

BELLWAY HOMES LIMITED

YARNTON WAY, BELVEDERE

HEALTHY STREETS TRANSPORT ASSESSMENT

**REPORT REF.
194180-R02**

August 2023

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Distribution

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1. Introduction

1.1 This Healthy Streets Transport Assessment (HSTA) has been produced by Ardent Consulting Engineers (ACE) on behalf of Bellway Homes Limited, to accompany an upcoming planning application on land to the south of Yarnton Way, Belvedere in the London Borough of Bexley (LBB). This HSTA has been produced to support the proposals to construct a residential development.

Scope of Report

1.2 The objective of this HSTA is to provide LBB / TfL with the necessary level of detail to demonstrate that the site can be accessed safely and sustainably. This HSTA has been prepared in accordance with TfL's "Healthy Streets for London" assessment criteria, with the scope and content discussed with officers at both LBB and TfL during pre-application negotiations, including productions of a detailed Transport Scoping Note in February 2022 (Ardent ref: **194180-01**).

1.3 This application follows on from initial pre-application consultation with the Local Planning Authority, LBB, for a development scheme comprising 561 residential units and circa 1,260sqm commercial space. The pre-application report from LBB, dated 10 March 2020, is shown at **Appendix A**, along with an updated pre-application report dated 14 October 2022 reflecting a development of 495 residential units and 1,200sqm of non-residential floor space. Ultimately, the pre-application responses did not outline any major concerns from a highways and transportation perspective, subject to further review of matters such as parking and access by non-car modes. This HSTA takes into account specific transport comments included in the pre-application letters, as summarised below and detailed further within **Section 7.0** of this HSTA.

- Details of delivery and servicing routes throughout the site, including a refuse strategy plan.
- Details of any access onto Maida Road and Sutherland Road.
- Pedestrian access points should be indicated on a movement plan.
- It should be confirmed whether any internal roads are to be adopted.
- External cycle parking stores should be indicated and information on design provided.

- A Car Parking Management Plan should be produced to outline how parking on site will be allocated and managed.
 - A strategy for the management of off-site parking should be submitted.
 - Information should be provided to indicate how cyclists will be encouraged to use the internal road network.
 - Internal roads should be designed to avoid long, straight sections and will users other than drivers in mind.
- 1.4 An initial pre-application response was also received from TfL following a screening meeting on 23rd March 2022. A copy of this screening response is also included at **Appendix A**.
- 1.5 The site is allocated for residential development under Policy BEL05 of the Bexley Local Plan Part 2.

Assessment Summary

- 1.6 In addition to this HSTA, the following reports have been prepared to support the planning application:
- Framework Travel Plan (ACE Report Ref: 194180-R08);
 - Delivery and Servicing Management Plan (ACE Report Ref: 194180-R09);
 - Outline Construction Logistics Plan (ACE Report Ref: 194180-R10); and
 - Waste Management Plan (ACE Report Ref: 194180-R12).
- 1.7 The proposals will comply with the Mayor's Transport Strategy and TfL's Healthy Streets Approach by providing much needed new homes and living accommodation in London.

Key Characteristics, Principles and Design

- 1.8 Since the pre-applications with LBB, the proposed development has been reduced in quantum of both residential units and non-residential floor space. In summary, the proposed development now seeks to construct 392 residential units, 204.88sqm of commercial floor space and 93.31sqm of private gym use (Use Class E). The scheme

drawings can be found at **Appendix B** for reference, along with the schedule of accommodation. The full description of development is as follows:

Redevelopment of the site to provide residential units including affordable housing (Use Class C3) and commercial floorspace (Class E) in new buildings ranging between 3 to 5 storeys in height, together with associated car parking and cycle storage, landscaping including new areas of public open space and a reptile retention zone, associated infrastructure including new junctions off Yarnton Way, drainage and land raising.

- 1.9 The development will be served by a priority T-junction via Yarnton Way, including a ghost-island right-turn lane. A cycle / pedestrian route will be provided to the east via Maida Road, with an emergency access via Sutherland Road to the east controlled by bollards.
- 1.10 As shown on the plans, it is proposed that there will be 157 on-site parking spaces. It is envisaged that these spaces will be monitored by the on-site management company to ensure that no illegal car parking occurs.

Policy and Guidance

- 1.11 This Healthy Streets TA will be prepared with due regard with the following national and local policy / guidance documents:

- National Planning Policy Framework [NPPF] (MHCLG, July 2021);
- National Planning Practice Guidance [NPPG] (DCLG, 2014);
- Manual for Streets [MfS] (DfT, 2007);
- Manual for Streets [MfS2] – Wider Application of Principles (CIHT, 2010);
- Design Manual for Roads and Bridges [DMRB];
- London Plan (Greater London Authority, March 2021); and
- LBB Local Plan (LBB, April 2023).

Report Structure

- 1.12 Following this chapter, the structure of this HSTA is as follows: -

- **Section 2.0** considers who the development is for and when/why they will be travelling;
- **Section 3.0** considers existing site accessibility by walking, cycling & public transport (including an analysis of PTAL and highway safety records);
- **Section 4.0** details the proposed highway layout, including access (for all modes of transport), servicing and parking;
- **Section 5.0** sets out the key destinations and transport routes to / from the site, and subsequently provides a detailed assessment of the identified 'Active Travel Zone';
- **Section 6.0** calculates the proposed trip generation/attraction, and sets out the proposed design solutions and mitigation measures;
- **Section 7.0** outlines how the scheme complies with the Borough's requirements;
- **Section 8.0** sets out the development construction considerations; and
- **Section 9.0** sets out the report's key findings and conclusions.

2. Transport Planning for People

2.1 This section sets out the type of users of the proposed development site, and people's current attitudes to working and living in the LBB.

Transport Classification of Londoners

2.2 TfL's report – *The Transport Classification of Londoners* (TCoL) has been considered. TCoL is a multi-modal customer segmentation tool developed by TfL that has been designed to categorise Londoners on the basis of the travel choices they make, and the motivations for making those decisions. The desire to understand these behaviours and motivations is borne out of a need to plan effectively for London both now and in the future.

2.3 The defined TcoL segments are described as follows.

Transport Classification of Londoners – Segment Summary



2.4 The TcoL segment results specific to the LBB are summarised below.

Description	Percentage (%)		
	LBB	London Average	Difference
Affordable Transitions	0%	6%	-6%
City Living	0%	7%	-7%
Detached Retirement	59%	21%	+38%
Educational Advantage	0%	6%	-6%
Family Challenge	2%	7%	-5%
Settled Suburbia	25%	9%	+16%
Students & Graduates	0%	13%	-13%
Suburban Moderation	12%	19%	-7%
Urban Mobility	1%	11%	-10%

Table 2.1: LBB – TcoL Segments Results

2.5 **Table 2.1** indicates that compared to London as an average, the LBB is skewed towards an inhabitation by 'Detached Retirement'. The second highest percentage of habitant types are 'Settled Suburbia', with the third highest being 'Suburban Moderation'. The below table provides a brief summary of the sub-groups that mainly populate the LBB, and also their typical travel habits.

Description (%)	Summary	Travel Habits
Detached Retirement (59%)	Typically based in green suburbs on the fringes of London and comprise individuals who are either retired and/or don't live with their children.	Dominated by car with some use of rail, very little bus or active modes.
Settled Suburbia (25%)	This segment is most commonly found across outer London, and is likely to have at least one child at home, lower incomes and lower levels of change.	Car use is high and use of active modes particularly low. Use of bus, rail and underground also well below average.
Suburban Moderation (12%)	Predominately located in outer London the Suburban moderation segment is likely to have at least one child at home and has around the average level of change.	Car use is high, with use of public transport and active modes below average.

Table 2.2: Summary of Subgroups and Travel Habits

2.6 It is important to note that within the TcoL document, there are graphics for each subcategory highlighting where the classification is most prominent.

- 2.7 Overall, the above information details that the site is likely to attract the habitants related to the 'Detached Retirement' subcategory. This type of habitant in LBB have a relatively high car use at present and exhibit limited behaviour change. Both the 'Settled Suburbia' and 'Suburban Moderation' subcategories are also prevalent within the borough. Whilst both of these groups have relatively high car usage there are possible motivations to change behaviour towards greater public transport use and active travel journeys.
- 2.8 The remaining sub-groups have a relatively low percentages in LBB and therefore no further review has been given to them.

Modal Split

- 2.9 The 2011 Census database 'Method of Travel to Work' for the resident population of the 'Bexley 002' Middle Super Output Area (MSOA) indicates that out of the total proportion of residents that are in employment, 39% travel to work by vehicular modes (including car passengers and motorcycles), with 55% by public transport and 6% by active modes (i.e. foot or cycle). Any discrepancies are due to rounding. This demonstrates that dependency of travel by car is relatively low for the area.
- 2.10 Data from the 2021 Census has been used as a sensitivity check. This information is more recent, however, and the survey was undertaken during the Covid-19 pandemic when travel patterns were significantly altered. The data indicates that, at this time, 22.7% of the population in employment worked mainly from home. Of those who travelled to work, 46% travelled by vehicular modes, 45% by public transport and 8% by active modes. Again, this demonstrates that there is not a dependency on vehicular transport in the surrounding area. The previous 2011 data has been used in this assessment.

3. Site and Surroundings

Site Location

- 3.1 The site is located to the south of Yarnton Way within the northern extents of Belvedere. The site boundary and surrounding highway network are shown in **Plate 3.1** below.



Plate 3.1: Site Location (Source: Google Maps)

- 3.2 The site is bound by Yarnton Way to the north, a railway line to the south, residential properties to the east, and commercial/industrial units to the west.

Existing Use

- 3.3 The site comprises the former SGN Gas Holder Station. The site is not currently in operation and has been vacant since 2013. There are two existing vehicular access points to the site, one off Yarnton Way to the north and the other at the western end of Sutherland Road to the east. The existing vehicle access point onto Yarnton Way is in the form of a gated access priority-controlled T-junction and does not benefit from a turning lane for traffic turning right into the site approaching from the west.

It does however have a break in the carriageway that allows right turns into and out of the site.

Surrounding Highway Network

Yarnton Way

- 3.4 Yarnton Way is a classified highway and is defined as a Borough Distributor Road in the Council UDP road hierarchy. It is a street-lit dual carriageway and is subject to a 30mph speed limit. Yarnton Way is a dual carriageway road with east-west alignment along the northern site boundary. It has two 3.5m wide lanes each direction and a 4.5m tree-lined central reserve.

Maida Road and Sutherland Road

- 3.5 Maida Road and Sutherland Road are both residential cul-de-sacs located to the east of the development running on a roughly east-west alignment. Both roads are part of the adopted highway network and benefit from footways and street lighting. Parking is unrestricted on both roads, aside from spaces specifically designated for disabled parking.

Traffic Survey Data

- 3.6 The scope of traffic assessment was agreed with LBB during pre-application discussions as follows:

1. Yarnton Way / Site Access junction;
2. A2041 / Yarnton Way / Eynsham Drive roundabout;
3. A2041 / Eastern Way roundabout;
4. Eastern Way / A2016 / Clydesdale Way / Yarnton Way roundabout;
5. Anderson Way / A2016 / B253 roundabout;
6. Sainsbury's access roundabout with A2041; and
7. Yarnton Way / Hartslock Drive / Wolvercote Road double mini-roundabout.

- 3.7 Traffic turning count surveys were undertaken on Tuesday 10 May 2022, with Automatic Traffic Count (ATC) surveys undertaken along Yarnton Way between

Tuesday 10 May 2022 and Monday 16 May 2022. The results of the ATC survey demonstrate 85th percentile car speeds of 40.3 mph (64.8 kph) in the westbound direction and 44.8 mph (72.1 kph) in the eastbound direction.

- 3.8 Full output for both surveys are included at **Appendix C** and traffic flow diagrams for peak hours shown later in **Appendix D**.

Travel by Non-Car Modes

Walking

- 3.9 The site presents convenient opportunities for walking to and from the surrounding areas. The existing pedestrian infrastructure in the surrounding area is to a suitable standard.
- 3.10 Overall, the wider pedestrian environment to public transport links / amenities in the surrounding area is good. The existence of these routes and facilities therefore actively encourages walking as a significant mode of travel for future residents and other site users, as well as forming part of an integrated journey with public transport.
- 3.11 The Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Providing for Journeys on Foot' recommends suggested acceptable walking distances of between 500m (6 minutes, "Desirable") and 2km (25 minutes, "Preferred Maximum") for commuting and journeys to school.
- 3.12 To further support the above, Manual for Streets (MfS) identifies walkable neighbourhoods as being those typically characterised by having a range of facilities within an 800m (10 minute) walk distance, however not an upper limit, with walking offering the greatest potential to replace short car trips, particularly those under 2km. **Table 3.1** presents an overview of the local amenities and facilities within walking distance of the site.

Amenity	Distance (m)
Bus Stops	160m
Belvedere Station	400m
Newsagent	450m
Takeaway Restaurant	450m
Belvedere Pharmacy	550m
Cafe	550m
Public House	650m
Starbucks	700m
Lidl	750m
Asda Superstore	750m
B&Q Store	750m
Gym	750m
Northwood Primary School	900m

Table 3.1: Local Amenities and Facilities

3.13 **Table 3.1** indicates that the site is located within a sustainable location with several facilities within walking and cycling distance of the application site, including retail, supermarkets, restaurants, health, commercial, education and leisure facilities.

Cycle

3.14 Local Transport Note 1/20 'Cycle Infrastructure Design' (DfT, July 2020) states that "...Two out of every three personal trips are less than five miles in length." [Paragraph 2.2.2, page 16]. The site is well placed to reach key local destinations within 5 miles (8km), a realistic cycling distance time, including a good portion of Greater London. The site is therefore well placed to encourage journeys by bike based on its location alone.

3.15 Cycle routes in the local area, with cycle infrastructure available along Yarnton Way and in the surrounding area. **Plate 3.2** shows the location of existing cycle routes in the vicinity of the site. The plan highlights that Yarnton Way is a local cycle route.

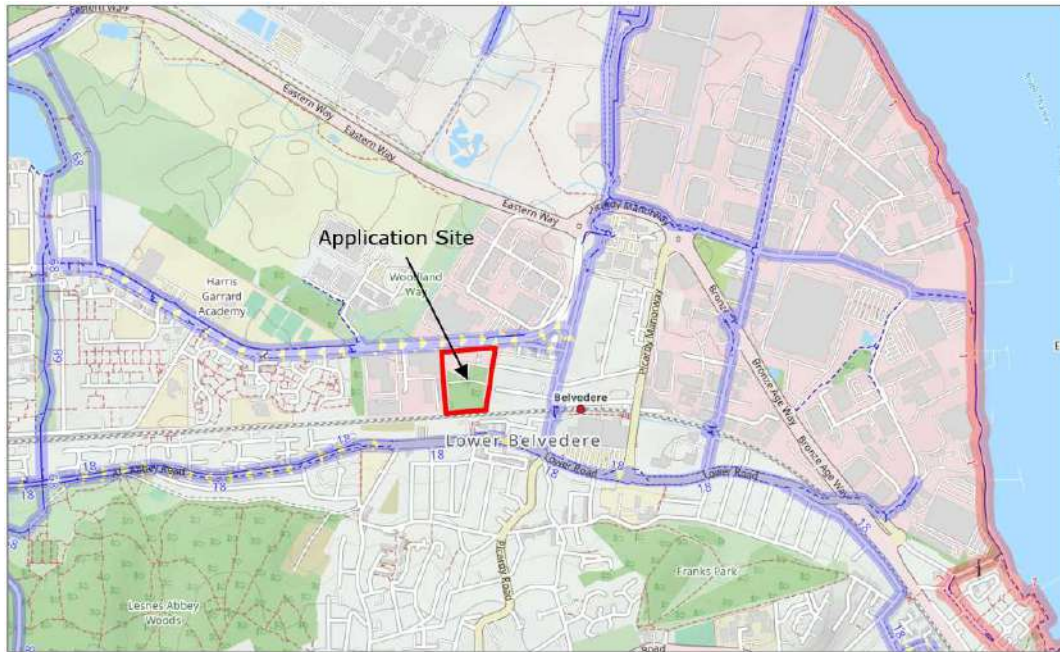


Plate 3.2: Local Cycle Routes (source: OpenCycleMap)

3.16 If required to travel within the carriageway, the surrounding roads are generally flat and wide enough to comfortably accommodate cyclists within the carriageway. The above details highlight how there are excellent opportunities for safe cycling to the surrounding areas, with many opportunities for traffic-free cycling.

Public Transport

3.17 TfL's recommended maximum walking distance to local bus stops is 640 metres (based on the PTAL methodology), or an approximate 8 minutes' walk based on 80 metres per minute.

3.18 The nearest bus stops to the site are located on Yarnton Way, within 160 metres of the site access. These stops are served by three routes with bus shelter infrastructure in place. Further stops are available on Lower Road, approximately 500 metres walk southeast of the site from the proposed pedestrian access onto Maida Road. Whilst the stops on Lower Road are slightly beyond the typical walk distance, it is considered that they do offer a genuine travel option to future residents.

3.19 Based on the TfL guidance, the nearest bus stops are available within a short walking distance of the site. The stops are served by buses with a relatively high frequency

throughout the daytime on weekdays. A summary of the local routes and are provided within **Table 3.2** below.

Service and Route		Typical Frequency (Each Direction)		
		Weekdays	Saturday	Sunday
Yarnton Way				
180	North Greenwich – Woolwich – Greening Street – Erith	Every 8-12 mins	Every 9-12 mins	Every 15 mins
401	Bexleyheath – Thamesmead	Every 15 mins	Every 15 mins	Every 30 mins
601	Wilmington Hall School – Bexleyheath – Thamesmead	School service	-	-
Lower Road				
229	Sidcup – Bexley – Bexleyheath – Erith – Belvedere – Abbey Wood – Thamesmead	Every 8-12 mins	Every 9-12 mins	Every 15 mins
469	Erith – Belvedere – Abbey Wood – Plumstead – Woolwich – Queen Elizabeth Hospital	Every 15 mins	Every 15 mins	Every 20 mins
602	Townley Grammer School – Erith – Belvedere – Abbey Wood – Thamesmead	School service	-	-
669	Cleeve Park School – Bexley – Bexleyheath – Erith – Belvedere – Abbey Wood – Thamesmead	School service	-	-

Table 3.2. Bus Service Frequency

3.20 **Table 3.2** shows that the bus routes served by stops within a short walk distance of the site provides a frequent and local connection to settlements in the immediate area and further afield, offering real opportunities for residents and employees to travel by bus as a mode of travel.

Rail

3.21 Belvedere Railway Station is the closest station to the site, approximately 400 metres to the south-east of the site and within the 960 metres maximum walk distance stipulated by the PTAL calculation methodology. The station is on Southeastern lines between London Charing Cross and Dartford, and Cannon Street and Sidcup, with up to ten services per hour.

PTAL

- 3.22 The Public Transport Accessibility Level (PTAL) calculation provides a methodology to consider the accessibility of a site to public transport.
- 3.23 The PTAL is based on the weekday morning peak period service frequency of all bus services accessible from stops within a 640m walk distance as well as rail services accessible from stations within a 960m walk distance.
- 3.24 Site specific PTAL maps are available from Transport for London's Web-based Connectivity Assessment Toolkit (WebCAT) for use by local planning authorities and Developers to aid strategic planning decisions. The PTAL rating ranges between 1a to 6b, with 1a denoting 'Very Poor' access to public transport and 6b being an 'Excellent' level of access. Based on the details on WebCAT, the site (measured from the centre of the site) is subject to a PTAL rating of 3 (moderate).

Summary

- 3.25 The above information demonstrates that the site is suitably located for sustainable methods of travel including walking, cycling and public transport.

Committed Developments

- 3.26 Through both pre-application discussions and a search of nearby applications, three developments with potential relevance to the proposals were found. These are detailed in the following paragraphs.

21/01948/OUTEA

- 3.27 Outline application for the demolition of existing buildings on site and subsequent construction of up to 1,950 residential units (Use Class C3), up to 3,225 sqm (GIA) of commercial floorspace (Use Class E and sui generis public house), enhancements to the Abbey Way public open space and provision of associated car and cycle parking; public realm, open space, hard and soft landscape, highways, and all other associated ancillary works. The site is located at land bound by Harrow Manorway, Yarnton Way, Lensbury Way And Maran Way.

3.28 The development involves the demolition of existing dwellings and closure of the Lensbury Way access onto the Sainsbury's access roundabout to the southwest of the site. The new development flows have been taken from the models prepared as part of the planning application and have been used in the off-site junction capacity assessment set out within **Section 6.0** of this HSTA. This development is not yet consented.

18/02135/OUTM

3.29 Consented Outline planning application for residential development of one six storey block and one seven storey block to provide 69 flats on land east of the junction of Yarnton Way and Picardy Manorway. The Transport Statement prepared by Steer in August 2018 indicates an additional 32 vehicle trips in the morning peak hour and 28 vehicle trips in the evening peak hour. It is not considered that this volume of additional traffic would have an impact on the development proposals so these flows have not been considered in the capacity assessment work.

19/03083/OUTM

3.30 Outline application for the erection of a part 7, 8 and 9 storey building to provide 104 dwellings comprising 20 x 1 bed/studio apartments, 58 x 2 bed and 26 x 3 bed apartments and associated parking with landscaping reserved on land east of the junction of Yarnton Way and Picardy Manorway. The application was withdrawn by the applicant so is not considered further.

4. Proposed Highway Layout

Access

- 4.1 Vehicular access to the site is proposed from Yarnton Way. The proposed access layout follows the identification of several initial options in terms of the junction type, details of which were tabled with LBB Highways as part of pre-application discussions.
- 4.2 The proposed main access will comprise an improved priority T-junction with the site access road as the minor arm. It will include an extended right-turn lane formed within the central reserve of Yarnton Way. This is the preferred option of those initially identified, particularly as it provides consistency with other nearby junctions (e.g. Centurion Way) and would avoid/minimise any delays to mainline traffic. The proposed site access has been subject to a capacity assessment, which illustrates that the proposed junction will operate well within its theoretical capacity. The details of the capacity assessment are provided in **Section 6.0** of this HSTA.
- 4.3 The proposed access road will be 6.5m wide with 2m wide footways on both sides and 10m radii to allow refuse vehicle movements. A 4.5 by 120 metres visibility splay is shown to the east from the proposed access on **ACE Drawing 194180-SK01D**. This is based on a 70 kph design speed (noting the 64.8 kph 85th percentile westbound speed recorded) and DMRB CD123 parameters.
- 4.4 At the request of LBB, an additional site egress is also proposed on Yarnton Way towards the western end of the site frontage. This is proposed to ensure the internal road layout does not include too many cul-de-sacs and does not rely too heavily on the requirement for on-site turning manoeuvres. This left-out only arrangement is shown in **ACE Drawing 194180-SK01D**. It is not yet confirmed whether the proposed internal site roads will be adopted and this is subject to further future discussions with LBB, albeit the roads have been designed to ensure they can be adopted if required.
- 4.5 In addition to the vehicular access and vehicular egress on Yarnton Way, pedestrian/cycle access will also be available via both Maida Road and Sutherland

Road at the east of the site. These allow a shorter route to Belvedere railway station and also to various amenities to the south of the site.

Servicing Arrangements

- 4.6 Deliveries will occur within the carriageway on the internal roads, noting there will be several convenient areas to stop that are clear of parking spaces. In terms of refuse collections, the site has been designed to ensure that refuse collection vehicles can park at the kerbside within 10 metres walking distance of collection points and/or holding areas.
- 4.7 The site layout includes a suitable internal turning area to accommodate the relevant refuse collection vehicles required to service the site, this has been tested using swept paths of typical vehicles as shown in **Drawing Number 194180-D015A**.
- 4.8 Further information on the delivery strategy for the proposals, as well as proposed management measures to ensure the site is serviced safely, are provided in the Delivery and Servicing Management Plan provided as part of the application.

Emergency Access

- 4.9 Emergency vehicles will be able to use the main site access onto Yarnton Way to enter and exit the site. Further to this, a bollard-controlled access will be provided at the east of the site via Sutherland Road. The only vehicles permitted to enter or exit the site via this access will be emergency vehicles. Emergency vehicles seeking to egress the site will also be able to do so via the left-out exit onto Yarnton Way in the northwestern corner of the development.

Safeguarded Land for Bus Rapid Transit Route

- 4.10 LBB requested that land within the site be safeguarded for a potential future on-site bus rapid transit route. This is also reflected in the site allocation policy for BEL05, which states that the proposals should *"not preclude a public transport route through the site by establishing a street alignment that will enable a future bus-based connection, connecting Yarnton Way with Maida Road"*.

4.11 In previous correspondence, ACE have set out a number of potential off-site constraints beyond the applicant's control that might affect whether a bus could be routed through the site (for example width constraints and parking demand along Maida Road). Nevertheless, in light of the requirements of the site allocation, **ACE Drawing Number 194180-007B** shows how land could potentially be safeguard within the site to allow westbound buses to travel through the site from Maida Road towards Yarnton Way. This would entail some slight widening of the right-angle bend along the access road using space occupied by footway/parking area, but with only a minimal loss of parking spaces. The plan also shows how a westbound bus stop could be provided on the internal access road. Owing to the lack of space to allow two buses to pass within the site, this strategy would require eastbound buses to use an alternative route via Yarnton Way and Norman Road, to then continue east via Station Road North.

Parking Provision

Car Parking

4.12 The masterplan shows that currently 157 spaces are proposed for the 392 residential units (circa 0.40 spaces per unit), with no parking provided for the ancillary gym or commercial uses.

4.13 Policy DP23 of the LBB Local Plan relates to parking management and states that "*proposals for residential development will be expected to provide parking within the lowest applicable maximum London Plan standards*". Within the London Plan, Table 10.3 stipulates maximum standards for Outer London sites with a PTAL of 3. The maximum allowable provision is 0.75 spaces per 1-2 bed dwelling, and up to 1 space per 3+ bed dwelling. In light of this, based on the current indicative mix (278 1 or 2 bed and 114 3+ bed) the development should provide a maximum of 322 spaces. It should be reiterated that these standards are *maxima* and the London Plan advocates developments that are well connected to public transport, such as this, to be 'car-lite'.

4.14 The proposed 157 spaces are within the maximum TfL standards and should therefore be acceptable, especially in considering that national / local policy is

seeking to see a shift towards non-car modes. It is also worth noting that as all residents are not going to be provided with a parking space, it is extremely unlikely that they would purchase a property without a parking space available to them.

4.15 All parking monitoring and any enforcement measures required are provided in the Car Parking Management Plan provided as part of the application. To ensure that no illegal parking on-site occurs, the management company will monitor the site and issue fines to those who park illegally.

4.16 Furthermore, this HSTA provides a review any off-site improvements to improve existing non-vehicular routes to key destinations in the area. Thus, encouraging residents to travel by non-car modes which in turn results in lower car ownership levels. A Travel Plan is also provided as part of the application which will further support a lower provision as it will help promote sustainable choices to residents. It is also noted from pre-application discussions that LBB may request a proportionate contribution towards new CPZ controls on the adjacent residential streets to prevent any overspill parking. Subject to discussions on the level of contribution, this is considered acceptable by the applicant in-principle.

4.17 In light of the above, it is considered the local highway authority should be in a position to support the proposed level of car parking provision at the site.

Car Club

4.18 Initial discussions have been held with Enterprise to determine the feasibility of car club provision within the site. Advice from Enterprise was to initially provide one space, with the potential to increase the provision to three spaces if demand were to arise. Car club bays help to reduce car ownership levels at a development site by removing the need to own a private vehicle. Subject to further discussions with LBB, the potential requirement for a single car club space on site could be included as part of the S106 agreement.

Disabled Parking Provision

4.19 With respect to residential disabled spaces, Policy T6.1 of the London Plan states that:

"G. Disabled persons parking should be provided for new residential developments. Residential development proposals delivering ten or more units must, as a minimum:

- 1. ensure that at least one designated disabled persons parking bay per dwelling for three per cent of dwellings is available from the outset*
- 2. demonstrate on plan and as part of the Car Parking Design and Management Plan, how the remaining bays to a total of one per dwelling for ten per cent of dwellings can be requested and provided when required as designated disabled persons parking in the future. If disabled persons parking provision is not sufficient, spaces should be provided when needed either upon first occupation of the development or in the future."*

4.20 In light of the above, the proposals should seek to provide 12 disabled spaces from the outset (3%) and safeguard 27 spaces (the remaining 7%). Thus, resulting in a total of 39 disabled spaces.

4.21 As shown in the site masterplan, included at **Appendix B**, it is proposed to provide 12 disabled spaces (equating to 3%) from the offset in line with the initial required standards set out in the London Plan. Space is available within the site to convert additional spaces to disabled spaces if required.

4.22 In terms of walking distance, Inclusive Mobility discusses that parking spaces for blue badge holders *"should be provided as close as possible, preferably within 50 metres"*. As shown in the plans contained at **Appendix B**, the route from the disabled spaces to the cores of the residential blocks is within 50 metres.

EV Charging

4.23 The guidance on EV charging within the London Plan (2021) is as follows:

"All residential car parking spaces must provide infrastructure for electric or Ultra-Low Emission vehicles. At least 20 per cent of spaces should have active charging facilities, with passive provision for all remaining space."

4.24 It should be noted that Bellway Homes is committed to providing 100% capacity for potential EV charging in alignment with these policies.

Cycle Parking

4.25 The development proposes to provide long and short stay cycle parking in accordance with the minimum standards outlined in Table 10.2 of the London Plan, summarised below.

- 1 space per studio or 1-person, 1-bed unit;
- 1.5 spaces per 2-person, 1-bed unit;
- 2 spaces per all other dwellings; and
- 1 short-stay / visitor space per 40 units.

4.26 The development will provide long and short stay cycle parking in accordance with the minimum standards outlined within the London Plan. It is proposed to provide a total of 728 long-stay cycle spaces for the residential units. Of these spaces, 150 spaces are associated with the 75 houses and shall include individual cycle parking facilities within the plot boundary. The remaining 577 spaces are associated with the flats and shall be provided within secure communal cycle stores at each block.

Block	Unit Type	No. of Units
A	1-bed (2 Person)	8
	2+ bed	22
	Total	30
B	1-bed (2 Person)	12
	2+ bed	49
	Total	61
C	1-bed (2 Person)	18
	2+ bed	22
	Total	40
D	1-bed (2 Person)	0
	2+ bed	75
	Total	75
E	1-bed (2 Person)	69
	2+ bed	99
	Total	168

F	1-bed (2 Person)	7
	2+ bed	11
	Total	18
Total	1-bed (2 Person)	114
	2+bed	278
	Total	392

Table 4.2: Proposed Development Unit Numbers

4.27 Applying the London Plan standards outlined above to the proposals set out at **Table 4.2**, a total of 728 long-stay and 17 short-stay spaces are required at the proposed development. The plans contained at **Appendix B** meet this provision and therefore actively promote cycling. A summary of the parking requirement (according to standards) is provided in **Table 4.3** below.

Block	Type	Long-Stay	Short-Stay
A	1-bed (2 Person)	12	2
	2+bed	44	
	Total	56	
B	1-bed (2 Person)	18	3
	2+bed	98	
	Total	116	
C	1-bed (2 Person)	27	2
	2+bed	44	
	Total	71	
D	1-bed (2 Person)	0	3
	2+bed	150	
	Total	150	
E	1-bed (2 Person)	104	5
	2+bed	198	
	Total	302	
F	1-bed (2 Person)	11	2
	2+bed	22	
	Total	33	
Total		728 spaces	17 spaces

Table 4.3: Cycle Parking Requirements

4.28 The proposals are for 728 cycle spaces for residents, and 17 spaces for visitors, therefore exceeding the minimum requirements. Of the long-stay space spaces,

150 spaces are associated with the 75 houses and shall include individual cycle parking facilities within the plot boundary. The remaining 577 spaces are associated with the flats and shall be provided within secure communal cycle stores at each block.

4.29 In terms of design, the cycle stores have been designed in accordance with Chapter 8 of the TfL document 'London Cycling Design Standards'. Whilst regarding mix, as per recent advice from TfL, the development will seek to provide the below mix in each store.

- min. 5% of total spaces = accessible;
- min. 20% of total spaces = Sheffield stands; and
- max. 75% of the total number of spaces = two-tiered stands.

4.30 This is reflected within the plans contained at **Appendix B**. It should be noted that the above mix will only apply to the 577 cycle parking spaces serving the flats, within the communal cycle stores. This equates to 29 of the overall 577 cycle parking spaces serving the flats being accessible bays, 115 within Sheffield Cycle Stands, and the remaining 433 spaces in the form of two-tier stands.

4.31 The cycle stores are located adjacent to the main residential lobbies, with limited number of doors to pass through. They are secure and easily accessible for residents.

4.32 Further to the above, the site is to include circa 202.52sqm GIA of commercial space Use Class E, and a 90.90sqm private gym. Separate long-stay cycle stores are being provided for commercial uses. To ensure flexibility of use and attractivity as well as to promote cycle use, the commercial cycle stores shall be provided within close proximity of each unit. Cycle parking for employees will also be secure with fob-controlled access.

5. Active Travel Zone

Methodology / Scope

5.1 Following correspondence with TfL and LBB, it was agreed that the routes to following key destinations should be assessed.

1. Site – Parkway Primary Academy
2. Site – Bus Stops on Yarnton Way
3. Site – Belvedere Station
4. Site - Asda Superstore (including step-free route)
5. Site – Lidl / Retail Park
6. Site – Southmere Park and Harris Garrard Academy

5.2 The routes to the above 'Key Destinations' are included at **Appendix E**. A site visit was undertaken on the Wednesday 27 April 2022, including a simple photographic survey. All photos are also included in **Appendix E**. The site visit included a walk from the development site to all 5 Key Destinations, taking a 'point of view' (POV) photograph every 50-150m.

5.3 The following provides a summary of the part of each key journey considered the worst when assessed with reference to the Healthy Streets indicators. For the worst part of each of the key journeys, it is stated if the area shown satisfies each of Healthy Streets indicators 3 to 10 and, if not, why, and how improvements could be made.

Active Travel Zone (ATZ) Results

Key Journey No. 1 – Photo (Southern Side of Yarnton Way on Site Frontage)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	People are able to cross this section of the road using the dropped kerbs and clear road markings.	Potential to clear overgrown shrubs off of the pavement as it reduces the effective width of the pavement.
'People feel safe'	Yes	There is regular street lighting, and the route is overlooked by commercial properties.	None.
'Things to see and do'	Yes	The route is considered to be reasonably green, with several trees planted making the local area more engaging. In addition to this, there are a number of commercial properties along this road.	Given the commercial nature of the route, there is limited opportunity to improve the route. That being said, further billboards etc could be provided.
'Places to stop and rest'	No	There are bus stops with both shelter and seating along the length of the road.	Provision of public seating, i.e., benches.
'People feel relaxed'	No	The street surfaces are smooth / level. The area is easy to navigate.	None.

'Not too noisy'	Yes	The route is relatively high trafficked and is used by both commercial vehicles and cars to access the surrounding area.	Low noise road surfacing.
'Clean air'	No	The nature of the surrounding streets means car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	Yes	There is some protection from high winds and the sun by the trees that are located on either side of the footway along the route.	Additional trees to provide further shelter, as long as they do not impede the footway.

Key Journey No.2 – Photo (Pedestrian Crossing on Yarnton Way)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	There is plentiful opportunity to cross at this section of the road. A series of dropped kerbs and signalised crossing arrangements are provided along the length of this road.	None.
'People feel safe'	Yes	There is regular street lighting, and the route is overlooked by both commercial properties.	None.
'Things to see and do'	Yes	The route is considered to be reasonably green, with several trees planted and a grass central reserve. In addition to this, there are a number of commercial properties along this road, providing pedestrians with places to stop and eat or shop.	Given the nature of the route, there is limited opportunity to improve the route. That being said, further billboards etc could be provided.
Places to stop and rest'	Yes	There are many bus stops with both shelter and seating along the length of the road.	Provision of public seating, i.e., benches.
'People feel relaxed'	Yes	The street surfaces are smooth / level. The area is easy to navigate.	None.
'Not too noisy'	No	The road is relatively high trafficked and is used by both commercial vehicles and cars to access the surrounding area.	Low noise road surfacing.
'Clean air'	Yes	The nature of the street means car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	Yes	There is some protection from high winds and the sun by the vegetation and bus shelters.	Additional trees to provide further shelter, as long as they do not impede the footway.

Key Journey No.3 – Photo (Maida Road junction with Norman Road)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	A series of dropped kerbs and signalised crossing arrangements are provided along the length of this road.	Implement a designated pedestrian crossing point.
'People feel safe'	Yes	There is regular street lighting and the footpath is overlooked from the residential properties.	None.
'Things to see and do'	Yes	The route is considered to be reasonably green, with many planters making the local area more engaging.	None.
'Places to stop and rest'	Yes	There are bus stops with benches for users to stop and rest.	Separate public seating in the form of benches can be found a short walk from here.
'People feel relaxed'	Yes	The street surfaces are smooth / level. The area is easy to navigate.	Signage for the signalised pedestrian crossing.
'Not too noisy'	No	The road is relatively low trafficked, as the surrounding properties are mainly residential in nature, although nearby rail services do generate noise.	More vegetation can be planted to absorb noise.
'Clean air'	Yes	The nature of the surrounding streets means car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	Yes	Considering the proximity of the development, users of this route have the option to turn back to the development. In addition, there is some protection from high winds and the sun by the adjacent trees.	Planting of taller trees would offer more shelter.

Key Journey No.4 – Photo (Caldy Road close to Junction with Norman Road)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	People are able to cross this section of the road using the dropped kerbs and clear road markings.	Implementation of designated pedestrian crossing points.
'People feel safe'	Yes	The route is overlooked from residential properties which will aid people feeling safe.	Regular street lighting will assist with pedestrians during the darker hours and wider footways will allow for wheelchairs and pushchairs to pass efficiently.
'Things to see and do'	Yes	The route is relatively green with various trees and well maintained driveways making the local area more engaging.	None.
'Places to stop and rest'	No	There are no places to stop and rest along the length of this part of the walkway.	Further public seating in the form of benches.
'People feel relaxed'	Yes	The street is clean and well maintained and surfaces are smooth / level. The area is easy to navigate.	None
'Not too noisy'	Yes	The road is relatively low trafficked but due to residential nature.	Low noise road surfacing.
'Clean air'	Yes	The nature of the surrounding streets means car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	No	There is not much protection provided against strong winds and the sun.	Tall trees to provide further shelter, as long as they do not impede the footway.

Key Journey No.5 – Photo (Yarnton Way junction with Norman Road)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	People are able to cross this road safely using the crossing facilities. The footpath is wide, well paved and facilities such as tactile paving are provided to enable safe pedestrian movement.	The footway could be extended and a pedestrian crossing point consisting of dropped kerbs and tactile paving could be provided.
'People feel safe'	Yes	There is regular street lighting and the footpath is overlooked from residential properties.	None.
'Things to see and do'	Yes	The route is considered to be very green, with trees making the local area more engaging.	None.
'Places to stop and rest'	No	There are not many places to stop and rest along this road.	Further public seating in the form of benches along the street.
'People feel relaxed'	Yes	The street surfaces area uneven at some points with irregular surfacing.	Maintenance of even road surfacing.
'Not too noisy'	Yes	The road is relatively low trafficked.	None.
'Clean air'	Yes	The nature of the surrounding streets means car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	No	There is not much protection provided against strong winds and the sun.	Tall trees to provide further shelter, as long as they do not impede the footway.

Key Journey No.6 – Photo (Southern Side of Yarnton Way Approximately 90 metres West of Roundabout Junction with Northwood Place)



Healthy Street Indicator	Satisfy?	Description	Opportunities to Improve?
'Easy to cross'	Yes	People are able to cross this section of the road using the dropped kerbs and clear road markings.	Implementation of more designated pedestrian crossing points.
'People feel safe'	Yes	The footway is wide and the route is overlooked from both commercial and residential properties which will aid people feeling safe.	None.
'Things to see and do'	Yes	The route is relatively green with various trees planted along the route.	None.
'Places to stop and rest'	Yes	There is seating along the route in the form of bus shelters, however there are no places to stop and rest along the length of this part of the walkway.	Further public seating in the form of benches.
'People feel relaxed'	Yes	The street is clean and well maintained and surfaces are smooth / level. The area is easy to navigate.	None
'Not too noisy'	No	The road is relatively low trafficked but due to local ongoing development and construction works.	Low noise road surfacing.
'Clean air'	Yes	The streets along the route are subject to numerous restrictions and car travel is relatively high in the area.	Wider air quality measures would help, but there is nothing specific in this instance.
'Shade and shelter'	Yes	There is some protection from high winds and the sun by the trees that are located on either side of the footpath along the route.	Taller trees to provide further shelter, as long as they do not impede the footway.

Highway Safety (Vision Zero)

- 5.4 Vision Zero - The Mayor's Transport Strategy sets out the goal that, by 2041, all deaths and serious injuries will be eliminated from London's transport network. As such TfL want to proactively support Vision Zero through 'quick wins' / highway safety improvement measures that could be put into practice.
- 5.5 A review of KSI (Killed or Seriously Injured) road safety records has been undertaken utilising data obtained from TfL for a five-year period to June 2022. The road safety 'study area' and raw data is contained at **Appendix F**. The study area includes KSIs on or near 'Key Routes' in the 'Active Travel Zone (ATZ)'. As per advice from TfL, a cluster is defined as two or more serious accidents, or any fatal accidents.
- 5.6 No fatal incidents and seven collisions leading to serious injuries were reported within the study area. Only one cluster is present within the study area, with two collisions leading to serious injury occurring at a zebra crossing to the east of the Station Road / Lower Road / Picardy Road staggered crossroads. **Table 5.1** provides an overview summary of the serious incidents that occurred at the cluster. The exact description of all of the accidents are not available from TfL, so some of the below information is based upon the limited details available.

Accident Reference	Day/ Date	Time	Weather/ Road Surface	Light/ Dark	Severity	Description
1190183502	Wednesday 22/05/19	0000	Fine/Dry	Dark	Serious	There are no details on how this incident happened but the collision occurred at a zebra crossing.
1190195222	Tuesday 17/07/19	1900	Fine/Dry	Light	Serious	Self reported: I had just come out of Asda walking to crossing I looked right and noticed a (redacted) car and 2 bikes going fast (redacted) they managed to stop I stepped out and as I did the bike nearest to the kerb revved up I turned a little to look where he started to drive towards me but went into my right arm knocking me to floor he went down on his right side got up and drove off as he drove to the round about doing a left.

Table 5.1: Collision Details at Cluster (Zebra Crossing To The East Of The Station Road / Lower Road / Picardy Road Staggered Crossroads)

- 5.7 One of the collisions occurred in daytime conditions, with the other at night. On both occasions the road surface was dry. The description of one collision is redacted, with information only provided for one incident. This incident occurred when a motorcyclist waiting at the zebra crossing started moving early and hit a pedestrian.
- 5.8 As per TfL guidance, rather than suggesting accidents are down to 'human error', it is recommended that accident trends are outlined, and potential measures are put forward for TfL to review. Accordingly, going through the available details of the two accidents the implementation of traffic calming measures such as signage, coloured road surfacing or placing the Zebra crossing on a raised table may be beneficial as this will reinforce that pedestrians have priority, as well as decreasing approach speeds and therefore increasing reaction time and stopping distance.

6. London Wide Network

- 6.1 It is noted that vehicular-based travel is taking an increasingly reduced role throughout London and that the Healthy Streets approach focuses on walking and cycling as the prime methods of travel which has been the aspiration of the London Mayor for some considerable time.

Trip Generation

Introduction

- 6.2 This section seeks to establish the level of weekday peak hour traffic movements generated by the proposed development, with a view to establishing the overall net change in traffic conditions resulting from the proposals.
- 6.3 The site is currently vacant and does not attract any existing vehicle movements, therefore only an assessment of the proposed development has been undertaken.
- 6.4 Details of the proposed trip generation methodology were presented to LBB in a Transport Scoping Note prepared by ACE in February 2022. The Scoping Note was in relation to a potential development of 563 residential units. LBB raised no concerns with the proposed methodology, so it is considered an acceptable approach.

Proposed Trip Generation

Resident Gym and Commercial Use Trip Generation

- 6.5 It is noted that the proposals include 202.52 sqm of commercial floor space and 90.90 sqm of private gym use. It is highlighted that the gym will be provided for resident use only and as such is considered ancillary to the proposals with no vehicle parking provided. Whilst the commercial use may generate some external trips, no vehicle parking is to be provided to serve this use. Therefore, neither use will generate vehicle trips in their own right, beyond infrequent servicing trips considered to have an immaterial impact on the surrounding highway network. No trip generation calculations have been undertaken for these elements of the development for the reasons discussed above.

Residential Trip Generation

6.6 The category 'Residential – Mixed Private/Affordable Housing' was searched within TRICS, specifying all available weekday multi-modal surveys ranging between 100 and 700 dwellings. The search only included C3 land use sites in Greater London and included sites in 'Suburban' and 'Edge of Town' locations. This search resulted in 10 surveys taken from 10 sites.

6.7 The resulting person trip rates (per dwelling) and commensurate person trip generation for the proposed development site are shown in **Table 6.1** with the full output data contained within **Appendix G**. The daily trip rates have been shown to be within 0700 to 1900 hours to reflect a 12-hour period which is typically utilised to review the daily impacts of proposals.

Site	Weekday AM Peak (08:00-09:00)			Weekday PM Peak (17:00-18:00)			Weekday 12-Hour (07:00-19:00)		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Person Trip Rates (per Unit)	0.127	0.627	-	0.336	0.197	-	2.462	2.823	-
Person Trip Generation (392 Units)	50	246	296	132	77	209	965	1107	2072

Table 6.1: Proposed Total Person Trip Generation

6.8 2011 Census data confirming the 'Method of Travel to Work' for the residential population in the 'Bexley 002' Middle Super Output Area layer is included at **Appendix H**. This was used to identify a suitable modal split for the proposed residential use. This was used to identify a suitable modal split for the proposed residential use, and **Table 6.2** below shows this modal split along with the resulting peak hour person trips by each mode (any discrepancies in the figure are due to rounding).

Mode	Share	Weekday AM Peak (08:00-09:00)			Weekday PM Peak (17:00-18:00)			Weekday 12-hour (07:00-19:00)		
		Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Underground, Metro, Light Rail or Tram	7.7%	4	19	23	10	6	16	74	85	160
Train	28.1%	14	69	83	37	22	59	271	311	582
Bus	18.7%	9	46	55	25	14	39	180	207	387
Taxi	0.3%	0	1	1	0	0	1	3	3	6
Motorcycle	1.1%	1	3	3	1	1	2	11	12	23
Car Driver	35.4%	18	87	105	47	27	74	342	392	733
Car Passenger	2.5%	1	6	7	3	2	5	24	28	52
Bicycle	1.1%	1	3	3	1	1	2	11	12	23
Pedestrian	4.6%	2	11	14	6	4	10	44	51	95
Other	0.4%	0	1	1	1	0	1	4	4	8
Total	100%	50	246	296	132	77	209	965	1107	2072

Table 6.2: Proposed Residential Trip Generation by All Modes*

*any discrepancies due to rounding

6.9 Based on the above calculations, **Table 6.2** confirms the vehicular trip movements for the proposed 392 dwelling development, during the peak periods and daily. These final vehicular movements shall be used as the basis for assessing off-site impact on the surrounding existing highway network.

6.10 The values in **Table 6.2** indicate that additional public transport trips will be highest in the weekday morning peak hour, with an additional 83 train trips, 55 bus trips and 23 underground/light rail trips estimated. Given the frequency of local services, it is not considered that this level of additional usage would lead to any adverse impacts.

6.11 Notwithstanding the above, a high-level assessment has been undertaken based on the number of trains / buses per hour. As outlined in **Section 3.0**, in the peak hours there are 36 to 46 bus services per hour and approximately 10 trains per hour from Belvedere Station. Assuming an equal spread across the hour and on all services, this results in an average increase of up to 2 bus passengers (rounded down) per service and 8 (rounded down) rail passengers per service. The distribution is based on census journey to work data, with the longest section of a journey recorded as the main mode. It is therefore anticipated that the 23 underground/light rail trips in the peak hour will be easily accommodated on frequent services on various lines.

6.12 With respect to access to/from the westbound platform at Belvedere Station, it is noted that there is currently no direct step-free access from Station Road North to this platform (there is a stepped footbridge). There is, however, a step-free route further east along Station Road North via ramps at Picardy Manor Way and Station Road, which could accommodate trips to and from this platform by any mobility impaired pedestrians or pushchair users. Whilst the predicted increases in rail trips isn't considered to warrant provision of a new step-free route to the westbound platform, if the station operator has any future plans to implement step-free access then a proportionate financial contribution may be considered acceptable by the applicant, subject to further discussions.

Off-Site Impact

6.13 In order to assess the impact of the predicted traffic associated with the proposed development, it is necessary to consider the operation of the local highway network with both the predicted Base and Development Scenario flows.

Future Year Assessment

6.14 Best practice guidance suggests that the impact of the proposed traffic increases on the local road network should be considered at a Design Year of at least five years after the planning application is registered. This would result in an assessment year of 2028.

6.15 Baseline recorded traffic flows have been 'growthed' using factors of 1.0486 for the morning peak hour and 1.0489 for the evening peak hour from the 2022 survey data. These factors have been calculated based on information taken from the TEMPro 7.2b database for the Bexley 002 MSOA. **Figure TF1** shows the observed survey data, with the 2028 baseline shown in **Figure TF2**. The traffic flow diagrams are included at **Appendix D**.

Distribution and Assignment

6.16 With respect to traffic distribution, 2011 Census Travel to Work Origin-Destination (O-D) data for the existing resident population of the surrounding area available on the Official Labour Market Statistics website (www.nomisweb.co.uk) has been used

to estimate the proportion of vehicle trips that could travel along each particular key route to/from the site. The following methodology was applied, with further details included at **Appendix H**.

- 2011 Census Dataset WU03UK 'Location of usual residence and place of work by method of travel to work' was obtained from the Nomis website.
- The 'Usual Residence' was set at MSOA 'Bexley 002'.
- All other MSOAs in Bexley, as well as all other local authority districts, were selected as the 'Place of Work'.
- The data was used to calculate the relative proportion of car trips to work to each of the surrounding areas. For simplicity, any areas with 3 or fewer car trips were omitted from the calculations as they were considered statistically insignificant.
- The likely vehicle route (or routes) to each area were identified using Google Maps route planning tools, and the proportion of car trips using each key route was subsequently calculated using the data.

6.17 The above details were used to create a traffic distribution model for the site, which is shown in **Figure TF3** and **Figure TF4**, covering arrivals and departures respectively. The peak hour vehicle trips shown in **Table 6.2** were assigned to the network based on this model, and the results are shown in **Figure TF5**. The assigned traffic has been added to the 2028 baseline data and is shown in **Figure TF7**. The traffic flow diagrams are included at **Appendix D**.

6.18 The distribution methodology was also presented to LBB in the February 2022 Transport Scoping Note, with no concerns raised. It is therefore considered that this is an acceptable approach.

Future Study Area

6.19 The scope of traffic assessment was agreed with LBB during pre-application discussions. As the proposed number of units has decreased significantly since the pre-application discussions, the scale of the study area is considered to provide a robust assessment of off-site impacts. The junctions to be assessed are as follows:

1. Yarnton Way / Site Access junction;
2. A2041 / Yarnton Way / Eynsham Drive roundabout;
3. A2041 / Eastern Way roundabout;
4. Eastern Way / A2016 / Clydesdale Way / Yarnton Way roundabout;
5. Anderson Way / A2016 / B253 roundabout;
6. Sainsbury's access roundabout with A2041; and
7. Yarnton Way / Hartslock Drive / Wolvercote Road double mini-roundabout.

6.20 As summarised in **Section 3.0**, there is a current proposed development scheme to provide 1,950 residential units (reference 21/01948/OUTEA) on land bound by Harrow Manorway, Yarnton Way, Lensbury Way and Maran Way. This scheme includes the removal of the Lensbury Way arm from the Sainsbury's access roundabout. These potential development flows have been assigned to the network using the models prepared as part of the application. Flows beyond the study area of the potential development application have been distributed using the same census methodology as the proposed development flows. The potential development flows are in **Figure TF6** have been added to the 2028 baseline data and development traffic, which is shown in **Figure TF8**. The traffic flow diagrams are included at **Appendix D**.

6.21 As summarised in **Section 3.0**, turning counts were undertaken at all of the junctions above on 10 May 2022 to determine baseline traffic flows.

Traffic Impact

6.22 The junctions have been modelled using either Junctions 10 (PICADY) or Junctions 10 (ARCADY) software. PICADY provides a measure of the capacity of simple and ghost island priority-controlled junctions, whilst ARCADY provides a measure of capacity at roundabout junctions.

6.23 The Ratio of Flow to Capacity (RFC) is used to measure the predicted flow of vehicles against the junction's capacity (based on its geometry). Typically, a value of 0.85 or less is seen to represent a practical degree of reserve capacity. Arms at a junction with a RFC greater than 0.85 are likely to experience congestion and delay. Values that exceed 1.0 RFC value indicate where an arm is at or over full capacity.

6.24 Geometries for off-site junctions have been taken from OS mapping, with the parameters measured in line with best practice guidance provided with the software. Geometries for the proposed site access have been taken from **Drawing Number 194180-SK01D**.

6.25 All off-site junctions have been tested using the 2028 Future Year and Development Case flows to understand the change in operation between the two scenarios.

Junction 1 – Yarnton Way / Site Access

6.26 To establish whether the proposed access junction with Yarnton Way would operate satisfactorily in terms of capacity, a PICADY model was created, with results of this assessment summarised in **Plate 6.1** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the proposed access junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included. The site access would operate a maximum RFC of 0.24 in the morning peak hour, with 1 queuing vehicle (0.3 PCUs on results but rounded to next whole vehicle) and an average delay of 11.59 seconds per vehicle.

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2028 with Dev										
Stream B-AC	0.3	11.37	0.23	B	0.90	0.1	7.58	0.06	A	0.44
Stream C-AB	0.0	6.20	0.01	A		0.0	5.41	0.04	A	
2028 with Dev + Com Dev										
Stream B-AC	0.3	11.59	0.24	B	0.90	0.1	7.67	0.06	A	0.43
Stream C-AB	0.0	6.26	0.02	A		0.0	5.45	0.04	A	

Plate 6.1: PICADY Summary Results for Yarnton Way / Site Access Junction

Junction 2 – A2041 / Yarnton Way / Eynsham Drive

6.27 An ARCADY model was created in order to determine the impact of the proposed development on the A2041 / Yarnton Way / Eynsham Drive roundabout junction. The results of this assessment are summarised in **Plate 6.2** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development

in place and committed development flows included, operating with a maximum RFC of 0.79 on the Harrow Manorway North arm in the morning peak hour, with 4 queuing vehicles (rounded to next whole vehicle) and an average delay of 10.74 seconds per vehicle. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included.

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - Harrow Manorway North	2.9	8.45	0.74	A	7.34	0.9	4.08	0.49	A	4.25
2 - Yarnton Way	0.8	5.42	0.45	A		0.4	3.59	0.30	A	
3 - Harrow Manorway South	2.0	7.97	0.66	A		1.1	4.87	0.52	A	
4 - Eynsham Drive	0.8	5.65	0.44	A		0.4	4.01	0.29	A	
2028 Base										
1 - Harrow Manorway North	3.6	10.10	0.78	B	8.52	1.1	4.32	0.51	A	4.51
2 - Yarnton Way	1.0	5.95	0.49	A		0.5	3.75	0.32	A	
3 - Harrow Manorway South	2.4	9.32	0.71	A		1.2	5.25	0.55	A	
4 - Eynsham Drive	0.9	6.17	0.48	A		0.5	4.21	0.31	A	
2028 with Dev										
1 - Harrow Manorway North	3.6	10.29	0.78	B	8.80	1.1	4.42	0.52	A	4.60
2 - Yarnton Way	1.1	6.40	0.52	A		0.5	3.80	0.33	A	
3 - Harrow Manorway South	2.5	9.79	0.72	A		1.3	5.36	0.56	A	
4 - Eynsham Drive	1.0	6.31	0.48	A		0.5	4.28	0.32	A	
2028 with Dev + Com Dev										
1 - Harrow Manorway North	3.8	10.74	0.79	B	9.39	1.1	4.56	0.53	A	4.73
2 - Yarnton Way	1.2	6.67	0.54	A		0.5	3.91	0.34	A	
3 - Harrow Manorway South	2.9	10.93	0.74	B		1.4	5.52	0.57	A	
4 - Eynsham Drive	1.0	6.61	0.49	A		0.5	4.35	0.32	A	

Plate 6.2: ARCADY Summary Results for A2041 / Yarnton Way / Eynsham Drive Junction

Junction 3 – A2041 / Eastern Way

6.28 The A2041 / Eastern Way roundabout junction has also been tested using ARCADY. The results of this assessment are summarised in **Plate 6.3** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included, operating with a maximum RFC of 0.52 on the Harrow Manorway arm in the morning peak hour with 2 queuing vehicles (rounded to next whole vehicle). The largest average delay of 4.56 seconds per vehicle was recorded on the Eastern Way West arm. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included.

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - Carlyle Road	0.5	2.11	0.35	A	3.00	0.3	1.72	0.25	A	2.38
2 - Eastern Way (E)	0.2	2.60	0.17	A		0.2	2.16	0.15	A	
3 - Harrow Manorway	0.9	3.00	0.47	A		0.6	2.43	0.37	A	
4 - Eastern Way (W)	0.9	4.21	0.47	A		0.5	3.27	0.33	A	
2028 Base										
1 - Carlyle Road	0.6	2.19	0.37	A	3.17	0.4	1.76	0.26	A	2.46
2 - Eastern Way (E)	0.2	2.69	0.18	A		0.2	2.21	0.16	A	
3 - Harrow Manorway	1.0	3.16	0.50	A		0.6	2.52	0.39	A	
4 - Eastern Way (W)	1.0	4.50	0.49	A		0.5	3.41	0.35	A	
2028 with Dev										
1 - Carlyle Road	0.6	2.19	0.37	A	3.19	0.4	1.76	0.26	A	2.48
2 - Eastern Way (E)	0.2	2.69	0.18	A		0.2	2.22	0.16	A	
3 - Harrow Manorway	1.0	3.21	0.50	A		0.6	2.53	0.39	A	
4 - Eastern Way (W)	1.0	4.52	0.50	A		0.6	3.44	0.35	A	
2028 with Dev + Com Dev										
1 - Carlyle Road	0.6	2.20	0.37	A	3.24	0.4	1.77	0.26	A	2.51
2 - Eastern Way (E)	0.2	2.70	0.18	A		0.2	2.23	0.16	A	
3 - Harrow Manorway	1.1	3.30	0.52	A		0.7	2.55	0.40	A	
4 - Eastern Way (W)	1.0	4.56	0.50	A		0.6	3.50	0.36	A	

Plate 6.3: ARCADY Summary Results for A2041 / Eastern Way Junction

Junction 4 – Eastern Way / A2016 / Clydesdale Way / Yarnton Way

6.29 The Eastern Way / A2016 / Clydesdale Way / Yarnton Way roundabout junction has also been tested using ARCADY. The results of this assessment are summarised in **Plate 6.4** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included, operating with a maximum RFC of 0.63 on the Picardy Manorway arm in the morning peak hour, with 2 queuing vehicles (rounded to next whole vehicle) and an average delay of 3.99 seconds per vehicle. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included.

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - Picardy Manorway	1.0	3.58	0.59	A	3.77	0.8	2.50	0.44	A	3.26
2 - Clydesdale Way	0.6	9.89	0.38	A		0.4	6.34	0.30	A	
3 - Yarnton Way	0.4	2.53	0.26	A		0.3	2.10	0.22	A	
4 - Eastern Way	0.7	3.24	0.41	A		1.2	3.95	0.54	A	
2028 Base										
1 - Picardy Manorway	1.8	3.88	0.62	A	4.08	0.9	2.61	0.46	A	3.48
2 - Clydesdale Way	0.7	11.32	0.42	B		0.5	6.79	0.32	A	
3 - Yarnton Way	0.4	2.66	0.28	A		0.3	2.18	0.24	A	
4 - Eastern Way	0.8	3.41	0.43	A		1.3	4.28	0.57	A	
2028 with Dev										
1 - Picardy Manorway	1.8	3.92	0.63	A	4.13	0.9	2.66	0.47	A	3.53
2 - Clydesdale Way	0.8	11.51	0.43	B		0.5	6.96	0.33	A	
3 - Yarnton Way	0.5	2.73	0.30	A		0.3	2.19	0.24	A	
4 - Eastern Way	0.8	3.49	0.44	A		1.4	4.36	0.57	A	
2028 with Dev + Com Dev										
1 - Picardy Manorway	1.8	3.99	0.63	A	4.19	0.9	2.68	0.47	A	3.57
2 - Clydesdale Way	0.8	11.84	0.43	B		0.5	7.07	0.33	A	
3 - Yarnton Way	0.5	2.75	0.31	A		0.3	2.21	0.25	A	
4 - Eastern Way	0.8	3.52	0.44	A		1.4	4.43	0.58	A	

Plate 6.4: ARCADY Summary Results for Eastern Way / A2016 / Clydesdale Way / Yarnton Way Junction

Junction 5 – Anderson Way / A2016 / B253

6.30 The Anderson Way / A2016 / B253 roundabout junction has also been tested using ARCADY. The results of this assessment are summarised in **Plate 6.5** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included, operating with a maximum RFC of 0.70 on the Picardy Manorway West arm in the evening peak hour, with 3 queuing vehicles (rounded to next whole vehicle) and an average delay of 5.36 seconds per vehicle. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included.

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - Anderson Way	0.3	5.05	0.20	A	4.30	0.7	7.19	0.41	A	4.55
2 - Bronze Age Way	1.5	4.17	0.57	A		0.8	3.36	0.44	A	
3 - Picardy Manorway South	0.7	4.42	0.42	A		0.3	2.81	0.22	A	
4 - Picardy Manorway West	1.5	4.18	0.58	A		2.0	4.68	0.66	A	
2028 Base										
1 - Anderson Way	0.3	5.32	0.22	A	4.66	0.8	8.08	0.45	A	5.02
2 - Bronze Age Way	1.7	4.54	0.60	A		0.9	3.58	0.47	A	
3 - Picardy Manorway South	0.8	4.86	0.45	A		0.3	2.93	0.24	A	
4 - Picardy Manorway West	1.7	4.55	0.61	A		2.3	5.22	0.69	A	
2028 with Dev										
1 - Anderson Way	0.3	5.43	0.22	A	4.77	0.9	8.22	0.46	A	5.09
2 - Bronze Age Way	1.7	4.59	0.61	A		1.0	3.62	0.47	A	
3 - Picardy Manorway South	0.9	4.89	0.46	A		0.3	2.96	0.24	A	
4 - Picardy Manorway West	1.8	4.72	0.62	A		2.4	5.29	0.70	A	
2028 with Dev + Com Dev										
1 - Anderson Way	0.3	5.46	0.22	A	4.82	0.9	8.32	0.46	A	5.14
2 - Bronze Age Way	1.8	4.64	0.61	A		1.0	3.65	0.48	A	
3 - Picardy Manorway South	0.9	4.95	0.46	A		0.3	2.98	0.24	A	
4 - Picardy Manorway West	1.8	4.75	0.63	A		2.4	5.36	0.70	A	

Plate 6.5: ARCADY Summary Results for Anderson Way / A2016 / B253 Junction

Junction 6 – Sainsbury’s Access Junction with the A2041

6.31 The Sainsbury’s Access Junction with the A2041 has also been tested using ARCADY. Given in the future year scenario the Lensbury Way arm will no longer be in use, the 2022 base scenario is summarised in **Plate 6.6**, with the future year scenarios shown in **Plate 6.7** (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included, operating with a maximum RFC of 0.54 on the A2041 South arm in the morning peak hour, with 2 queuing vehicles (rounded to next whole vehicle) and an average delay of 4.45 seconds per vehicle. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included.

6.32 Please note that the geometry within the ARCADY models reflects that presented as part of the application (Application Reference: 21/01948/OUTEA).

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - A2041 (N)	1.0	3.70	0.49	A	4.05	0.7	3.20	0.41	A	3.51
2 - Lensbury Way	0.1	6.42	0.08	A		0.0	5.71	0.04	A	
3 - A2041 (S)	1.1	4.32	0.52	A		0.8	3.66	0.43	A	
4 - Sainsbury's Access	0.1	3.81	0.08	A		0.2	3.82	0.18	A	

Plate 6.6: ARCADY Summary Results for Sainsbury's Access Junction with the A2041 (2022 Scenario)

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2028 Base										
1 - A2041 (N)	1.0	3.67	0.49	A	3.98	0.7	3.24	0.42	A	3.52
2 - A2041 (S)	1.1	4.32	0.53	A		0.8	3.73	0.44	A	
3 - Sainsbury's Access	0.1	3.79	0.08	A		0.2	3.87	0.18	A	
2028 with Dev										
1 - A2041 (N)	1.0	3.74	0.50	A	4.02	0.7	3.26	0.42	A	3.55
2 - A2041 (S)	1.1	4.33	0.53	A		0.8	3.76	0.45	A	
3 - Sainsbury's Access	0.1	3.80	0.08	A		0.2	3.89	0.19	A	
2028 with Dev + Com Dev										
1 - A2041 (N)	1.1	3.90	0.52	A	4.15	0.7	3.29	0.43	A	3.59
2 - A2041 (S)	1.2	4.45	0.54	A		0.8	3.81	0.45	A	
3 - Sainsbury's Access	0.1	3.88	0.08	A		0.2	3.93	0.19	A	

Plate 6.7: ARCADY Summary Results for Sainsbury's Access Junction with the A2041 (Future Year Scenarios)

Junction 7 – Yarnton Way / Hartslock Drive / Wolvercote Road double mini-roundabout

6.33 The Yarnton Way / Hartslock Drive / Wolvercote Road double mini-roundabout junction has also been tested using ARCADY. The results of this assessment are summarised in **Plate 6.8** below (with a full copy of the output data contained at **Appendix I**). They demonstrate that the junction would operate satisfactorily at the 2028 Design Year with the proposed development in place and committed development flows included, operating with a maximum RFC of 0.54 on the Yarnton Way Link arm in the morning peak hour, with 2 queuing vehicles (rounded to next whole vehicle) and an average delay of 6.73 seconds per vehicle. Increases in RFC, queuing and delay are negligible on all arms when development traffic is included. There is space between the two mini-roundabouts to accommodate the predicted queuing.

**YARNTON WAY, BELVEDERE
HEALTHY STREETS TRANSPORT ASSESSMENT**

**194180-R02
August 2023**

6.34 Similar with Junction 6, please note that the geometry within the ARCADY models reflects that presented as part of the application (Application Reference: 21/01948/OUTEA)

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
2022										
1 - Yarnton Way / Hartslock Drive - 1 - Hartslock Drive	0.2	5.56	0.16	A	5.73	0.1	4.62	0.06	A	4.71
1 - Yarnton Way / Hartslock Drive - 2 - Yarnton Way Link	0.9	5.74	0.45	A		0.5	4.62	0.35	A	
1 - Yarnton Way / Hartslock Drive - 3 - Yarnton Way (W)	0.8	5.76	0.44	A		0.5	4.83	0.34	A	
2 - Yarnton Way / Wolvercote Road - 1 - Yarnton Way (E)	0.6	3.95	0.36	A	4.11	0.4	3.52	0.29	A	3.59
2 - Yarnton Way / Wolvercote Road - 2 - Wolvercote Road	0.1	4.70	0.09	A		0.1	4.37	0.06	A	
2 - Yarnton Way / Wolvercote Road - 3 - Yarnton Way Link	0.5	4.20	0.34	A		0.3	3.57	0.23	A	
2028 Base										
1 - Yarnton Way / Hartslock Drive - 1 - Hartslock Drive	0.2	5.69	0.17	A	5.98	0.1	4.68	0.06	A	4.84
1 - Yarnton Way / Hartslock Drive - 2 - Yarnton Way Link	0.9	6.02	0.49	A		0.6	4.75	0.37	A	
1 - Yarnton Way / Hartslock Drive - 3 - Yarnton Way (W)	0.8	6.00	0.46	A		0.5	4.96	0.35	A	
2 - Yarnton Way / Wolvercote Road - 1 - Yarnton Way (E)	0.6	4.07	0.38	A	4.22	0.4	3.59	0.31	A	3.66
2 - Yarnton Way / Wolvercote Road - 2 - Wolvercote Road	0.1	4.81	0.09	A		0.1	4.44	0.06	A	
2 - Yarnton Way / Wolvercote Road - 3 - Yarnton Way Link	0.6	4.31	0.36	A		0.3	3.62	0.24	A	
2028 with Dev										
1 - Yarnton Way / Hartslock Drive - 1 - Hartslock Drive	0.2	5.73	0.17	A	6.25	0.1	4.75	0.06	A	4.97
1 - Yarnton Way / Hartslock Drive - 2 - Yarnton Way Link	1.1	6.50	0.52	A		0.6	4.84	0.38	A	
1 - Yarnton Way / Hartslock Drive - 3 - Yarnton Way (W)	0.9	6.09	0.46	A		0.6	5.13	0.37	A	
2 - Yarnton Way / Wolvercote Road - 1 - Yarnton Way (E)	0.7	4.28	0.41	A	4.36	0.5	3.65	0.32	A	3.72
2 - Yarnton Way / Wolvercote Road - 2 - Wolvercote Road	0.1	4.96	0.10	A		0.1	4.48	0.06	A	
2 - Yarnton Way / Wolvercote Road - 3 - Yarnton Way Link	0.6	4.36	0.37	A		0.4	3.71	0.25	A	
2028 with Dev + Com Dev										
1 - Yarnton Way / Hartslock Drive - 1 - Hartslock Drive	0.2	5.78	0.18	A	6.42	0.1	4.79	0.06	A	5.07
1 - Yarnton Way / Hartslock Drive - 2 - Yarnton Way Link	1.2	6.73	0.54	A		0.7	4.95	0.40	A	
1 - Yarnton Way / Hartslock Drive - 3 - Yarnton Way (W)	0.9	6.21	0.48	A		0.6	5.22	0.39	A	
2 - Yarnton Way / Wolvercote Road - 1 - Yarnton Way (E)	0.7	4.37	0.43	A	4.44	0.5	3.71	0.33	A	3.78
2 - Yarnton Way / Wolvercote Road - 2 - Wolvercote Road	0.1	5.03	0.10	A		0.1	4.53	0.06	A	
2 - Yarnton Way / Wolvercote Road - 3 - Yarnton Way Link	0.6	4.42	0.38	A		0.4	3.76	0.27	A	

Plate 6.7: ARCADY Summary Results for Yarnton Way / Hartslock Drive / Wolvercote Road Double Mini-Roundabout Junction

7. Additional Borough Analysis

7.1. As per the Healthy Streets TA guidance, this section seeks to outline the additional analysis requested by LBB during the pre-application stage. It is considered that the following items have been requested for by the local highway authority, as per the feedback received throughout the pre-application process.

1. Refuse strategy.
2. Access to Maida Road and Sutherland Road.
3. Internal network adoption status.
4. Cycle storage and access.
5. Car Parking Management Plan.
6. Off-site parking.

7.2. While it is noted that the Healthy Streets TA guidance discusses that additional analysis requested by the Borough should not be mixed into the sections of this report, it is considered that some of the requests overlap and therefore it is acceptable in this instance. For ease of reference, the below table summarises the requests made by LBN (utilising the above numbering) and the corresponding section in which it is addressed within this report or whether additional notes are required.

Item	Corresponding Section	Comments
1	Section 4.0 – Servicing Arrangements	The site has been designed to accommodate an LBB refuse vehicle. This has been tested using swept path analysis, shown on Drawing Number 194180-D015A . The site masterplan shows the location of refuse collection points.
2	Section 4.0 – Access & Emergency Access	Pedestrian/cycle access will be available via both Maida Road and Sutherland Road. Emergency vehicles will also be able to use the Sutherland Road access, which will be controlled by bollards to prevent non-emergency motor vehicle access.

3	Section 4.0 – Access	Whether the the internal access roads are to be adopted is subject to further future discussions with LBB.
4	Section 3.0 – Cycle Parking	The level of cycle parking is in accordance with London Plan standards, which reflects LBB policy. In addition, a mix of cycle parking has been provided in each cycle store which reflects TfL advice. The location of cycle parking is illustrated on the site masterplan. Internal roads are of sufficient width to allow comfortable space for cyclists.
5	-	A Car Parking Management will be secured via a suitably worded condition.
6	-	The Car Parking Management Plan will provide details of how to manage off-site parking, as well on on-site parking.

Table 7.1: Summary of LBN Analysis

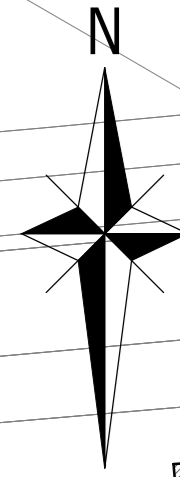
8. Construction

- 8.1. In an HSTA, construction can be thought of as the '4th scale' after the Site & Surroundings, Active Travel Zone, and London-wide network impacts are assessed.
- 8.2. An Outline CLP in the approved TfL Freight template format has been produced. The template was developed with London Councils and represents best practice for managing and mitigating construction impacts. It includes a spreadsheet tool created by TfL's Freight team to estimate construction trips across the build, phase by phase. A Detailed CLP may be required by LBB, which would be secured by condition.
- 8.3. The Outline CLP has been provided as a standalone document accompanying the planning application (**Report Ref: 194180-R10**).
- 8.4. In summary, to accommodate the construction of the proposed development, it is proposed that traffic initially utilises the existing gated access onto Yarnton Way before the main site access is constructed. After this, the new site access will be used for construction vehicles. Internally, the site will be set up such that all vehicles can turn and egress the site in forward gear i.e. small tipper. In all scenarios, a banksman will be present to oversee the manoeuvres, managing conflict between construction traffic and pedestrians / cyclists.

9. Conclusion

	Key transport impacts / issues	Solutions / Mechanisms
Proposed Highway Layout	<p>Car parking (including disabled parking) in line with London Plan standards.</p> <p>Suitable level of cycle parking to be provided at the site.</p> <p>Appropriate refuse access to be provided.</p>	<p>Scheme is in accordance with London Plan. Car Parking Management Plan produced to ensure no illegal use of parking.</p> <p>Cycle parking in accordance with London Plan standards.</p> <p>Refuse vehicle swept path is shown on ACE Drawing 194180-D015A, with refuse stores shown on the site masterplan.</p>
Active Travel Zone (ATZ)	<p>Requirement to ensure safe and suitable pedestrian/cyclist routes to key nearby destinations. Vision Zero assessment noted clusters of accidents at two specific locations nearby.</p>	<p>The ATZ assessment concluded that the routes are suitable for the proposed development. In terms of Vision Zero, suitable recommendations have been made within Section 5.0.</p>
London-Wide Network	<p>Modest increase of people utilising public transport and additional vehicular traffic does not lead to a severe impact on the local highway.</p>	<p>It is considered that the increase of people using public transport modes would be accommodated, and there are good opportunities for travel by all non-car modes.</p>
Site Access	<p>Emergency access also possible via bollard-controlled route onto Sutherland Road.</p> <p>Land required to be safeguarded for possible future bus rapid transit route.</p>	<p>Bollards to be provided to ensure no vehicles other than emergency services utilise Sutherland Road, with no vehicular access via Maida Road.</p> <p>Safeguarded land illustrated on ACE Drawing 194180-007B.</p>

Drawings



INSET A (1:200)

R23.46m

R5.42m

LAND TO BE SAFEGUARDED FOR REALIGNED KERB TO ALLOW BUS TO PASS CAR (SUBJECT TO PARKING SPACE RELOCATION / RECONFIGURATION)

R6.00m

9.50m

PROPOSED BUS STOP (NORTHBOUND)

PARKING SPACES TO BE REMOVED

SEE INSET A

DIAG 953 'BUS AND CYCLES ONLY' SIGN TO BE MOUNTED ON TOP OF POST

DIAG 616 'NO ENTRY' SIGN TOP BE MOUNTED ON POST

DETAILS OF PEDESTRIAN/CYCLE CONNECTION TO MAIDA ROAD AT BUS GATE SUBJECT TO FURTHER REVIEW

MAIDA ROAD

DIAG 616 'NO ENTRY' SIGN TOP BE MOUNTED ON POST

REFLECTIVE LOW LEVEL BOLLARDS

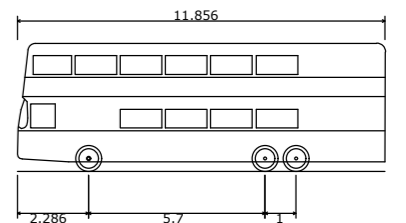
RAISED LEVEL SURFACE TO ENHANCE PEDESTRIAN CONNECTIVITY

BUS MANOEUVRE PASSING CAR

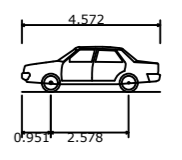
NOTES

1. SUBJECT TO AGREEMENT WITH LBB.
2. BUS STOPS DESIGNED A MINIMUM OF 30m FROM THE ACCESS JUNCTION TO YARNTON WAY.
3. ALTHOUGH THE BUS USED FOR SWEEP-PATH ANALYSIS IS DOUBLE DECKER, IT BEST MATCHED THE DIMENSIONS THAT ARE REQUIRED.
4. DETAILS OF PEDESTRIAN/CYCLE ROUTES AROUND THE POTENTIAL BUS LINK TO BE REVIEWED AT A LATER STAGE OF THE DESIGN.

VEHICLES USED



Trident II - 12.00m 3-Axle
 Overall Length 11.856m
 Overall Width 2.496m
 Overall Body Height 4.140m
 Min Body Ground Clearance 0.311m
 Track Width 2.363m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 9.500m



Skoda Octavia
 Overall Length 4.572m
 Overall Width 1.769m
 Overall Body Height 1.488m
 Min Body Ground Clearance 0.249m
 Max Track Width 1.713m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 5.100m

KEY

PARKING SPACES TO BE REMOVED / RECONFIGURED TO ACCOMMODATE REALIGNED KERB

DRAFT

B	SITE LAYOUT UPDATED	JE	PR	ATB	23.08.2023
A	VEHICLE TRACKING UPDATED AND POSSIBLE FUTURE ROAD WIDENING IDENTIFIED	JE	PR	ATB	05.07.2023
Rev	Description	Drn	Chk	App	Date

ARDENT CONSULTING ENGINEERS

Third Floor
 The Hallmark Building
 52-56 Leadenhall Street
 London
 EC3M 5JE
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Client:
BELLWAY LONDON PARTNERSHIPS

Project Title:
YARNTON WAY, BELVEDERE

Drawing Title:
BUS SWEEP PATH ANALYSIS

A2 Scale	Date	Designed by
1:500	MAY 2023	PR
Drawn by	Checked by	Approved by
SR	PR	ATB

Drawing Number **194180-007** Rev **B**

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KEY

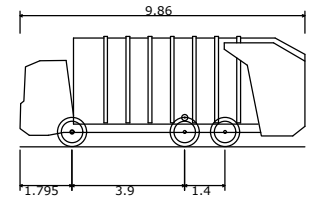
SITE BOUNDARY



DISTANCE FROM REFUSE VEHICLE TO BIN STORE



LOCATION OF RESIDENTIAL BIN STORES



Large Refuse Vehicle (3 axle)	
Overall Length	9.860m
Overall Width	2.450m
Overall Body Height	3.814m
Min Body Ground Clearance	0.366m
Track Width	2.450m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m






FOR INFORMATION ONLY

A	SITE LAYOUT UPDATED	JE	PR	ATB	23.08.2023
Rev	Description	Drn	Chk	App	Date

ARDENT CONSULTING ENGINEERS

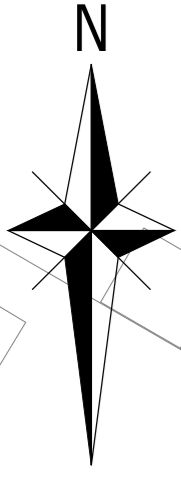
Third Floor
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Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

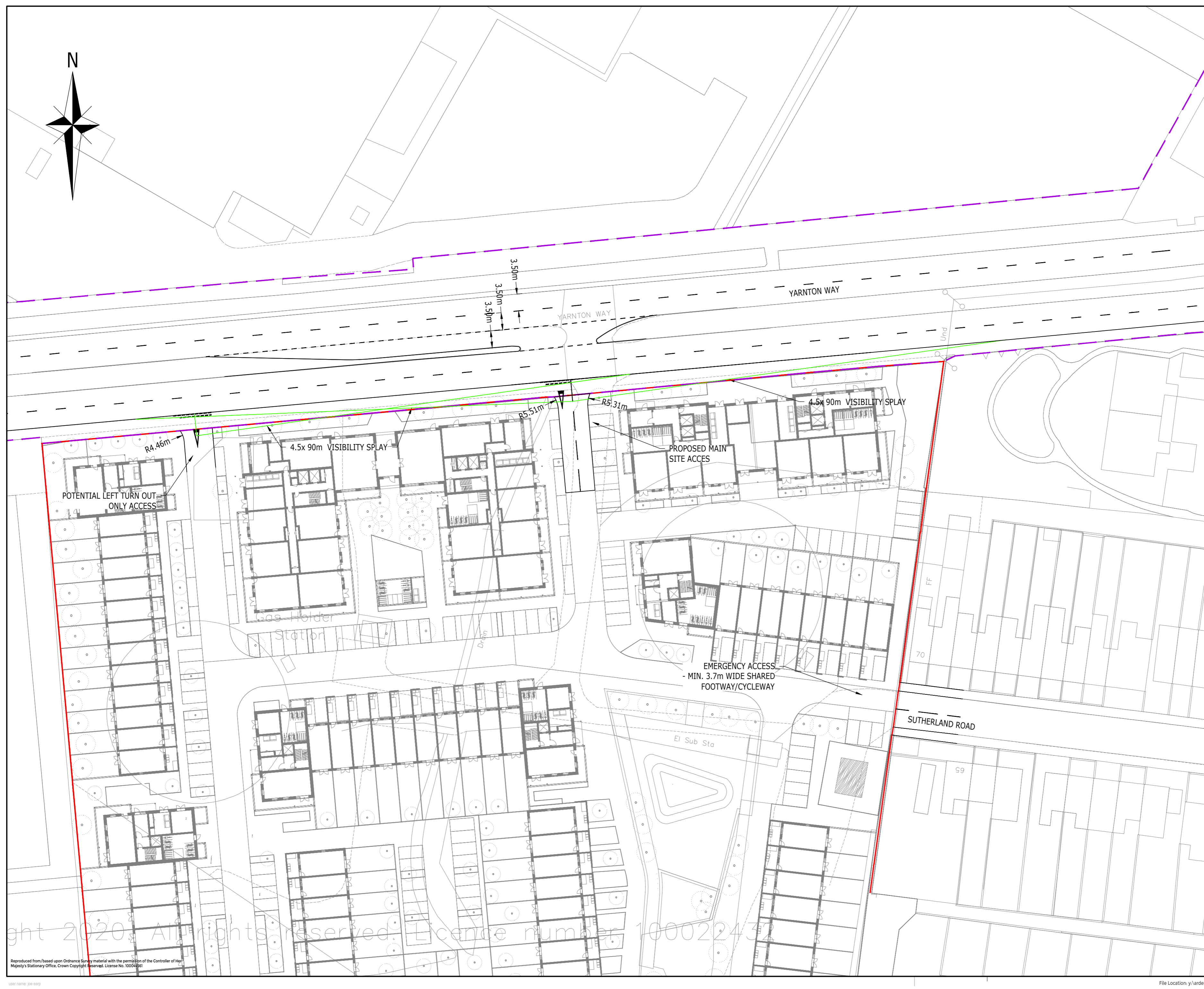
Client		
BELLWAY HOMES LIMITED		
Project Title:		
YARNTON WAY, BELVEDERE		
Drawing Title:		
REFUSE VEHICLE SWEEP PATH ANALYSIS		
A3 Scale	Date	Designed by
1:1000	17.08.23	GL
Drawn by	Checked by	Approved by
GL	AG	ATB
Drawing Number		Rev
194180-D015		A

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KEY:
 — SITE BOUNDARY
 - - - - - INDICATIVE HIGHWAY BOUNDARY

- NOTES:**
1. VISIBILITY SPLAYS FROM ACCESS BASED ON 60kph DESIGN SPEED AND DMRB CD 123, SUBJECT TO SPEED SURVEY.
 2. NUMBER OF LANES ON SITE ACCESS SUBJECT TO CAPACITY CHECK.
 3. FURTHER DETAILS OF PEDESTRIAN/CYCLE CROSSING TREATMENTS TBC.
 4. SUBJECT TO SWEEPED PATH ANALYSIS.
 5. SITE LAYOUT SUBJECT TO CHANGE



FOR INFORMATION ONLY

Rev	Description	Drn	Chk	App	Date
D	SITE LAYOUT AMENDED	JE	PR	ATB	23/08/22
C	SITE ACCESS AMENDED	GL	PR	ATB	16/02/22
B	SITE ACCESS AMENDED	KI	PR	ATB	20/10/21
A	SITE ACCESS AMENDED	KI	PR	ATB	06/04/20

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worksafe consultant
 www.smasstd.com

SSIP
 180 000
 SPECIAL VERITAS
 Certification

Client
BELLWAY HOMES LIMITED

Project Title:
YARNTON WAY, BELVEDERE

Drawing Title:
PROPOSED SITE ACCESS

A2 Scale	Date	Designed by
1:500	MAR 2020	
Drawn by	Checked by	Approved by
KI	KI	SJH
Drawing Number	194180-SK01	
	Rev D	

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Appendix A
LBB / TfL Pre-Application Response

Development Management
Planning Department
Regeneration & Growth
Civic Offices, 2 Watling Street,
Bexleyheath, Kent, DA6 7AT
Telephone 020 8303 7777

The person dealing with this matter is: Christine Ellera
Direct Dial: 0203 045 4019
Email: christine.ellera@bexley.gov.uk

Our reference: 19/03053/PREAPP

Date: 10 March 2020

BY EMAIL- giuseppe.cifaldi@savills.com

Dear Mr Giuseppe Cifaldi

Re: British Gas Holder Station, Yarnton Way, Erith- Redevelopment of site providing 561 residential dwellings and 1260sqm of non-residential floor space (Class A1 - A4 and B1)

1 Summary

- 1.1 Thank you for engaging with LB Bexley's pre-application service. We hope you have found the process useful in developing your proposals. I have set out below my comments on the scheme following our meeting on 29/01/2020.
- 1.2 Whilst it is considered that there is potential justification to support bringing forward a residential redevelopment of this site, there remains a number of matters of principle in respect of the proposed land-use which need to be addressed further. These are set out below in detail, in summary, given the SIL status of this site, for the land to be 'released' for residential purposes robust evidence first need to be provided to demonstrated that it is not feasible or viable to be used for other industrial uses.
- 1.3 Notwithstanding the land uses issues, further consideration is recommended regarding the opportunities and constraints of this site and how these inform the layout of the scheme. Whilst we remain open minded to the proposed approach

to redeveloping this site we believe that some of the design principles which have informed the indicative scheme would benefit from further discussion. Currently, we are unconvinced that a mix use scheme would be appropriate for this location and in turn if a design approach predicated on a large wide open “boulevard” centrally located within the site is the right response to redeveloping this site.

1.4 Other matters which we would also like to draw your attention to are as follows:

- A revocation order under s14(1) of the Planning (Hazardous Substances) Act 1990 revoking the Hazardous Substances Consent will be required before any redevelopment can take place.
- Further detailed highway discussions are required
- Matters regarding affordable housing need to be considered and in line the London Plan (intend to publish) if 50% affordable housing requirement cannot be delivered on site, detailed viability evidence will be needed to justify a lower level of affordable housing
- There is significant ecological value to the site and further ecological surveys should be undertaken to inform the layout and form of the proposed redevelopment. This will need to include an ecological buffer to the southern portion of the site. Both parties should agree at an early stage the portion of land to be retained for ecological purposes.
- Further clarification of which flood zone the site is in is required and further sequential (and potentially the exceptions test) will be required for the site. It is in your interest to have early discussions with the environment Agency as part of this.
- Other environmental considerations need to be considered as detailed below including (and not inclusively); contaminated land, air quality, biodiversity net gains and sustainable urban drain systems. Careful consideration should be given to the “agent of change” principle in relation to the impact on existing adjacent industrial uses.

2 Site description

- 2.1 The site is located on the southern side of Yarnton Way to the west of the limits of Maida Road and Sutherland Road in Belvedere. To the south lies the South Eastern railway line running west to east between Abbey Wood and Belvedere. The B212 Yarnton Way is a classified highway and is designated as a Borough Distributor Road in the Council UDP road hierarchy. It is a street lit dual carriageway, subject to a 30mph speed limit and is a bus route. There are two existing vehicular access points to the site, one off Yarnton Way to the north

and the other at the western end of Sutherland Road to the east. The existing Yarnton Way access is substandard and does not benefit from a turning lane for traffic turning right into the site approaching from the west.

- 2.2 It is understood that the Gas Holders which occupy the northern half of the site have not been in use for some time, whilst the majority of the southern half of the site is covered in vegetation up to the Railway boundary.
- 2.3 Belvedere Station and bus stops serving routes 180 and 401 are located within a reasonable walking distance of the site which has an associated PTAL of between 2 and 3 (poor to average level of public transport accessibility).
- 2.4 The indicative plans should 561 units of accommodation in 6 blocks across the site, with a ground floor provision of 1260 sqm of non-residential A1 to A4 units. It is proposed that the development will have a mix of under-croft and on street parking provision of 242 spaces.

2 Development Plan and any other material circumstances

Development Plan

- 2.1 As identified in your pre-application submission the Development Plan is formed of the following documents:
 - The London Plan
 - The LBB Core Strategy (2012);
 - Bexley Unitary Development Plan (as saved from February 2012).
- 2.2 Your planning submission notes that significant weight should be attributed to the London Plan (intend to publish), agreeing the likely travel this document will have in the future. It should be noted that the below comments are made under the assumption that the London Plan (intend to publish) will form part the Development Plan moving forward.

Emerging Local Plan

- 2.3 The Council are currently in the process of preparing the new Local Plan. In Spring 2019 a public consultation took place on the preferred approaches to matters to be contained within the new Local Plan (otherwise known as a regulation 18). The next stage in the new Local Plan process is the publication of the Draft Local Plan (regulation 19 stage). The Council's current Local Development Scheme (LDS) updated in October 2019 considers that a new draft Local Plan will be prepared and out for further public consultation in Summer 2020.

2.4 In view of the above it is assumed that this redevelopment will be brought forward prior to the adoption of the new Local Plan. At this early stage in the plan-making process only very limited weight can be given to the Regulation 18 document. However greater weight can be attributed to this document as it progresses through the plan making process. There are a number of policies which could be of relevance, including matters regarding good design, highways and environmental conditions. Of specific consideration (in addition to wider strategic policies) is the following:

- SP4 Employment growth, innovation and enterprise- which looks to strengthen and intensify use of employment land (consideration to the adjoining site).
- SP5 Successful town centres- which seeks to direct new commercial uses to existing defined town and local centres. The New Local Plan looks to designate Belvedere Station as a District Centre
- DP11 Building Heights- This sets out indicative heights which may be appropriate.
- SP8 Bexley Transport network- looks to secure improved public transport links, including Crossrail to Ebsfleet and Bus Rapid Transit (BRT) network.
- Site identified as a potential allocation as ‘Southern Gas Networks Belvedere Holder Station’ and recommends allocating the site to be a residential area.’ The site assessment notes that the site contained significant amounts of greenery and tree coverage. It is identified that the site may have ecological significance and potential; and that the site can assist in contributing to a green link.
- The Council proposes to safeguard land within Bexley’s boundaries for the following schemes once the required land is identified:
 - Thames Crossing between Belvedere and Rainham;
 - DLR Thamesmead extension to Belvedere Station; and,
 - Bus rapid transit (BRT) between North Greenwich and Slade Green
 - Cross Rail Extension

3 EIA development

3.1 As briefly discussed during our meeting it is understood that you will first screen if the proposal represents ‘EIA Development’. Under the relevant legislation the site falls within the tolerances of ‘schedule 2’ development. It will therefore be necessary for the Council to consider the likely significant effects of the development.

- 3.2 At this stage and without a comprehensive EIA screening the LPA are unable to confirm their position if this proposed development would or would not constitute “EIA development”. Where reference below is made to the submission of documents as part of the planning application it is done so without prejudice to any future decision issued by the LPA in this regard.
- 3.3 As discussed during our meeting would expect as part of any forthcoming discussions further evidence and justification provided from Historic England that the existing Gas Holders are not ‘Heritage Assets’ as defined in the NPPF (2019)

4 Principle of the Development

Hazardous Substance Consent

- 4.1 A revocation order under s14(1) of the Planning (Hazardous Substances) Act 1990 revoking the Hazardous Substances Consent to the Local Planning Authority as the hazardous substances authority (and a request that the Secretary of State’s confirm this Order) will be required before any redevelopment can take place. It is understood that Southern Gas Networks (SGN) have undertaken similar requests at a number of gasholders site across the South of England and are familiar with the process. The Council would encourage early engagement with Health and Safety Executive as the statutory consultee. If revocation or modification using powers under s.14(1) were sought, we would seek written confirmation (and indemnities where necessary) that SGN would not challenge or seek compensation if the Council proceeded with the revocation of consent order. If a planning permission has been granted and commenced for development of the site for a residential use then s.14(2) of the Act ca be considered.

Principle of residential development within SIL land

- 4.2 As noted in your own pre-application Planning Statement the site is designated as a Primary Employment Area and identified as Strategic Industrial Land (SIL) in the London Plan (intend to publish). Policy CS21 Bexley Future Economic Contribution promotes Belvedere Employment Area as the borough’s principal locations for employment. Policy E3 of the UDP states that land and buildings in the Primary Employment Areas will be safeguarded for industrial and commercial uses and these uses are then defined under policy TS6.
- 4.3 Policy SD1 Opportunities Area of the London Plan (intend to publish) looks to support and sustain Strategic Industrial Locations (SIL) and other industrial

capacity by considering opportunities to intensify and make more efficient use of land in SIL.

- 4.4 Policy E5 Strategic Industrial Locations (SIL) of the London Plan (intend to publish) sets out that SIL should be managed proactively through a plan-led process to sustain them as London's largest concentrations of industrial, logistics and related capacity for uses that support the functioning of London's economy. This policy further states that development proposals for uses in SILs other than those set out in Part A of Policy E4 Land for industry, logistics and services to support London's economic function, (including residential development, retail, places of worship, leisure and assembly uses), should be refused except in areas released through a strategically co-ordinated process of SIL consolidation. The London Plan (intend to publish) is clear that the release must be carried out through a planning framework or Development Plan Document review process and adopted as policy in a Development Plan or as part of a co-ordinated masterplanning process in collaboration with the GLA.
- 4.5 Therefore, as it stands, and as acknowledged in your own pre-application Planning Statement, there is a presumption for this land to be used for employment uses. The proposed development therefore represents a departure from the Development Plan and it is necessary to assess if there are any material circumstances which indicate that that the principle of a residential development on this site should otherwise be approved on this site.
- 4.6 The emerging Local Plan (regulation 18) identifies that the Council's preferred option is to allocate this site for residential use. However, at this stage in the plan making process, only limited weight can be given to this document, notwithstanding the Council's likely direction of travel.
- 4.7 In your supporting Planning Statement, you have made reference to Para 5.31 of the London Plan, subtext policy 5.22 which gives support to decommissioned gasholders sites and the significant potential these sites have in contributing '*to the provision of new homes and jobs on and around them*'. However, this text is not brought forward in the London Plan (intend to publish). What the London Plan (intend to publish) does identify is that SGN are implementing significant gasholder de-commissioning programmes, replacing them with smaller gas pressure reduction stations and that:

"The Mayor will work with key stakeholders including the Health and Safety Executive to achieve the release of the resulting brownfield sites for redevelopment including energy infrastructure where appropriate."

- 4.8 The previous justification under the London Plan to allow LPA's to consider residential-led development of such decommissioned sites has therefore been weakened. Nonetheless, the site does not/ has not contributed to industrial activity or employment in recent years. Therefore, the use of this land for residential purposes would not result in the loss of employment floorspace. However, before the site could be 'released' for residential purposes given its SIL status it would need to be demonstrated that it is not feasible or viable to be used for other industrial uses. If robust evidence can be provided to support your assertions that the site is now redundant and surplus to requirements and could not viably be bought forward for alternative industrial uses, a case could be made to justify the principle of residential redevelopment.

Appropriateness of a mixed-use scheme on this site

- 4.9 The site is located within the Belvedere Geographic region. Policy CS03 of the Core Strategy identifies that within the Belvedere geographic region opportunities for renewal and enhancement will be sought, associated with the region's location within the Thames Gateway and two London Plan Opportunity Areas.
- 4.10 The site is located within walking distance to Belvedere Train Station, and the potential District Centre, which includes a large supermarket and number of local shops and amenities. However, the site is not in an urban central location, it is on the edge of a residential area, next to a large industrial estate. Providing pedestrian and cycle links through this site will improve and enhance permeability for those who will live within the site and the wider locality to utilise sustainable modes of transport and encourage active communities and access to local green infrastructure. This will be a benefit in redeveloping this site, but the site will very much be an area to move through and (apart from those whom live within the site) not a destination in itself.
- 4.11 Current proposals show a significant amount of retail (A1/A3/A4) floorspace. These uses are town centre uses and, at this scale, are not considered appropriate outside of a town centre, especially in light of the Council's proposals for Belvedere station which has been identified as a new district centre in the Council's Local Plan (regulation 18). Any new retail should be directed to this new district centre and not to this site. We would also query if such commercial floorspace would be viable in this location. The site is not a gateway location or would benefit from significant passing pedestrian or vehicular traffic, and it is not a location where wayfinding is needed to draw people into the site, apart from those whom live there. It is an out of town location where the proposed scale of retail uses is not supported.

4.12 In view of the above, and as discussed further below, some of the design principles which have informed the indicative scheme would benefit from further discussion. Currently, we are unconvinced by a large wide open “boulevard” centrally located within the site. Having regard to our concerns above regarding the amount of retail proposed and the site’s peripheral location, we do not consider that this boulevard would attract sufficient footfall and activity to be a successful space. At the current time, we consider that the proposed approach should be based on the site being a ‘residential quarter’ rather than a ‘destination space’. However, we remain open-minded and willing discuss all options with you as the design development progresses (please see paragraph 6.1, in particular, below).

5 Design Considerations

5.1 At this stage further work is needed to identify the constraints and opportunities of this site and develop bringing forward a scheme which responds to the competing priorities. In taking forward pre-application discussions on this site the following an opportunities and constraints plan is requested. This should identify all of the issues which affect this site, including:

- biodiversity;
- culverts/ditches/dykes- what needs to be retained (which would affect the footprint of the built form);
- underground services which would affect the footprint of the built form;
- any remaining operational requirements;
- safeguarded land/land requirements for BRT and Crossrail;
- neighbouring activities
- neighbouring urban morphology including street layout, heights and massing, typologies

Once a constraints and opportunities plan has been produced and agreed, then a robust consideration of layout and design options to respond to those opportunities and constraints should be provided, discussed and agreed.

As part of this work we can then establish if a development which is significantly greater in scale than the prevailing area, and up to 15 storeys in height should be appropriate in this location. At this stage it is worth highlight that Officers have a number of concerns regarding the initial approach to height and if this is justified in this location. There are a number of efficiencies which can be achieved in designing a wholly residential scheme. If the wide Boulevard access is no longer informing the design strategy for this scheme, the scheme could potentially be brought in. It is more than likely that similar density could potentially be achieved without the scale and height proposed.

6 Highways Considerations

- 6.1 A “boulevard” type route is proposed to run north to south from Yarnton Way through the centre of the site, with a shared surface configuration for car, pedestrian and cyclist use. East / West roads are proposed to serve the six housing blocks located to the side of the route.
- 6.2 Maida Road and Sutherland Road to the east are designated as minor residential roads and show signs of significant parking stress in front of the existing terraced housing, as such any access to these roads should be for pedestrians/ cyclists. An emergency access route could be considered for the development from these residential roads. However further understanding of how this would be managed would be required.
- 6.3 A Transport Assessment (TA) will be required to support an application, the scope of which should be agreed with the LPA, in consultation with the Highway Authority and Transport for London (TfL) at the pre-application stage.
- 6.4 It is recommended, as a minimum, the TA should include the following key issues (to be agreed as part of the scope):
- A multimodal assessment of the likely trip generation associated with the proposals and traffic modelling demonstrating the performance of the proposed junction arrangement onto Yarnton Way and associated development impact on the Yarnton Way / A2016 and A2016 / B253 / Anderson Way roundabouts to the east together with the Eastern Way / Harrow Manorway and the Yarnton Way / Harrow Manorway roundabouts to the west. Mitigation measures to manage the effects upon the roundabouts may need to be considered once the results of the assessment are known. Trip rates/ Other junctions maybe identified as the scope of the TA is agreed.
 - The extent of the traffic and any parking surveys on the adjacent highway network to assess existing conditions, this should form part of the scope to be agreed.
 - A robust assessment of the possible junction options onto Yarnton Way should be carried out and the layout agreed at an early stage of the design process.
 - Justification for the proposed level of parking provision with reference to survey data from other similar sites and local residential sites. It is noted that the proposed parking ratio is approximately 0.5 spaces per unit, which may result in overspill parking by residents onto adjacent roads. Robust justification will therefore be required to support the proposed level of

parking and/or opportunities to look at increasing parking ratios without compromising on design quality.

- Measures to prevent overspill parking should also be examined in the TS, including possibly parking controls on Yarnton Way and surrounding residential roads.
- Yarnton Way may form part of the Rapid Transit Route across Bexley linking Growth areas. Provision for bus services will need to be considered through the agreed site access junction and across the Yarnton Way frontage.
- How this scheme will improve pedestrian and cyclist routes to the Belvedere station can be achieved. Pedestrian / Cyclist crossing measures along and over Yarnton Way will also need to be considered. If a lower level of parking on this site were to be considered appropriate, key mitigation measures will be securing greater reliance on sustainable modes of transport, this may include improvements in the bridge at Belvedere Station (e.g. CCTV, lighting, platform lifts, landscaping and/or design improvement / interventions),
- The geometry of all vehicular areas including internal junctions and parking areas will need to be justified with vehicle (car & refuse) track plot analysis and show routing and turning of service vehicles to the non-residential areas.
- A draft Travel Plan is required for the site for residents and the proposed commercial use employees. A draft service plan for the site should also be presented in the TA.
- It is recommended that a review of the relevant TfL OAPF documents is carried out as part of the TA assessment to ensure that local Transport objectives are considered.
- An assessment of the injury accident record in the area should be provided.
- An assessment of the impact on local bus and rail services will be required.

6.5 As part of any planning application details showing bins stores and their ability to accommodate the necessary refuse collection will be needed upfront as part of the application. Evidence to demonstrate that cycle parking can be readily accommodated within the development will also be required. Cycle parking must be safe, accessible for all and covered. Please note that the London Plan (intend to publish) results in an increased provision (for smaller units).

7 Affordable Housing

- 7.1 Policy H5 Threshold approach to applications of the London Plan (intendintend to publish) states that for redevelopments on SIL a 50% affordable housing requirement will be required (on site). If this is not possible, detailed viability evidence will be needed to justify a lower level of affordable housing. The following comments are therefore made on the assumption that robust viability evidence will be provided to justify the level of affordable housing proposed as part of this scheme.
- 7.2 The Council seek to ensure that where affordable housing is proposed the mix should be 70% affordable rented and 30% will be intermediate housing. Engagement with a Registered Provider to deliver the affordable housing is encouraged at an early stage to ensure the affordable housing meets the required standards and specification.
- 7.3 The initial evidence submitted sets at that you are proposing to deliver 35% of the units as affordable housing, with 31% comprising intermediate housing and 69% as affordable rented housing. With regard to the unit mix, Bexley’s housing requirements are set out below. The housing mix requirement has been extrapolated for Bexley form the SE London Strategic Market Assessment 2014.

	Market housing	Intermediate	Affordable / social rent
1 bed	48%	18%	24%
2 bed	22%	43%	42%
3 bed	24%	29%	23%
4+ bed	6%	10%	11%

Table 1: Housing mix requirements for Bexley, based on the SEL SHMA (2014)

- 7.4 Compared to our housing requirements there is an overprovision of one bedroom and small two-bedroom 3-person homes in both tenures. Consideration should be given to reducing the number of one-bedroom flats for affordable rent and increasing the number of affordable rented homes suitable for larger families in order to create a more sustainable and balanced community.

- 7.5 Affordable housing provided as part of a market development will be expected to be integrated within the site in the interests of mixed and balanced communities. In accordance with the London Plan, ninety percent of new the housing will need to meet Building Regulations requirement M4 (2) 'accessible and adaptable dwellings' and ten per cent of new housing will need to meet Building Regulations requirement M4 (3) 'wheelchair user dwellings'.

8 Environmental considerations

Biodiversity

- 8.1 The Council has undertaken a partial review of this site to inform our local plan, which involved a phase 1 survey of the site which demonstrates there is significant ecological value to the site (notably the southern part). It is therefore recommended that further ecological surveys are undertaken on this site and that these surveys inform the layout and form of the proposed redevelopment, which will include an ecological buffer to the southern portion of the site. Both parties should agree at an early stage the portion of land to be retained for ecological purposes.
- 8.2 A detailed ecological assessment will also need to accompany the application, identifying any significant features within and adjacent to the site, and should be reflected in the layout and design of the scheme and location of development on the site. The assessment should be made have during regard for paragraph 175 of the NPPF which sets out that if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused".
- 8.3 Any application be submitted should look at how to minimise impacts on, and provide net gains for, biodiversity. Measurable net gains in biodiversity must be achieved on site. The Defra biodiversity metric (or similar tool) should be used to demonstrate net gains will be achieved (as encouraged in NPPF). London Plan policy G5 Urban greening will apply, and a target urban greening factor score of 0.4 should be achieved.

Contaminated Land

- 8.4 This site is located on a former gas works which has the potential for significant contamination in the form of hydrocarbons (coal tar, oils etc), metals, cyanide, VOCS & SVOCS, and asbestos.

- 8.5 As part of the EIA screening we will need to establish the likely significant effects of this. As part of a screening a Phase 1 Desktop Assessment should be submitted for the LPA to consider the potential impacts from Contaminated Land. This will establish the extend of studies needed to be submitted as part of any forthcoming planning application.

Flood Risk and Drainage

Principle of residential-led development within flood zone 3

- 8.6 As discussed within the meeting it is understood that the site sits within flood zone 3. You have confirmed you are yet to clarify that if the site is within flood zone 3a (high probability of flooding) or within flood zone 3b (functional flood plain). This will affect how you consider the principle of a residential scheme within the flood zone. The below advice is made under the assumption that the site falls within flood zone 3a.
- 8.7 Under the assumption that the site will come forward prior to the adoption of the Borough's emerging Local Plan (and therefore the sites allocation) a sequential test for this development will be required. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The NPPF (2019) as well as the associated National Planning Policy Guidance (NPPG) states that only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, considering the flood risk vulnerability of land uses. The search area for the sequential test should be Borough-wide. You will need to look at reasonably available other sites within the Borough as a whole, of a comparable size. The reasonably available other sites should be based on the Council's most recent Strategic Housing Land Availability Assessment assessing both deliverable and developable sites.
- 8.8 Please note that if the site is in flood zone 3b, an exceptions test would also be required in addition to the above.

Site-specific flood-risk assessment

- 8.9 In addition to the above a site-specific Flood Risk Assessment (FRA) will be required as part of any planning application. As part of this, and in accordance with the (NPPF 92019) the following will be required:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- b) the development is appropriately flood resistant and resilient;
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
- d) any residual risk can be safely managed; and,
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

Air Quality

- 8.10 Given the scale and location of the proposed development we would expect air quality assessment to be submitted with any application. This should be undertaken in accordance with current guidance and methodologies. The air quality assessment will need to include an “air quality neutral” appraisal of the development proposals in accordance with London Plan requirements and GLA Supplementary Planning Guidance.
- 8.11 As it would meet the GLA criteria of a “major” development a condition in relation to the emission standards of NRMM (non-road mobile machinery) used on site during the demolition/construction phases would be imposed. A standard demolition/construction methodology condition to minimise adverse noise and dust impacts would also be recommended if permission were granted.

Noise, Vibration and Lighting

- 8.12 To the west is an existing warehouse and what appears to be rear service area. There is further emphasis within both the London Plan and the emerging Local Plan for maximising industrial areas and supporting intensification of uses within such designated industrial areas. The London Plan (intend to publish) is further clear that:

“Development proposals within or adjacent to SILs should not compromise the integrity or effectiveness of these locations in accommodating industrial-type activities and their ability to operate on a 24-hour basis. Residential development adjacent to SILs should be designed to ensure that existing or potential industrial activities in SIL are not compromised or curtailed. Particular attention should be given to layouts, access, orientation, servicing, public realm, air quality, soundproofing and other design mitigation in the residential development.”

- 8.13 The design of the proposed development needs to consider this from the onset and avoid single aspect units which face onto the adjoining industrial land. The “agent of change” principle should be clearly and carefully applied to this proposal. Appropriate mitigation measures, in addition to informing the design of the scheme based on this constraint, will also likely be needed to ensure internal and external noise levels specified in BS8233:2014 are achievable for the new residential dwellings. The assessment should be carried out by a suitably qualified acoustician. The focus of the assessment will be consideration of potential noise impacts associated with existing commercial/industrial/ warehousing uses at the western site boundary (together with road traffic and railway noise). This part of the assessment should be undertaken in accordance with the methodology specified in BS4142:2014. Plant noise should be designed to a target criterion of 10dB below representative background. Consideration of the impact of audible reversing alarms should also be considered in the assessment and that this adjoining site can operate at all hours of the date. The proposal should ensure that long-standing adjacent industrial uses are in no way fettered (taking into account they are unlikely to be restricted by planning controls, can intensify over time and may undertake activities and servicing on a 24-hour basis) and they are not at risk of noise complaints from the new residents of your development in the future.
- 8.14 Notwithstanding the comments above regarding retail uses, any ground floor commercial units for A3/A5 purposes the applicant would need to consider the provision of extract ventilation arrangements to deal with cooking odours.
- 8.15 Details of external lighting should also be included in any application. Sufficient detail should be provided to demonstrate the development will comply with current Institution of Lighting Professionals Guidance.

Trees & Landscape

- 8.16 In addition to the matters raised above in terms of ecology/ biodiversity net gains the LPA will expect a full arboricultural report to be submitted as part of this application. This should be prepared by a suitably qualified arboriculturalist and should identify any trees of high amenity value which are worthy of retention as part of this application, along with clear tree protection details to ensure their long-term retention.

Sustainability Requirements

- 8.17 Development Plan policy requires the following standards are met for all new residential development:

- Zero Carbon and BREEAM “Excellent” for non-residential elements
- Use of sustainable urban drainage systems to minimise the surface water runoff from the site to no more greenfield runoff rate having regard to the effects of climate change;
- Designing homes to limit water use to a maximum 105 litres per day (Part G of Building Regulations);
- Designing all homes to meet the accessibility standard of Part M4(2) of Building Regulations and 10% of homes to be M4(3)(a).

9 Quality of Residential Accommodation

9.1 Moving forward we look forward to discussing with you the quality of the provision of the residential accommodation. This will include:

- Ensuring units meet or exceed the nationally prescribed space standards
- Ensuring suitable levels of outlook and daylighting for the proposed units and looking at initial overshadowing assessments as part of this.
- Accessibility including lift access
- The number of units proposed to be built to adaptable homes standards consistent with the London Plan (intend to publish)
- The level of private amenity space for new properties and child play space, having due regard for the new standards in the London Plan (intend to publish)
- Communal Amenity space

10 Impact on Neighbours’ Residential Amenity

10.1 Once the scheme progresses forward and the design strategy is considered further we look forward to discussing with you the potential impact on neighbouring amenity, notably properties to the east and the potential impact on sunlight/ daylight outlook and privacy.

11 Planning Obligations and CIL

11.1 Bexley’s Community Infrastructure Levy (CIL) came into force on 30th April 2015. CIL is a system of planning charges for the funding of infrastructure to help make new development sustainable. It has largely replaced the previous system of Section 106 planning obligations except for securing site mitigation measures and affordable housing provision.

11.2 Bexley’s CIL charge for the proposed development in this location would be £40 per square metre of net additional floorspace (plus indexation). Further

details of Bexley's CIL can be found on the Council's website:
<https://www.bexley.gov.uk/services/planning-and-building-control/planning/community-infrastructure-levy-cil>

11.3 In addition to the above, the proposal would be liable for the Mayoral CIL.

11.4 The development will likely require a number of planning obligations, at this early stage it is not possible to advise on what these will likely be. However, the Council looks forward to discussing potential Heads of Terms in taking forward pre-application discussions.

12 Conclusion

12.1 The Local Planning Authority looks forward to further discussion regarding how to bring forward the redevelopment of this site. As set about above the LPA are broadly content that suitable justification can be made for the loss of industrial land and for the residential redevelopment of this site. However, it is considered that the design principles of this scheme be revisited, starting with first principles. We hope that you will engage with the Local Planning Authority in doing this.

13 Other Matters

13.1 I trust the above is of assistance but would highlight that this pre-application advice follows an initial officer assessment of the information you have provided. Every formal application is subject to a statutory assessment process and it is only then that a full assessment of all the material planning considerations can be made in the context of relevant development plan policies. Some important considerations may only arise or become apparent during this formal process, which includes consultation with residents and other third parties affected by the development. This officer advice is therefore given for your general guidance in the preparation of a future planning application or proposal. The advice does not prejudice the Council's consideration or decision on any future application that may be submitted.

Yours sincerely,



Christine Ellera
Deputy Area Team Manager North
Planning Department – Development Management
Growth and Regeneration

Development Management
Civic Offices, 2 Watling Street,
Bexleyheath, Kent, DA6 7AT
Telephone 020 8303 7777

The person dealing with this matter is: Jillian Holford
Direct Dial: 0203 045 4483
Email: Jillian.holford@bexley.gov.uk

Our reference: 21/02283/PREAPP

Date: 14 October 2022

Giuseppe Cifaldi
Savills
33 Margaret Street
London W1G 0JD

BY EMAIL

Dear Mr Cifaldi

**Re: Redevelopment of site providing 495 residential dwellings and 1,200sqm of non-residential floor space.
Former SGN Gas Holders Site, Yarnton Way, Belvedere**

I refer to the pre-application meeting held on 13 September 2022.

This advice relates to the scheme presentation 'SGN Belvedere LB Bexley Pre-application Meeting 13.09.2022' and the summary of changes to the scheme set out in the letter from Bellway Homes Ltd dated 09.09.2022.

Summary

The proposal has been significantly amended since the previous pre-application meeting with the Council. Progress has been made to areas of concern including landscape quality, amenity space provision, play space, parking arrangements, massing, layout, spatial hierarchy and boundary conditions. The scheme has significantly improved from a placemaking perspective through this design development.

However, it has not yet been demonstrated that the overall spatial strategy will achieve Biodiversity Net Gain on the site, and this is anticipated to have some effect upon the layout of buildings and spaces, particularly along the southern boundary of the site. The approach to

character and architectural expression remains poorly resolved has not been developed since the previous pre-application meeting.

There is also a significant lack of sustainable design principles in driving design decisions. This must be addressed to demonstrate compliance with the London Plan in following the energy hierarchy.

Further clarification is required in relation to a number of highways matters.

Further opportunities should be explored to maximise the provision of larger family homes to create a more mixed community.

Ecology / Biodiversity

Further information and justification is required on the approach to biodiversity.

It will be necessary to demonstrate how the criteria set out in Draft Local Plan policy DP20 part 1 have been addressed, including how the mitigation hierarchy has been applied in the approach to design and how net gains in biodiversity will be achieved. The mitigation hierarchy is set out in Natural Environment section of the Planning Practice Guidance and Draft Local Plan policy DP20 part 1.

An Ecological Impact Assessment is required to assess the impacts of the proposed development on both the site and the wider area, including the strategic green wildlife corridor which is supported by the railway line adjoining the site. The Council would welcome the opportunity to review the ecological assessments undertaken to date, and the Biodiversity Net Gain assessment, including calculations using Natural England's most recent metric, which is currently version 3.1.

It was confirmed at the meeting that the design has been informed by the recommendations of the applicant's ecologists, and the proposal includes several features that have the potential to be of benefit to wildlife, such as green roofs, ditches and the nature conservation area connecting to the strategic green wildlife corridor that connects along the railway line. However, at this stage, there is a lack of detail as to why each measure is proposed, and whether these measures are sufficient.

Given the site was cleared of vegetation, as recently as 2020, the Council expects the applicant to be able to demonstrate that Biodiversity Net Gain (BNG) will be achievable against the pre-clearance baseline. The Council appointed independent ecologists at LUC to undertake an ecological assessment of the site in 2019. This survey information should be used to inform the baseline for this BNG calculation. The site assessment can be found in [appendix 1 to the SINC Report Addendum](#) on the Council's website. The scheme also needs to respond to current ecological situation on-site, and so it will be important to understand how the ecology of the site has developed since site clearance. It would therefore also be helpful to see BNG calculations based the current site conditions, to allow comparison against the pre-clearance BNG calculations.

The following advice is given in relation to the biodiversity features included in the current proposals:

Green Roofs

It is assumed that the roof space will be multifunctional, including technology that contributes to minimising carbon emissions, such as solar panels, along with the green roof. It is unclear whether the area of green roof will need to be reduced to accommodate solar technologies, however green roofs and solar panels are not mutually exclusive and can provide benefits to each other. An intensive biodiverse substrate of varying depths across the roof space will provide the greatest benefit to biodiversity. Varying depths help to protect vegetation during droughts, allowing for recolonisation of species across the roof. The weight of this material should be factored in to avoid delays later in the construction process. Guidance on biodiverse green roofs and biosolar can be found through the GRO Green Roof Code of best practice – see: <https://livingroofs.org/>

Ditches

The ditches and their riparian habitat have the potential to support wildlife. It should be noted that Belvedere holds one of the last remaining and largest colonies of water voles in London. It is unclear whether the existing ditches on site currently support water voles; however, there may be potential in future years for water voles to colonise, should the right conditions exist. Climate change may play a role in water levels within the ditches.

Rail- side Habitat Buffer

Habitat adjacent to the railway line on this site should reinforce the function of the wildlife corridor. The GLA guidance on [Urban Greening for Biodiversity Net Gain: A Design Guide](#) should be referred to. Page 12 includes an illustrative drawing showing how development should be designed to protect the unlit railway corridor.

Highways

Further to the discussions at the meeting, further clarification is required in relation to the following points:

- The delivery and servicing routes throughout the site should be shown on a plan along with a refuse strategy plan;
- It should be made clear what form the accesses to Maida Road and Sutherland Road will take;
- The pedestrian accesses should be marked on a movement plan, particularly the new access points proposed onto Yarnton Way;
- The status of the internal network should be specified i.e. completely privately owned?
- External cycle parking stores should be proposed and their locations indicated;
- A draft Car Parking Management Plan should be produced and should outline how parking on site will be allocated and managed;
- A strategy for the management of off-site parking should be submitted for consideration;
- Further information should be provided to demonstrate how will cyclists be encouraged to use the internal road networks.

- The road that routes north to south on the western side of the site is long and straight and is therefore likely to encourage higher vehicle speeds and may not be attractive to cyclists. This should therefore be redesigned with other modes of travel in mind.
- Further detail on the design of the cycle parking should be provided as the scheme progresses.

Urban Design and Landscape

Detailed comments in relation to Urban Design and Landscaping are provided at Appendix 1. These comments should be considered in their entirety however the key points requiring further consideration / design development are summarised below:

- **Boundary Conditions:** Adjustments should be made to the block structure and internal layouts along the southern and western boundaries that respond to the comments.
- **Flood Risk Mitigation:** Modifications may be needed to ensure the finished floor heights are high enough to comply with the Environment Agency's requirements. – Further to this, the strategy for ensuring Part M Building Regs compliance should be explained.
- **Heritage and Character:** Details should be provided to indicate how the public realm design and architectural expression responds to the area and enhances the local character.
- **Aspect:** Further exploration of alternative layouts that avoid the use of single aspect units should be provided as the application progresses.
- **Private Amenity:** Further information should be provided on flat layouts showing balcony locations as the scheme progresses. Options to screen private gardens from noise and increase them in size where possible should be explored.
- **Movement:** Further information is required in relation to desire lines and a refined landscape masterplan.
- **Public Realm:** A public realm strategy is required addressing green and blue infrastructure, ground floor uses and overall street typologies.
- **Heights:** Further information should be provided on how the roof profiles, setbacks and elevation design will create a sense of varying scale as the application progresses.
- **Proximity to Railway:** It is recommended that the blocks are adjusted to provide a wider buffer to the railway.
- **Sustainability:** Further information is required in relation to solar design principles and details of high level embodied carbon optioneering.
- **Entrances:** A study of residential entrances is required, differentiating between communal and private front doors, parking access, bike parking access and refuse storage showing how the entrances animate corners/key views/quiet streets etc. Block E frontage requires further development.
- **Noise Mitigation:** Further development of the noise mitigation strategy considering industrial intensification, building arrangement and alternative measures to reduce noise levels.
- **Green Infrastructure:** An initial site-wide green infrastructure strategy is required.

- **Microclimate:** Overshadowing and wind analysis should be provided showing how the design is informed by these findings.
- **Wildlife Zone:** Options should be explored to provide a larger buffer to the railway strategic green wildlife corridor as part of the Green Infrastructure Strategy.
- **Urban Greening Factor** calculations should be developed. The UGF will need to be illustrated within an UGF Plan and supporting table indicating the weighting of each element.
- **Landscape and Character:** Further information on the Landscape Strategy should be provided as the scheme progresses.
- **Courtyards:** Updates are required to show the access route for refuse vehicles designed into the communal courtyard of Block E1.
- **Street Arrangement:** Street layouts should be amended to create a low-speed environment.
- **Play:** Further development of the Play Strategy is required. Sections through the street between Blocks D and E should be provided, showing play on the way facilities.
- **Trees:** Further information is required including an Arboricultural Report and Tree Strategy/Management Plan.
- **Lighting:** High level information should be provided in relation to the lighting proposals

Further to the above it would be useful to see a plan showing the distances between the residential blocks within the site and the neighbouring residential properties to the east of the site, to enable the assessment of any likely amenity impacts.

Energy / Sustainability

The requirements and guidance set out in London Plan Policy SI2, along with SI3, and SI4, and Draft Local Plan policies DP30 and DP31, should be followed. Major development should be net zero-carbon. Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met within the framework of the energy hierarchy. The applicant should refer to the [GLA Energy Planning Guidance](#) for further information on how to apply the London Plan policies. The energy assessment guidance explains what should be included in an energy strategy. It ensures that carbon reduction remains an integral part of the development's design and evolution. The GLA have also published a cover note to accompany the guidance to explain the key changes since Part L 2021 of national Building Regulations took effect on 15 June 2022. The guidance is updated periodically, usually every year, and so the most recent guidance should be followed.

Regard should also be had to the detailed points in relation to sustainability matters included in the attached Urban Design and Landscape comments.

Housing

The Council's Housing Strategy Officer has been consulted and their advice is summarised below:

Any deviation from the Council’s policy requirements (a minimum of 35% of units to be affordable housing of which a target will be 70% low cost rented and 30% intermediate) due to the nature of development, site, locational or financial considerations will need to be justified.

The applicant notes discussions are underway with Registered Providers (RP) which is welcomed at this early stage to ensure that an RP partner can be identified to deliver the affordable housing and that it meets the required standards and specification.

Affordable housing provided as part of a market development will be expected to be integrated within the site in the interests of mixed and balanced communities. As noted in the Urban Design comments, the scheme should demonstrate the rationale for the placement of different tenures within the scheme and provide options for how the tenure integration can be maximised.

This proposal is for 495 homes comprising:

- 192 x1 beds (39%)
- 226 x2 beds (45%)
- 67 x3 beds (14%)
- 10 x4 beds (2%)

The unit mix is still predominately smaller sized homes with only 68 dwellings (14%) capable of housing more than four people. Ideally the applicant should look at further opportunities to maximise the provision of larger family homes to create a more mixed community.

Bexley’s housing requirements are derived from a Strategic Housing Market Assessment (SHMA) November 2021 as set out below. This is a borough wide requirement and individual proposals should have regard to its proportions.

Number of bedrooms	Market (%)	Affordable Rented(%)	Affordable intermediate (%)
1	5.7	18.6	
2	32.0	59.3	
3	41.1	17.3	

Most of the housing need across all tenures is for two and three-bedroom accommodation. For low-cost rent there is a particular need for three + bedroom homes suitable for larger families. The proposed unit mix indicates an overprovision of 1 bedroom accommodation compared to Bexley’s housing requirements. Any two-bedroom accommodation for low-cost rent should be large enough to accommodate four people.

In accordance with the London Plan, ninety percent of new the housing will need to meet Building Regulations requirement M4 (2) ‘accessible and adaptable dwellings’ and ten per cent of new housing will need to meet Building Regulations requirement M4 (3) ‘wheelchair user dwellings’.

Next Steps

As set out above, further information is required to demonstrate that the scheme is capable of achieving Biodiversity Net Gain and it is noted that further amendments to the design and layout of the scheme may be needed in order to achieve this objective. The Council would wish to review this information before advising further on the detailed design of the scheme.

It is recommended that the relevant information be provided for review before scheduling a further pre-application meeting to discuss how to take this forward. A further meeting is likely to be required following that to discuss the detailed design of the scheme and other outstanding matters, such as affordable housing, prior to submission of an application.

This pre-application advice follows an initial officer assessment of the information you have provided. Every formal application is subject to a statutory assessment process, and it is only then that a full assessment of all the material planning considerations can be made in the context of relevant development plan policies. Some important considerations may only arise or become apparent during this formal process, which includes consultation with London Borough of Bexley residents and other third parties affected by the development. This officer advice is therefore given for your general guidance in the preparation of a future planning application or proposal. The advice does not prejudice the Council's consideration or decision on any future application that may be submitted.

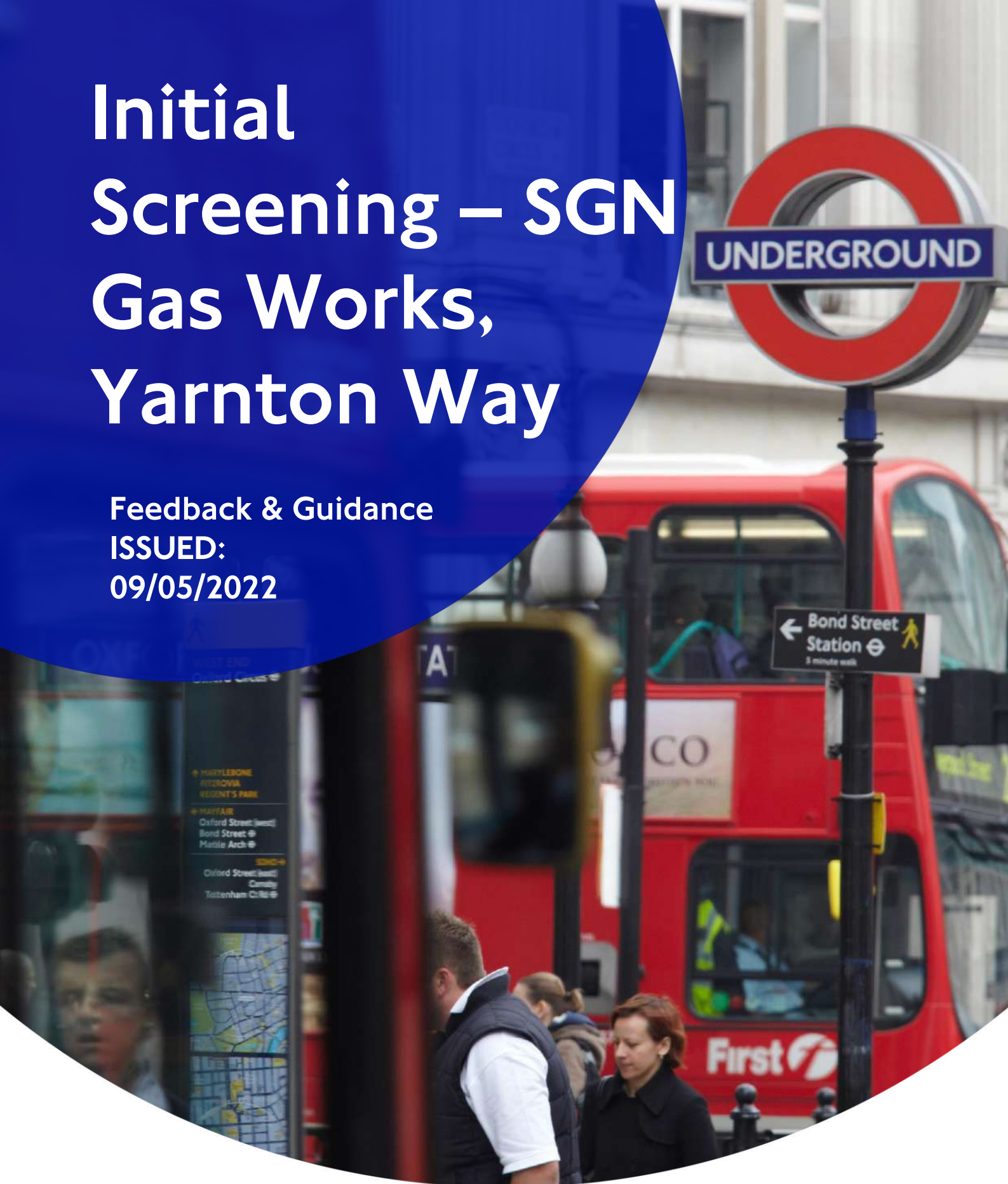
Yours sincerely

Jillian Holford

Jillian Holford
Major Projects Planning Office/ Deputy Area Manager
Planning Department – Development Management
Place

Initial Screening – SGN Gas Works, Yarnton Way

Feedback & Guidance
ISSUED:
09/05/2022



Initial Screening meeting – Feedback Form

Please note this document is issued without prejudice and represents an officer level view which could change. It may not reflect the future position(s) of the Mayor, GLA and TfL in relation to your planning proposal.

General Information (when booked)

Meeting Booker Name & Company	Holly Benwell Ardent	Developer	Bellway Homes
Borough & Address (with postcode)	Bexley Yarnton Way, Belvedere	Rough expected completion:	TBC
Agenda	<ol style="list-style-type: none"> Overview of proposed development Modelling Scope Active Travel Zone Assessment 	TfL Attendees	Amy Tempest, TfL Spatial Planning Case Officer Michal Mikasz, Principal Technical Planner Alexandra Weir, Assistant Area Planner
Car Parking?	<input checked="" type="checkbox"/>	How much? (# or ratio)	202 car parking spaces, which is equivalent to a parking ratio of 0.36
Development land use(s) & size	563 residential units plus 283.9sqm of private gym use	> or nr. 1000 units / 10k sq m	<input type="checkbox"/>

Network Impact (pre-meeting)

Is the site located on/near...?	TLRN? <input type="checkbox"/>	SRN? <input type="checkbox"/>	Current SCN i.e. CSH, QWs: <input type="checkbox"/>	Future SCN: <input type="checkbox"/>	LU infrastructure: <input type="checkbox"/>	Rail infrastructure: <input type="checkbox"/>	<- 'TfL' or 'NR'
ongoing/confirmed/aspirational TfL scheme(s) *** e.g. A10 20mph trial	<input type="checkbox"/>	TfL land? <input type="checkbox"/>	Crowded** station/line? <input type="checkbox"/>	TfL Commercial development? <input type="checkbox"/>	Bus priority investment*? <input type="checkbox"/>	Bus infrastructure (e.g. station/d epot/etc) <input type="checkbox"/>	TfL operated? -> <input type="checkbox"/>
Nearest current/future London-wide strategic cycle network:							

*** as shown on internal TfL Surface Playbook 'ST Strategy & Network Development – 'Projects & Programmes' and/or 'MTS' Reference maps, 2010-2030 timescale

** >3 standing/m² Figure 32, p. 195, MTS. Further analysis welcome: <http://crowding.data.tfl.gov.uk/>

* see 'Bus Priority Programme' shown on TfL Surface Playbook 'City Planning' map

General Notes (e.g. pre-meeting info provided by meeting booker)

Transport Scoping Note has been provided, which includes an overview of the proposed development, proposed trip generation, scope of Active Travel Zone assessment, proposed modelling scope and overview of parking arrangements. There has been a GLA pre-application meeting for this site, where the general transport principles of the development were discussed at a high-level. A full TfL pre-application meeting was, and still, encouraged for this site.

Borough comments (if invited or spoken to separately)

The applicant has been in pre-application discussions with the Council, with the latest response issued in March 2022. In regards to highway modelling, the highway authority have requested additional junctions to be included within the scope. Further detail is also sought on delivery and servicing movements within the site. Improvements to the pedestrian and cyclist routes to Belvedere Station and improvements to step-free access to public transport routes. Trip generation has not yet been agreed for this site.

Meeting (start)

non-TfL Preapp?	<input checked="" type="checkbox"/>	Who? When?	GLA, 30 th November 2021	Design Review? (e.g. by Mayor's Design Advocates, local DR Panel, CABE)	<input checked="" type="checkbox"/>	Who? When?	Applicant to confirm
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Meeting (during)

Full TA required? (not Transport Statement)	<input checked="" type="checkbox"/>							
Key Destinations	<u>Bus Stop(s)</u>	Station(s)	Town Centre(s)	Park(s)	School(s)/ College(s)	Hospital(s) Doctor(s)	Major Employment	Other large developments
Did you identify/discuss local...?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Name(s) & likely impacted modes/services/lines:</i>	There is a pair of bus stops located approximately 220m (from the centre of the site) on Yarnton Way, providing access to 180, 401, 601	Belvedere Station is within 375m (from the centre of the site) walking distance. The distance increases significantly should a step-free route be required.	The site is located in proximity to Neighborhood Centre. The closest District Centre is Belvedere, located approximately 2km to the south	The closest park appears to the north of the site. It should be confirmed that the green space located to the north of the site is publicly accessible.	Secondary School also needs to be identified within the Active Travel Zone Assessment.	There is a doctors surgery located on Station Approach	Hailey Road Business Park is located on the northern side of Yarnton Way. There are further areas of employment further north which should be looked at.	
	Walking	Cycling	Step-free		Private Car	Taxi / Private Hire	Deliveries & Servicing	Other
Access to the site/immediate surroundings by:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Comments:</i>	Footways along Yarnton Way on both sides		Belvedere Station is only partially step-free. This route also forms part of the access to the ASDA store.		Two vehicle accesses are proposed to serve the site.		Delivery and servicing is to take place on site.	

General Feedback (after)

DESIGN & DEVELOPMENT PRINCIPLES <i>e.g. access, parking, land use</i>	<ul style="list-style-type: none"> The car parking quantum is in line with the maximum standards identified within the London Plan. It must, however, be ensured that providing such a quantum does not create a car-dominated landscape which would be contrary to Policy T2 of the London Plan. A reduction in provision is encouraged. Two vehicular points of access are proposed for this development. It must be ensured that these are designed in line with the Mayor's Healthy Streets approach and do not impact safe and efficient bus operations nor the safety and comfort of pedestrians and cyclists. TfL is aware of Bexley's aspiration for a BRT in this location, in which they are seeking to create a direct bus connection between Yarnton Way and Belvedere Station through this site, including a bus connection to Maida Road. The applicant should engage with Bexley on this matter further. TfL is happy to advise on design requirements, however, it should be noted that currently TfL has no plans nor funding for the delivery of a BRT service(s) on any secured route.
HEALTHY STREETS <i>i.e. key local Active Travel routes, journeys and destinations, urban design, walking, cycling</i>	<ul style="list-style-type: none"> An Active Travel Zone assessment is required to support this application. Noting the nature of the proposed development, the ATZ scope provided within the Transport Scoping Note needs to be expanded to include secondary schools, green space and employment areas.
VISION ZERO <i>i.e. potential clusters of serious/fatal collisions HGVs, high speeds, especially on key routes to public transport, town centre(s), park(s), etc + local TfL Safer Junctions projects, future Road Safety Audits</i>	<ul style="list-style-type: none"> It is understood that delivery and servicing activity is to occur on site. This is welcomed, however further information on delivery and servicing movements within the site is required. In line with TfL guidance, a Stage 1 Road Safety Audit should be undertaken for any changes proposed to the highway network. This Stage 1 Road Safety Audit should accompany any planning application for this site. An outline Construction Logistics Plan (CLP) should be submitted with any planning application for this site, detailing how construction will be in accordance with the mayor's Vision Zero approach and the measures that will be implemented to ensure impact on the surrounding

	transport network is minimised.
NETWORK IMPACT <i>i.e. key junctions/corridors/stations/stops + any specific data & info TfL can share now to support production of the TA e.g. nearby ongoing/forthcoming TfL schemes, surveys, etc.</i>	<ul style="list-style-type: none"> Local junction modelling will be required for this site The scope for the junction modelling should be agreed with LB Bexley and TfL prior to any surveys being undertaken.

Specific Feedback (after)

TfL Case Officer specifies-> 4-8 Key Journeys / Routes to the Key Destinations in the Active Travel Zone (ATZ = 20mins cycle around Site)	Bus Stops	Railway Station	Secondary School	Open Space	Asda – Route 1 – Step-free	Asda - Route 2 – Not step-free	Employment Areas	
Mapped on ATZ Map in TA?	<input checked="" type="checkbox"/> Could form part of route Employment Area	Belvedere is the closest station. It is, however, noted that both platforms do not benefit from step-free access, so there will be different routes to access the eastbound and west bound platforms.	<input type="checkbox"/> It should be ensured that a state secondary school is included within the Active Travel Zone assessment	<input type="checkbox"/> Should the green space located to the north be publicly accessible, then an alternative publicly accessible green space should be identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With photographic acceptability survey? (point of view every 150m)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOTE: all ATZ Mapping in TAs must include:		KSIs	TfL Safer Junctions	S278 required?	If 'Yes', * Stage 1 RSA	S278 ** with TfL? (i.e. on TLRN)	Cost of works > £200k (if known)	If both 'Yes', <u>Healthy Streets Check for Designers</u>
Vision Zero		<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes, with the borough <input checked="" type="checkbox"/>	A Stage 1 Road Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you recommend major changes to the development proposals discussed (e.g. car-free)?	<input checked="" type="checkbox"/>			Did they understand your feedback and agree to consider it?			<input checked="" type="checkbox"/>	
Do you recommend a full TfL Preapp?	Yes <input checked="" type="checkbox"/>			Did they agree?			<input type="checkbox"/> To be discussed further with client	
Strategic modelling recommended?	<input type="checkbox"/>			Rough expected app submission date:			TBC	
Local modelling recommended? Yes, will be agreed once trip gen is signed off or agreed in principle	As highlighted above, scope needs to be agreed with LB Bexley and TfL prior to any surveys being undertaken.			Existing models potentially available? **			N/A <input type="checkbox"/>	

	... get people to walk & cycle & use public transport?	...increase wait times at pedestrian crossings?	...crowd footways?	...cause Bus delays?	...change existing signals?	...create new signals?	...disrupt Bus Operations? (inc. during construction)	...pay S106 to TfL for capacity reasons?	... be pleasant and welcoming for pedestrians from all walks of life?
IF KNOWN AT THIS STAGE, Is the development likely to...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments:	High-quality walking and cycling routes should be provided within the site. It must also be ensured that these routes provide a seamless connection to the existing walking and cycling network in the surrounding area				n/a			Contribution will be subject to trip generation assessment Improvements beyond the site boundary are likely to be required to improve step-free accessibility to Belvedere Station	
Types of analysis potentially required:	ATZ assessment			Local highway modelling. The type of highway modelling is to be confirmed.					

* must be undertaken in accordance with SQA-0170

** initially check *Surface Playbook 'Modelling Library' map* then speak with our Surface Modelling Liaison Officer

If Strategic or Local Modelling is recommended or scheme is > or nr. 1000 units / 10k sq m, further meeting(s) will be required with relevant team(s).
All TAs should be based on the new TfL Healthy Streets template BELOW/NEXT PAGE & consult TfL Spatial Planning's website

Healthy Streets TA

recommended Contents & Chapters

1. Introduction

i.e. What is being built? Why? When? And how specifically will it support Healthy Streets, Vision Zero, and the Mayor's Transport Strategy?

Help us to understand how strategic transport policies will be delivered, not just what they are. Explain the integration between transport and the proposed development's key characteristics, principles and design.

How has transport planning contributed to important decisions and trade-offs in the design and planning process? Focus on your collaboration with other built environment disciplines in the project team.

2 Transport planning for people

i.e. Who is the development for? When will they travel there and why?

Healthy Streets and Vision Zero are about putting people first. We need to know your new development will be a pleasant and convenient place for people of all abilities to walk, cycle and use public transport - including people already in the area.

To show us, make clear first who will use the new development and why. This includes any visitors. Our [Travel in London](#) reports and [Transport Classification of Londoners](#) demographic segments can help.

The rest of the TA should continue to put people first. Help us understand how and why people will be able to travel actively, sustainably and safely - at the 3 key spatial scales of a Healthy Streets TA, and whilst the scheme is being built.

3. Site and surroundings

i.e. How can people of all abilities move around the site and its immediate surroundings? This means the site itself, and just beyond its red line boundary.

For each of the bullet points below, please explain the transport conditions and challenges people will face on site - both before and after the proposed development is built:

- Access
TfL priority is Walking, Cycling and Public Transport over private vehicles.
- On-site/nearby public realm
How does it meet our Healthy Streets indicators and London Plan policy requirements? This includes proposed Highway Works.
- Servicing
How have sustainability, efficiency and Londoners' safety fed into the development principles and design?

- Parking
Cycle (always) and if proposed Car (discouraged except for disabled people, see draft London Plan Policy T6.1 and Table 10.6).

A Stage 1 Road Safety Audit is required for any highway works proposed. You should also explain how the highway works will be safely implemented and maintained. The Healthy Streets Check for Designers should be completed for any street works expected to cost over £200,000, even on local highway, and audited for accuracy by TfL. If they are included, TfL and the local Council should always review these checks before your planning application is determined. If we do not approve the results, they will not be treated as valid.

4. Active Travel Zone (ATZ)

i.e. How will people of all abilities make key journeys in the ATZ that are essential to support car-free lifestyles?

The ATZ is a 20 minute cycle around the site, available from our [WebCAT planning tool](#).

This is a step by step part of the assessment with maps, photos and some text. Detailed guidance is available on our website from March 2019.

5. London-wide network

i.e. How will people of all abilities travel smoothly and easily from the development onto London's public transport and highway networks?

This chapter will include:

- Trip Generation
Especially Public Transport including link trips e.g. from Bus or Cycle to LU or Rail. This should be based on the most relevant and latest data available. For some sites and land uses, new survey data may need to be collected.
- Design solutions (preferred)
and/or
Mitigation for network capacity impacts (e.g. S106, MCIL, etc.)
- Modelling (when required)
Based on valid models and recent data using industry standard software prepared by suitable qualified professionals and if necessary audited by independent experts and/or TfL.

6. Construction

A completed TfL CLP should be provided for major applications or other applications with construction impacts that need to be mitigated, example, in a busy pedestrian area or next to a major junction.

[TfL Freight Outline CLP template PDF](#)

Chapters:	1. Introduction	2. Transport planning for	3. Site and Surroundings	4. Active Travel Zone	5. London-wide network	6. Construction	7. Conclusion
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This is required even if the eventual construction company is unknown.

Our template has been designed to recommend a good construction methodology and mitigate the key construction impacts. It includes a spreadsheet tool for calculating how many construction trips there will be. Particular attention should be given to the safety of pedestrians and cyclists.

You must deal with all construction phases and consider meanwhile uses if possible.

7. Conclusion

	Key transport impacts / issues	Solutions / mechanisms
Site and surroundings		
Active Travel Zone (ATZ)		
London-wide network		
Construction		

Please consider including the table above to summarise key transport impacts and how your development will respond.

In response, outcomes like planning obligations, design changes and mitigation may need to be agreed by you, the borough and TfL before we can support your application receiving planning permission.

Please find Most Important, Essential and Helpful resources for producing your Healthy Streets TA on the next 3 pages (last updated February 2019).



<p>London Plan policies: (MOST IMPORTANT)</p>	<p>T1 Strategic approach to transport; GG2 Making the best use of land; GG6 Increasing efficiency</p>	<p>GG3 Creating a Healthy City; GG5 Growing a good economy</p>	<p>D7 Public realm; T7 Freight and servicing; T6 Car Parking; T5 Cycling (parking); G1 green infrastructure;</p>	<p>T2 Healthy Street; G4 Local green and open space; D1 London's form and characteristics; G6</p>	<p>T3 Transport capacity, connectivity and safeguarding; T5 Cycling;</p>	<p>T7 Freight and servicing; S115 Water transport</p>	<p>T4 Assessing and mitigating transport impacts; T9 Funding transport infrastructure through</p>
<p>Assessment/TA production resources (ESSENTIAL):</p>	<p>Mayor's Transport Strategy new London Plan TfL Business Plan TfL Improvements & Projects; new London Plan (inc Table 10.1); & local Borough mode shift targets</p>	<p>Our Travel in London reports and Transport Classification of Londoners; Walking Action Plan; Vision Zero Action Plan; Cycling Action Plan</p>	<p>Healthy Streets Toolkit inc. Healthy Streets Check for Designers TfL Streets toolkit includes our Streetscape Guidance London Cycling Design Standards & strategic cycle route design criteria (coming soon) SuDS in London – a guide Accessible Bus Stop Design guidance Kerbside Loading</p>	<p>Liveable Neighbourhoods Third LIPS guidance, part 2 'Implementing the MTS at a local level' Town Centre Strategies; SPDs; Site Briefs, etc Local Implementation Plans (LIPs) for all relevant CONFIRMED OR PROPOSED TRANSPORT IMPROVEMENTS</p>	<p>Strategic Cycling Analysis; TRICS; Mayoral CIL; our Open Data + Spatial Planning website!</p>	<p>TfL CLP Guidance & template; Freight Operator Recognition Scheme (FORS); CLOCS (Construction Logistics & Community Safety);</p>	<p>Mayor's Community Infrastructure Levy (MCIL)</p>



<p>Other resources (HELPFUL) :</p>	<p>GLA Supplementary Planning Guidance (SPGs) e.g. Night-time Economy, Town Centres, etc London Environment Strategy London National Park City Mayor's Design Advocates & Good Growth by Design Urban Design London courses & publications</p>	<p>London 2050 Infrastructure Plan DfT Inclusive Transport Strategy Local Plan & Local Infrastructure Delivery Plan for LOCAL GROWTH & PLANNED INFRASTRUCTURE</p>	<p>'Small Change, Big Impact' case studies Better Streets Delivered Better Streets Delivered 2 TfL Deliveries Toolkits & Freight publications UDL Slow Streets source book London Greener City Fund London Tree Officers Association standard wording for conditions</p>	<p>Manual for Streets DfT Local Cycling & Walking Infrastructure Plan Technical Guidance</p>	<p>Mayor's Crossrail funding SPG Crossrail 2 Crossrail National Infrastructure Commission HS2 Deloitte on value of Open Data to TfL</p>	<p>Construction Logistics training resources Considerate Constructor's Scheme. Michael Barratt MBE's best practice hub</p>	
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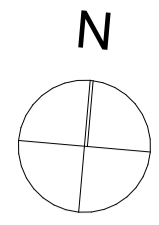
Contact

spatialplanning@tfl.gov.uk

Level 9, 5 Endeavour Square, Westfield Avenue,
Stratford E20 1JN



Appendix B
Site Masterplan



- Site boundary
- - - Gas pipe area
- 1B2P
- 2B3P
- 2B4P
- 3B4P
- 3B5P
- 4B7P
- SERVICES
- COMMERCIAL
- GYM
- ▶ RESI ENTRANCE
- ▶ COMMERCIAL ACCESS
- LOBBIES / CIRCULATION

rev	date	description
P1	Work in Progress	Planning Issue
00	04/08/2023	Design Freeze Issue

Work in Progress
23/08/2023

stockwool

6 Orsman Road London N1 5QJ
020 7264 8600 info@stockwool.co.uk

Client
Bellway Homes

Project
BELVEDERE

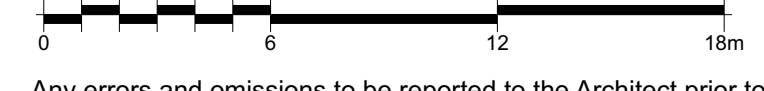
Drawing
Site Plan Ground Floor

Design Stage
PLANNING

Purpose
Planning Application

Scale
CAD File 3499_MainMode
Date created 07.07.2023
Drawn AP, EG, PO
Checked JS

Layout status
Project no_Drawing no_Revision



Any errors and omissions to be reported to the Architect prior to commencement. Dimensions and areas are based on survey information provided by the client. This drawing is copyright © STOCKWOOL. All dimensions to be checked on site. Do not scale.

Appendix C
Traffic Survey Data

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J1 - A2016 EASTERN WAY / ANDERSON WAY / BRONZE AGE WAY / PICARDY MANORWAY - HORSE ROUNDABOUT

	ANDERSON WAY LEFT TURN TO A2016 BRONZE AGE WAY SE					ANDERSON WAY STRAIGHT AHEAD TO PICARDY MANORWAY SOUTH					ANDERSON WAY RIGHT TURN TO A2016 EASTERN WAY					ANDERSON WAY U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	2	14				16	9				9	12	9	2			23	0					0
0715-0730	5	14				19	13	3	1		17	22	14	2			38	0					0	
0730-0745	11	7	1			19	9	1	1		11	11	13	1			25	0					0	
0745-0800	8	15				23	11	4	1		16	14	5	2			21	0					0	
0800-0815	4	9	1			14	7	2			9	13	4	3			20	0					0	
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0900-0915	13	7				20	13	3	1	3	20	13	6	4			23	0					0	
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0930-0945	21	9				30	21	1	1	3	26	14	3	2			19	0					0	
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0900-1000	72	56	1	1	0	130	66	12	4	7	0	89	59	23	11	1	0	94	0	0	0	0	0	

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J1 - A2016 EASTERN WAY / ANDERSON WAY / BRONZE AGE WAY / PICARDY MANORWAY - HORSE ROUNDABOUT

	ANDERSON WAY LEFT TURN TO A2016 BRONZE AGE WAY SE					ANDERSON WAY STRAIGHT AHEAD TO PICARDY MANORWAY SOUTH					ANDERSON WAY RIGHT TURN TO A2016 EASTERN WAY					ANDERSON WAY U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1615	50	3	1			54	36	1	2	1		40	41	4	1	2		48	0				0
1615-1630	25	6				31	31	1	1			33	20	6	2	1		29	0				0	
1630-1645	29	6	1			36	26	2	1	1		33	31	4	2	1		37	0				0	
1645-1700	28	4	1			33	46	1	3	0		50	34	5	2	1		42	0				0	
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1815-1830	16	4	1			21	17	1				18	28		5			33	0				0	
1830-1845	17	3				20	18	1				19	8	3	2			13	0				0	
1845-1900	12	5				17	17	1	1	1		20	18	2	2	2		24	0				0	
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	A2016 BRONZE AGE WAY SE LEFT TURN TO PICARDY MANORWAY SOUTH					A2016 BRONZE AGE WAY SE STRAIGHT AHEAD TO A2016 EASTERN WAY					A2016 BRONZE AGE WAY SE RIGHT TURN TO ANDERSON WAY					A2016 BRONZE AGE WAY SE U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
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0900-1000	36	8																						

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J1 - A2016 EASTERN WAY / ANDERSON WAY /BRONZE AGE WAY / PICARDY MANORWAY - HORSE ROUNDABOUT

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	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
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0715-0815	285	1	0	2	0	288	111	4	4	2	3	124	33	1	0	1	0	35	0	0	0	0	0	
0730-0830	312	1	0	3	1	317	104	5	4	1	3	117	36	1	0	1	0	38	0	0	0	0	0	
0745-0845	352	2	0	3	1	358	95	6	4	1	2	108	35	0	0	0	0	35	0	0	0	0	0	
0800-0900	381	3	1	3	1	389	82	7	3	0	0	92	48	0	0	1	0	49	0	0	0	0	0	
0815-0915	356	3	1	2	1	363	76	8	4	0	0	88	48	1	0	1	0	50	0	0	0	0	0	
0830-0930	328	6	2	3	0	339	81	9	4	0	0	94	44	1	0	1	0	46	0	0	0	0	0	
0845-0945	261	6	3	3	0	273	93	7	4	1	1	106	44	1	0	1	0	46	0	0	0	0	0	
0900-1000	213	8	2	4	0	227	96	7	5	4	1	113	25	1	0	1	0	27	0	0	0	0	0	

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J1 - A2016 EASTERN WAY / ANDERSON WAY /BRONZE AGE WAY / PICARDY MANORWAY - HORSE ROUNDABOUT

	PICARDY MANORWAY SOUTH LEFT TURN TO A2016 EASTERN WAY					PICARDY MANORWAY SOUTH STRAIGHT AHEAD TO ANDERSON WAY					PICARDY MANORWAY SOUTH RIGHT TURN TO A2016 BRONZE AGE WAY SE					PICARDY MANORWAY SOUTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1615	68	2	2			72	10	1	1		12	1				1	0						0
1615-1630	48	1	4	1		54	8				8	11				11	0						0	
1630-1645	69	2	2	1		74	9	1	1	1	12	8		1		8	1						1	
1645-1700	69	1	1	1		72	13	1	1		15	6				6	0						0	
1700-1715	59			2		61	11				11	5				5	1						1	
1715-1730	60	1				61	9	1	1	1	12	9				9	0						0	
1730-1745	63					63	10		2		12	6				6	1						1	
1745-1800	58					58	14	1			15	12				12	0						0	
1800-1815	53					53	6	1			7	9				9	0						0	
1815-1830	57		1			58	4	2			6	10	0			10	0						0	
1830-1845	46					46	9	1			10	8	1		2	11	1						1	
1845-1900	48					48	16	2			18	7				7	0						0	
1600-1900	698	7	9	6	0	720	119	5	11	3	0	138	91	2	0	2	0	95	4	0	0	0	4	
1600-1700	254	6	9	3	0	272	40	2	3	2	0	47	25	1	0	0	0	26	1	0	0	0	1	
1615-1715	245	4	7	5	0	261	41	1	2	2	0	46	29	1	0	0	0	30	2	0	0	0	2	
1630-1730	257	4	3	4	0	268	42	2	3	3	0	50	27	1	0	0	0	28	2	0	0	0	2	
1645-1745	251	2	1	3	0	257	43	1	4	2	0	50	26	0	0	0	0	26	2	0	0	0	2	
1700-1800	240	1	0	2	0	243	44	2	3	1	0	50	32	0	0	0	0	32	2	0	0	0	2	
1715-1815	234	1	0	0	0	235	39	2	4	1	0	46	36	0	0	0	0	36	1	0	0	0	1	
1730-1830	231	0	0	1	0	232	34	1	5	0	0	40	37	0	0	0	0	37	1	0	0	0	1	
1745-1845	214	0	0	1	0	215	33	2	3	0	0	38	39	1	0	2	0	42	1	0	0	0	1	
1800-1900	204	0	0	1	0	205	35	1	5	0	0	41	34	1	0	2	0	37	1	0	0	0	1	

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J1 - A2016 EASTERN WAY / ANDERSON WAY /BRONZE AGE WAY / PICARDY MANORWAY - HORSE ROUNDABOUT

	A2016 EASTERN WAY WEST LEFT TURN TO ANDERSON WAY					A2016 EASTERN WAY WEST STRAIGHT AHEAD TO A2016 BRONZE AGE WAY SE					A2016 EASTERN WAY WEST RIGHT TURN TO PICARDY MANORWAY SOUTH					A2016 EASTERN WAY WEST U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	25	8	1	1		35	92	19	1		112	21	1		1	23	3						3
0715-0730	39	5	3	1		48	110	20	2		132	26	1			27	2						2	
0730-0745	22	3	3	1		29	135	18	1		154	29	1	3		33	2						2	
0745-0800	47	3	2	1		53	130	23	1		154	32	1	3		36	1						1	
0800-0815	29	2	3	3		37	112	24			136	67	1	2		70	2						2	
0815-0830	28	6	2	5		41	165	19	1		185	55	2			57		1					1	
0830-0845	20	6	2	1		29	147	20	1		168	56				56							0	
0845-0900	35	1	2	1		39	139	17			156	49	1			50		1					1	
0900-0915	29	5	4			38	127	17	1	3	148	51	1	2		52		2	1				3	
0915-0930	21	5	1	2		29	118	22			140	40		1		41		1					1	
0930-0945	28	4	2	1		35	83	17	1	1	102	40	1		1	42		1					1	
0945-1000	44	2	4	3		53	103	22	1	3	129	43	1			44		1					2	
0700-1000	367	50	29	20	0	466	1461	238	7	10	0	1716	509	11	9	2	0	531	15	4	0	0	19	
0700-0800	133	19	9	4	0	165	467	80	4	1	0	552	108	4	6	1	0	119	8	0	0	0	0	8
0715-0815	137	13	11	6	0	167	487	85	3	1	0	576	154	4	8	0	0	166	7	0	0	0	0	7
0730-0830	126	14	10	10	0	160	542	84	1	2	0	629	183	5	8	0	0	196	5	1	0	0	0	6
0745-0845	124	17	9	10	0	160	554	86	0	3	0	643	210	4	5	0	0	219	3	1	0	0	0	4
0800-0900	112	15	9	10	0	146	563	80	0	2	0	645	227	4	2	0	0	233	3	2	0	0	0	5
0815-0915	112	18	10	7	0	147	578	73	1	5	0	657	211	4	0	0	0	215	3	3	0	0	0	6
0830-0930	105	17	9	4	0	135	531	76	1	4	0	612	196	2	1	0	0	199	4	2	0	0	0	6
0845-0945	113	15	9	4	0	141	467	73	2	4	0	546	208	3	1	1	0	185	5	2	0	0	0	7
0900-1000	122	16	11	6	0	155	431	78	3	7	0	519	174	3	1	1	0	179	4	2	0</			

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	A2016 NORTH LEFT TURN TO CLYDESDALE WAY EAST					A2016 NORTH STRAIGHT AHEAD TO YARNTON WAY SOUTH					A2016 NORTH RIGHT TURN TO A2016 EASTERN WAY WEST					A2016 NORTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	18					18	26				26	195	24	1			220	4	7		3		14
0715-0730	15	1				16	31	4			35	181	33	1	3		218	18	4		2		24	
0730-0745	24					24	44	2	2		48	220	28		2		250	10	8				18	
0745-0800	20					20	68	2	2		72	235	23	1	4		263	6	4				10	
0800-0815	27					27	92	2	3	1	98	194	19	1	3		217	5	7				12	
0815-0830	21					21	89	1	2		92	170	16	1	3		190	5	5				10	
0830-0845	29	1				30	102	6	3		111	136	12			148	7	5	5			17		
0845-0900	28					28	83	4	3	3	93	169	14	3		186	4	6	1			11		
0900-0915	29	1				30	66	4	3		73	142	16	5		163	7	5				15		
0915-0930	29					29	56	7	3		66	134	12	3	1	150	4	10				14		
0930-0945	18					18	40	2			42	111	12	1	1	125	3	9				12		
0945-1000	26					26	53	9	2	1	65	126	17	1		144	5	8				13		
0700-1000	284	3	0	0	0	287	750	41	25	4	1	821	2013	226	18	17	0	274	78	78	6	5	0	167

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DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	A2016 NORTH LEFT TURN TO CLYDESDALE WAY EAST					A2016 NORTH STRAIGHT AHEAD TO YARNTON WAY SOUTH					A2016 NORTH RIGHT TURN TO A2016 EASTERN WAY WEST					A2016 NORTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1615	17	1				18	58	2	4		64	144	9	2		155	12	5				17	
1615-1630	17					17	61	3	6	1	71	126	13	1	4	144	3	3				6		
1630-1645	32	1		1		34	54	6	4	1	65	161	7	1	4	173	1	2				3		
1645-1700	29	1		1		31	70	1	3	1	75	142	7	1	1	150	2	4				6		
1700-1715	32					32	80	3	2		85	167	5		5	177	3	2		1		6		
1715-1730	29					29	60	3	1		64	156	7	1	1	166	1	3				4		
1730-1745	28					28	59	2	2	2	66	111	4			115	3	3				6		
1745-1800	28	1				29	49		2	5	1	147	1			148	0	1				1		
1800-1815	23					23	51	1	1	1	54	127	7		3	137	4	3				7		
1815-1830	22					22	56		4		60	133	5	1	2	141	0	2				2		
1830-1845	28	1				29	58	1	2	2	63	100	4			104	0					0		
1845-1900	26					26	50	1	2		53	120	5		2	127	0	5				5		
1600-1900	311	5	0	2	0	318	706	23	33	11	4	777	1634	74	4	24	1	1737	29	33	0	1	0	63

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	A2016 NORTH LEFT TURN TO CLYDESDALE WAY EAST					A2016 NORTH STRAIGHT AHEAD TO YARNTON WAY SOUTH					A2016 NORTH RIGHT TURN TO A2016 EASTERN WAY WEST					A2016 NORTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1700	95	3	0	2	0	100	243	12	17	2	1	275	573	36	2	11	0	622	18	14	0	0	0
1615-1715	110	2	0	2	0	114	265	13	15	2	1	296	596	32	2	14	0	644	9	11	0	1	0	21
1630-1730	122	2	0	2	0	126	264	13	10	1	1	289	626	26	2	11	1	666	7	11	0	1	0	19
1645-1745	118	1	0	1	0	120	269	9	8	3	1	290	576	23	1	7	1	608	9	12	0	1	0	22
1700-1800	117	1	0	0	0	118	248	8	7	7	2	272	581	17	1	6	1	606	7	9	0	1	0	17
1715-1815	108	1	0	0	0	109	219	6	6	7	3	241	541	19	1	4	1	566	8	10	0	0	0	18
1730-1830	101	1	0	0	0	102	215	3	9	7	3	237	518	17	1	5	0	541	7	9	0	0	0	16
1745-1845	101	2	0	0	0	103	214	2	9	7	2	234	507	17	1	5	0	530	4	6	0	0	0	10
1800-1900	99	1	0	0	0	100	215	3	9	2	1	230	480	21	1	7	0	509	4	10	0	0	0	14

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DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	CLYDESDALE WAY EAST LEFT TURN TO YARNTON WAY SOUTH					CLYDESDALE WAY EAST STRAIGHT AHEAD TO A2016 EASTERN WAY WEST					CLYDESDALE WAY EAST RIGHT TURN TO A2016 NORTH					CLYDESDALE WAY EAST U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	9					9	8				8	19					19	0					0
0715-0730	13					13	5				15	19					19	0					0	
0730-0745	9					9	8				8	24					24	0					0	
0745-0800	12					12	21			1	22	30					30	0					0	
0800-0815	8			1		9	14	1			15	22					22	0					0	
0815-0830	17					17	13				13	25					25	0					0	
0830-0845	16					16	13			1	13	27	1				28	0					0	
0845-0900	6	1		1		8	12				12	25					25	0					0	
0900-0915	14	1				15	9				9	30					30	0					0	
0915-0930	10					10	17				17	30					30	0					0	
0930-0945	11					11	10				10	31					31	0					0	
0945-1000	7					7	13	1			14	25	1				26	0					0	
0700-1000	132	2	0	2	0	136	153	2	0	0	1	156	307	2	0	0	0	309	0	0	0	0	0	0

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	CLYDESDALE WAY EAST LEFT TURN TO YARNTON WAY SOUTH					CLYDESDALE WAY EAST STRAIGHT AHEAD TO A2016 EASTERN WAY WEST					CLYDESDALE WAY EAST RIGHT TURN TO A2016 NORTH					CLYDESDALE WAY EAST U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1615	12					12	8	2			10	28					28	0					0
1615-1630	18					18	9				9	13	1				14	0					0	
1630-1645	14					14	9				9	23			1		24	0					0	
1645-1700	6	1			1	8	20			1	21	22			1	1	24	0					0	
1700-1715	14					14	12				12	26					26	0					0	
1715-1730	8					8	11				11	36					36	0					0	
1730-1745	14					14	17				17	27					27	0					0	
1745-1800	10					10	19				19	24					24	0					0	
1800-1815	11					11	17	1			18	32	1				33	0					0	
1815-1830	1					1	14				14	32					32	0					0	
1830-1845	8					8	16				16	22					22	0					0	
1845-1900	7					7	14				14	32					32	0					0	
1600-1900	123	1	0	0	1	125	166	3	0	1	0	170	317	2	0	2	1	322	0	0				

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DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	YARNTON WAY SOUTH LEFT TURN TO A2016 EASTERN WAY WEST					YARNTON WAY SOUTH STRAIGHT AHEAD TO A2016 NORTH					YARNTON WAY SOUTH RIGHT TURN TO CLYDESDALE WAY EAST					YARNTON WAY SOUTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	10	2				12	33	3	2		38	4				4	3						3
0715-0730	10	1				11	47	9			56	4				4	1						1	
0730-0745	9	1				10	48	9	6		63	8				8	2						2	
0745-0800	21	4		1		26	59	13	3		75	6				6	3						3	
0800-0815	19	4				23	76	5	3		84	3				2	2						2	
0815-0830	13	7				20	92	7	2		101	7				7	4						4	
0830-0845	13	2				15	50	5	2		57	6				6	0						0	
0845-0900	12	2				14	70	8	3		81	12				12	0						0	
0900-0915	12	1				13	49	3	1	3	56	8				5	5						5	
0915-0930	6	2				8	42	2	1		45	11				11	4						4	
0930-0945	6					6	41	10	2	1	54	2	1			3	3						3	
0945-1000	7	3				10	52	7	4	1	64	5				5	3						3	
0700-1000	138	29	0	1	0	168	659	81	29	4	774	76	1	0	0	0	30	0	0	0	0	0	30	
0700-0800	50	8	0	1	0	59	187	34	11	0	232	22	0	0	0	0	9	0	0	0	0	0	9	
0715-0815	59	10	0	1	0	70	230	36	12	0	278	21	0	0	0	0	8	0	0	0	0	0	8	
0730-0830	62	16	0	1	0	79	275	34	14	0	323	24	0	0	0	0	11	0	0	0	0	0	11	
0745-0845	66	17	0	1	0	84	277	30	10	0	317	22	0	0	0	0	9	0	0	0	0	0	9	
0800-0900	57	15	0	0	0	72	288	25	10	0	323	28	0	0	0	0	6	0	0	0	0	0	6	
0815-0915	50	12	0	0	0	62	261	23	8	3	295	33	0	0	0	0	9	0	0	0	0	0	9	
0830-0930	43	7	0	0	0	50	211	18	7	3	239	37	0	0	0	0	9	0	0	0	0	0	9	
0845-0945	36	5	0	0	0	41	202	23	7	3	236	33	1	0	0	0	34	12	0	0	0	0	12	
0900-1000	31	6	0	0	0	37	184	22	8	4	219	26	1	0	0	0	27	15	0	0	0	0	15	

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	YARNTON WAY SOUTH LEFT TURN TO A2016 EASTERN WAY WEST					YARNTON WAY SOUTH STRAIGHT AHEAD TO A2016 NORTH					YARNTON WAY SOUTH RIGHT TURN TO CLYDESDALE WAY EAST					YARNTON WAY SOUTH U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	1600-1615	14	1				15	114	7	2		123	4				4	3						3
1615-1630	8		1			9	80	8	4	1	93	9				9	2						2	
1630-1645	11					11	78	3	3	1	85	4				4	2						2	
1645-1700	9					9	72	2	2		74	11				11	4						4	
1700-1715	16	1				17	112	6	2		120	9				9	4						4	
1715-1730	9					9	77	5	2	1	86	10				10	2						2	
1730-1745	10	2				12	75	1	1	1	78	6				6	0						0	
1745-1800	6					6	62	4	2		68	5				5	0						0	
1800-1815	14	3				17	84	2			86	4				4	9						9	
1815-1830	6	1				7	55	2	4		61	5				5	1						1	
1830-1845	20	1				21	62	1	1		64	5				5	4						4	
1845-1900	9					9	58	3	3		61	6				6	1						1	
1600-1900	132	9	1	0	0	142	929	37	28	4	999	78	0	0	0	0	32	0	0	0	0	0	32	
1600-1700	42	1	1	0	0	44	344	18	11	2	0	375	28	0	0	0	0	11	0	0	0	0	11	
1615-1715	44	1	1	0	0	46	342	17	11	2	0	372	33	0	0	0	0	12	0	0	0	0	12	
1630-1730	45	1	0	0	0	46	339	14	9	2	1	365	34	0	0	0	0	12	0	0	0	0	12	
1645-1745	44	3	0	0	0	47	336	12	7	2	1	358	36	0	0	0	0	10	0	0	0	0	10	
1700-1800	41	3	0	0	0	44	326	16	7	2	1	352	30	0	0	0	0	6	0	0	0	0	6	
1715-1815	39	5	0	0	0	44	298	10	7	2	1	318	25	0	0	0	0	11	0	0	0	0	11	
1730-1830	36	6	0	0	0	42	276	7	9	1	0	293	20	0	0	0	0	10	0	0	0	0	10	
1745-1845	46	5	0	0	0	51	263	7	9	0	0	279	19	0	0	0	0	14	0	0	0	0	14	
1800-1900	49	5	0	0	0	54	259	3	10	0	0	272	20	0	0	0	0	15	0	0	0	0	15	

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J2 - A2016 EASTERN WAY / YARNTON WAY / CLYDESDALE WAY ROUNDABOUT

	A2016 EASTERN WAY WEST LEFT TURN TO A2016 NORTH					A2016 EASTERN WAY WEST STRAIGHT AHEAD TO CLYDESDALE WAY EAST					A2016 EASTERN WAY WEST RIGHT TURN TO YARNTON WAY SOUTH					A2016 EASTERN WAY WEST U TURNS								
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT
	0700-0715	75	13		2		90	7				7	4				4	4						4
0715-0730	115	9	3	1		128	13				13	2				2	6						6	
0730-0745	126	13	1	1		141	12		1		13	6		1		7	12						12	
0745-0800	132	12	1	2		147	9				9	9				9	11						11	
0800-0815	125	6	1	6		138	14				14	14	1			15	10	1					11	
0815-0830	108	11		3		122	8				8	17				17	4						4	
0830-0845	132	16		2		150	16				16	11	1			12	5	1		1			7	
0845-0900	132	6		1		139	16				16	12				12	6	1					7	
0900-0915	129	16	1	1		147	16				16	15				15	6	2					8	
0915-0930	115	9	1			125	11				11	10	1			11	5	1					6	
0930-0945	68	2	1	1		72	8				8	8	1			9	4						4	
0945-1000	102	13	1	3		119	10				10	11				11	3						3	
0700-1000	1359	126	10	23	0	1518	140	0	1	0	0	141	119	4	1	0	0	0	0	0	0	0	83	
0700-0800	448	47	5	6	0	506	41	0	1	0	0	42	21	0	1	0	0	33	0	0	0	0	33	
0715-0815	498	40	6	10	0	554	48	0	1	0	0	49	31	1	1	0	0	40	1	0	0	0	40	
0730-0830	491	42	3	12	0	547	43	0	1	0	0	44	46	1	1	0	0	38	1	0	0	0	38	
0745-0845	497	45	2	13	0	547	47	0	0	0	0	47	51	2	0	0	0	33	0	2	0	1	33	
0800-0900	497	39	1	12	0	549	54	0	0	0	0	54	54	2	0	0	0	29	0	0	1	0	29	
0815-0915	501	49	1	7	0	558	56	0	0	0	0	56	55	1	0	0	0	26	0	4	0	1	26	
0830-0930	508	47	2	4	0	561	59	0	0	0	0	59	48	2	0	0	0	28	0	5	0	1	28	
0845-0945	444	33	3	3	0	483	51	0	0	0	0	51	45	2	0	0	0	25	0	4	0	0	25	
0900-1000	414	40	4	5	0	463	45	0	0	0	0	45	44	2	0	0	0	21	0	3	0	0	21	

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J3 - WOLVERCOTE ROAD / YARNTON WAY / HARTSLOCK DRIVE DOUBLE MINI ROUNDABOUT

	YARNTON WAY EAST LEFT TURN TO WOLVERCOTE ROAD SOUTH					YARNTON WAY EAST STRAIGHT AHEAD TO YARNTON WAY WEST					YARNTON WAY EAST RIGHT TURN TO HARTSLOCK DRIVE					YARNTON WAY EAST U TURNS							
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY
0700-0715	0					0	43	1	4	1	49	1					1	0					0
0715-0730	4	1				5	44		2	1	47	1					4	1					4
0730-0745	2					2	46		3		49	6					6	1					1
0745-0800	2					2	68		3	1	72	6					6	1	1				2
0800-0815	5	2				7	69	2	5	1	77	11					11	2					2
0815-0830	3					3	132	2	3	1	138	13					13	4					4
0830-0845	5					5	71	1	4		76	13			1		13	0	1				1
0845-0900	4					4	80	1	5	1	87	11					11	1					1
0900-0915	7	1				8	70	3	4	2	79	6					6	0					0
0915-0930	6					6	62	1	4		67	1					1	1					1
0930-0945	4					4	49	1	6		56	3					2	2					2
0945-1000	4					4	42	3	1		46	4					4	2					2
0700-1000	46	2	2	0	0	50	776	15	44	6	843	76	0	0	0	0	76	15	1	1	0	0	17
0700-0800	8	1	0	0	0	9	201	1	12	2	217	14	0	0	0	0	14	3	1	0	0	0	4
0715-0815	13	1	2	0	0	16	227	2	13	1	245	24	0	0	0	0	24	5	1	0	0	0	6
0730-0830	12	0	2	0	0	14	315	4	14	2	336	36	0	0	0	0	36	8	1	0	0	0	9
0745-0845	15	0	2	0	0	17	340	5	15	2	363	43	0	0	0	0	43	7	1	1	0	0	9
0800-0900	17	0	2	0	0	19	352	6	17	2	378	48	0	0	0	0	48	7	0	1	0	0	8
0815-0915	19	1	0	0	0	20	353	7	16	4	380	43	0	0	0	0	43	5	0	1	0	0	6
0830-0930	22	1	0	0	0	23	283	6	17	3	309	31	0	0	0	0	31	2	0	1	0	0	3
0845-0945	21	1	0	0	0	22	261	6	19	3	289	21	0	0	0	0	21	4	0	0	0	0	4
0900-1000	21	1	0	0	0	22	223	8	15	2	248	14	0	0	0	0	14	5	0	0	0	0	5

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J3 - WOLVERCOTE ROAD / YARNTON WAY / HARTSLOCK DRIVE DOUBLE MINI ROUNDABOUT

	YARNTON WAY EAST LEFT TURN TO WOLVERCOTE ROAD SOUTH					YARNTON WAY EAST STRAIGHT AHEAD TO YARNTON WAY WEST					YARNTON WAY EAST RIGHT TURN TO HARTSLOCK DRIVE					YARNTON WAY EAST U TURNS							
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY
1600-1615	8				1	9	51		12	1	64	5					5	0					0
1615-1630	11					11	89		6	1	96	8					8	1					1
1630-1645	6					6	64		5		69	7					7	1					1
1645-1700	11					11	48	1	5	1	55	4					4	0					0
1700-1715	7				1	8	95		3	1	99	9					9	2					2
1715-1730	7					7	82		2	1	85	8					8	1					1
1730-1745	6					6	59		5	1	65	7					7	4					4
1745-1800	3					3	59		3	3	65	8					8	2					2
1800-1815	4					4	62		1	2	65	7					7	1					1
1815-1830	2					2	57		5	2	66	5					5	2					2
1830-1845	2				1	3	56		4	1	62	5			1		6	3					3
1845-1900	7					7	60		4	1	65	4					4	0					0
1600-1900	74	0	0	0	3	77	782	1	55	14	856	77	0	0	1	0	78	17	0	0	0	0	17
1600-1700	36	0	0	0	1	37	252	0	28	2	284	24	0	0	0	0	24	2	0	0	0	0	2
1615-1715	35	0	0	0	1	36	296	1	19	2	319	28	0	0	0	0	28	4	0	0	0	0	4
1630-1730	31	0	0	0	1	32	289	1	15	3	308	28	0	0	0	0	28	4	0	0	0	0	4
1645-1745	31	0	0	0	1	32	284	1	15	4	304	28	0	0	0	0	28	7	0	0	0	0	7
1700-1800	23	0	0	0	1	24	295	0	13	6	314	32	0	0	0	0	32	9	0	0	0	0	9
1715-1815	20	0	0	0	0	20	262	0	11	7	280	30	0	0	0	0	30	8	0	0	0	0	8
1730-1830	15	0	0	0	0	15	237	0	14	8	261	27	0	0	0	0	27	9	0	0	0	0	9
1745-1845	11	0	0	0	1	12	234	0	13	8	258	25	0	0	1	0	26	8	0	0	0	0	8
1800-1900	15	0	0	0	1	16	235	0	14	6	258	21	0	0	1	0	22	6	0	0	0	0	6

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J3 - WOLVERCOTE ROAD / YARNTON WAY / HARTSLOCK DRIVE DOUBLE MINI ROUNDABOUT

	WOLVERCOTE ROAD SOUTH LEFT TURN TO YARNTON WAY WEST					WOLVERCOTE ROAD SOUTH LEFT & RIGHT TO HARTSLOCK DRIVE NORTH					WOLVERCOTE ROAD SOUTH RIGHT TURN TO YARNTON WAY EAST					WOLVERCOTE ROAD SOUTH U TURNS							
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY
0700-0715	5					5	0					0					0	2					0
0715-0730	10	1				12	0			1	1	12	0				0	3					0
0730-0745	16					16	0					0					0	5					0
0745-0800	9					9	1					1					1	5		1			0
0800-0815	14					14	0					0					0	6					0
0815-0830	10				1	11	0					0					0	9					0
0830-0845	8				1	9	2					2					2	2					0
0845-0900	7					7	1					2					2	4					0
0900-0915	12					12	1					1					1	4					0
0915-0930	4	1				5	0					0					2	0					0
0930-0945	0				1	1	0					0					0	0					0
0945-1000	4					4	0					0					3	0					0
0700-1000	99	2	1	1	2	105	6	0	0	0	0	6	45	0	0	0	1	46	0	0	0	0	0
0700-0800	40	1	0	0	1	42	1	0	0	0	0	1	15	0	0	0	1	16	0	0	0	0	0
0715-0815	49	1	0	0	1	51	1	0	0	0	1	1	19	0	0	0	1	20	0	0	0	0	0
0730-0830	49	0	1	0	0	50	1	0	0	0	0	1	25	0	0	0	1	26	0	0	0	0	0
0745-0845	41	0	1	1	0	43	3	0	0	0	0	3	22	0	0	0	1	23	0	0	0	0	0
0800-0900	39	0	1	1	0	41	4	0	0	0	0	4	21	0	0	0	0	21	0	0	0	0	0
0815-0915	37	0	1	1	0	39	5	0	0	0	0	5	19	0	0	0	0	19	0	0	0	0	0
0830-0930	31	1	0	1	0	33	5	0	0	0	0	5	12	0	0	0	0	12	0	0	0	0	0
0845-0945	23	1	0	0	1	25	3	0	0	0	0	3	10	0	0	0	0	10	0	0	0	0	0
0900-1000	20	1	0	0	1	22	1	0	0	0	0	1	9	0	0	0	0	9	0	0	0	0	0

K&M TRAFFIC SURVEYS

DATE : TUESDAY 10TH MAY 2022

LOCATION : YARNTON WAY, ABBEY WOOD SE2

J3 - WOLVERCOTE ROAD / YARNTON WAY / HARTSLOCK DRIVE DOUBLE MINI ROUNDABOUT

	WOLVERCOTE ROAD SOUTH LEFT TURN TO YARNTON WAY WEST					WOLVERCOTE ROAD SOUTH LEFT & RIGHT TO HARTSLOCK DRIVE NORTH					WOLVERCOTE ROAD SOUTH RIGHT TURN TO YARNTON WAY EAST					WOLVERCOTE ROAD SOUTH U TURNS							
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY
1600-1615	3					3	0					0	1				1	0					0
1615-1630	1				1	2	0</																