

TECHNICAL NOTE

4 Collision Data

- 4.0.1 Personal injury collision data for a study area surrounding the site was obtained from LBRuT for the most recent five-year period up to 31st January 2016. The extent of the collision data study area is shown in Figure 6 below.
- 4.0.2 The figure shows the majority of collisions occurring on the South Circular and at the Chalkers Corner junction. This is not unexpected due to the high traffic volumes using the TLRN. Elsewhere there are no apparent collision clusters particularly in close proximity to the Site or associated with either of the railway level crossings.

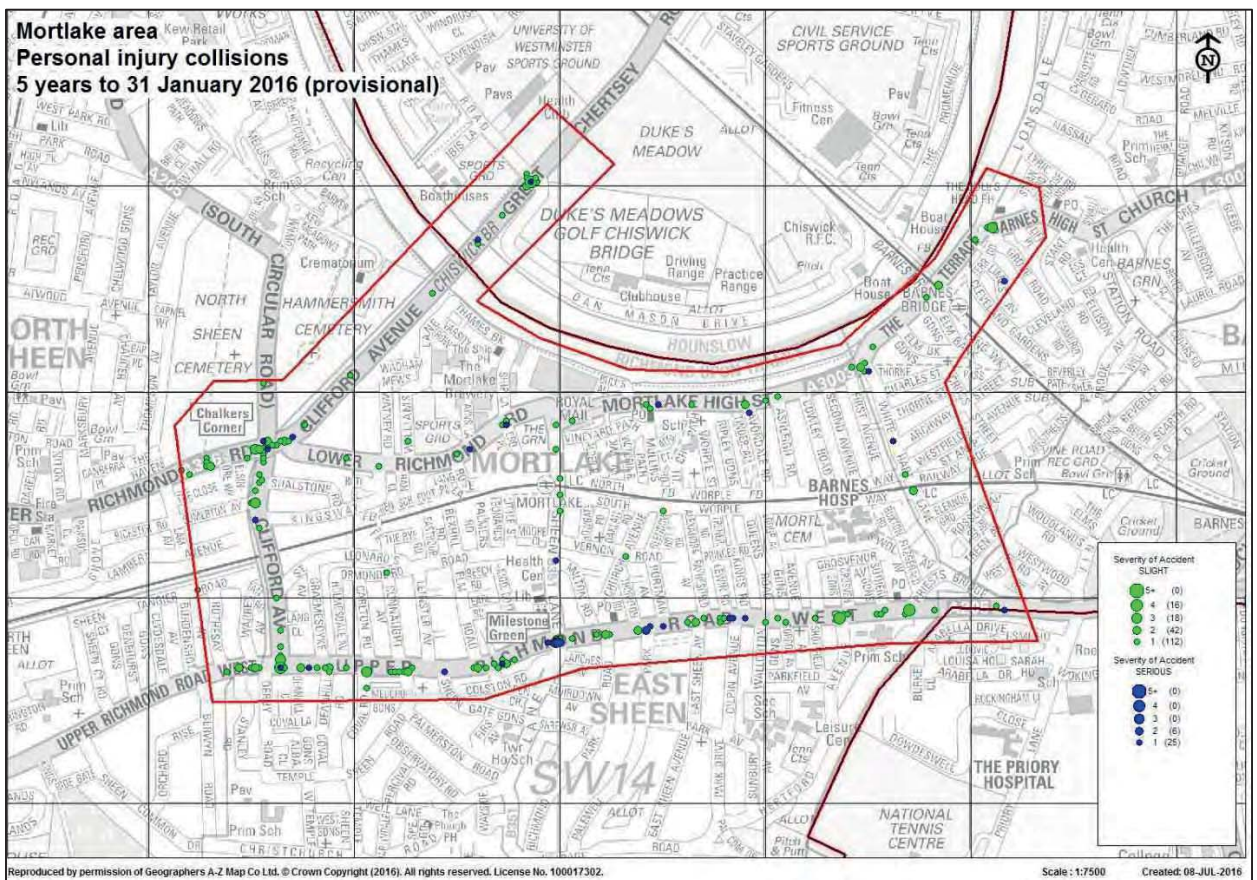


Figure 4.1 Personal Injury Collisions Map provided by LBRuT

- 4.0.3 Key locations that have been identified and therefore analysed in more detail include Chalkers Corner signalised junction, Lower Richmond Road, Lower Richmond Road junction with Ship Lane, the Upper Richmond Road/Sheen Lane signalised junction and the Sheen Lane Level Crossing. These areas were selected due to their location within the network and in relation to the Site.

Chalkers Corner

- 4.0.4 At Chalkers Corner (Lower Richmond Road/Clifford Avenue/South Circular) junction there were 19 collisions recorded. Of these 13 were observed at the A316 Lower Richmond Road/South Circular section of the junction with only six observed at the A3003 Lower Richmond Road/Clifford Avenue section.



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4.0.5 Of the 19 collisions, five were as a result of road users not seeing or ignoring traffic signals, three occurred due to vehicles not merging correctly, with a total of five involving pedestrians or cyclists. Of the five collisions involving pedestrians or cyclists, three of these also involved vehicles or pedestrian and cyclists ignoring or not seeing traffic signals, whilst the other two involved a car stopping abruptly causing a rider to fall and a car turning into a rider. Whilst there are collisions involving more vulnerable users there is no apparent common causal factor other than poor driver/rider behaviour.

Upper Richmond Road/Sheen Lane

4.0.6 At the Upper Richmond Road/Sheen Lane Junction there were a total of 12 collisions over the five-year period. Of these, five collisions involved pedestrians whilst three involved cyclists (one collision involved both a pedestrian and a cyclist). The collisions involving cyclists all varied with one group being hit by a vehicle turning wildly, one cyclist colliding with a pedestrian and the final collision involving a cyclist overtaking a fellow cyclist and a vehicle hitting the overtaking cyclist from behind.

4.0.7 The collisions involving pedestrians involved one stepping in front of a cyclist, three vehicles ignored signals and turned into crossing pedestrians, whilst the final collision involved a pedestrian running in front of a vehicle whilst there was a red man shown. Again, there appears to be no common causal factor with the exception of poor road user behaviour with signals being ignored.

Sheen Lane Level Crossing

4.0.8 Two collisions were observed close to the Sheen Lane Level Crossing. The first involving a passenger trapping their foot in a car door when exiting the vehicle and the second a vehicle reversing into another, causing a collision. Neither of these collisions to relate to the level crossing and do not show any similarity.

Data Summary

4.0.9 Most recorded injury accidents occur on the TLRN network which reflects the high traffic flows on this network. The incidence of accidents on the local roads serving the Site, the A3003 and Sheen Lane is low and there are no particular clusters apparent, including at the railway level crossings.

4.0.10 The analysis of accidents has revealed no causal factors relating to the design of the infrastructure with the majority appearing to be caused by poor driver/user behaviour. The incidence of pedestrian and cycle accidents does not appear to be high on the local roads.

4.0.11 A summary of the surveys carried out in June 2017 is as follows:

- Fully Classified Turning Counts (Tuesday 27th June 2017 - 07:00 – 10:00 and 15:00 – 19:00);
- Fully Classified Turning Counts, including Queue Length Surveys (Tuesday 27th June - 07:00 – 10:00 and 15:00 – 19:00);
- 7 Day Automatic Traffic Counts (26th June – 3rd July); and
- Level Crossing Downtime Counts - 7am – 7pm.

4.0.12 The 2017 surveys were undertaken following discussion with TfL and were intended primarily to provide detailed data with which to validate the local LinSig junction models.

4.0.13 The survey data used in this assessment are provided within Technical Note 5.



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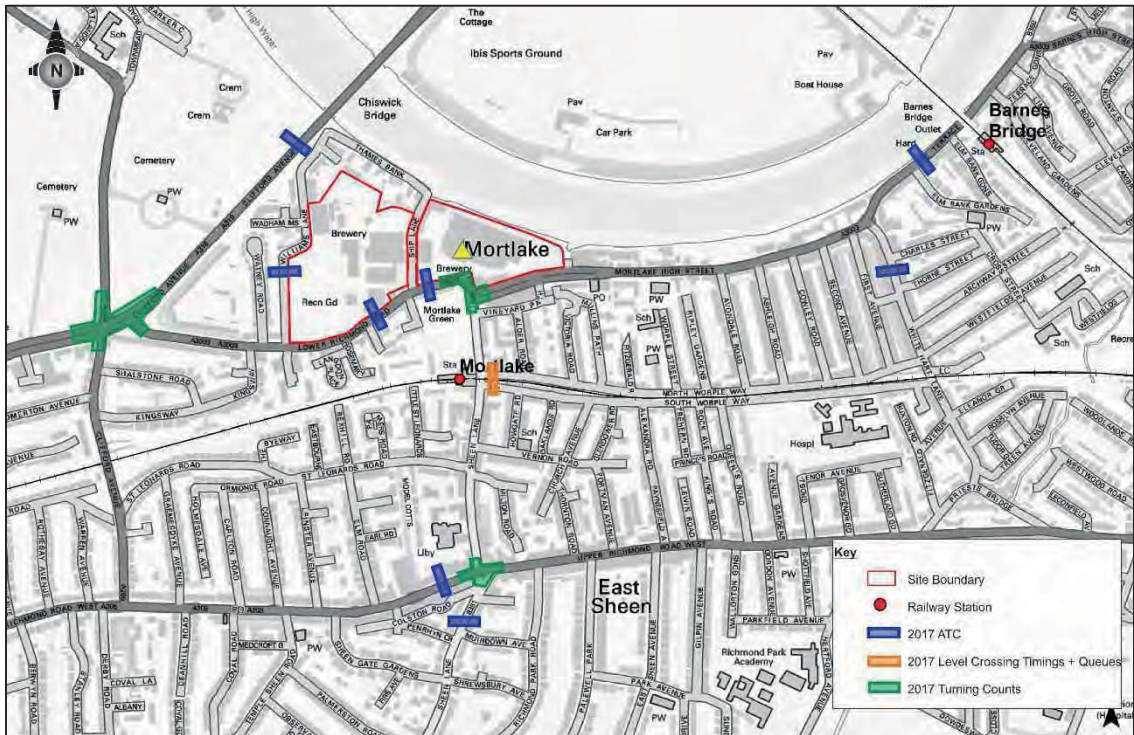


Figure 4.2 ATR traffic survey location plan.



5 Transport Strategy

5.0 Introduction

- 5.0.1 This chapter sets out the proposed transport strategy for the development which aims to promote the use of more sustainable modes. The strategy also seeks to address the various impacts of the development.
- 5.0.2 The Strategy has been shaped by the detailed discussions that have taken place with officers of LBRuT and TfL, with members of the public through CLG meetings and through the two extensive formal public consultation events and with third party stakeholders, including NR.
- 5.0.3 The overall strategy for the Site is in line with the Planning Brief and with the Mayor's Transport Strategy and the recently issued updated draft Strategy which places considerable emphasis on the creation of "Healthy Streets" and as such has given a high priority to the provision of a high quality public realm which will help to promote walking and cycling.
- 5.0.4 The Planning Brief for the Site also places a high priority on the need to create a high quality public realm as part of a permeable development and in particular highlights the need to provide a high quality pedestrian link through the Site to connect Mortlake Green and the station with the riverside. It also recognised that there were a number of difficult transport issues that needed to be addressed within the TA including existing congestion and the need to consider improvements to public transport, including the possible provision of a bus turning facility to replace the excising one at Avondale Road.
- 5.0.5 The remaining part of this chapter sets out the various elements of the Transport Strategy that seek to ensure good access by all modes but with priority to walking and cycling and to minimise adverse impacts on the existing community.
- 5.0.6 The Transport Strategy comprises the following elements:
- Overall design principles;
 - Walking and cycling strategy;
 - Public transport strategy;
 - Parking strategy and delivery and servicing strategy;
 - Highway access strategy; and travel planning/demand management strategy.

5.1 Development Layout Principles

5.1.1 The scheme has two distinct elements:

- To the east of Ship Lane, and in accordance with the Planning Brief, the scheme seeks to create a vibrant new centre for Mortlake with new restaurants and bars, cafes, local retail and employment opportunities. This is reflected in the creation of a new "high street" running east to west parallel to Mortlake High Street as well as a series of new links to the riverside with a number of new public squares being created. The area will essentially be traffic free since all parking is underground with access points on the periphery. Whilst servicing will occur on street access to the area will be controlled physically and by time restriction to minimise conflicts with pedestrians and cycles;



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- To the west of Ship Lane, the development is less dense and less mixed in use, comprising the care village, secondary school and residential. With the exception of pedestrian and cycle flows related to the school at the start and end of the school day this part of the site will be subject to much less movement. In addition, it has no direct access to the river. Therefore, the design involves a more traditional streetscape with footways. The key challenge for this part of the Site is to manage the flow of people, cycles and traffic associated with the school.

5.2 Walking and Cycling Strategy

- 5.2.1 The walking and cycling strategy for the site is encompassed within the wider design and landscape of the site. It is envisaged that the site will have a high level of on street activity with walking and cycling providing the best way to travel through, to and from the development.
- 5.2.2 Street design is crucial in providing an appropriate environment for walking and cycling through the development and therefore streets have been designed to slow vehicle speeds, where they are permitted and to provide areas where vehicles are either not allowed or the access is controlled such as the riverfront with no vehicle access with the exception of delivery and servicing vehicles.
- 5.2.3 Figures 5.1 and 8.2 show the proposed network of pedestrian and cycle routes through the Site and how these link into the wider networks.

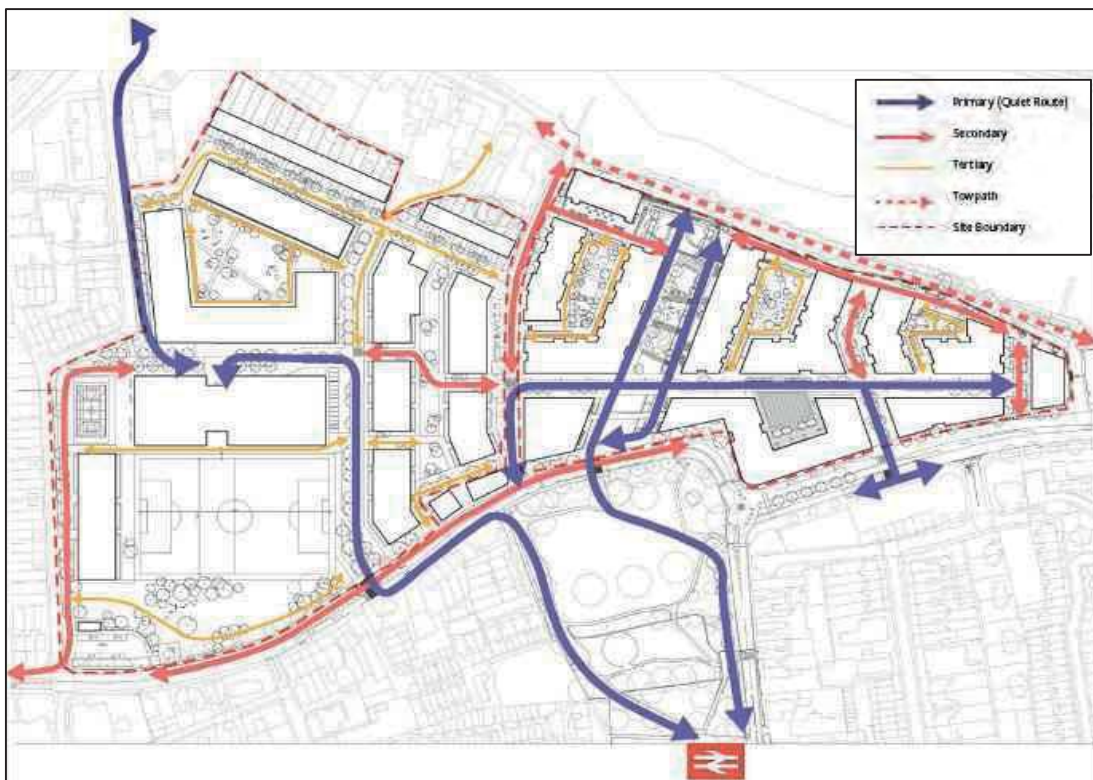


Figure 5.1 proposed pedestrian network

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Figure 5.2 proposed cycle network

5.2.4 Key features of the pedestrian network are as follows:

- Provision of the new “Green Link” which will run north-south through the Site providing a link between Mortlake Green and the River. This will have an overall width of between 30 and 38 metres and provide an important route for cycles as well as pedestrians;
- New High Street running east- west parallel to Mortlake High Street and linking Ship Lane in the west with Mortlake High street at the eastern end of the Site. This will again be a wide street (14 metres between buildings). It will have a defined vehicular path of 4.1 metres together with a number of defined loading bays. Actual traffic flows will be low and limited to servicing vehicles. Traffic access will be from the eastern end only and will be controlled through barriers which will allow time limited access to be effectively managed. The design will allow cycles to use this as a through route in either direction;
- The existing towpath east of Ship lane will be largely unaffected by the proposals. However, a new pedestrian promenade, with a width of between 4 and 4.6 metres) will be provided parallel to the tow path but at a higher level above the flood level. This will be primarily a pedestrian route but will provide an informal route for cycles. Limited servicing activity will also take place along this route since there will be a series of bars and restaurants along the river frontage. Ship Lane, which bisects the

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- Site, will continue as a public highway but will be considerably enhanced as a pedestrian route through the provision of a wider footway on the west side and a generous (3 metre) new footway on the east side;
- To the west of Ship Lane, a new east-west pedestrian cycle route will be constructed across the Site immediately to the north of the school. This will be essentially traffic free but there may be limited access for school service vehicles and buses. This will link with Williams Lane to the west and Ship Lane to the east and then in turn with the new east-west “high street” creating a new east-west route across the full site. A crossing treatment is proposed where this route crosses Ship Lane.

5.2.5 Figure 5.3 then shows how the proposed local pedestrian and cycle network will interface with the wider networks.



Figure 5.3 Wider pedestrian and cycle links

5.2.6 For pedestrians the main desire lines are considered as follows:

- To the station and south along Sheen Lane – this will be facilitated by providing a new pelican crossing at the southern end of the Green Link.
- To various bus stops located along Mortlake High Street and Lower Richmond Road – two new pedestrian crossings are proposed, one on Mortlake High Street which will connect to the new “high street” and one on Lower Richmond Road to the west of the new access road to the school. This will provide the main pedestrian access to the school and link in turn to Central School Path footbridge for pupils living to the south of the railway;
- To the river towpath, including Thames Path. There are various connections to this route, including via Williams Lane, Ship Lane and the “Green Link”. The towpath in turn provides a route to Barnes Bridge Station to the east and to Kew Riverside to the west.

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- 5.2.7 In terms of cycle access, the proposed east-west route connects with both the riverside route towards Kew and the TfL Quiet Way along the A316. This in turn provides access to Chiswick to the north across Chiswick Bridge and to Richmond to the South west. For north-south movement the new Green Link” would provide the main signposted route linking the riverside route with Mortlake Green and onward to the station and the signposted routes along South and North Worpole Way which run either side of the railway line.
- 5.2.8 Further detail on the highway changes such as the realigned crossings and modifications to the highway layout to benefit pedestrians and cyclists is included within the Highway Strategy section later in this chapter.

5.3 Public Transport Strategy

- 5.3.1 The key issues identified in discussions with the authorities and the public have been:
- The poor quality of the pedestrian access to the Station;
 - The relatively poor bus service that is accessible from the Site;
 - The potential need for a bus turnaround facility with driver facilities within the Site.

Buses

- 5.3.2 From discussions with both LFL and LBRuT, and with the exception of the school requirements, the main issue regarding buses for this Site is not one of capacity but of the relatively unattractive nature of the 419 service due to its relatively low frequency, up to 4 buses an hour. The service does however provide an important link to both Hammersmith (in the west) and to Richmond (in the east) which are considered to be the most important local destinations. In addition, there are a variety of other bus services that can be accessed from the different parts of the Site, as described in chapters 2 and 7, albeit requiring a walk in excess of the preferred walking distance to a stop. Taken together these bus services provide direct access to a wide range of destinations.
- Diversion of the 209 bus service which provides a frequent service to Hammersmith but which currently terminates at the bus turn facility at Avondale Road to the south west of the Site. This was originally the Council’s preferred option and would require the provision of a replacement bus turn facility within the Site;
 - Upgrading the frequency of the 419 bus service. This would be the most straightforward options;
 - Diverting or extending one of a number of other services to the Site that currently terminate in the Richmond area. Again, these options are likely to require the provision of a bus turnaround facility on the Site.
- 5.3.3 TfL’s current position is that, given the uncertainties relating to the repair works at Hammersmith Bridge which are due to start during 2018, they are not yet in a position to advise on their preferred strategy to meet the future requirements of the Stag. They anticipate that, prior to the reopening of Hammersmith Bridge to double deck buses, they will undertake an extensive review of bus services throughout the Hammersmith and Richmond area.
- 5.3.4 As things stand, the diversion of the 209 bus service is unlikely to be TfL’s preferred option since this would be costly and would remove the service from residents living in the Avondale Road area, including to the south of the rail line.



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- 5.3.5 TfL agree that increasing the frequency of the 419 bus service, together with the provision of special school bus services as required once the school's catchment has been determined, would meet the needs of the Stag development proposals. This would not require the provision of the bus turn facility, although in the absence of this, provision would need to be made to accommodate buses. This can be done along the access road to the north of the school.
- 5.3.6 Therefore, at this stage, and for the purposes of this assessment it is assumed that the 419 bus service will be enhanced to provide a 10-minute peak frequency service with additional buses provided to meet the needs of the school, but the level of provision will be agreed once the catchment area for the school has been established.
- 5.3.7 Whilst the need for a bus turn facility has not been established and will not be a direct requirement for this development, land has been reserved at the south west corner of the site at the junction of Williams Lane with Lower Richmond Road where a bus turn facility to accommodate up to 4 bus spaces together with driver facilities, could be provided. This is TfL's preferred location for such a facility since it provides them with the greatest flexibility in terms of the management of bus services in the area and would involve least redundant bus mileage. Figure 5.4 shows the location of the safeguarded land and a possible layout for a four bay facility on this land.

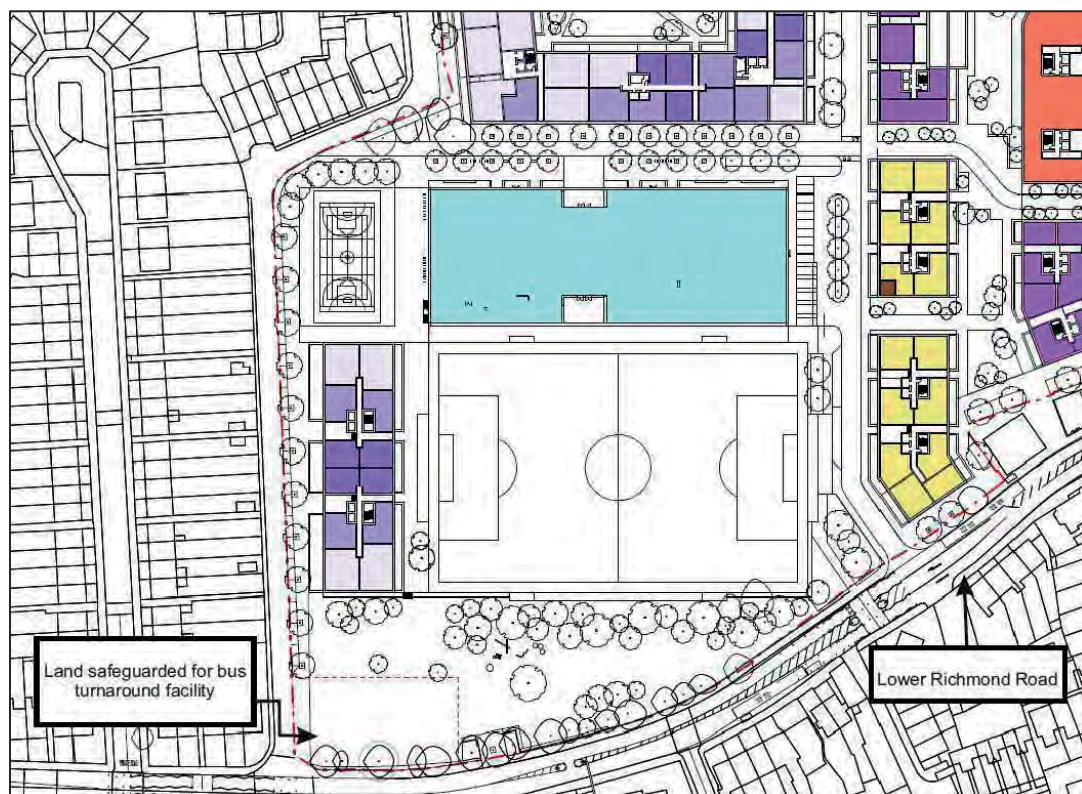


Figure 5.4 Location of Bus Turnaround Safeguarded Land

5.4 Highway Strategy

5.4.1 The highway access strategy has focussed on the following aspects:

- Strategic access to the area recognising the need to ensure that the Stag development does not add further to existing levels of congestion in the area. This

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reflects the concerns expressed by the Council, including within the Planning Brief, and members of public through the various consultation exercises;

- The operation of the local network, in particular, the site frontage of Lower Richmond Road and Mortlake High Street to ensure that it does not act as a barrier to pedestrian / cycle access to the Site and aligns with the Mayor's Policy for Health Streets; and
- Efficient Site access to the two underground car parks and for servicing vehicles that does not prejudice through traffic movement or the movement of pedestrians and cycles through the Site.

Strategic Access

- 5.4.2 Whilst the Transport Strategy gives priority to non-car modes it is recognised that the area is subject to existing high levels of congestion at busy times. This relates to the limited points of access to Mortlake due to the combined barriers created by the River Thames and the railway lines and the congested nature of the main access to the area via Chalkers Corner. Also, two of the main access points are across level crossings which are characterised by extended and unpredictable barrier down times (which average at around 45 minutes per hour).
- 5.4.3 The Planning Brief recognised the importance of addressing congestion as part of the TA. Whilst options for improving vehicular access over the level crossings has been examined, it is clear that improvements are not practical, certainly in the context of the proposed development. NR has confirmed that it has no plans to alter the level crossings or introduce any measures that would reduce or better regulate barrier down time. It has also been confirmed with LBRuT that there are no realistic options for replacing either of the crossings with an underpass or road bridge due to constraints of land availability, cost and environmental issues.
- 5.4.4 Therefore, the highway assessment has focussed on the option of improving the design of the Chalkers Corner junction as the main way of ensuring that the proposed development does not further increase congestion levels in the area. These improvement works are considered to form an essential element of the development and will form a separate detailed application.
- 5.4.5 The proposed works will provide additional capacity, in particular on the exit arm from Mortlake (Lower Richmond Road) but also some additional entry capacity into Mortlake. In addition, by lengthening the queuing space between the main cross roads and the Lower Richmond Road arm the works will reduce the risks of traffic queuing back and blocking the main cross roads. It is considered therefore that the works will improve the overall resilience of the junction as well as improving capacity.
- 5.4.6 The current proposals are shown in **Drawing 38262/5501/51C** and are included in Appendix A
- 5.4.7 As noted previously, whilst the main objective of the scheme is to provide additional highway capacity to mitigate the impacts of the proposed development, the scheme does also provide a number of features to enhance pedestrian and cycle access providing a better linkage for cycles between Lower Richmond Road and the TfL A316 Quiet Way, enhanced pedestrian islands and improved cycle features at the main Chalkers Corner junction, in line with TfL requirements.
- 5.4.8 Whilst the scheme will necessarily require the removal of a number of mature trees along Lower Richmond Road and one in Clifford Avenue, as well as a number within the Chertsey Gardens site, it is proposed to add new planting to compensate for this loss. The landscape scheme proposes to replace the existing wall and fence on the revised alignment with a 2m high brick wall to help mitigate any noise impacts arising from moving the road slightly closer to Chertsey Court. In addition, a number of semi-mature trees are proposed within the Chertsey Court site to augment existing trees and visually screen the building with greenery.

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These proposed trees will include a mix of deciduous and evergreen species which assist in pollution absorption. The trees will be supplied at 6m height (4+ years old) to maximise immediate impact of the proposed landscape. A small pocket park with additional trees is also proposed on the opposite side of Lower Richmond Road intersection.

- 5.4.9 Chertsey Court will be set back a minimum of 14.0 metres from the carriageway of Lower Richmond Road (compared with 16.2 metres now). The nearest property to Clifford Avenue carriageway will be 16.2 metres (compared to 18.3 currently).
- 5.4.10 The scheme will have very little impact on parking. The existing informal car park on the corner of Lower Richmond Road will be retained and no spaces are lost within Chertsey Court. As part of the proposals TfL has asked that the scheme includes a protected bus clearway for the westbound service on the approach to the junction. Currently buses cannot access the kerb due to parking and this is particularly unsatisfactory for less mobile passengers boarding and alighting at this location. If this element of the proposals is included in the scheme it will result in the loss of three currently uncontrolled on-street spaces plus one overnight parking space

Lower Richmond Road/Mortlake High Street

- 5.4.11 In addition to the works at Chalkers Corner, a package of works is proposed along the Lower Richmond Road corridor including Mortlake High Street and extending down Sheen Lane towards the level crossing. These works focus on enhancing the pedestrian and cycle environment and by slowing speeds and improving pedestrian and cycle crossing facilities, further enhancing the safety and in particular creating a suitable environment for a new secondary school.
- 5.4.12 The specific proposals are shown in Drawing **38262/5501/58C** which is included in Appendix A as follows:
- A New 20mph speed limit enforced between Williams Lane and Bulls Alley including Sheen Lane, between the Mortlake High Street / Lower Richmond Road junction and the Sheen Lane level crossing.
 - A number of physical measures are proposed to help manage speeds including junction entry treatments, carriageway narrowing and provision of a textured tarmac resin to differentiate the area of speed restraint. Potentially, table tops to comply with TfL requirements for buses could be installed at pedestrian crossing points by the school and on the "Green Link".
 - A new crossing provided just to the west of the new access road to the school to improve access for pupils needing to cross Lower Richmond Road. This is currently shown as a zebra crossing but could potentially be upgraded to a pelican crossing;
 - Moving of Bus Stop P further to the east to align with the new crossing point and encourage them to cross at the crossing rather than informally;
 - The existing signalised crossing point adjacent to Ship Lane is relocated to align better with the Green Link. This also requires the removal of Bus Stop Z;
 - Extension of the two lanes on the Lower Richmond Road arm of the Sheen Lane mini-roundabout so as to provide more capacity for those heading from west to east across the roundabout. This will reduce the tendency for the eastbound traffic movement through the junction to become blocked when the level crossing barriers are down;
 - Provision of 'KEEP CLEAR' markings on the Sheen Lane mini-roundabout to free up the roundabout when the level crossing is down;

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- Provision of an informal crossing point on the east side of the roundabout enabled by providing a kerb buildout on the corner to slow traffic and improve pedestrian/vehicle inter visibility at this location;
- Provision of a new zebra crossing to serve a desire line to the eastern portion of the development and help to reduce speeds on Mortlake High Street
- Possible enlargement of the central reserve and narrowing of traffic lanes, again to improve the pedestrian environment by slowing vehicle speeds.
- Provision of a new right turn lane on Mortlake High Street to provide for right turners into the development car park at the current junction with Vineyard Path.
- Tightening of radii and footway build-out at Vineyard Path Junction
- Relocation of bus stops and bus stands on Mortlake High Street to allow for the new access points and the new crossing.

5.4.13 All these modifications whilst part of the highway strategy also widely benefit the walking and cycling strategy with many of the changes aimed at reducing vehicle speeds and increasing the permeability across Lower Richmond Road.

Site Access

5.4.14 Figure 5.5 shows the proposed Site access strategy.



Figure 5.5 Site Access Strategy

5.4.15 As discussed above, the majority of car parking will be provided within two underground car parks. The main car park which will serve the mix of uses to the east of Ship Lane can be accessed at two locations, from Ship Lane and from Mortlake High Street. The second access onto Mortlake High Street was added following feedback from public consultation with a view to reducing the impacts of the development upon the Sheen Lane mini roundabout. The addition

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of this second access will mean that only traffic specifically wishing to use Sheen Lane will need to travel through the mini roundabout from this part of the development.

5.4.16 Because of the nature of the land uses that it is serving (residential and Care Village) the western underground traffic will generate much less traffic movement than will the eastern car park. Access is to the north of the Site and can be achieved via a number of alternative routes minimising impacts on any one access road.

5.4.17 Access for servicing vehicles is described within the section of servicing below.

- Improve the health of residents and minimise the development impacts on the surrounding environment.
- Promote sustainable modes of travel to all visitors of the site

5.5 Delivery and Servicing

5.5.1 A delivery and servicing plan (DSP) has also been produced as part of the developments Transport Strategy. The DSP outlines the management of delivery and servicing trips and how they will operate within the Site. Figure 8.7 shows the access routes for servicing vehicles.



Figure 5.6 Delivery and Servicing Routes

5.5.2 The main delivery and servicing area will be the 'new High Street' as this is where the main retail area will be. This will also provide access to the main restaurant/bar area on the river front. As part of the strategy this area will be controlled by the estate management company through the use of rising bollards close to the entrance to the 'new High Street'.

5.5.3 The servicing and waste strategy for the detailed application involves the following elements:

- Entry to the area will be from the eastern end of the 'new High Street' and controlled by bollards close to the entry but allow for "u" turns for which arrive out of hours;

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- The management control room is located close to the bollards to improve the effective management of the entrance;
- Loading bays of appropriate size identified throughout the Site. The capacity of these to accommodate the demand has been estimated based on industry data as set out in the DSP;
- Access for servicing will be time controlled to minimise conflicts with pedestrians and cycles and to ensure servicing does not occur at unsociable hours; and
- All residential buildings will have a concierge service during agreed servicing times. The control room will offer a collection service out of hours.

5.5.4 Vehicle tracking for refuse vehicles and for appropriate service vehicles has been undertaken to ensure the highway layout is navigable by large refuse trucks and delivery vehicles. Drawings for these tracks is included in Appendix A.

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6 Survey Brief

- 6.0.1 The Road Safety Audit Team is required to undertake a Stage 1 RSA based upon the drawings in Appendix A and supporting information contained in this document.
- 6.0.2 A separate report is to be provided for each of the following:
1. Chalkers Corner junction – comprising the following sections of public highway:–
 - Mortlake Road up to a point 50m north of the junction
 - Clifford Avenue from the junction southwards to Shalstone Road
 - A316 Lower Richmond Road westwards to the North Sheen Cemetery entrance
 - A316 Clifford Avenue eastwards to the Mortlake Cemetery entrance
 - A3003 Lower Richmond Road, eastwards to the junction of Lower Richmond Road and Watney Road.
 2. Lower Richmond Road and Mortlake High Street – comprising the following sections of public highway:
 - Lower Richmond Road from Watney Road to Sheen Lane,
 - Sheen Lane southwards to the level crossing,
 - Mortlake High Street from Sheen Lane to a point approximately 60m east of Bulls Alley/ Boatrace Court
 - Williams Lane from Lower Richmond Road to Reid Court
 - Ship Lane from Lower Richmond Road to Thames Bank
- 6.0.3 As previously agreed, copies of the draft reports will also need to be supplied to Transport for London for their comments.

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Appendix A – drawings

List of drawings :

Drawing no.	Title
38262/5501/051 C	Clifford Avenue / Lower Richmond Road Short Flare Option
38262/5501/058 C	Lower Richmond Road and Mortlake High Street Possible Highway Layout
38262/5501/062 D	Possible Highway Layout – Phase 1 Vehicle Swept Path Analysis For A 10m Rigid Lorry
38262/5501/063 D	Possible Highway Layout – Phase 1 Vehicle Swept Path Analysis For A Fire Tender (Pump Appliance)
38262/5501/064 D	Possible Highway Layout – Phase 1 Vehicle Swept Path Analysis For A Refuse Truck
38262/5501/065 D	Possible Highway Layout – Phase 1 Vehicle Swept Path Analysis For A Single Decker Bus
38262/5501/066 C	Possible Highway Layout – Phases 1/2 Vehicle Swept Path Analysis For A Large Car
38262/5501/067 D	Possible Highway Layout – Phase 2 Vehicle Swept Path Analysis For A Pantehnicon (Removals Truck)
38262/5501/068 D	Possible Highway Layout – Phase 2 Vehicle Swept Path Analysis For A Single Decker Bus
38262/5501/069 C	Possible Highway Layout – Phase 1 Vehicle Swept Path Analysis For A 12m School Coach
38262/5501/077	Clifford Avenue / Lower Richmond Road – Vehicle Swept Path Analysis For A 16.5m Articulated Lorry
38262/5501/078	Clifford Avenue / Lower Richmond Road – Vehicle Swept Path Analysis For A 10m Rigid Lorry

TECHNICAL NOTE



Appendix B – Traffic Survey Data Review





Stag Brewery, Mortlake

Traffic Survey Data Review

Technical Note 5

On behalf of **Reselton Properties Ltd**

Project Ref: 38262/5501 | Rev: AA | Date: November 2016

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Document Control Sheet

Project Name: Stag Brewery, Mortlake
Project Ref: 38262
Report Title: Traffic Survey Data Review
Doc Ref: Technical Note 5
Date: July 2016

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
AA					

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Appendices

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1.1 Background

1.1.1 This document sets out a review of the traffic survey data collected in the area surrounding the Stag Brewery site, Mortlake.

1.2 Survey Scope

1.2.1 Nationwide Data Collection was commissioned to carry out the traffic surveys on behalf of Peter Brett Associates LLP in June 2016.

1.2.2 The extent of the surveys included the following:

- Turning Counts and Queue Length Surveys, from 07:00 – 10:00 and 14:30 to 19:00 at:
 - A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction
 - Upper Richmond Road W (S Circular) / Sheen Lane Signalised Junction
 - A3003 Lower Richmond Road / Mortlake High Street / Sheen Lane Roundabout
 - Mortlake Station Level Crossing
- Mortlake Station Pedestrian Counts, from 07:00 to 10:00 and 16:00 to 19:00 at:
 - Mortlake Station at all 4 access points
- Level Crossing Timings and Queues, from 07:00 to 10:00 and 14:30 to 19:00 at:
 - Mortlake Station Level Crossing on Sheen Lane
- 7 Day Automatic Traffic Counts on:
 - Mortlake High Street, to the east of the Lower Richmond Road / Mortlake High Street / Sheen Lane Roundabout

1.2.3 The location of these surveys is shown in Figure 1.1 below.

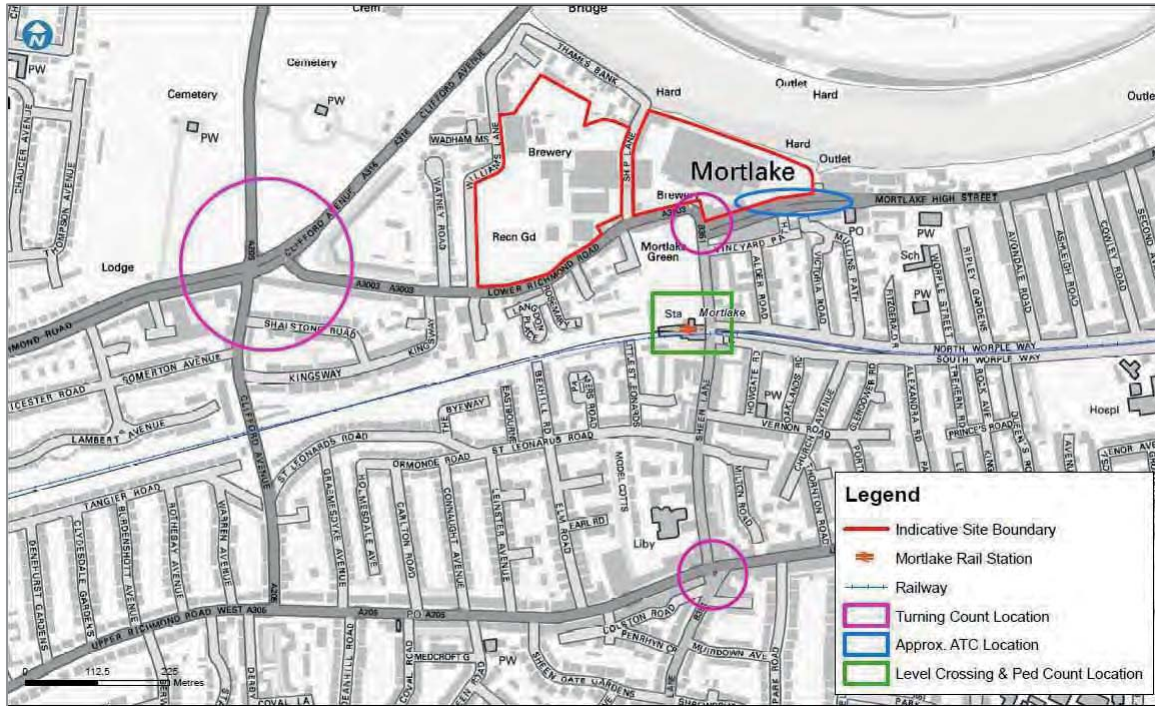


Figure 1.1 – Location of Traffic Surveys undertaken in June 2016

1.2.4 The AM peak was surveyed between 07:00 – 10:00, however the PM peak was extended to be from 14:30 to 19:00 at the request of London Borough of Richmond upon Thames in order to collect data at school pick up times.

1.3 Automatic Traffic Count (ATC)

1.3.1 A 7 day ATC was carried out on Mortlake High Street to the south-east of the Proposed Development.

1.3.2 The graph below demonstrates the daily all vehicles flow recorded in each direction.

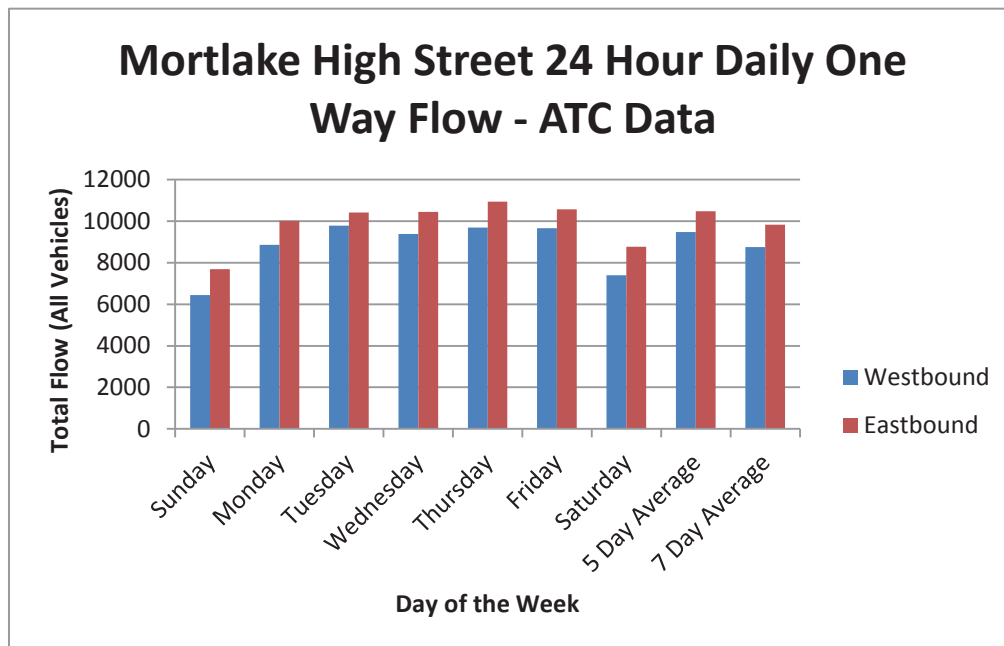


Figure 1.2 – Summary of Mortlake High Street 24 Hour Flows by Direction

1.3.3 Figure 1.2 shows that on average eastbound flows (5 day average of 10,474) were higher than the westbound flows (5 day average of 9,472).

1.3.4 This shows a greater amount of traffic heading towards Barnes Bridge than towards either Mortlake Station or the Lower Richmond Road.

1.3.5 Figure 1.3 below demonstrates the average weekday flow across 24 hours on Mortlake High Street.

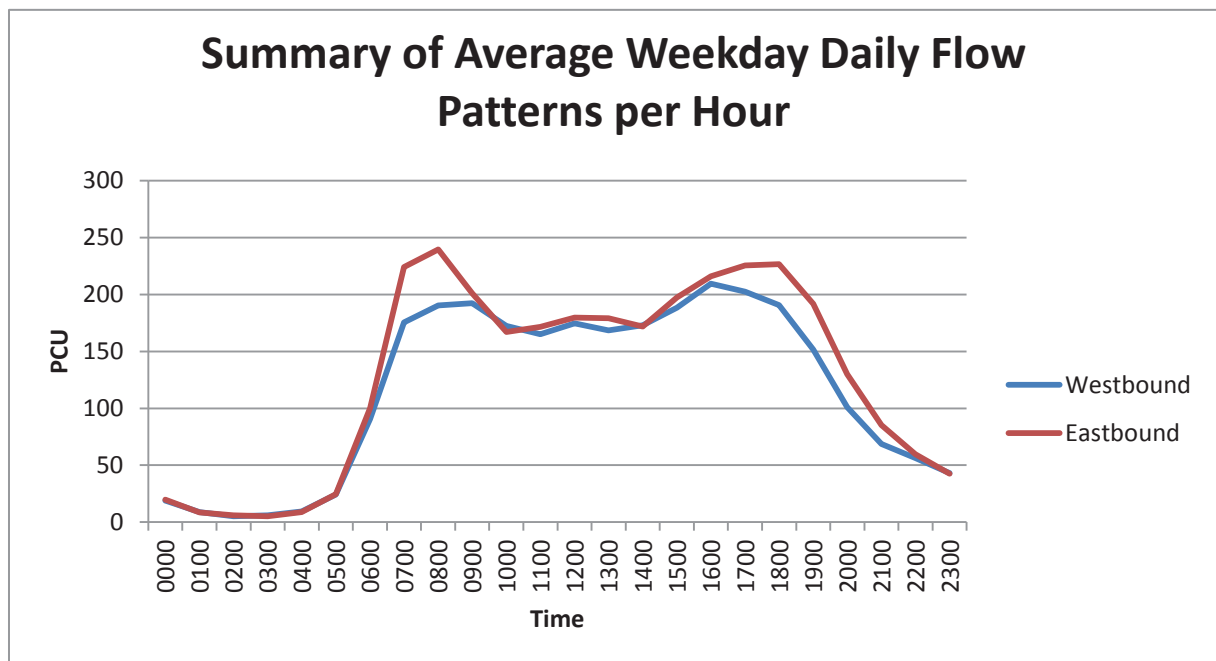


Figure 1.3 – Summary of Average Weekday Daily Flow Patterns per Hour – Mortlake High Street

1.3.6 The patterns show that eastbound there are two clear peaks. One a shorter more pronounced peak between approximately 07:00 and 09:00 and the second a slightly longer peak between 16:00 and 19:00.

1.3.7 The westbound flow has a slightly flatter profile with a less prominent AM Peak between 08:00 and 09:00. The PM peak is also shorter and earlier occurring between 16:00 and 17:00.

1.3.8 As well as having less severe peaks the daily flow also suggests that the westbound flow is less than the eastbound flows.

1.4 Turning Count Surveys

1.4.1 The turning count surveys were carried out on the Wednesday in the week of the ATC count. Figure 1.2 above shows that there were no drastic differences in terms of daily flow between Wednesday and the rest of the week, demonstrating that traffic conditions were representative of a normal day.

A316 Lower Richmond Road / Clifford Road / South Circular Road / A3003 Lower Richmond Road Junction Inflow

1.4.2 The principal junction and main connection to the wider highway network is the A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction.

- 1.4.3 The Graphs below highlight the percentage of Inflow and Outflow from the Lower Richmond Road arm to this junction over each peak.
- 1.4.4 The Lower Richmond Road Arm would provide the main access point to the wider highway network from the Proposed Development and therefore would be expected to see the greatest impact in terms of additional traffic flows.

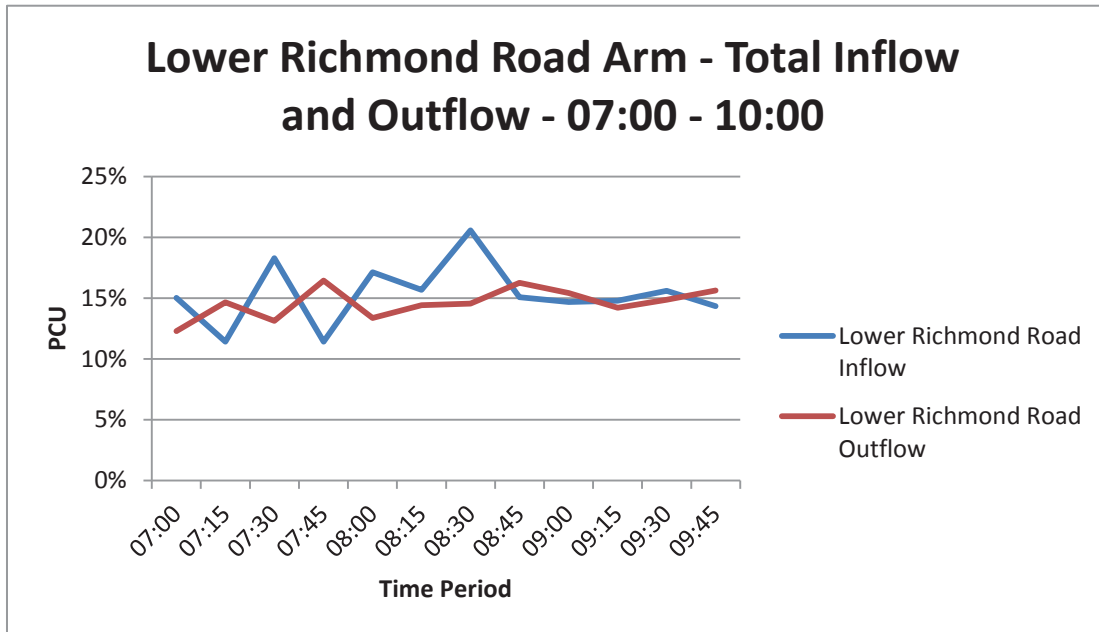


Figure 1.4 – Lower Richmond Road Arm - AM Peak - Total Inflow and Outflow

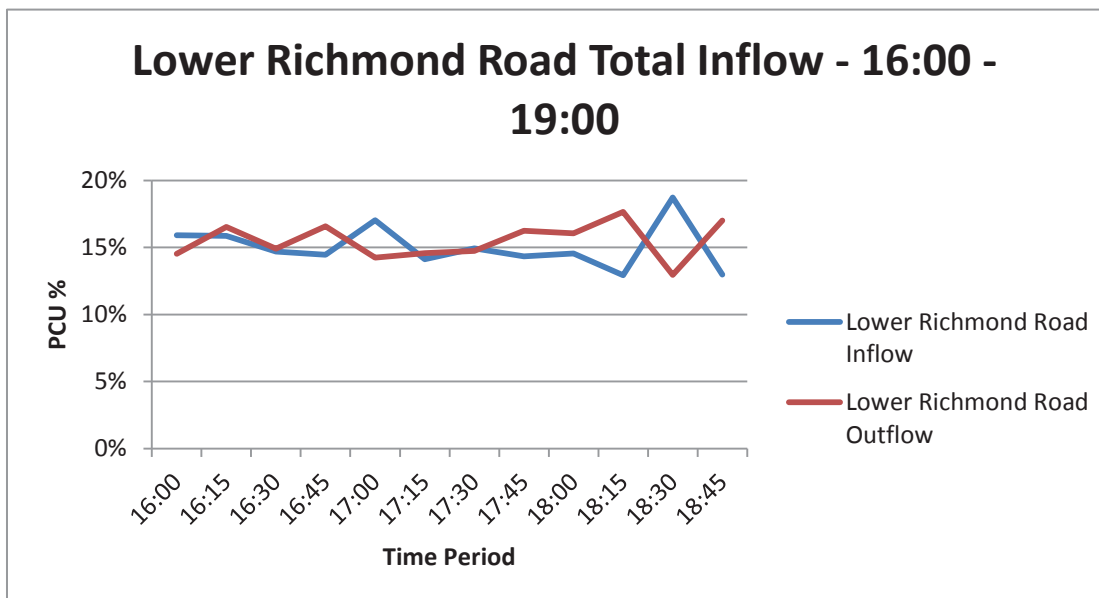


Figure 1.5 – Lower Richmond Road Arm – PM Peak – Total Inflow and Outflow

- 1.4.5 Figures 1.4 and 1.5 highlight that the current level of inflow and outflow to and from the junction ranges from between 11% and 21% of total junction inflow in the AM peak and 13% and 19% in the PM peak for each 15 minute period. This equates to approximately 150 vehicles in each direction per 15 minutes.
- 1.4.6 The average total inflow for the whole junction in each 15 minute period is 992 PCU in the AM Peak and 1174 PCU in the PM peak.

1.4.7 In terms of peak hours, the figures show in the AM peak that the peak hour would be between 08:00 and 09:00 whilst the PM peak shows a much flatter more consistent profile. This correlates with site observations where in the PM peak flows were consistent due to the large amount of traffic.

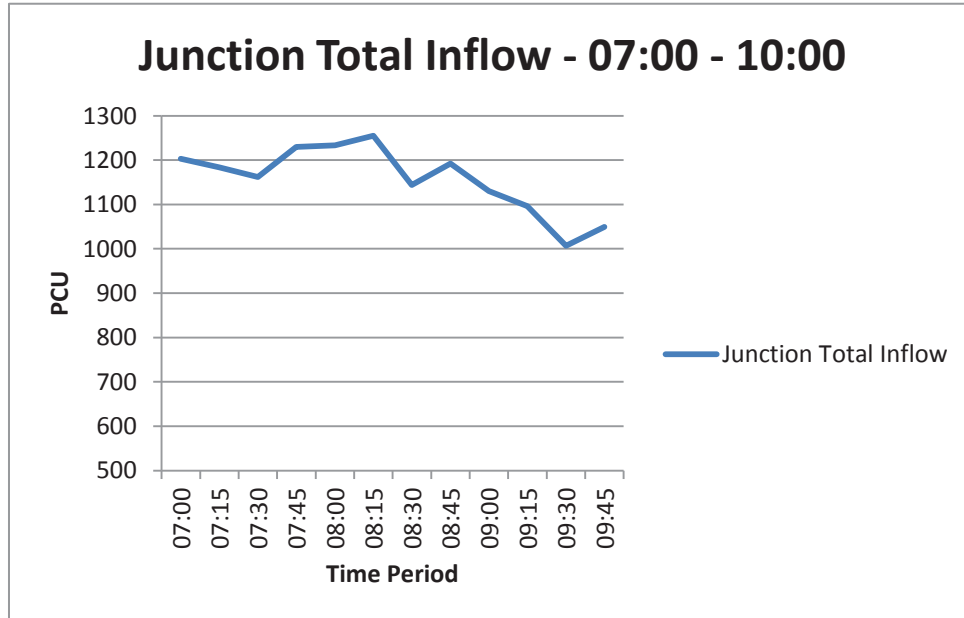


Figure 1.6 - A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction – AM Peak – Total Inflow

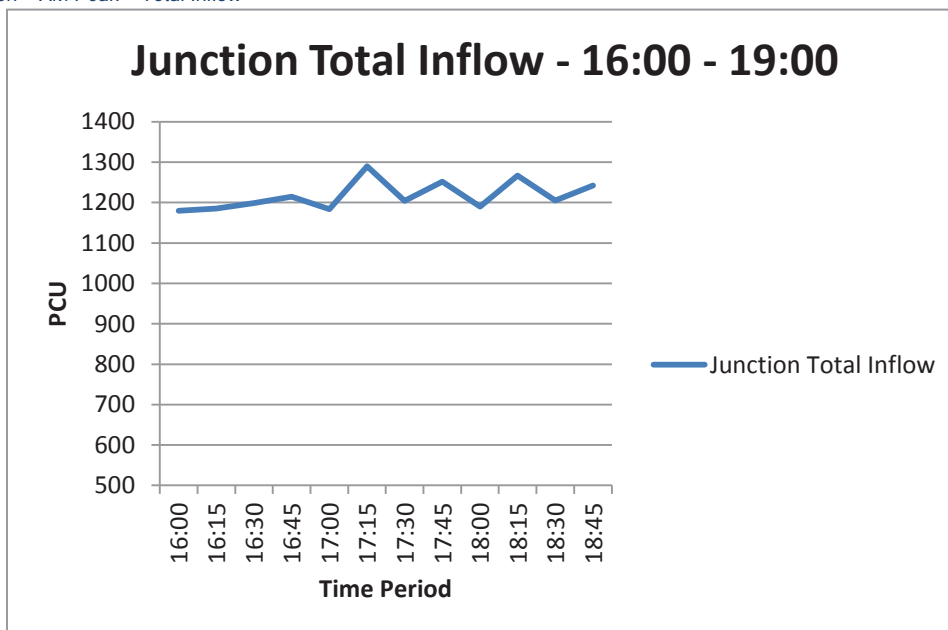


Figure 1.7 - A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction – PM Peak – Total Inflow

1.4.8 Figures 1.6 and 1.7 show the total junction inflow for the AM and PM peaks. In the AM peak there is a small peak observed between 07:30 and 08:30 whereas in the PM peak there is a much flatter junction profile with no real peak observed.

1.5 Lower Richmond Road Turning Proportions

1.5.1 Table 1.1 below demonstrates the traffic flows per direction for the A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction.

Table 1.1 – Summary of junction turning movements for the A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction.

		AM Peak 07:00 – 10:00						PM Peak 16:00 – 19:00					
Arm		Arm A	Arm B	Arm C	Arm D	Arm E	Total	Arm A	Arm B	Arm C	Arm D	Arm E	Total
A	S Circular Road (N)	0	233	481	1116	38	1869	0	255	593	1190	44	2082
B	A316 Clifford Avenue	131	0	645	453	1747	2975	149	0	786	620	2392	3947
C	Lower Richmond Road (E)	431	863	0	97	738	2128	368	943	0	62	822	2195
D	S Circular Road (S)	1254	866	34	0	495	2649	1045	741	23	0	500	2308
E	Lower Richmond Road (W)	203	2751	867	452	5	4277	194	2587	866	428	2	4077
Total		2018	4713	2026	2117	3023	13898	1756	4526	2267	2300	3760	14609

Table 1.2 – Summary of junction turning proportions for the A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction.

		AM Peak 07:00 – 10:00						PM Peak 16:00 – 19:00					
Arm		Arm A	Arm B	Arm C	Arm D	Arm E	Total	Arm A	Arm B	Arm C	Arm D	Arm E	Total
Arm A	S Circular Road (N)	0%	12%	26%	60%	2%	100%	0%	12%	28%	57%	2%	100%
Arm B	A316 Clifford	4%	0%	22%	15%	59%	100%	4%	0%	20%	16%	61%	100%

	Avenue												
Arm C	Lower Richmond Road (E)	20%	41%	0%	5%	35%	100%	17%	43%	0%	3%	37%	100%
Arm D	S Circular Road (S)	47%	33%	1%	0%	19%	100%	45%	32%	1%	0%	22%	100%
Arm E	Lower Richmond Road (W)	5%	64%	20%	11%	0%	100%	5%	63%	21%	10%	0%	100%

1.5.2 Tables 1.1 and 1.2 demonstrate that in the AM peak of the existing traffic inflow from the Lower Richmond Road arm, the majority turns north-east towards Chiswick Bridge (41%/863 PCU) or south-west towards Richmond (35%/738 PCU). A further 20% or 431 PCU turns towards Kew via the S Circular Road (N).

1.5.3 The same pattern was then recorded in the PM peak, with 43%/943 PCU turning towards Chiswick Bridge and 37%/822 PCU towards Richmond. The percentage turning towards Kew and the S Circular Road (N) was slightly less than the AM peak (17%/368).

1.5.4 Figure 1.8 below demonstrates these flows in a diagram.

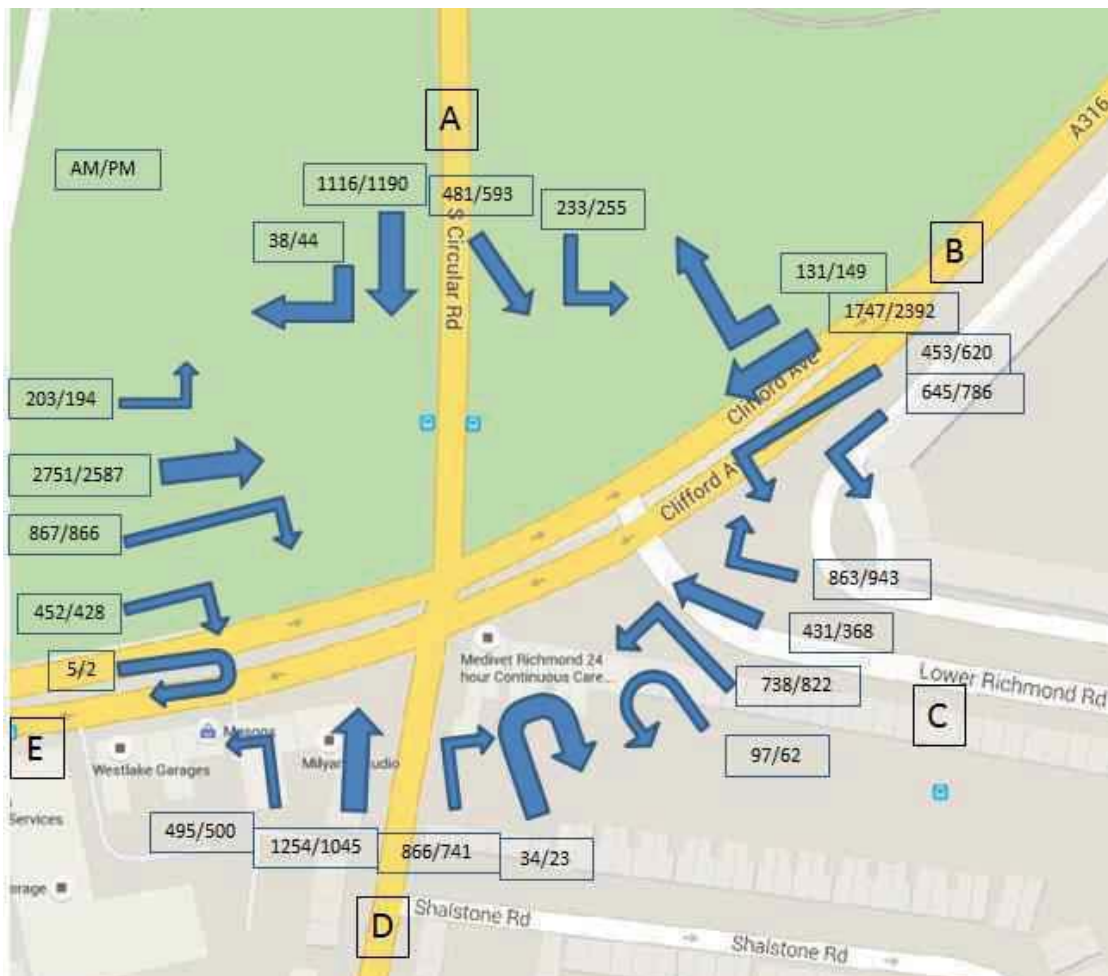


Figure 1.8 – Diagram of turning flows at A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction.

1.6 Mortlake Station Level Crossing Flows

1.6.1 Traffic flows using the crossing were recorded as northbound and southbound flows for the 07:00 – 10:00 and 16:00 – 19:00 time periods.

1.6.2 Table 1.2 below demonstrates the level and proportion of traffic in each direction.

Table 1.2 – Summary of Mortlake Station Level Crossing Directional Flows

Direction of Travel	AM Peak (07:00 – 10:00)		PM Peak (16:00 – 19:00)	
	Traffic Flow (PCU)	Proportion	Traffic Flow (PCU)	Proportion
Northbound	717	57%	670	48%
Southbound	547	43%	726	52%
Total	1265	100%	2057	100%

1.6.3 Table 1.2 shows that in the AM peak the majority of traffic is using the crossing point to travel northbound (57%), whilst in the PM peak the majority of traffic uses the crossing to travel southbound (52%).

1.7 Mortlake Station Level Crossing Queues

1.7.1 A queue survey was carried out at the Mortlake Station Level Crossing in order to determine the level of queueing during barrier down-times in each peak and to ascertain the impact this has on the surrounding road network.

1.7.2 The graphs below demonstrate the queue length in PCUs during ‘Red Times’, times when the barrier was down.

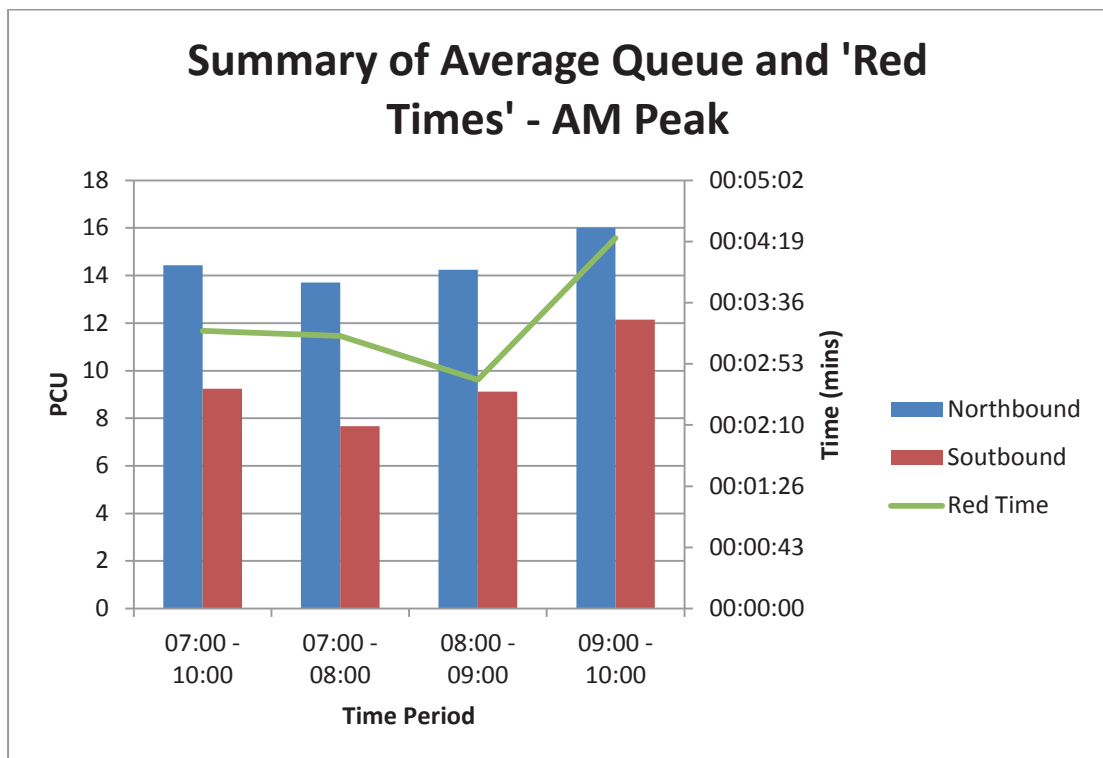


Figure 1.9 – Summary of Mortlake Station Level Crossing Averages Queues and 'Red Times' – AM peak

- 1.7.3 Figure 1.9 shows the results of the AM peak where northbound queueing was recorded as being greater than the southbound queues across the peak period. Between 07:00 and 10:00 the northbound queue averaged 14 PCUs whilst the southbound queue average 9 PCUs. The maximum southbound queue recorded was 43 PCUs and northbound was 35 PCUs.
- 1.7.4 Average 'Red Time' varied across the peak with it averaging 3 minutes 13 seconds across the three hour period. The maximum 'Red Time' observed in the AM peak was 9 minutes 07 seconds in the 09:00 – 10:00.

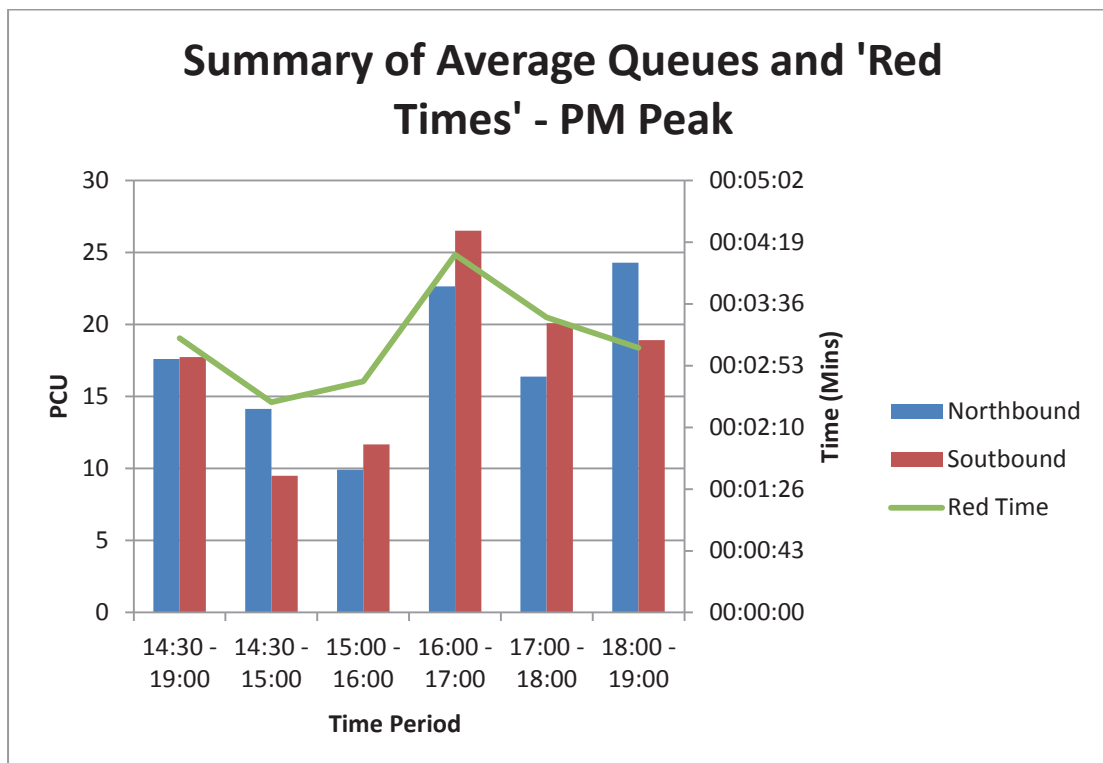


Figure 1.10 – Summary of Mortlake Station Level Crossing Averages Queues and 'Red Times' – PM peak

- 1.7.5 Figure 1.10 shows the results of the PM peak where southbound queues were generally greater than northbound queues. Between 14:30 and 19:00 both the northbound and southbound queues averaged 18 PCU. The 16:00 – 17:00 time period contained the maximum southbound queue (35 PCU) while the 18:00 – 19:00 time period contained the maximum northbound queue (43 PCU).
- 1.7.6 The average 'Red Time' across the whole period was 3 minutes 12 seconds with the maximum 'Red Time' – 7 minutes 24 seconds - observed within the 16:00 – 17:00 time period.
- 1.7.7 The table below shows the total down time, maximum down time, flows and maximum queues for each 15 minute period.

Table 1.3 – Summary of Level Crossing Down Time and Queues

Time	Total Down Time	Maximum Down Time	Northbound		Southbound	
			Flow	Max Queue	Flow	Max Queue
07:00	06:43	04:33	53	11	25	9
07:15	13:26	06:28	45	26	30	14
07:30	09:45	05:04	61	18	34	8
07:45	08:37	02:56	65	22	48	16
08:00	06:17	02:24	73	17	57	9

Time	Total Down Time	Maximum Down Time	Northbound		Southbound	
			Flow	Max Queue	Flow	Max Queue
08:15	09:55	03:15	86	18	57	15
08:30	10:34	04:44	60	25	45	21
08:45	05:33	03:54	69	16	45	10
09:00	09:07	09:07	51	35	49	20
09:15	07:39	05:30	55	26	44	14
09:30	07:27	05:48	57	22	60	18
09:45	06:19	04:19	45	15	54	17
16:00	08:44	07:24	62	35	65	27
16:15	12:18	05:52	44	40	48	30
16:30	11:21	06:24	59	40	51	35
16:45	09:20	04:44	67	22	88	35
17:00	07:53	02:49	68	22	92	25
17:15	09:28	05:57	49	25	41	30
17:30	11:50	03:48	55	19	60	27
17:45	07:28	05:52	57	31.5	61	25
18:00	12:40	04:39	60	43	60	30
18:15	11:56	03:54	49	43	52	24
18:30	05:43	05:43	58	20	71	23
18:45	12:22	04:46	43	11	38	24

- 1.7.8 Table 1.3 shows that in both the AM and PM peak there are points where the barrier is down for the majority of the 15 minute period.
- 1.7.9 The Northbound queues are generally higher than the southbound queues in both the AM and PM peaks.
- 1.7.10 Queue Lengths, with the odd anomaly, tend to increase throughout the peak period, with less queueing observed earlier in the peak.

1.8 Mortlake Station Pedestrian Access

- 1.8.1 Pedestrian surveys were carried out between 16:00 and 19:00 at all four entrances/exits to Mortlake Train Station.
- 1.8.2 The station has two exits to the north of the railway line. One through Sheen Lane Building Merchants (Entrance/Exit 1) and one via the footbridge (Entrance/Exit 2). There are two further entrances/exits to the south – one again via the footbridge and another via the station car park.
- 1.8.3 These are shown in Figure 1.11 below.

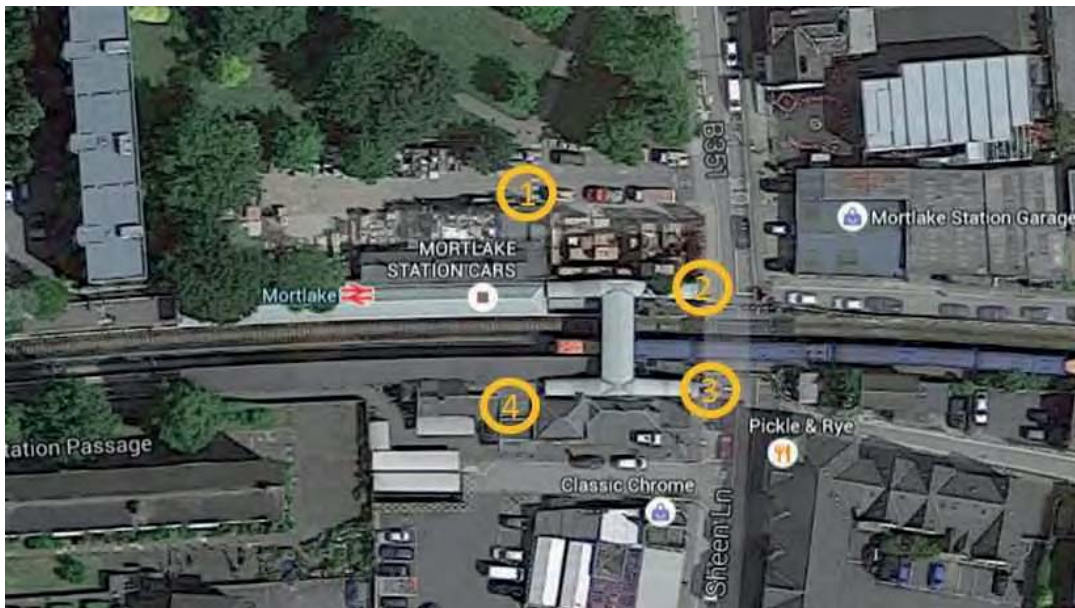


Figure 1.11 – Map of Mortlake Station Entrances/Exits

- 1.8.4 Tables 1.3 and 1.4 below details the number and proportion of pedestrians using each entrance/exit to the station.

Table 1.3 – Summary of Pedestrian Entry/Exit Movements at Mortlake Station AM Peak

Site	AM Peak					
	Entrance		Exit		Combined	
	No.	%	No.	%	No.	%
Site 1	615	18%	49	16%	664	18%
Site 2	216	6%	29	9%	245	7%
Site 3	639	19%	59	19%	698	19%
Site 4	1880	56%	178	57%	2058	56%
Total	3350	100%	315	100%	3665	100%

- 1.8.5 Table 1.3 demonstrates that there is more than 3,000 pedestrians entering the station in the AM peak than there are exiting.
- 1.8.6 The most frequently used Entrance/Exit is Site 4 with 56% of people entering the station using this entrance/exit and 57% of people leaving also using this Entrance/Exit.
- 1.8.7 Only 6% of people arriving at the station enter via Site 2 with only 9% of leavers exiting via Site 2.
- 1.8.8 18% and 19% enter via Sites 1 and 3 respectively, whilst 16% and 19% leave via these sites.

Table 1.4 – Summary of Pedestrian Entry/Exit Movements at Mortlake Station PM Peak

Site	PM Peak					
	Entrance		Exit		Combined	
	No.	%	No.	%	No.	%
Site 1	256	17%	330	16%	586	17%
Site 2	228	15%	172	9%	400	11%
Site 3	367	24%	292	15%	659	19%
Site 4	670	44%	1211	60%	1881	53%
Total	1521	100%	2005	100%	3526	100%

- 1.8.9 Table 1.4 demonstrates that the number of people entering and exiting the station in the PM peak has a greater similarity than in the AM peak.
- 1.8.10 The most common entry/exit point is again Site 4 (44%/60%), with Site 2 again being the least common entry/exit point (15%/9%)
- 1.8.11 Site 1 and 3 were observed to have 17% and 24% of the entry share in the PM peak, whilst they were observed to have 16% and 15% of the exit share.
- 1.8.12 Figure 1.12 below shows the total inflow and outflow for the station per 15 minute period.

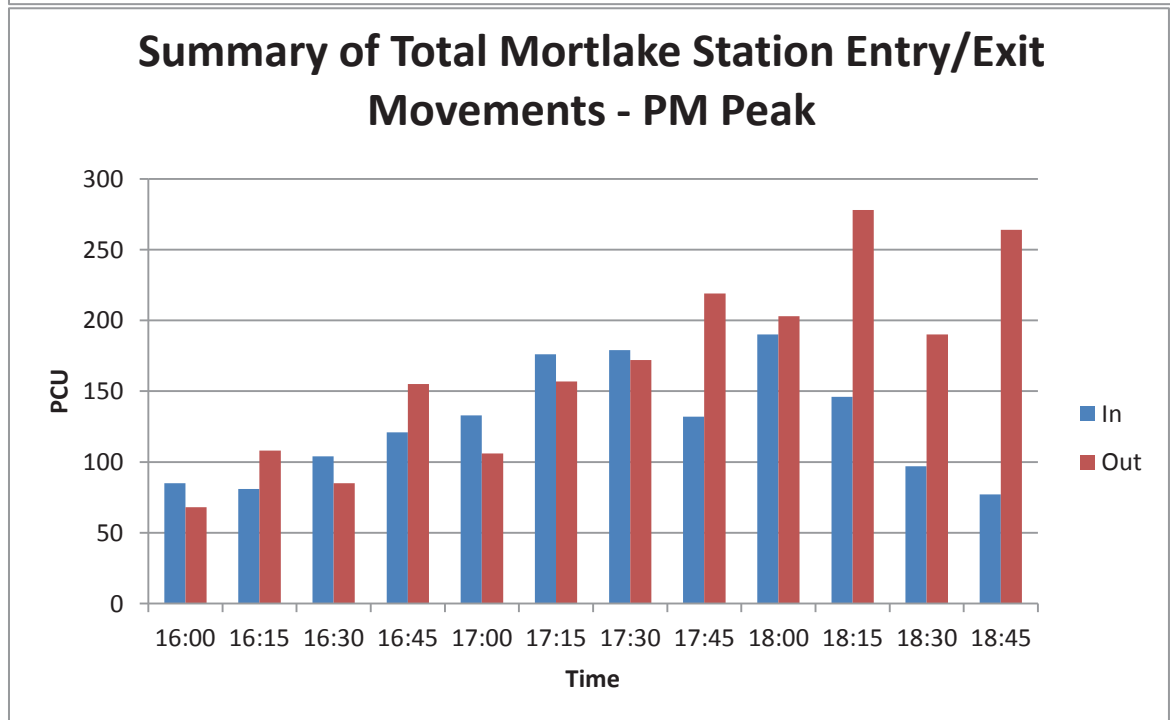
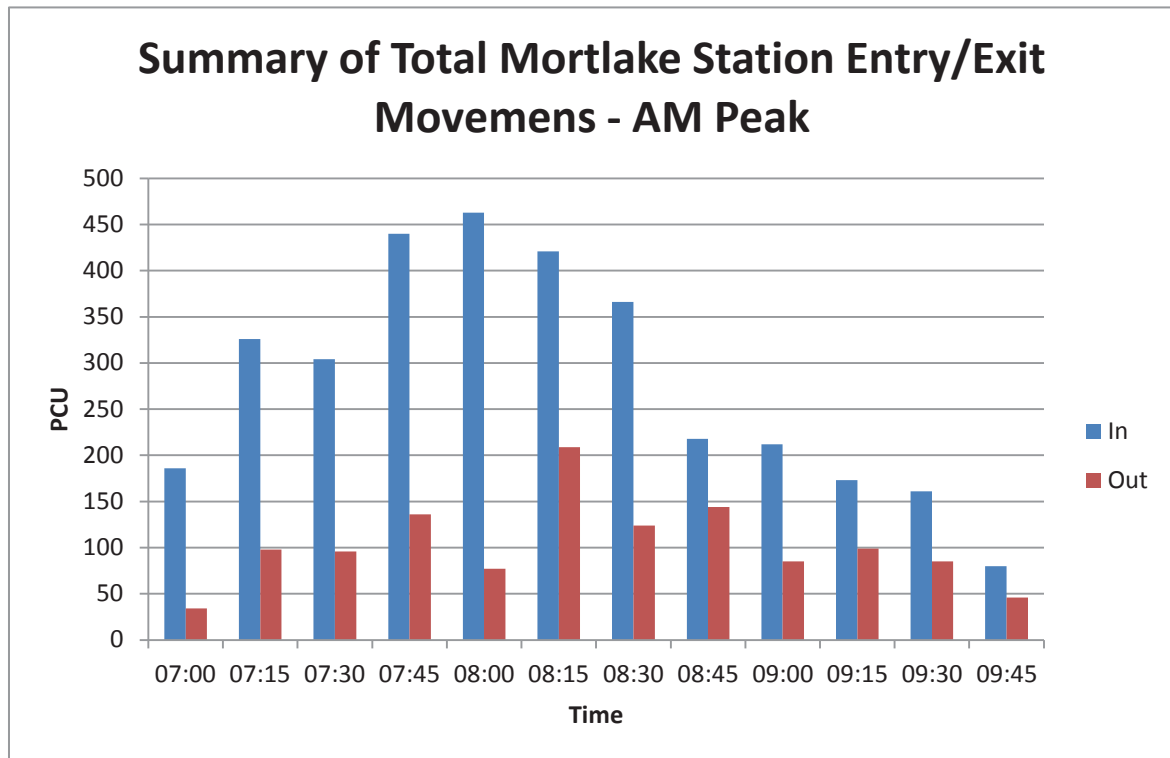


Figure 1.12 - Graph of Mortlake Station entry and exit movements in the Am and PM peaks

1.8.13 The figure shows that in the AM peak the peak time is shown as between 07:30 and 08:30 whilst in the PM peak it is between 17:45 and 19:00

1.9 Conclusions

1.9.1 In summary Nationwide Data Collection carried out Traffic Survey Data collection on behalf of Peter Brett Associates in June 2015.

- 1.9.2 The ATC data from Mortlake High Street demonstrated that over the course of a day eastbound flows were greater than westbound flows and that on average approximately 9,500 – 10,000 vehicles were observed in each direction per day.
- 1.9.3 The A31 Lower Richmond Road / Clifford Road / S Circular Road / A3003 Lower Richmond Road Staggered Signalised Junction is a primary junction where a large proportion of traffic from the Proposed Development will enter the wider highway network.
- 1.9.4 The total junction inflow and outflow for the Lower Richmond Road arm most likely to be used by development traffic currently varies between 11% and 21% of the total junction inflow.
- 1.9.5 41% of Existing AM peak traffic from Lower Richmond Road currently turns towards Chiswick Bridge with 39% making this turn in the PM peak, whilst 35% turns towards Richmond in the AM peak with 40% making this turn in the PM peak.
- 1.9.6 Surveys at Mortlake Station Level Crossing show that the majority of flow (57%) in the AM peak is travelling Northbound whilst it reverses to southbound in the PM peak (51%).
- 1.9.7 Average AM queues were recorded as 14 PCU Northbound and 9 PCU Southbound, whilst in the PM peak both directions average 18 PCU.
- 1.9.8 The average 'Red Time' in the AM peak was 3 minutes 13 seconds, whilst it was 3 minutes 12 seconds in the PM peak.
- 1.9.9 Mortlake Station has four access points with Site 4 being the most frequently used and Site 2 the least frequent.
- 1.9.10 An almost even number of people enter and exit the station in the PM peak but the number of people entering the station in the AM peak is more than 3,000 greater than the number exiting.

Appendix C Drawings

Drawing number	Drawing title
38262/5501/051 C	Clifford Avenue / Lower Richmond Road Short Flare Option.
38262/5501/077	Clifford Avenue / Lower Richmond Road – Vehicle Swept Path Analysis for a 16.5m Articulated Lorry
38262/5501/078	Clifford Avenue / Lower Richmond Road – Vehicle Swept Path Analysis for a 10m Rigid Lorry.



FIA Design Articulated Vehicle (1998)
 Overall Length 16.450m
 Overall Width 3.000m
 Overall Body Height 4.000m
 Max. Track Width 2.740m
 Kerb to Kerb Turning Radius 6.350m

Mark	Revision	Date	Drawn	Checked	App'd

SCALE NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, gas or other services shown on the drawing is for information only. The Contractor is to be responsible for checking the position of any services in the ground before any excavation, services, plant or equipment is installed on site.

DRAWING ISSUE STATUS

FOR PLANNING

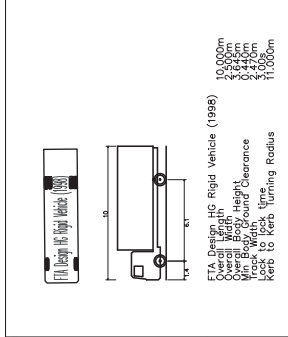
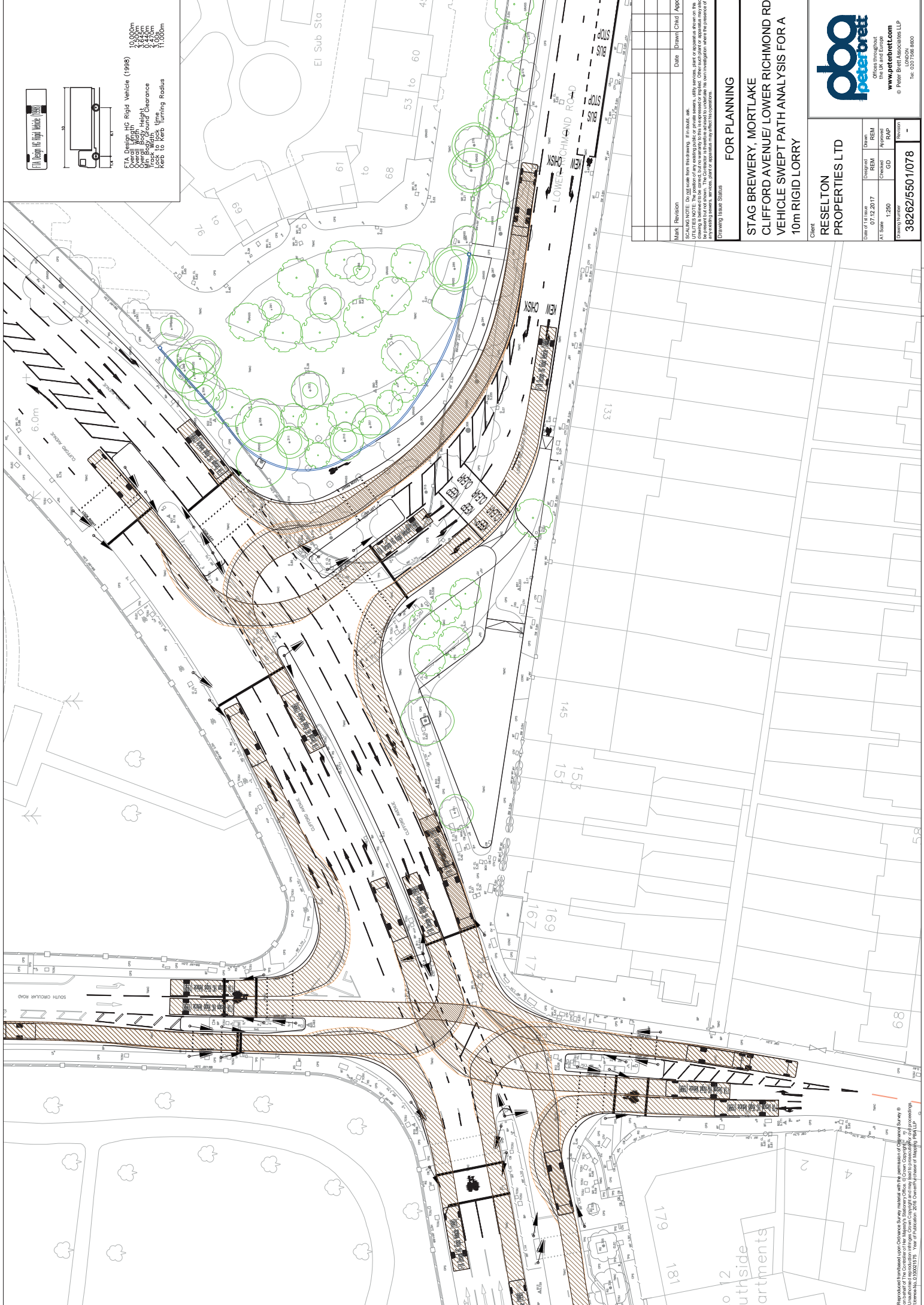
**STAG BREWERY, MORTLAKE
 CLIFFORD AVENUE/ LOWER RICHMOND RD
 VEHICLE SWEEP PATH ANALYSIS FOR A
 16.5m ARTICULATED LORRY**

Client
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FTA Design HG Rigid Vehicle (1998)
 Overall Length 10,000mm
 Overall Width 2,400mm
 Overall Height 3,440mm
 Wheelbase 4,200mm
 Track Width 1,800mm
 Kerb to Kerb turning radius 11,000mm

Mark	Revision	Date	Drawn	Checked	App'd

SCALE NOTE: DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT, ASK.
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STAG BREWERY, MORTLAKE
CLIFF ROAD AVENUE/ LOWER RICHMOND RD
VEHICLE SWEEP PATH ANALYSIS FOR A
10m RIGID LORRY

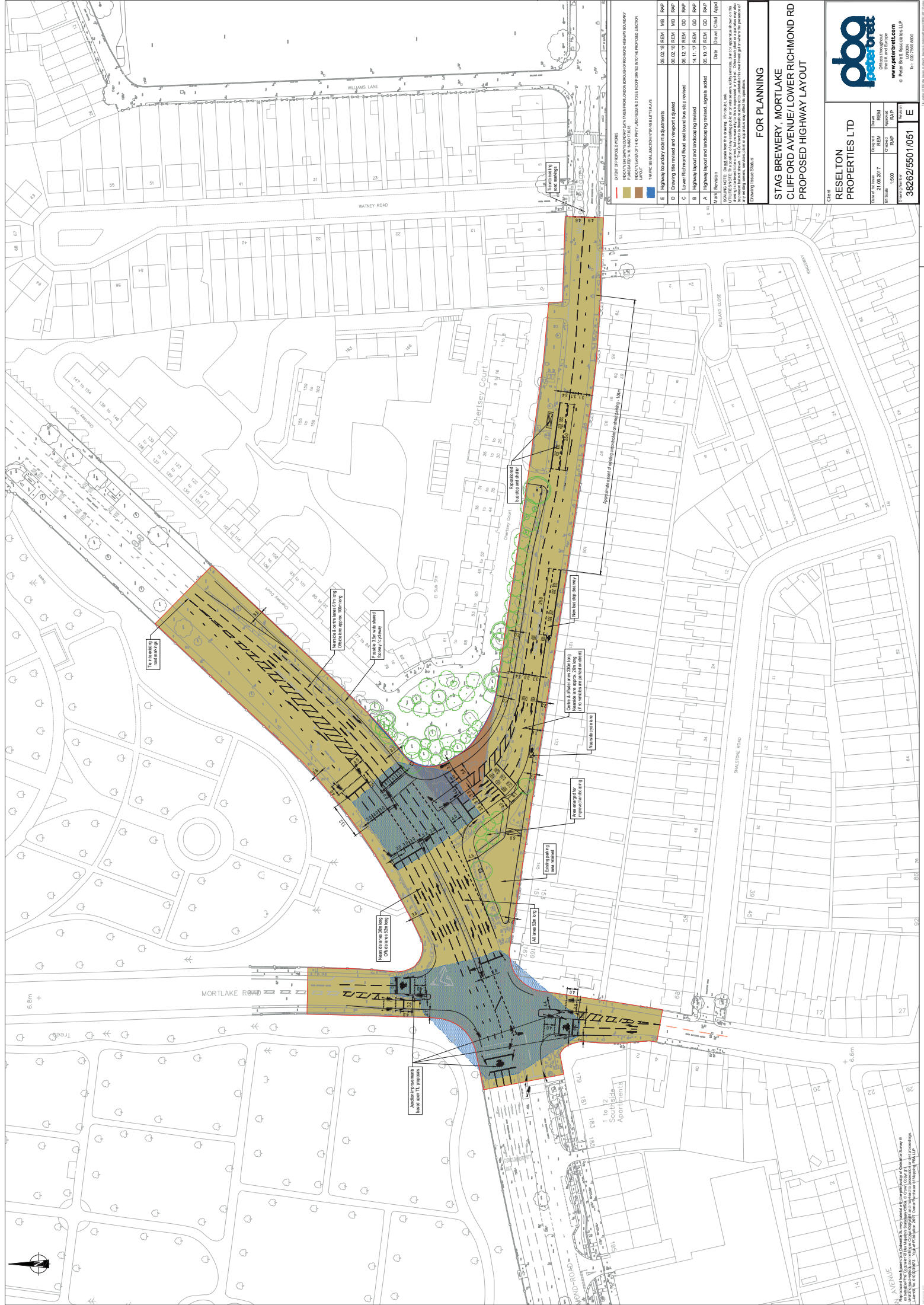
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Appendix I On-site vehicle tracking



DATE OF PROPOSERS: 21.06.2017
 DRAWING NO: 38262/5501/051
 DRAWING TITLE: STAG BREWERY, MORTLAKE, CLIFFORD AVENUE/LOWER RICHMOND RD PROPOSED HIGHWAY LAYOUT

NO.	REVISION	DATE	BY	APP.
01	REVISION	21.06.2017	1500	1500
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03	REVISION			
04	REVISION			
05	REVISION			
06	REVISION			
07	REVISION			
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19	REVISION			
20	REVISION			

DATE: 21.06.2017
 TIME: 15:00
 DRAWING NO: 38262/5501/051
 DRAWING TITLE: STAG BREWERY, MORTLAKE, CLIFFORD AVENUE/LOWER RICHMOND RD PROPOSED HIGHWAY LAYOUT

FOR PLANNING

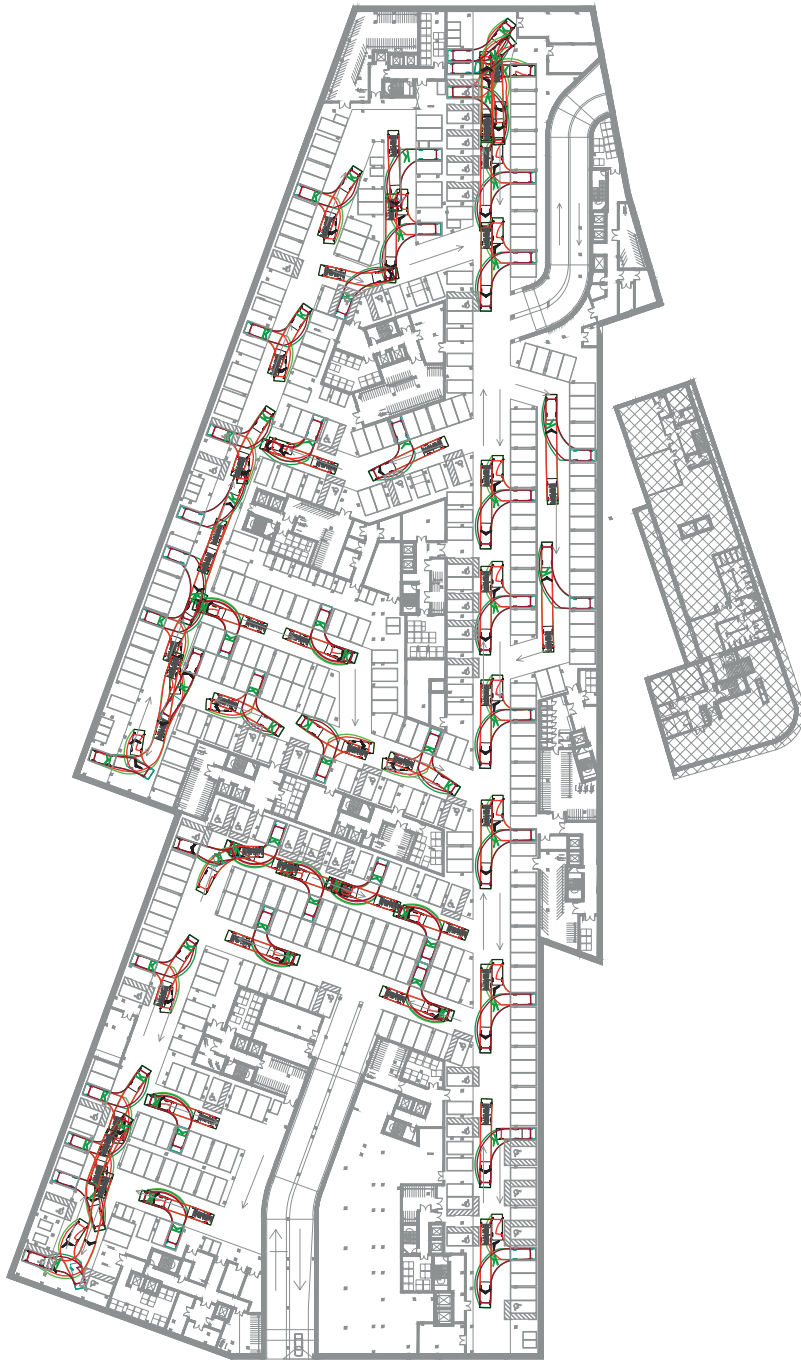
STAG BREWERY, MORTLAKE
 CLIFFORD AVENUE/LOWER RICHMOND RD
 PROPOSED HIGHWAY LAYOUT

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DATE OF ISSUE: 21.06.2017
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Mark	Revision	Date	Drawn	Checked	App'd
A	UPDATED BASEMENT LAYOUT	14.02.18	JS	REM	PAF

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is for information only. The Contractor is instructed to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect the operation.

Drawing Issue Status

FOR PLANNING

**STAG BREWERY, MORTLAKE
 PROPOSED CAR PARK LAYOUT - PHASE 1
 VEHICLE SWEEP PATH ANALYSIS**

Client
**RESELTON
 PROPERTIES**

Date of Issue	13/02/2017	Designed	JM
Drawn	REM	Checked	REM
AT Scale	1:500	Drawn	REM

Drawing Number
38262/550172

Scale
A

File: 38262_1550172.dwg, sheet: 01 of 01, created: 14/02/2018 10:52:12 AM



Mark	Revision	Date	Drawn	Chkd	Appd
A	UPDATED BASEMENT LAYOUT	14.02.18	JS	REM	PAAP

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is for information only. It is not to be used for design purposes. Other existing or proposed apparatus may also be shown for information only. The position of any existing or proposed apparatus should be confirmed by a separate survey of any existing sewers, services, plant or apparatus may affect their operations.

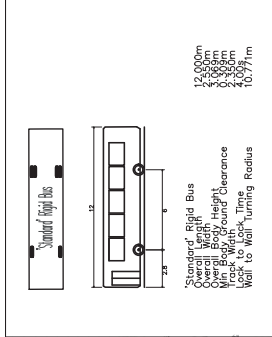
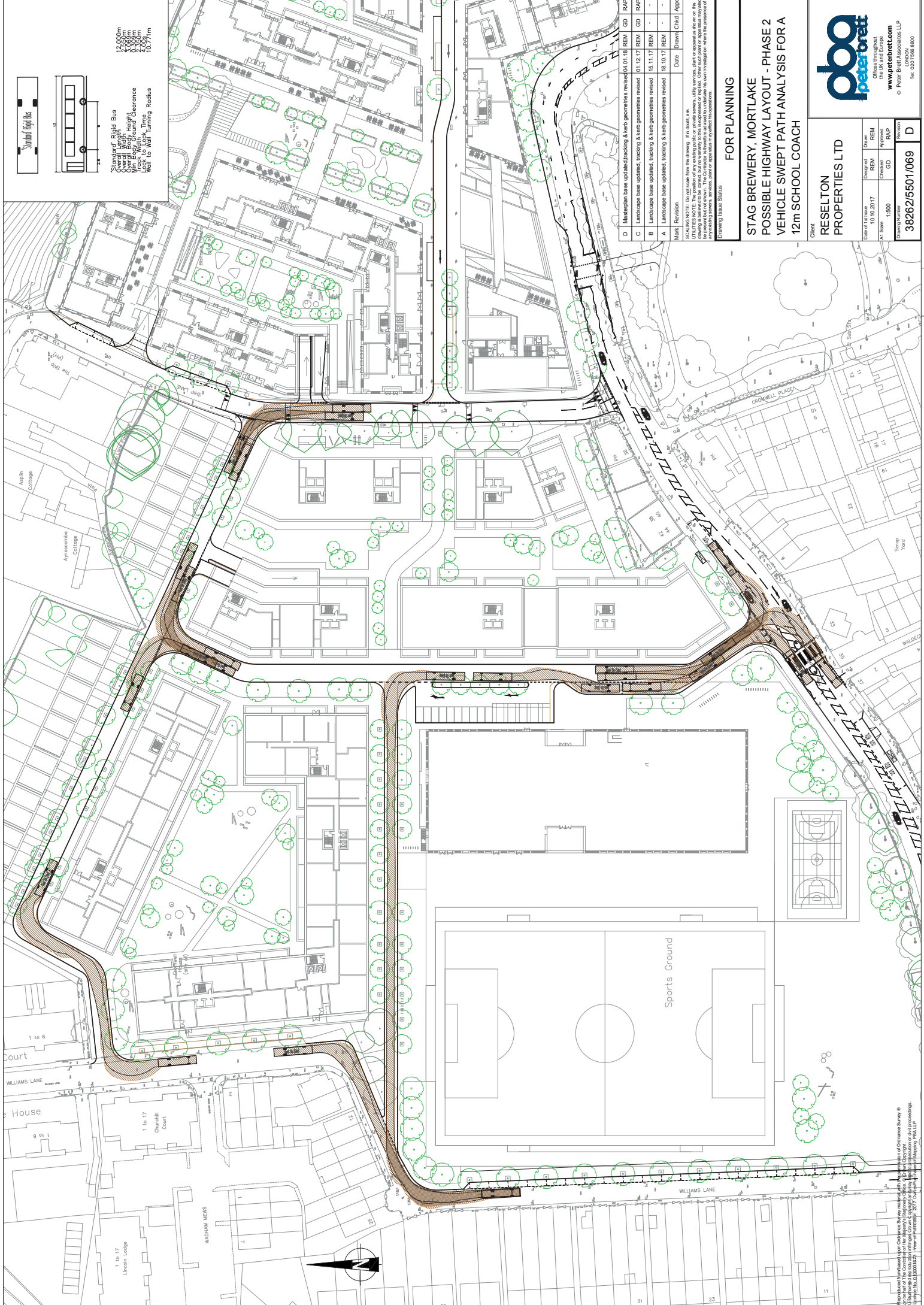
Drawing Issue Status

FOR PLANNING
STAG BREWERY, MORTLAKE
PROPOSED CAR PARK LAYOUT - PHASE 2
VEHICLE SWEEP PATH ANALYSIS

Client: **RESELTON PROPERTIES**

DATE OF ISSUE	DESIGNED	DRAWN
13/10/2017	-	JM
A2 SCALE	CHECKED	APPROVED
1:500	REM	REM
DRAWING NUMBER	REVISION	
38262/5501/73	A	

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 Tel: 0203 8224 6600



Standard Rigid Bus
 Overall Width: 2.55m
 Overall Height: 4.00m
 Wheelbase: 3.00m
 Wheel Track: 2.00m
 Wheel to Wall Clearance: 0.50m
 Wheel to Wall Time: 1.00m
 Wheel to Wall Turning Radius: 10.77m

Mark	Revision	Date	Drawn	Checked	App'd
D	Masterplan base updated, tracking & kerb geometries revised	01.12.17	REM	GD	RAP
C	Landscape base updated, tracking & kerb geometries revised	01.12.17	REM	GD	RAP
B	Landscape base updated, tracking & kerb geometries revised	15.11.17	REM	-	-
A	Landscape base updated, tracking & kerb geometries revised	15.10.17	REM	-	-

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on the drawing is for information only. The Contractor is to be notified to update the drawing in accordance with the presence of any new services, services, plant or apparatus that may be proposed.

FOR PLANNING

STAG BREWERY, MORTLAKE
 POSSIBLE HIGHWAY LAYOUT - PHASE 2
 VEHICLE SWEEP PATH ANALYSIS FOR A
 12m SCHOOL COACH

Client
RESELTON PROPERTIES LTD

Date of 1st Issue: 10.10.2017
 Drawn: REM
 Checked: GD
 App'd: RAP

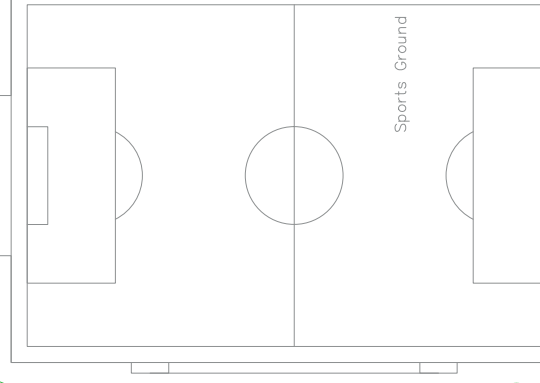
Project Name: 38262/5501/069
 Scale: 1:500

Drawn: REM
 Checked: GD
 App'd: RAP

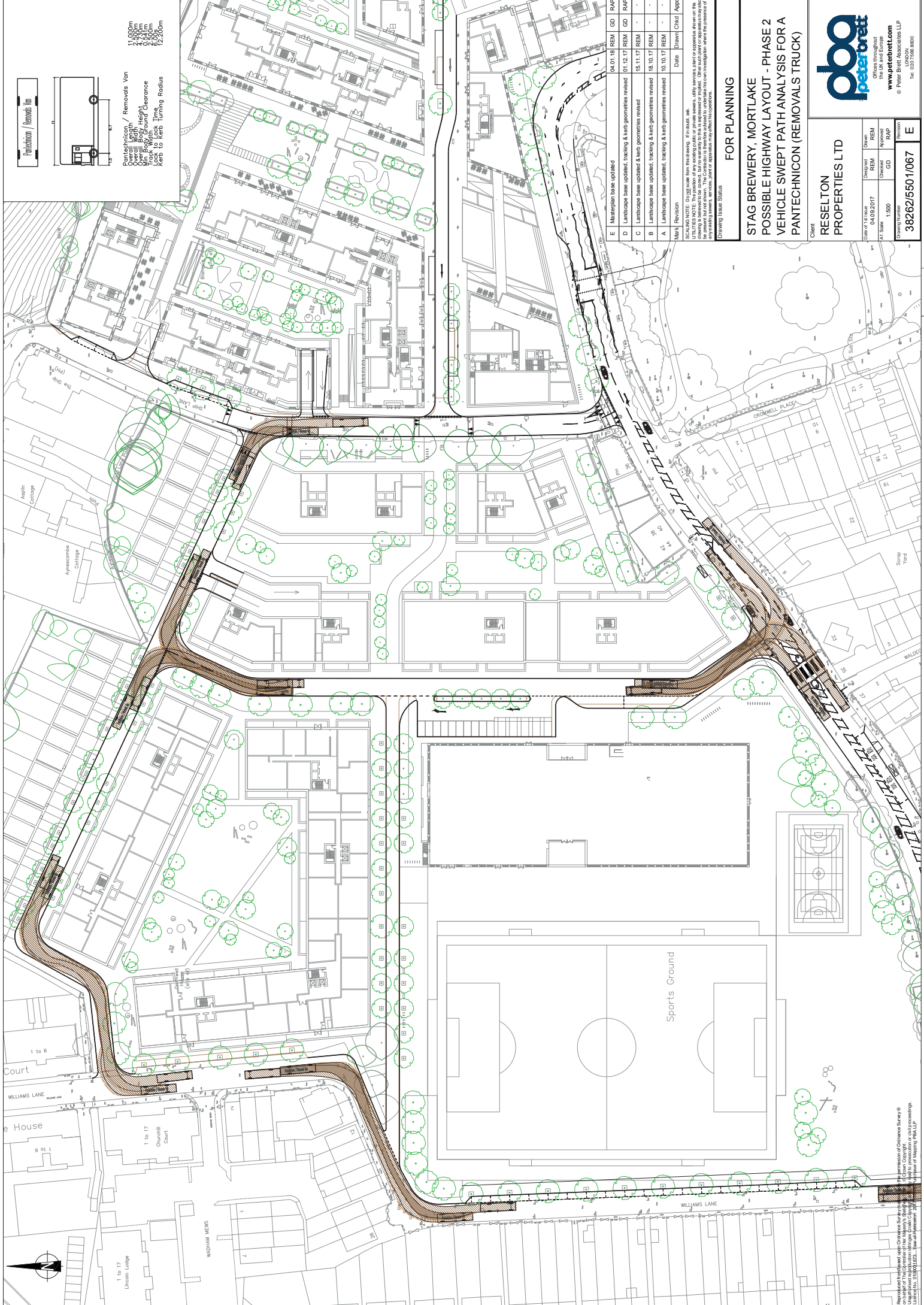
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1 to 6
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 1 to 17
 Churchill Court
 1 to 17
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 WINDHAM MEWS



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Pantechnicon / Removals Van

Pantechnicon / Removals Van
 Overall Length: 11.000m
 Overall Width: 4.500m
 Min Body Ground Clearance: 2.000m
 Max Body Ground Clearance: 2.500m
 Lock to Lock: 2.000m
 Lock to Kerb: 2.000m
 Kerb to Kerb turning Radius: 12.200m

Mark	Revision	Date	Drawn	Checked	App'd
E	Masterplan base updated	04.01.18	REM	GD	RAP
D	Landscape base updated, tracking & kerb geometries revised	01.12.17	REM	GD	RAP
C	Landscape base updated & kerb geometries revised	15.11.17	REM	-	-
B	Landscape base updated, tracking & kerb geometries revised	16.10.17	REM	-	-
A	Landscape base updated, tracking & kerb geometries revised	10.10.17	REM	-	-

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FOR PLANNING

STAG BREWERY, MORTLAKE
POSSIBLE HIGHWAY LAYOUT - PHASE 2
VEHICLE SWEEP PATH ANALYSIS FOR A
PANTECHNICON (REMOVALS TRUCK)

Client: RESELTON PROPERTIES LTD

Date of 1st Issue: 04/02/2017
 Drawn: REM
 Checked: GD
 App'd: RAP
 At Scale: 1:500
 Drawing Number: 38262/5501/067
 Version: E

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