the site egress.

4.8 Vehicles will arrive from the south-west and leave in the same direction. This is reflected in the tracking drawings below.

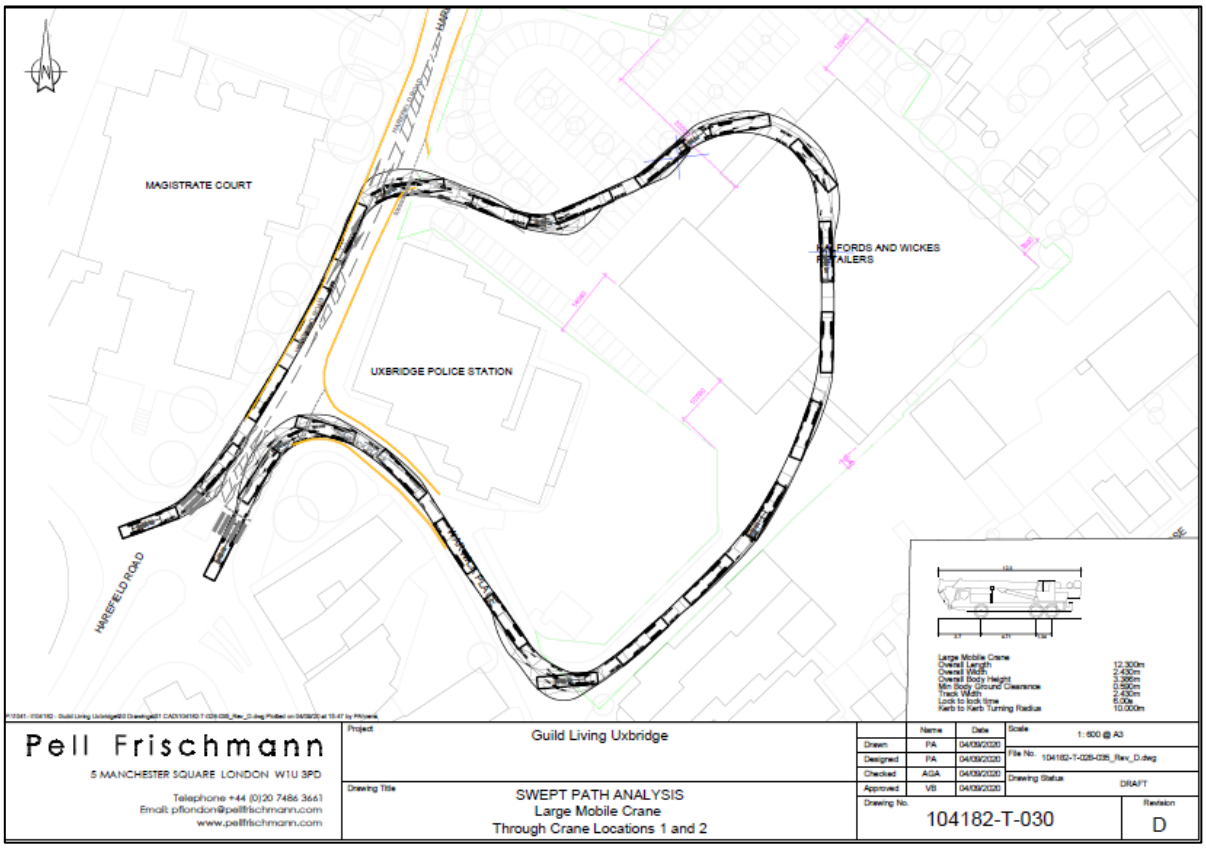
4.9 Swept Path Analysis drawings of the largest expected vehicles accessing the site follow below. The large crane is only expected to arrive occasionally and the low loader infrequently – mainly for installing the tower crane and assorted plant deliveries. The large tipper will be the largest vehicle to be regularly entering the site.

4.10 All remaining vehicle types are smaller than those tracked and so will work fine.

Large Crane

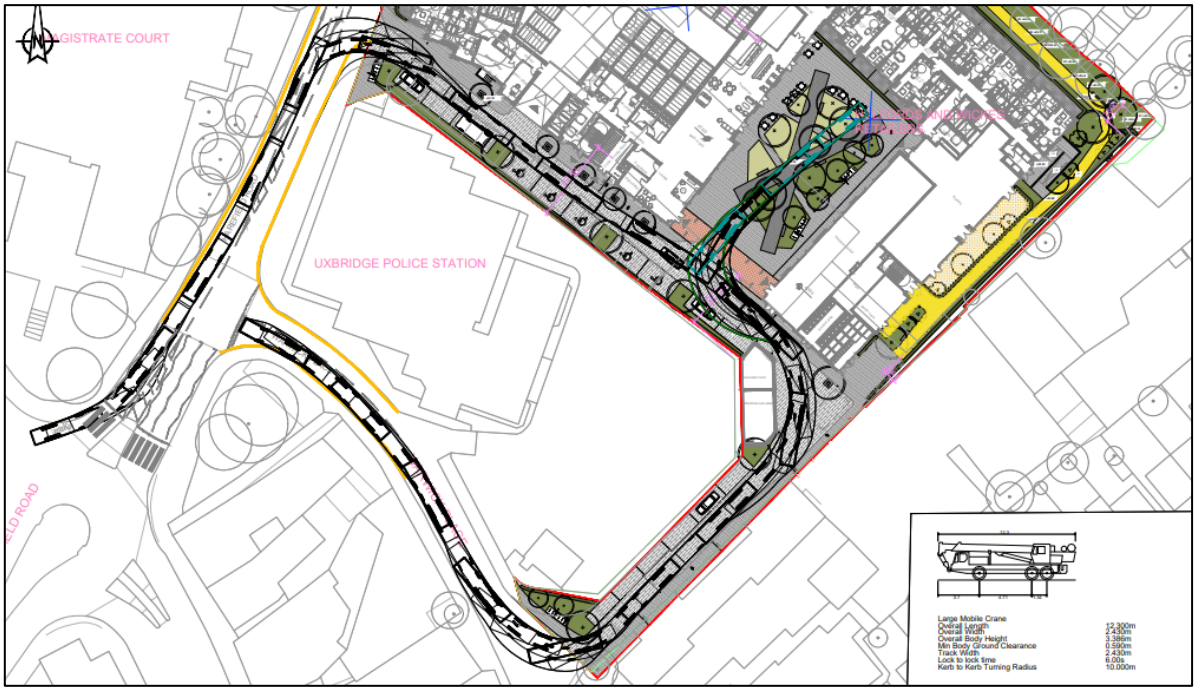
4.11 The large crane will need to access the two crane location points within the site, which are marked on the below drawing (**Figure 4.2**).

Figure 4.2: Large Mobile Crane on existing layout



4.12 The large mobile crane will also have to exit the site once the proposed development is built, as in **Figure 4.3**.

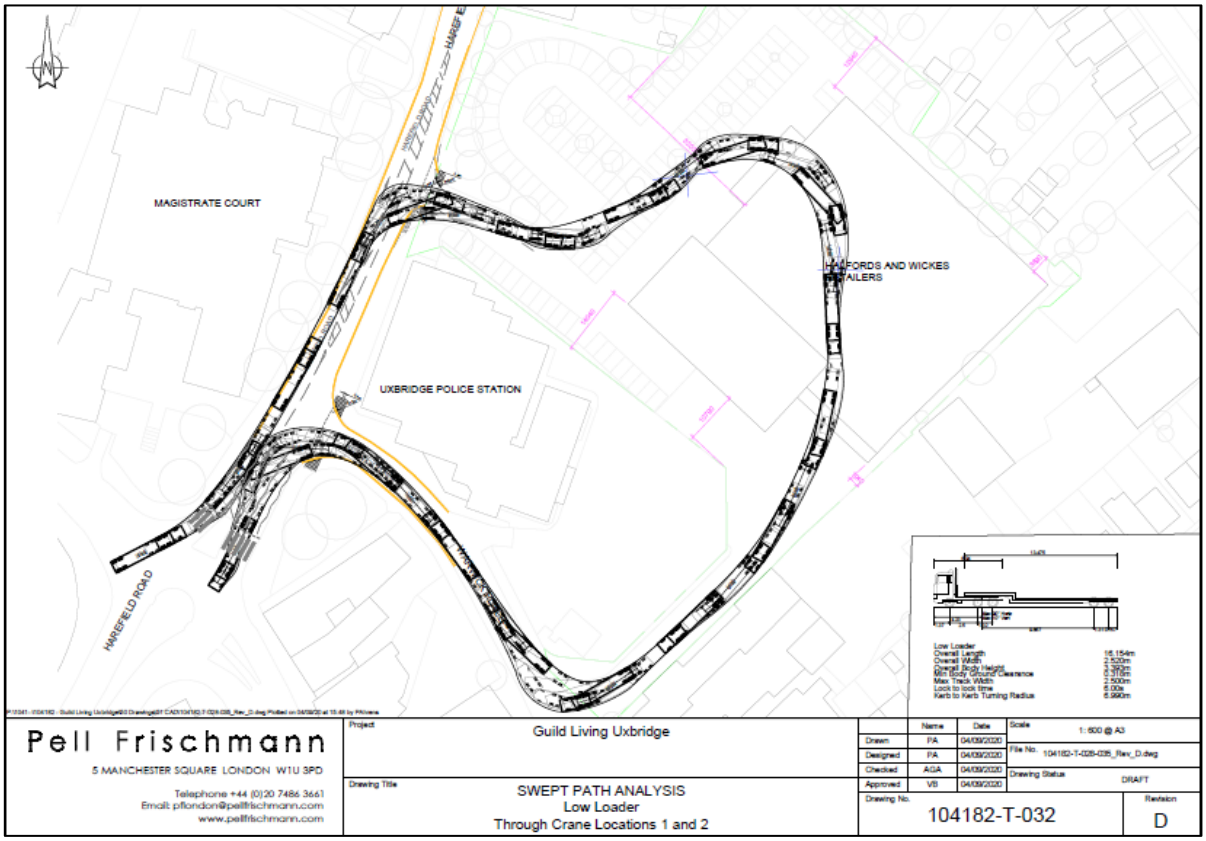
Figure 4.3: Large Mobile Crane on proposed layout



Low Loader

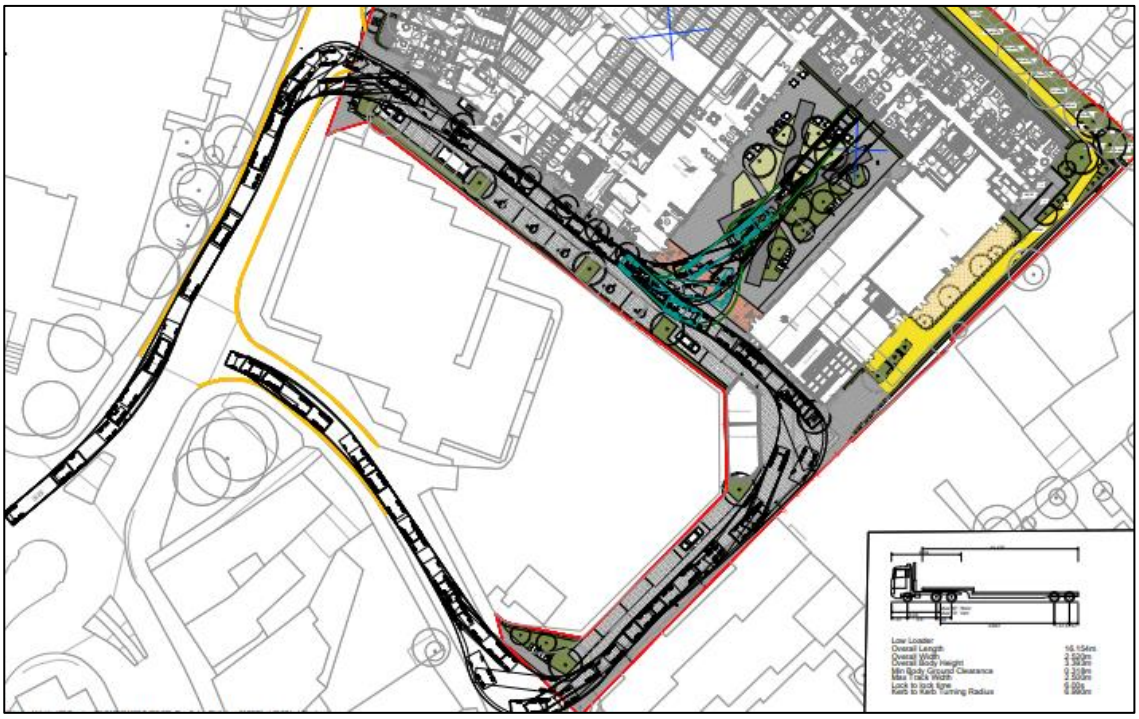
4.13 The low loader will carry parts of the crane and therefore will also need to access the two crane location points within the site, which are marked on the below drawing (**Figure 4.4**).

Figure 4.4: Low Loader on existing layout



4.14 The low loader will also have to exit the site once the proposed development is built, as in **Figure 4.5**.

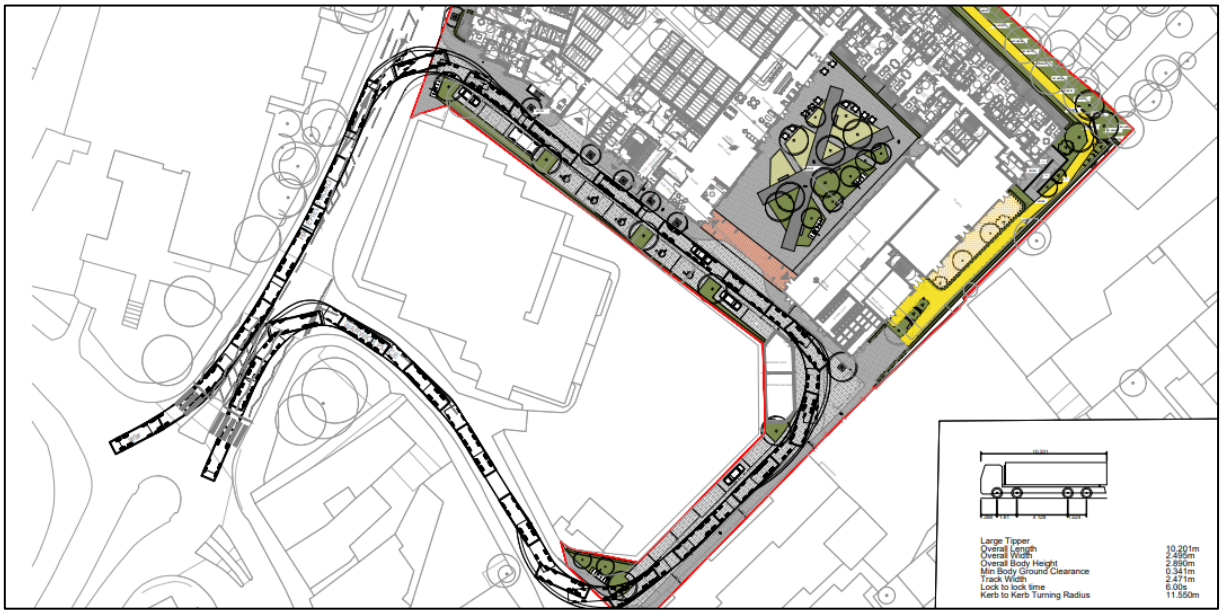
Figure 4.5: Low loader on proposed layout



Large tipper

4.15 The low loader does not need to pass through the crane location points and therefore is shown continuing down the access road.

Figure 4.6: Large tipper swept path



5 Strategies to Reduce Impacts

5.1 **Table 5-1** below sets out the planned measures that are considered to be practical for this site and can either already be committed to, are proposed or being considered.

Table 5-1: High Impact Site Planned Measures Checklist

Measure	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	x		
Adherence to designated routes	x		
Delivery scheduling	x		
Re-timing for out of peak deliveries		x	
Use of logistics and consolidation centres		x	
Material procurement measures			
DfMA and off-site manufacture		x	
Re-use of material on site			x
Smart procurement		x	
Other Measures			
Collaboration amongst other sites in the area	x		
Implement a staff travel plan		x	
FORS and CLOCS	x		
Collision reporting	x		

Measures influencing construction vehicles and deliveries

Safety and Environmental Standards and Programmes

5.2 The main contractor and their subcontractors will be required to adhere to several contractual agreements, in line with TfL's CLP Guidance for Developers. The main contractor will be required to comply with TfL's 'Standard for construction logistics: Managing work related road risk (WRRR)'.

Adherence to Designated Routes

5.3 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

5.4 The main contractor will adopt a (DMS) Delivery Management System, this system will be a web-based portal that all deliveries must be booked in on. The system will be used any company that wants to make a delivery or collection to/ from site.

5.5 Delivery scheduling will not be limited to receiving material deliveries into site, but will be fully coordinated with all materials, waste and plant & equipment leaving site. Hard copies of daily delivery schedules will be displayed at prominent locations e.g. provided at the gate/off-loading points, at hoists and also issued to drivers, forklift drivers and any other materials handling equipment operators, all of whom need to be in constant radio communication with one another.

5.6 All deliveries / collections must be booked 24 hrs in advance and will be on a first come first served basis, each delivery / collection will log on to the system and select a time and be assigned a gate, dependent on the type and size of the delivery, as well as parking suspensions in place at the time.

5.7 This system will enable the main contractor to manage the number, rate and frequency of all deliveries collections, this will enable the main contractor to smooth out deliveries across the day and manage numbers.

5.8 The information inputted on to the system will also gather the data required for servicing and waste monitoring, i.e. type of vehicle, distance travelled, where the vehicle has come from and going to.

5.9 Offloading of deliveries will be carried out during the LBH approved working hours of:

- 08:00 to 18:00 hours Monday to Friday; and
- 08:00 to 13:00 hours Saturday.

5.10 All special deliveries to site that require licensing, e.g. delivery of tower cranes and piling rigs will be delivered to the site outside standard hours in accordance with the conditions of the licence therefore avoiding any unnecessary closures and minimising disruption to the public highway.

5.11 The use of tower cranes will be equipped with luffing jibs to avoid over-sailing of neighbouring properties wherever possible. Climbing hoists are anticipated to be utilised.

5.12 The contractor will consider various methods and tools to assist in supply chain management, such as:

- **Just in time delivery:** the delivery of materials to site 'just in time' for usage thereby reducing the need for onsite stock storage and the associated wastage of materials due to damage and theft;
- **Reverse Logistics:** an enhanced delivery chain which allows for the return of unused goods back to the source supplier; and
- **Demand Smoothing:** organising deliveries to site so that there are fewer peaks (associated with on site and in traffic congestion) and fewer troughs (with delivery management staff unable to carry out any activity).

Retiming for out of peak deliveries

5.13 Wherever possible the contractor will schedule deliveries to avoid the network peaks.

Use of Logistics and Consolidation Centres

5.14 To reduce the impact of construction traffic during peak hours the contractor will implement measures such as consolidation of deliveries e.g. by selecting materials/goods from the same source, thus combining materials into one single delivery, as opposed to a number of vehicles delivering goods from different sources. The contractor will actively seek and investigate ways of consolidating deliveries to reduce the total number of vehicle deliveries at the site.

Material procurement measures

DfMA and off-site manufacture

5.15 Materials will be prefabricated and pre-cut off-site where possible to minimise dust from cutting and grinding activities. If cutting and grinding cannot be mitigated off site, then water suppressant systems and / or local exhaust ventilation will be employed. Pre-fabrication of larger items will also limit deliveries of smaller items and will therefore reduce site congestion.

5.16 It has not yet been determined how much off-site fabrication will be possible for the proposed development. This will be reviewed in detail post planning.

Re-use of Materials on Site

5.17 The main contractor will be required to investigate opportunities to minimise waste arising at source and, where such waste generation is unavoidable, to maximise the recycling and reuse potential of demolition and construction materials.

Smart Procurement

5.18 The contractor will explore the use of local suppliers wherever possible to minimise the length of journeys associated with deliveries. Opportunities to source multiple materials from the same supplier will also be investigated to minimise the number of vehicles required.

Other measures

Collaboration amongst other sites in the area

5.19 The developer and appointed contractor will consult with LBH, TfL, and other contractor/developers in the area to minimise disruption.

Implement a Staff Travel Plan

5.20 A Staff Travel Plan is expected to be prepared by the contractor once detailed information on the construction programme and methodology is available. As the site is well located for public transport it is proposed that no parking spaces will be provided for staff. Instead, all on-site staff will be expected to commute to the construction site using sustainable modes of transport, such as the London Underground, buses, by cycling, or by walking.

FORS and CLOCS

5.21 It is a requirement for all vehicles and driver management practices to comply with the FORS and Construction Logistics and Community Safety (CLOCS).

5.22 FORS Silver will need to be confirmed by all sub-contracted transport/haulage providers that the Contractor intends to use.

5.23 Within 30 days of achieving Accreditation, or equivalent within an alternative scheme, the contractor shall inform the authority detailing its compliance with the safety clauses (the safety, licensing and training report).

Collision Reporting

5.24 A collision reporting system will be mandated to ensure all collisions and accidents involving the projects' vehicle and drivers are reported to the Project Manager and any relevant parties.

5.25 Within 15 days of the contract variation date, the contractor shall provide the authority with a collision report. The contractor shall provide the authority with an updated collision report on a quarterly basis and within five working days of a written request from the authority.

6 Estimated Vehicle Movements

6.1 The number of average vehicle movements has been estimated using the TfL toolkit and are summarised in **Tables 6.1 and 6.2** below. As explained above, these vehicle movements will be reviewed and updated post planning. The figures may vary depending on final programme and construction methodology.

Table 6-1: Number of Vehicles in Peak Phase (By Phase)

Construction phase	Period of stage	No. of trips (monthly)	Peak no. of trips (daily)
Site setup and demolition	Q3 2021 - Q4 2021	459	19
Basement excavation and piling	Q4 2021 - Q4 2021	613	26
Sub-structure	Q4 2021 - Q1 2022	384	16
Super-structure	Q4 2021 - Q2 2022	1,200	50
Cladding	Q2 2022 - Q1 2023	168	7
Fit-out, testing and commissioning	Q2 2022 - Q3 2023	1,048	44
Peak period of construction	Q2 2022 - Q3 2022	1,216	51

Source: Morgan Sindall with Pell Frischmann calculations

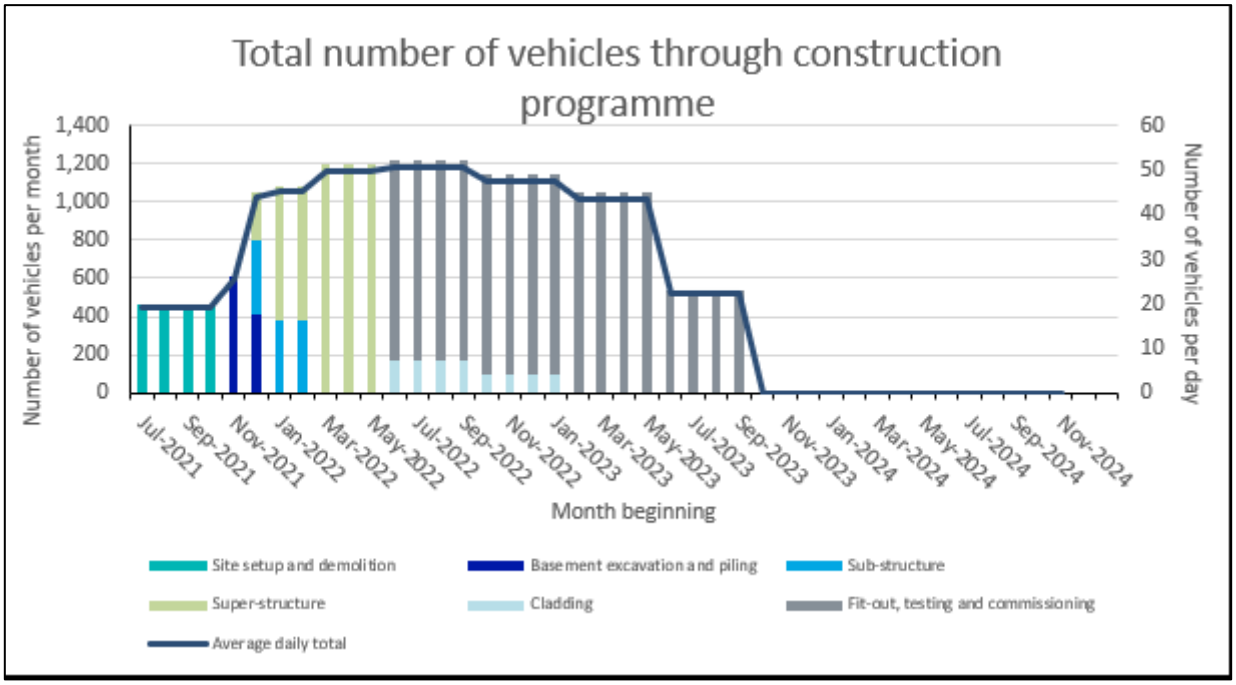
Table 6-2: Number of Vehicles in Peak Phase (inc. overlaps)

Construction phase	Period of stage	No. of trips (monthly)	Peak no. of trips (daily)
Site setup and demolition	Q3 2021 - Q4 2021	459	19
Basement excavation and piling	Q4 2021 - Q4 2021	1,053	44
Sub-structure	Q4 2021 - Q1 2022	1,084	45
Super-structure	Q4 2021 - Q2 2022	1,200	50
Cladding	Q2 2022 - Q1 2023	1,216	51
Fit-out, testing and commissioning	Q2 2022 - Q3 2023	1,216	51

Source: Morgan Sindall with Pell Frischmann calculations

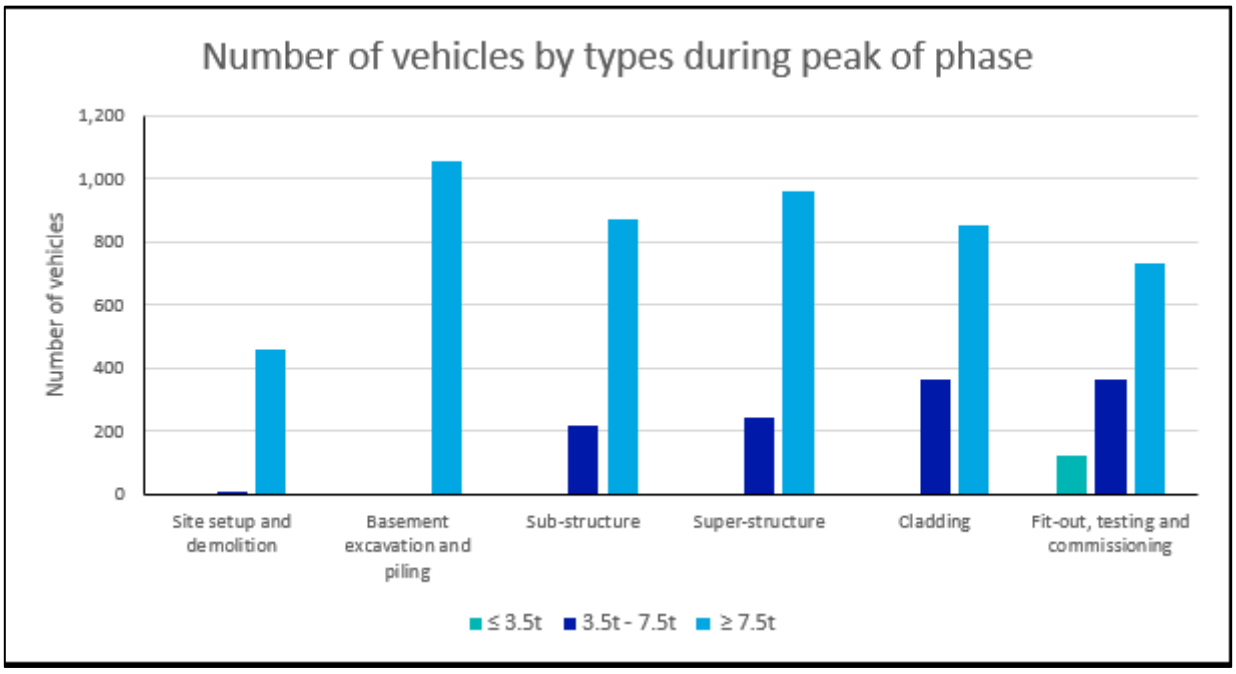
6.2 **Figures 6.1, 6.2 and 6.3** show the estimated vehicle profiles across the construction periods based on the estimated figures set out above.

Figure 6.1: Total Number of Vehicles Through Construction Programme



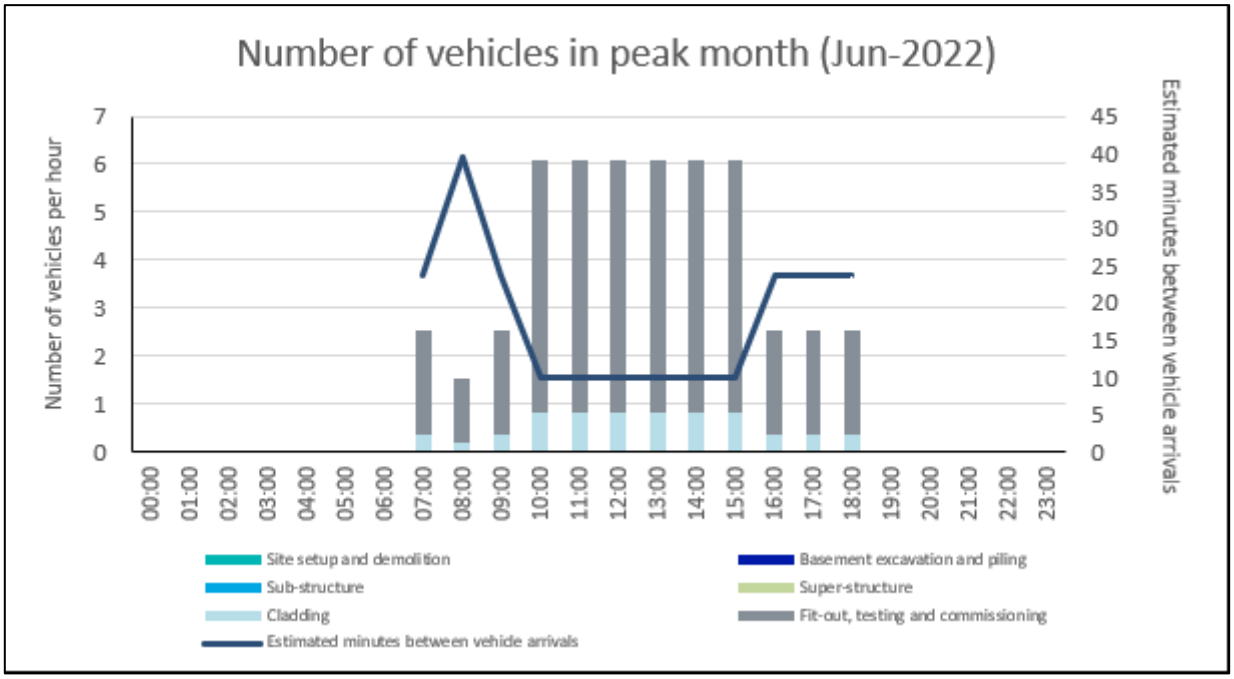
Source: Morgan Sindall with Pell Frischmann calculations

Figure 6.2: Number of Vehicles by Types During Peak of Phase



Source: Morgan Sindall with Pell Frischmann calculations

Figure 6.3 Number of Vehicles in Peak Month



Source: Morgan Sindall with Pell Frischmann calculations

7 Implementing, Monitoring and Updating

Implementing

7.1 The main contractor will be responsible for producing an updated CLP, for implementing that CLP and for ensuring it is kept up to date as the construction progresses.

7.2 They and their subcontractors will be required to adhere to several contractual agreements, in line with TfL's CLP Guidance for Developers. The main contractor will be required to comply with TfL's 'Standard for construction logistics: Managing work related road risk (WRRR)'.

FORS

7.3 All fleet operators to have Silver accreditation as a minimum within 90 days of being awarded the contract;

7.4 The contractor shall ensure the fleet operators maintain Silver Accreditation by way of an independent assessment in accordance with the FORS Standard.

Vehicle Safety

7.5 The contractor shall ensure that any van it uses to provide services shall carry a prominent sign or signs to warn cyclists of the dangers of passing the vehicle on the inside.

7.6 Any vehicle more than 3.5t must have side guards; close proximity sensors; rear cyclist warning signs; Frensel lens or CCTV; driver licence checks and driver safety training.

7.7 The contractor shall ensure any subcontractors operating car-derived vans, vans and lorries, comply with the safety clauses as if those subcontractors were party to its contract.

Driver Licence Checks

7.8 The contractor shall ensure its drivers have a driving licence check with the DVLA before starting deliveries and that checks are repeated in line with either the following risk scale, or the contractor's risk scale, provided that the contractor's risk scale has been approved in writing by the authority within the last 12 months:

- 0 - 3 points on the driving licence – annual checks
- 4 - 8 points on the driving licence – six-monthly checks
- 9 - 11 points on the driving licence – quarterly checks
- 12 or more points on the driving licence – monthly checks

Driver Training

7.9 The contractor shall ensure its drivers who have not undertaken:

- Approved driver training (or training, which in the authority's reasonable opinion, is an acceptable substitute) in the last three years, undertakes approved driver training or the substitute training within 60 days of the start of the contract.
- A FORS e-learning safety module in the last 12 months, undertakes a FORS e-learning safety module (or e-learning, which in the authority's reasonable opinion, is an acceptable substitute)

Collision Reporting

7.10 Within 15 days of the contract variation date, the contractor shall provide the authority with a collision report. The contractor shall provide the authority with an updated collision report on a quarterly basis and within five working days of a written request from the authority.

Failure to Comply

7.11 If the contractor fails to comply with WRRR requirements and other undertakings contained in the CLP the contractor has committed a material breach of contract. The authority may refuse the contractor, its employees, agents and freight vehicles entry onto any property that is owned, occupied or managed by the authority for any purpose (including, but not limited to, deliveries).

Monitoring

7.12 During the works monitoring and reviews will be undertaken by the main contractor as listed hereafter:

- A general review of site activities and compliance with the CLP. If conditions have changed or noncompliance is recorded this should be actioned within an agreed period depending upon the degree of variance;
- A ground movement analysis will be completed and a monitoring regime and trigger levels will be agreed with LBH and third party wall representative;
- Boundary monitoring for noise and vibration. This will be agreed with LBH and party wall representatives; and
- Boundary monitoring for dust. This will be agreed with LBH and party wall representatives.

7.13 A weekly report will be produced recording the monitoring movement results. The report will record the results, highlight any exceedances above pre-determined trigger levels and record any actions that were taken. The report will also record any complaints that were received and how these were dealt with.

7.14 Trigger levels will be set at two values. The first trigger level will be a warning level whilst the second will indicate that an unacceptable level has been reached. This warning level will indicate to the project team that the critical level (noise, movement, vibration or dust) could be exceeded if the works are not adjusted in some way, e.g. change of technique, intensity or duration. The second trigger level will indicate that the works have exceeded an acceptable level and must stop immediately.

Movement Monitoring

7.15 A strategy for movement monitoring will be prepared by the main contractor. Neighbouring properties, LBH footways and basement walls will be monitored as part of this strategy.

7.16 Included in the movement monitoring will be collision monitoring, which will be provided to LBH quarterly.

7.17 Movement monitoring results will also need to be presented to the party wall representatives to demonstrate that the agreed building damage classification is not being exceeded.

Noise / Dust / Vibration Monitoring

7.18 Noise dust and vibration will be carried out to the BS5528. A full noise, dust and vibration strategy will be developed to assess and carry out all the monitoring.

7.19 A programme for noise and vibration monitoring will be undertaken and agreed with LBH and TfL prior to the commencement of works on-site. If complaints arise, these will be investigated immediately, and appropriate action taken. Wherever possible, plant and equipment will be switched off when not in use.

7.20 Routine dust monitoring at sensitive residential locations will be undertaken, with the results and effectiveness of controls reviewed at regular meetings.

Servicing Monitoring

7.21 The main contractor will monitor servicing through the Delivery Management System (DMS). This will monitor the number and types of vehicles that service the site. Which will also help to monitor CO2 emissions associated with the construction site.

7.22 The Main contractor will ensure that all plant and equipment, including any which may be on hire, is well maintained, properly silenced and used in accordance with the manufacturer's instructions and BS 5228. All non-road mobile machinery (NRMM) are to use ultra-low sulphur tax-exempt diesel (ULSD) where available. Non-road mobile machinery (NRMM) of net power between 37kW and 560kW operated in the LBB will be required to meet specific standards. This will apply to NRMM engines for both Nitrogen Oxides (NOx) and all machinery between 37kW and 560kW will be registered on the NRMM on-line register.

Reporting

7.23 Monitoring reports for every aspect of construction as set out in this section of the CLP will be produced annually and made available to LBH and TfL. Where targets have been set the reports will review if the target has been met. If targets are not met the main contractor will discuss the appropriate course of action with TfL following their receipt of the annual monitoring reports.

Neighbourhood Consultation

7.24 It is acknowledged that many parties will have an interest in this project throughout its duration. Demolition & Construction activities will have a direct impact on the local environment, particularly on:

- Local Residents in adjoining and nearby properties;
- Surrounding commercial occupiers;
- London Borough of Hillingdon;
- Local Transport.

7.25 All external communications with third parties including the Client's Project representatives, residents, neighbouring businesses, statutory bodies and ward members shall be coordinated by the Project/Liaison Manager. A Community Noticeboard shall be established for the project advising local and interested parties of latest newsletters and the project's emissions reports complied from SmartWaste.

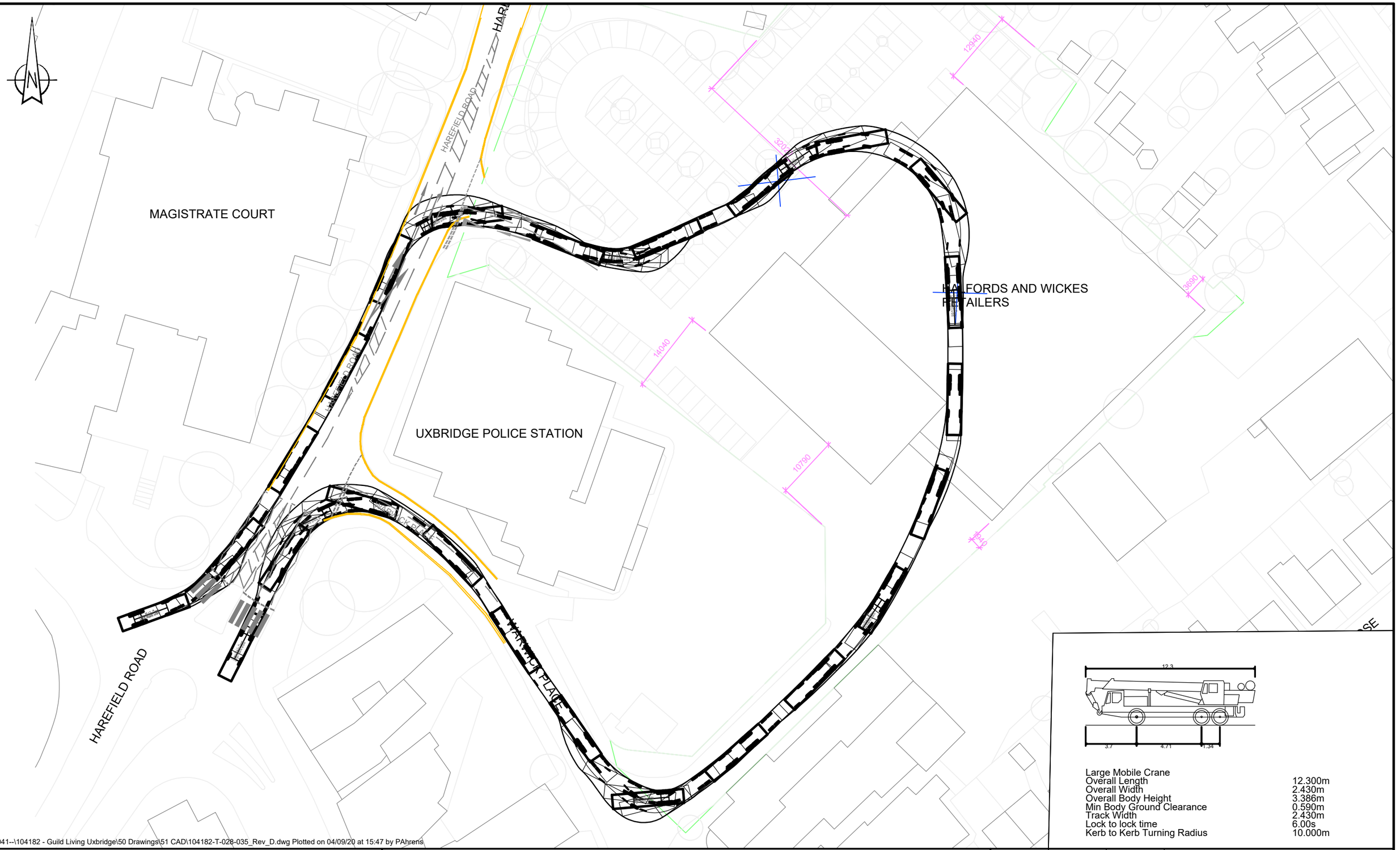
Updating the CLP

7.26 This CLP has been prepared at planning stage and will be updated at the appropriate time with the advice of the main contractor.

7.27 If any element of the planned construction is amended during the life of the project that impacts on how the logistics are managed to and from the site, then the contractor will submit a revised version of this CLP for further approval.

Pell Frischmann

Appendix A
SWEPT PATH ANALYSIS



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m

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Project: Guild Living Uxbridge

Drawing Title: SWEPT PATH ANALYSIS
Large Mobile Crane
Through Crane Locations 1 and 2

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Designed	PA	04/09/2020
Checked	AGA	04/09/2020
Approved	VB	04/09/2020

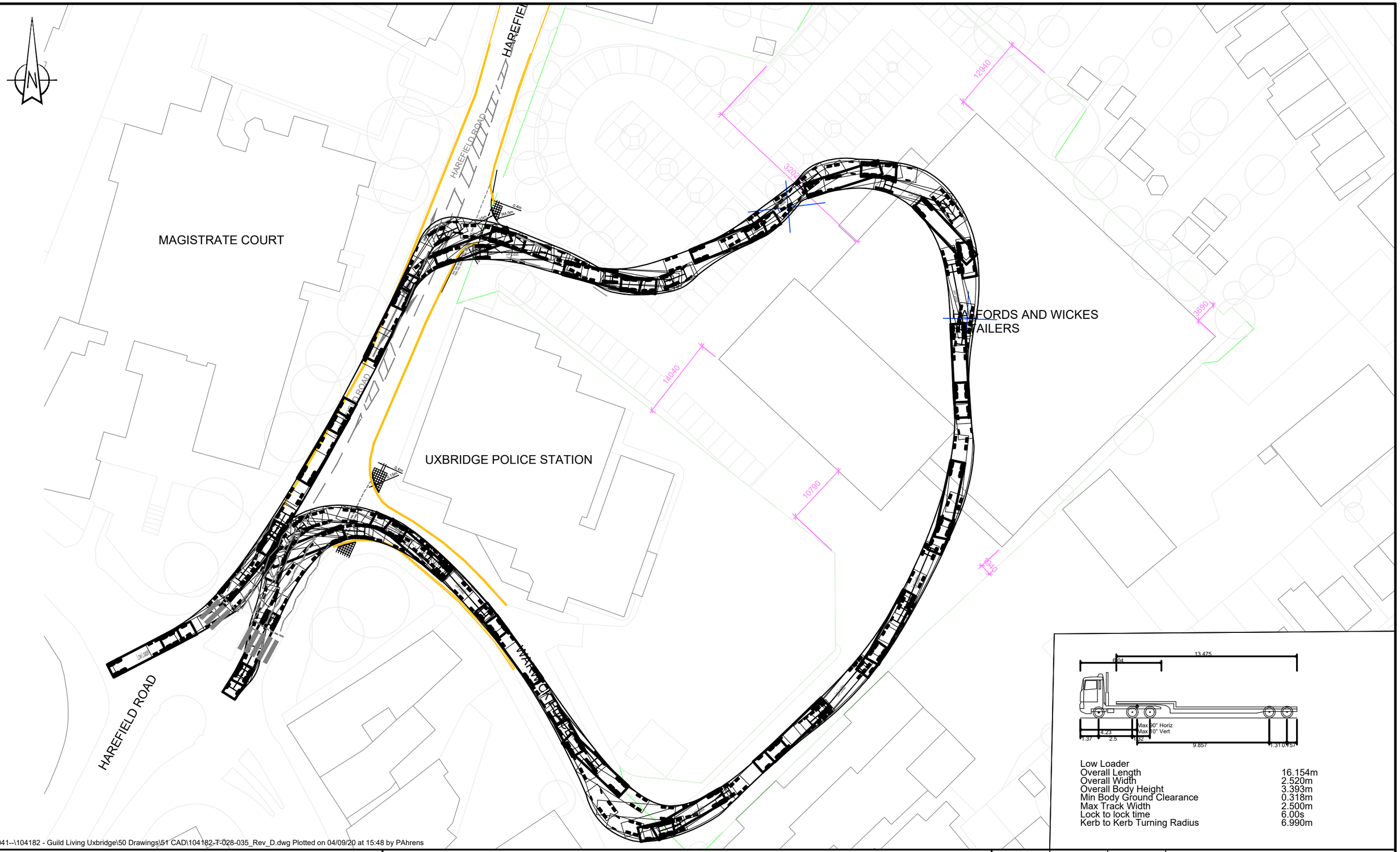
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Drawing Status: DRAFT

Drawing No.: 104182-T-030

Revision: D



Low Loader

Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

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Drawing Title: SWEPT PATH ANALYSIS
Low Loader
Through Crane Locations 1 and 2

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Designed	PA	04/09/2020
Checked	AGA	04/09/2020
Approved	VB	04/09/2020

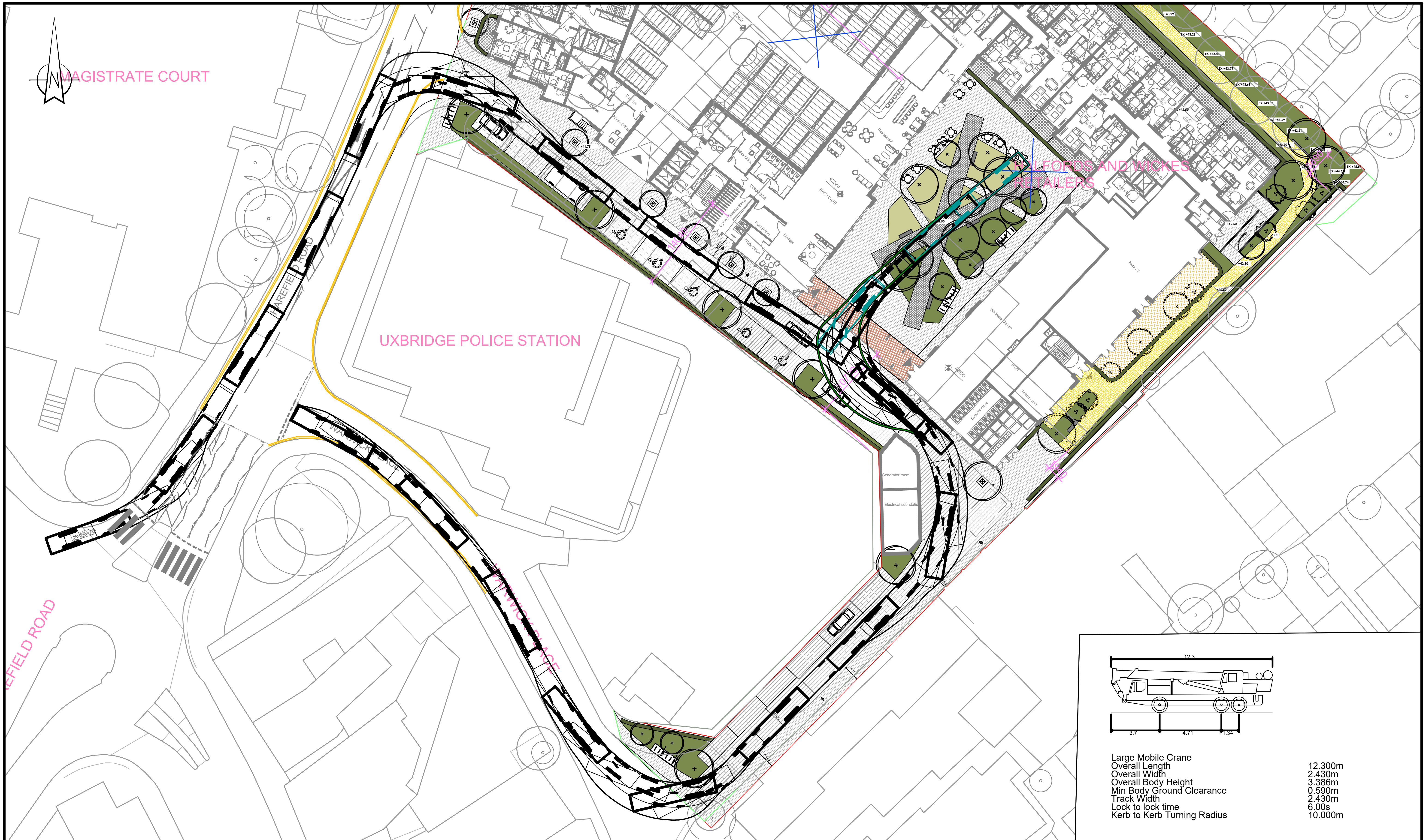
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Drawing Status: DRAFT

Drawing No.: 104182-T-032

Revision: D



Large Mobile Crane	
Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m

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Drawing Title: SWEPT PATH ANALYSIS
Large Mobile Crane
On Proposed Layout

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Designed	PA	04/03/2021
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Approved	VB	04/03/2021

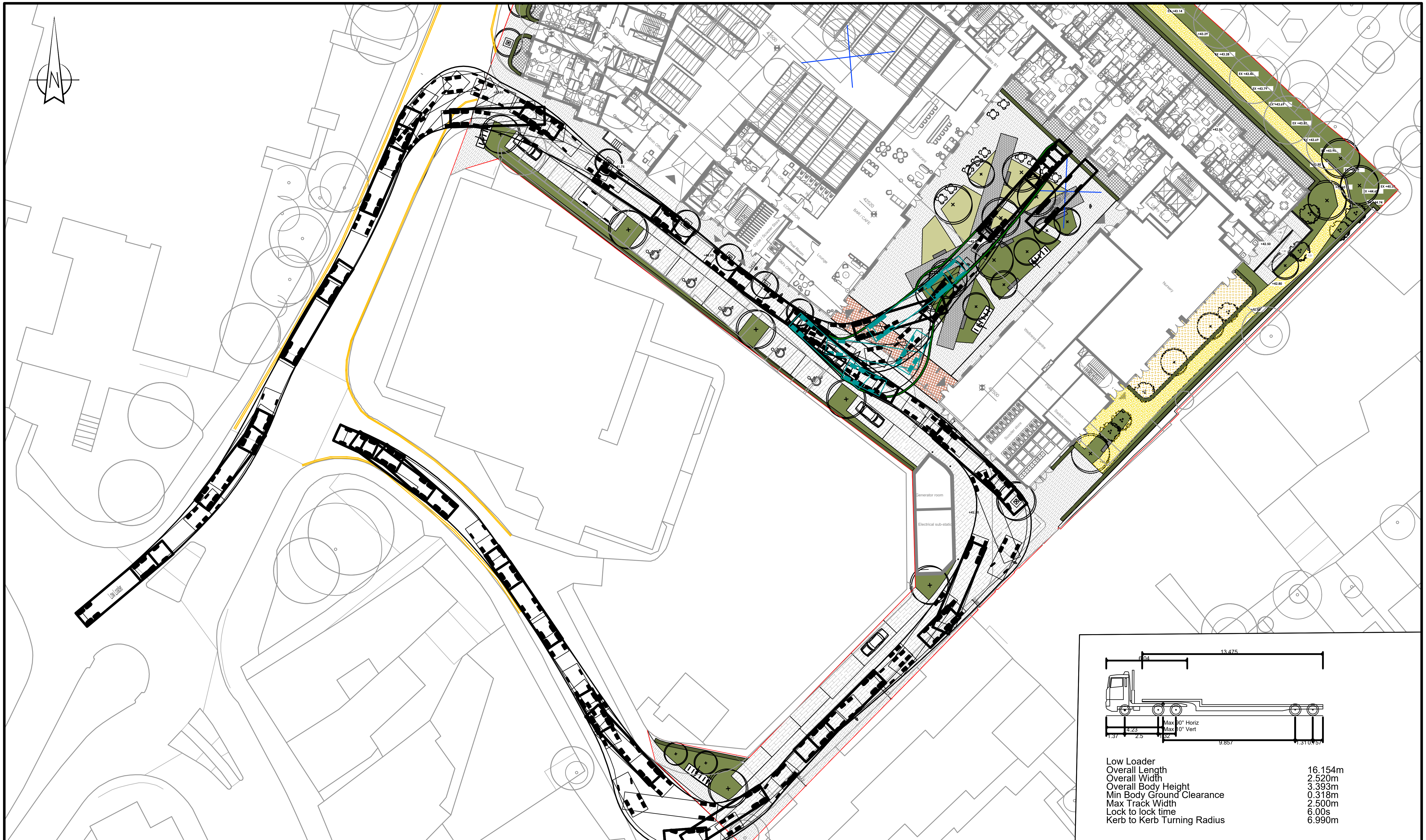
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Drawing Status: DRAFT

Drawing No. 104182-T-031

Revision: E



Low Loader

Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

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Drawing Title: SWEPT PATH ANALYSIS
Low Loader
On Proposed Layout

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Approved	VB	04/03/2021

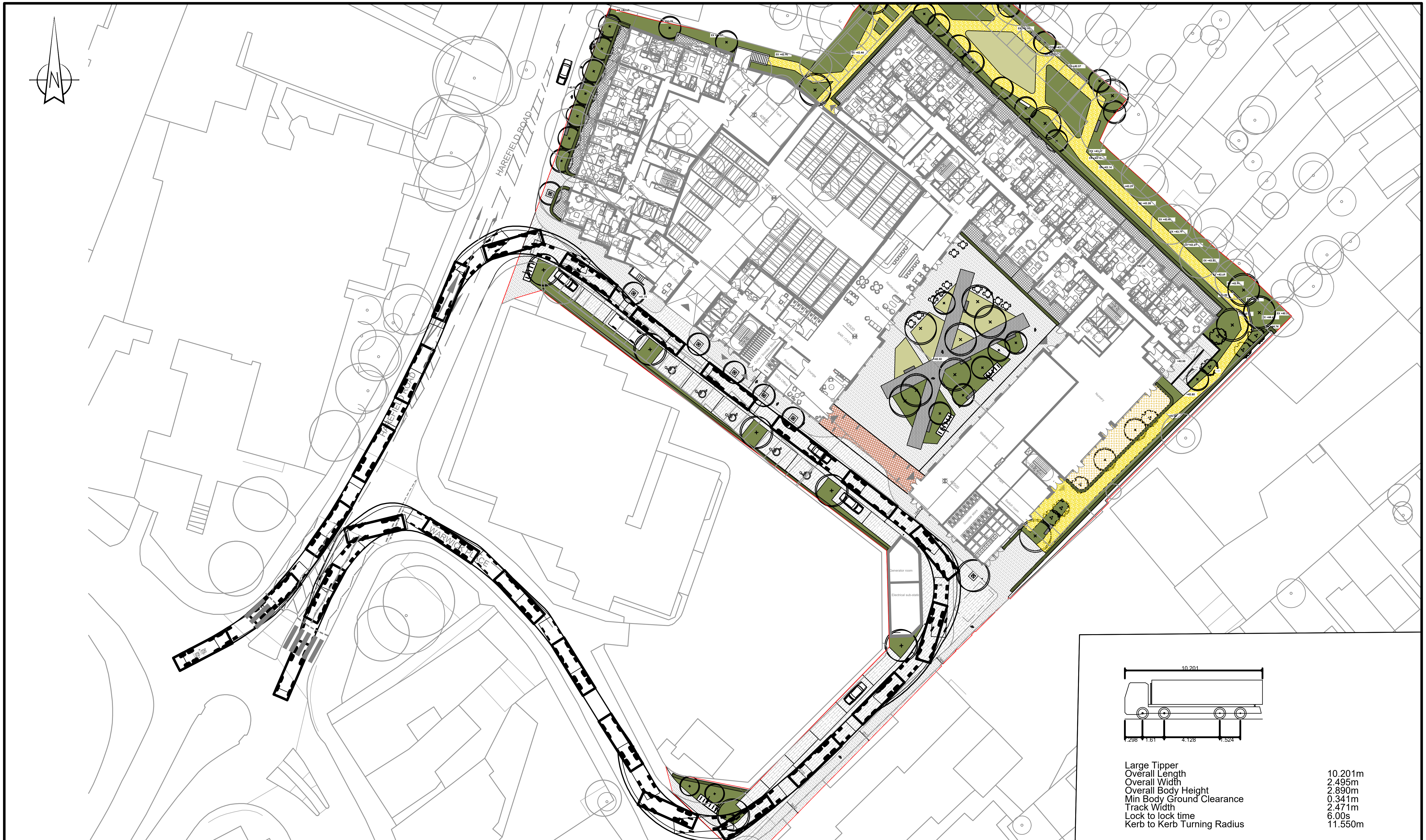
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Drawing No.: 104182-T-033

Revision: E



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Project: Guild Living Uxbridge

Drawing Title: SWEPT PATH ANALYSIS
Large Tipper

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Designed	PA	04/03/2021
Checked	AGA	04/03/2021
Approved	VB	04/03/2021

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