

Appendix E

Active Travel Strategy

London Borough of Enfield
**Meridian Water Phase 2 and
Strategic Infrastructure Works**
Active Travel Strategy

MWP2-7/MWSIW-6 – Appendix E

Final | 21 June 2019

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 260637-20

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1 Introduction

1.1 Background

This Active Travel Strategy (ATS) has been prepared by Ove Arup and Partners Ltd. ('Arup') on behalf of the London Borough of Enfield regeneration team (the 'Applicant'). The application falls within the London Borough of Enfield ('LBE') and the Local Planning Authority ('LPA') will determine the planning application. Some ancillary highway works fall within the adjoining London Borough of Haringey and will be addressed under the Highway Acts.

The Applicant will oversee the delivery of infrastructure works and will be appointing developers to deliver development plots. An earlier phase, Meridian Water Phase 1, is progressing to delivery, with a developer partner selected and the new Meridian Water Station opened in June 2019.

Meridian Water Phase 2 and Strategic Infrastructure works ('the project') is the next phase of Meridian Water. This is made up of two linked planning applications which constitute the 'Proposed Development', namely

- Full planning application for Meridian Water Strategic Infrastructure Works ('MWSIW')
- Outline planning application for Meridian Water Phase 2, a mixed-use residential-led development ('MWP2')

The majority of the land for the Proposed Development is within the ownership of LBE. There are a number of other landowners who have been notified and with whom there are ongoing discussions regarding the proposals.

1.2 Structure of Application(s)

The two planning applications for the Proposed Development comprise a suite of co-developed plans and documents. On the basis that the two applications are being submitted in tandem and have a number of interrelationships, planning documents have been shared where appropriate.

For example, the Environmental Statement reports the findings of the Environmental Impact Assessment as undertaken for the combined project and the Design and Access Statement has been produced with site context and masterplan material which applies equally to the two separate applications. The following table sets out the application documents, reference numbers and identifies which documents are shared or not.

Table 1: Planning application documents

Document Title	MWSIW	MWP2	Shared
Cover Letter, Application Form	MWSIW-0	MWP2-0	N
Planning Statement	MWSIW-1	MWP2-1	N
Environmental Statement	MWSIW-2 / MWP2-2		Y
ES Non-Technical Summary	MWSIW-2.1 / MWP2-2.1		Y
Remediation Baseline and Framework	MWSIW-2.2 / MWP2-2.2 MWSIW-2.3 / MWP2-2.3		Y
Archaeological Desk Based Assessment	MWSIW-2.4 / MWP2-2.4		Y
Draft Code of Construction Practice	MWSIW-2.5 / MWP2-2.5		Y
Habitats Regulation Assessment	MWSIW-2.6 / MWP2-2.6		Y
Ecology Baseline Surveys	MWSIW-2.7 / MWP2-2.7		Y
Arboricultural Report	MWSIW-2.8 / MWP2-2.8		Y
Water Framework Directive Assessment	MWSIW-2.9 / MWP2-2.9		Y
Statement of Community Involvement	MWSIW-3 / MWP2-3		Y
Design Code	N/A	MWP2-4	N
Design and Access Statement	MWSIW-4 / MWP2-5		Y
Flood Risk Assessment	MWSIW-5 / MWP2-6		Y
Transport Assessment	MWSIW-6 / MWP2-7		Y
Framework Travel Plan	MWP2-7.1		Y
Construction Logistics Plan	MWP2-7.2		Y
Sustainability and Energy Statement	MWSIW-7 / MWP2-8		Y
Energy Assessment	N/A	MWP2-8.1	N
BREEAM Pre-Assessment	N/A	MWP2-8.2	N
Site Waste Management Plan	MWSIW-7.1	MWP2-8.3	N
Integrated Water Management Plan	MWSIW-7.1 / MWP2-8.4		Y
Daylight and Sunlight Assessment	N/A	MWP2-8.5	N
Affordable Housing Viability Assessment	N/A	MWP2-9	N

1.3 Meridian Water Context and Vision

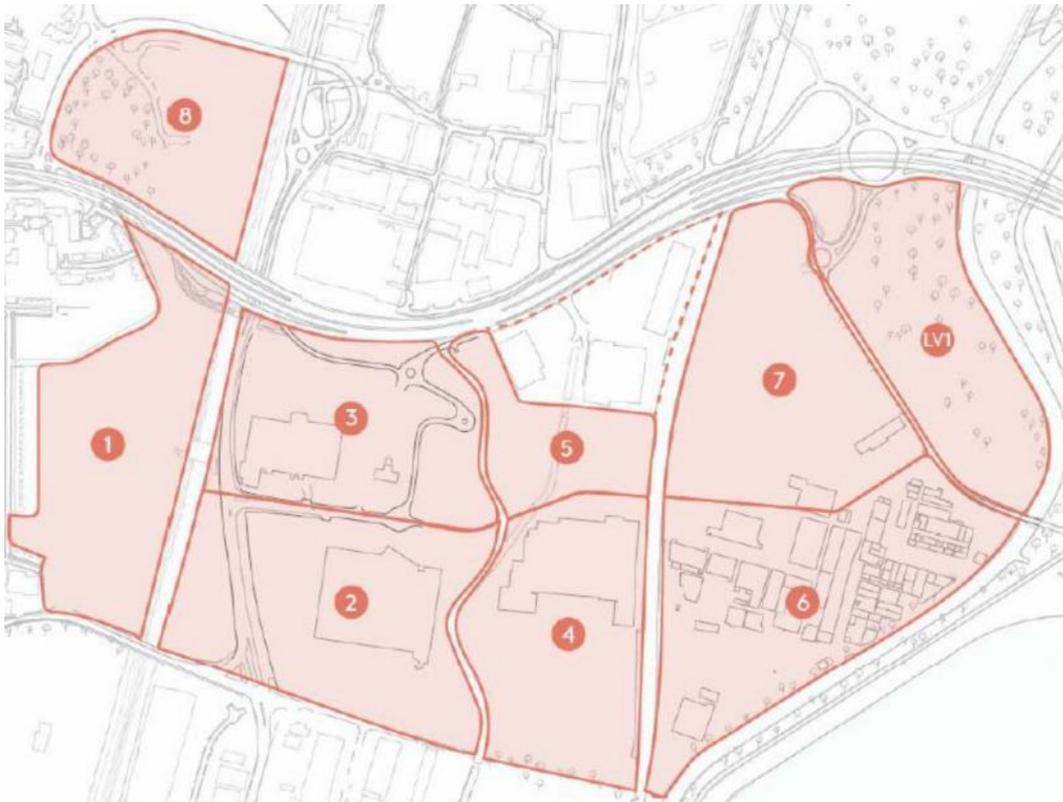
Meridian Water is one of the largest brownfield development opportunities in Greater London, which has the potential to deliver significant housing and employment growth ambitions of LBE, as set out in the 2010 Core Strategy. Meridian Water will contribute to the delivery of much-needed homes and jobs, meeting the strategic need and regeneration ambitions of London as set out in the adopted London Plan 2016 and emerging Draft New London Plan.

LBE is leading a pioneering approach to regeneration at Meridian Water for the long-term benefit of local people and future generations through the delivery of new homes, employment and infrastructure.

Meridian Water is a mixed-use regeneration scheme, comprising 85 hectares (ha) of land in Upper Edmonton. The regeneration scheme will bring forward land for redevelopment over time to maximise the potential for what is currently either vacant or low density industrial and retail land. For reference purpose the Development Zones of Meridian Water are set out on Figure 1.

The project will deliver elements of a successful new neighbourhood including schools and other social infrastructure, new rail infrastructure, connection to the Meridian Water Heat Network (MWHN) and new open spaces.

Figure 1: Meridian Water Development Zones



LBE has already invested significant resources, particularly in land assembly, remediation and infrastructure and Meridian Water has now reached the exciting first phase of development, known as 'Meridian One' comprising 725 residential units next to the new Meridian Water station with a development partner now

selected. A range of innovative meanwhile uses are also being explored to activate and make efficient use of LBE landholdings prior to development.

1.4 Strategic Infrastructure Works Application

LBE ('the Applicant') is seeking full planning permission for Strategic Infrastructure Works (MWSIW) at Meridian Water with the following description of development:

“Full application for redevelopment of the site to provide infrastructure works for the delivery of a mixed-use development comprising: Construction of an east-west link road between Glover Drive and Harbet Road ('the Central Spine'); alteration of access road between Argon Road and Glover Drive, construction of a link road between Leaside Road and the Central Spine, pedestrian and cycleway improvements to Glover Drive and Leaside Road, the construction of 4 no. bridges across the Pymmes and Salmon Brooks and River Lee Navigation; alteration to the Pymmes Brook channel and associated landscaping. Enabling works, comprising: earthworks; remediation; flood conveyance channel, storage and outfall works; utilities infrastructure; demolition of existing buildings and associated works.”

In summary, the MWSIW comprises the following elements:

- **The Central Spine Road** - a new tree-lined east-west boulevard connecting to Glover Drive and new Meridian Water Station in the west, crossing the Pymmes and Salmons Brook and River Lee Navigation to Harbet Road in the east;
- **Leaside Link Road** – a new link road providing access for cars, pedestrians and cyclists from Leaside Road through to the Central Spine Road;
- **Bridges (x4)** – erection of bridges and associated works to enable the Central Spine Road and Leaside Link Road to span the Pymmes and Salmons Brook and River Lee Navigation;
- **Brooks Park and River Naturalisation** – naturalising the channelised Pymmes Brook to introduce an ecological river landscape, as well as providing riverside parkland;
- **Edmonton Marshes and Flood Alleviation Works** – re-levelling and remediation of land to the east of Harbet Road, providing comprehensive flood alleviation works and a new high quality public open space within the Lee Valley Regional Park.
- **Access Works** – third party access works to provide new and altered accesses to the IKEA store, a new north-south link between Argon Road and Glover Drive, the creation of a link between the Central Spine Road and Anthony Way and other improvements to maintain access, along with other ancillary highway works to Glover Drive, Leaside Road and Meridian Way.
- **Earthworks, Remediation, Utilities and other ancillary works** – earthworks, retaining structures and remediation within Development Zones 4

and 5, installation of main utility networks and ancillary works including the demolition of existing buildings and structures.

1.5 Meridian Water Phase 2 Application

LBE ('the Applicant') is seeking outline planning permission for Meridian Water Phase 2 (MWP2) at Meridian Water with the following description of development:

“Outline planning application for comprehensive mixed use redevelopment at Meridian Water, comprising up to 2,300 residential units (Class C3), Purpose Built Student Accommodation and/or Large-Scale Purpose-Built Shared Living (Sui Generis); a hotel (Class C1), commercial development (Class B1a,b,c); retail (Class A1 and/or A2 and/or A3 and/or A4), social infrastructure (Class D1 and/or D2), a primary school up to three forms of entry, hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access (all matters reserved).”

The proposal entails the comprehensive redevelopment of Meridian Water Development Zone 4 and 5 and a part of Zone 2 for up to 284,600 sq m (GEA) of residential led mixed use development.

In summary, the Proposed Development comprises the following elements:

- Up to 2,300 new homes (Use Class C3), of which 40% shall be affordable;
- Option to provide a Hotel (Use Class C1) circa 250 rooms with up to 16,000 sq m GEA (allowing for a range of specification from budget to luxury);
- Option to provide Purpose Built Student Accommodation (PBSA) and/or Large-Scale Purpose-Built Shared Living (LSPBSL) (Sui Generis) with up to 18,000 sq m GEA in total;
- Up to 26,500 sq m GEA of commercial workspace development (Use Class B1a,b,c);
- Up to 2,000 sq m GEA of retail (Use Class A1 and/or A2 and/or A3 and/or A4);
- Up to 5,500 sq m GEA of social infrastructure (Use Class D1 and/or D2);
- A three-form entry primary school;
- The associated works to create hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access.

1.6 Purpose of this Strategy

In recognition of growing pressures being experienced across London, the Mayor of London and LBE are actively seeking to ensure that all new development is designed to be as social, economic and environmentally sustainable as possible.

Active travel, specifically walking and cycling, lie at the core of a range of positive outcomes not just for transport but also health, social interaction and equality. There is a fundamental need to ensure that active travel modes are more than just provided for, but rather are deeply integrated into all aspects of the public realm.

This document has been prepared to set out the Active Travel Strategy (ATS) for the Meridian Water masterplan. The ATS has the following broad objectives:

- Benchmark against national, regional and local policy and ensure that planned outcomes for active travel align with current policy and future aspirations.
- Set a clear design framework to ensure that each phase of the masterplan is designed to the walking and cycling standards which represent best practice, at a minimum.
- Ensure that the masterplan aligns with the existing and proposed active travel network (both internal and external) to enable safe and direct access to, from and within the masterplan by walking and cycling.

This version of the ATS has been developed to support the MWSIW and MWP2 planning applications. Whilst the strategy as a whole looks at the whole Meridian masterplan site, there will be sections within the report that focus on the proposals coming forward as part of MWSIW and MWP2.

The ATS is structured as follows:

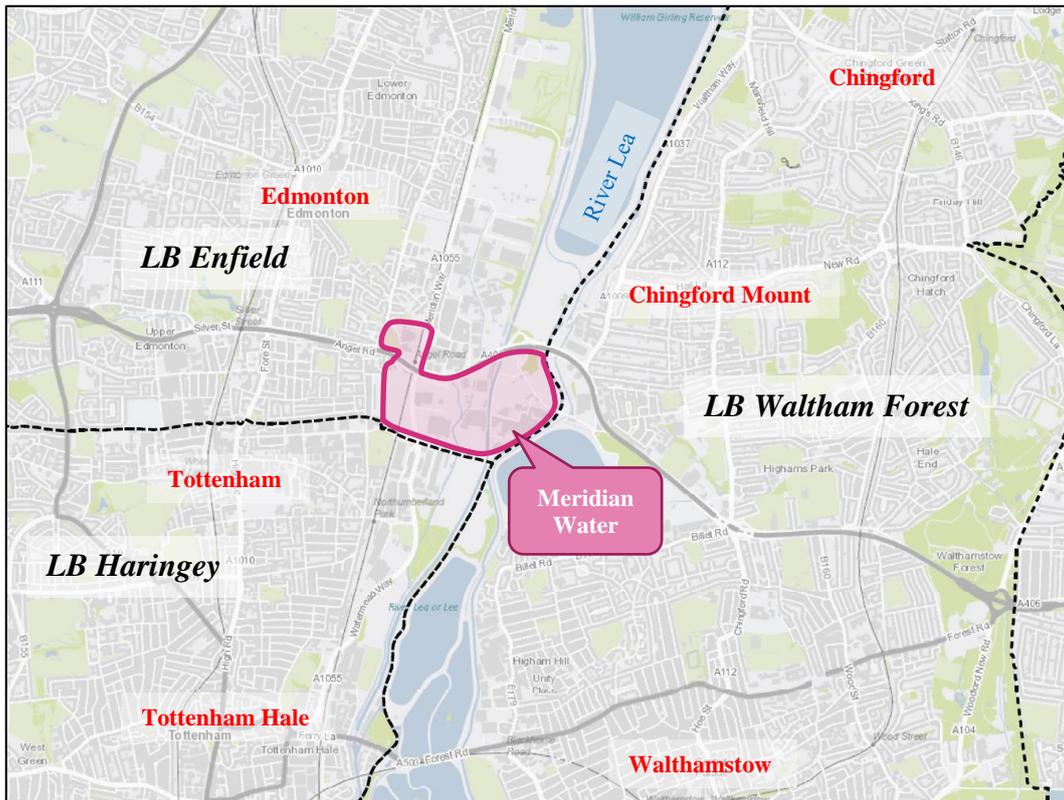
- **Chapter 1** (this chapter): **Introduction** - introduces the subject site and the Meridian Water masterplan, including its objectives, outcomes and planned delivery phasing.
- **Chapter 2: Active Travel Policy Context** – references and describes the active travel policies and context within which the masterplan must be delivered.
- **Chapter 3: Site Context** - provides a summary of the site and identifies the existing walking and cycling networks and the future opportunities that exist or have been identified.
- **Chapter 4: Meridian Water - Active Travel Framework** - provides the framework and key elements of how walking and cycling infrastructure must be incorporated into the masterplan.
- **Chapter 5: Meridian Water - Active Travel Proposals** - describes the key active travel proposals at each development Phase.

2 The Meridian Water Masterplan

2.1.1 Site Context

The Meridian Water masterplan (the ‘masterplan’) relates to a large area of land located at the south-east corner of LBE, bordering LB Waltham Forest to the east and LB Haringey to the south. For reference, the location of the masterplan within Enfield is shown in **Figure 2**.

Figure 2: Regional Site Context



In broad terms, the site is currently occupied by retail superstores (Ikea and Tesco Extra), brownfield sites, warehouses and offices.

By nature of its location and historic land uses, movement to and within the area is largely motor vehicle-based, and the infrastructure and amenity to support active travel are underdeveloped, unattractive or in some cases non-existent.

The existing site is discussed in more detail in Section 4.

2.1.2 Masterplan Overview

The site has long been recognised as a significant regeneration opportunity in London. As a Housing Zone, Meridian Water will provide much needed homes, shops, community facilities, employment opportunities for Londoners and local residents.

The aim of the masterplan itself is to create a sustainable community, where walking, cycling and public transport will be prioritised and facilitated over car use. The reduced reliance on the private car would bring health benefits and improve the local environment in terms of air and noise pollution.

One of the key outcomes of the masterplan from a transport perspective is the relocation / construction of a new rail station at the heart of the site (Meridian Water station), providing direct rail access for future residents, employees and visitors as well as those who already live and work in the vicinity of the site. The station opened in June 2019.

The masterplan provides an opportunity to bring a step change with regards to transport linkages and accessibility for current and future residents of Enfield. The significant improvements in rail connections, a new bridge across the rail line, new pedestrian and cycle connections from existing areas to the site and surrounding neighbourhoods, and permeability through the site will vastly improve local connectivity.

3 Active Travel Policy Context

3.1 Overview

There are a number of national, regional (London-wide) and local policies that recognise the importance of active modes of transport in the sustainable growth of our cities into the future. These are referenced and described in further detail in Appendix A. Those considered most directly relevant for the masterplan and this ATS are the Mayor's Transport Strategy, the Draft New London Plan, and LBE's Draft New Local Plan. Together, these documents set a clear edict for the future of transport for London and the critical importance and priority for active travel.

The Mayor's Transport Strategy (MTS) recognises the ambitious levels of growth anticipated in London over the next two decades. It sets several objectives and strategies to ensure this growth and development is sustainable and positively contributes to the health of the city, with active transport being central to achieving this outcome. The Draft New London Plan also identifies a key objective of making walking and cycling the main mode of transport for Londoners.

LBE are in the process of developing their own new Local Plan for the next 15 years. The draft Local Plan echoes London-wide policy in recognising the importance of active travel for health benefits, cleaner air, less noise, safer streets and less road traffic injuries. Its draft policy suggests that development should contribute to appropriate cycling and walking infrastructure to ensure that active travel is the natural choice for short trips.

There is a clear direction through all levels of policy that development in London must place a clear emphasis on imbedding quality active travel infrastructure into the design of streets and neighbourhoods.

3.2 Key aspirations

The masterplan must be developed with existing and emerging active travel policy from the outset. In doing so, there is an opportunity for the masterplan to set the benchmark for exemplar sustainable development within Enfield and London.

To ensure that the development of the masterplan complies with current and emerging transport policy for active travel, it is clear that the masterplan **must be developed with the 10 key "Healthy Streets" indicators in mind**, which is a significant theme which runs throughout the MTS. This in turn will be fundamental in achieving the Mayor's vision that **80 per cent of all trips in London are to be made by walking, cycling and public transport**, by the year 2041.

The overarching transport visions for the masterplan and the active travel framework principles are presented in Section 5 of this ATS, while specific actions are presented in Section 6. It is envisaged that each application for individual Phases will consider these aspirations in more detail with an expectation that they be viewed as 'minimum' outcomes for each phase.

4 Site Context

4.1 Existing Conditions

The Meridian Water masterplan site ('the site'), identified in Figure 3, is currently occupied by large big-box retail superstores (Ikea and Tesco), vacant brownfield sites, car lots, warehouses and offices.

Figure 3: Local Context



The site covers an area that is largely difficult to access by foot or bicycle due to topography (e.g. Lea River) and impermeable structures including the A406 / North Circular along the northern extent of the site and the WAML which bisects the site.

Figure 4 shows the existing road, pedestrian and cycle links which can currently be used to access the site, while Figure 5 shows the existing access constraints and barriers to active travel.

Figure 4: Existing site transport infrastructure¹

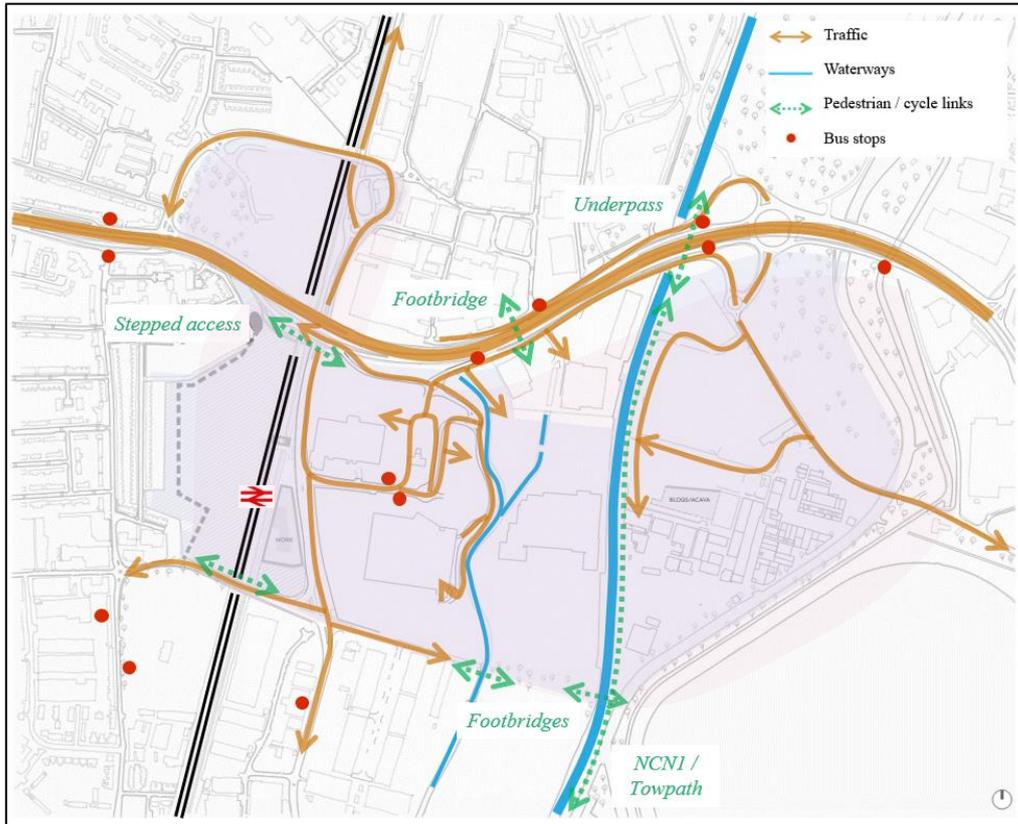
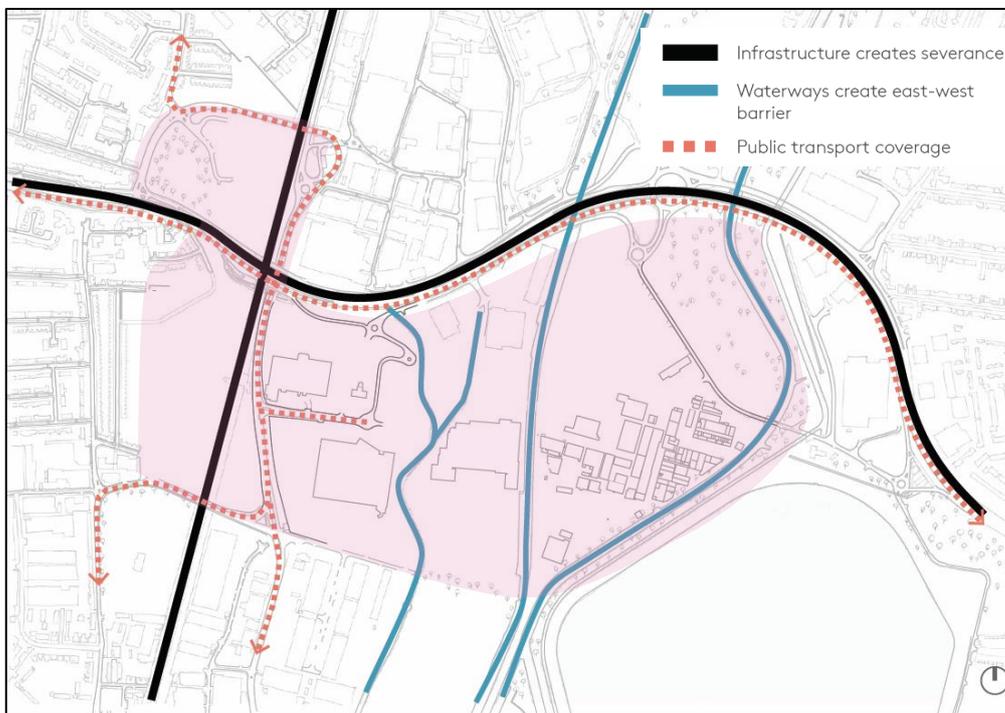


Figure 5: Existing site access constraints¹



¹ Source: KCA, 2018.

4.2 Walking provision

4.2.1 Routes and footways

Footways are generally provided on the existing street network, including along Meridian Way, Glover Drive, Argon Road, Harbet Road and Leaside Road. Most of these are sufficient in width, but there are some pinch points in limited places and some footways are narrow with limited separation against heavily traffic (e.g. A406 slip roads, Leaside Road) and / or are cluttered with street furniture. There are some local access roads to the industrial uses where footways are not currently provided.

There are off-road pedestrian routes in the local area, including the towpath and through the Lea Valley and Tottenham Marshes.

The A406 / North Circular to the north is a significant barrier to movement for pedestrians. However, a pedestrian footbridge is provided on Argon Road, by Ravenside Retail Park, to the northern side of the A406. Meridian Way and the towpath provides other opportunities to cross underneath the A406.

The railway lines present another form of severance for pedestrians. Footways are provided along Leaside Road and Conduit Lane which cross the railway lines. However, both these roads are heavily trafficked. The footways on Leaside Road are considered to be narrow and the footways on Conduit Lane are shared with cyclists and the route is not considered to be direct. From Meridian Way, there is a set of stairs to the north of the Tesco car park which provides access to the A406 slip road and an alternative crossing to the railway lines. This slip road can also be accessed from Argon Road.

The recently opened Meridian Water station now provides another east-west crossing opportunity via stairs and elevator, lift that can be accessed without a rail ticket.

4.2.2 Pedestrian crossings

There are currently limited pedestrian movements in the local area, which is largely dominated by vehicle traffic, roads, and at-grade car parking. Within the vicinity of the existing big box retail units (Tesco Extra and Ikea), there are informal pedestrian crossings provided, including on Glover Drive to access the bus stops and through their car parks. Generally dropped kerbs are provided at junctions.

At the Meridian Way / Glover Drive junction, there is a signal-controlled pedestrian crossing on the Glover Drive arm. A new pedestrian crossing on Meridian Way has recently been constructed in line with the opening of the new Meridian Water station in June 2019.

Pedestrian crossings are also provided at the Meridian Way / Leaside Road junction. However, the junction is difficult to navigate and opportunities exist to simplify the current arrangement.

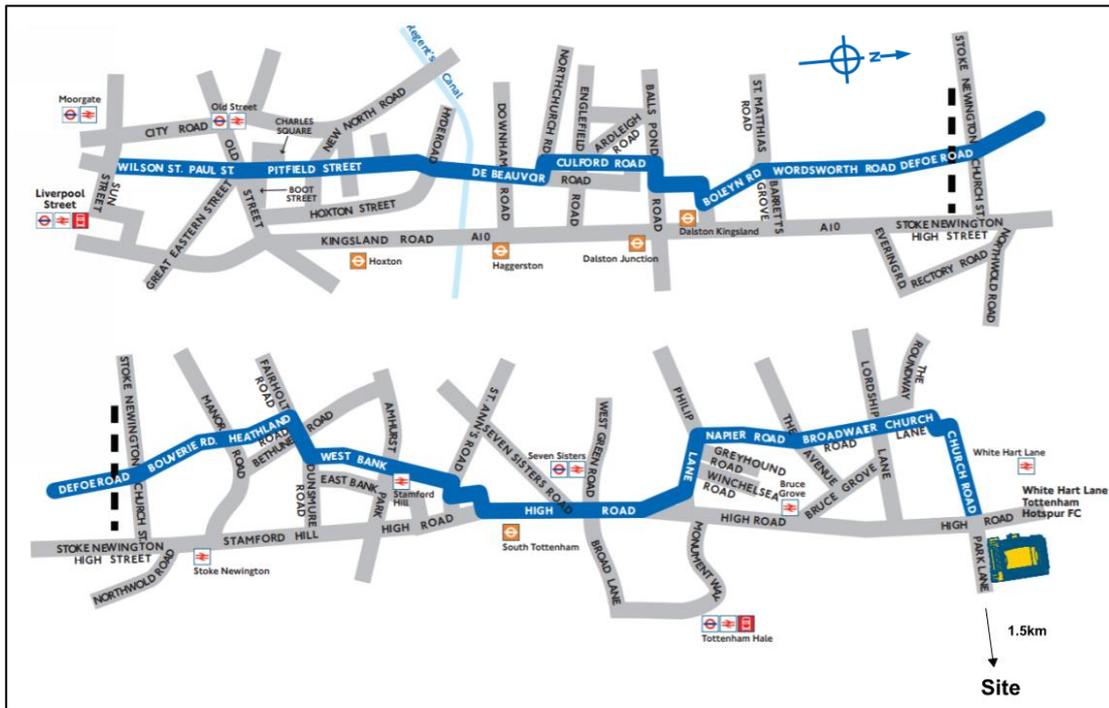
4.3 Cycling provision

4.3.1 Strategic cycle routes

The existing local routes provide access to wider strategic routes in the area, namely NCN Route 1, Cycle Superhighway 1 (CS1) and Quietway. These routes provide continuous cycling links to central and south-east London, as described below:

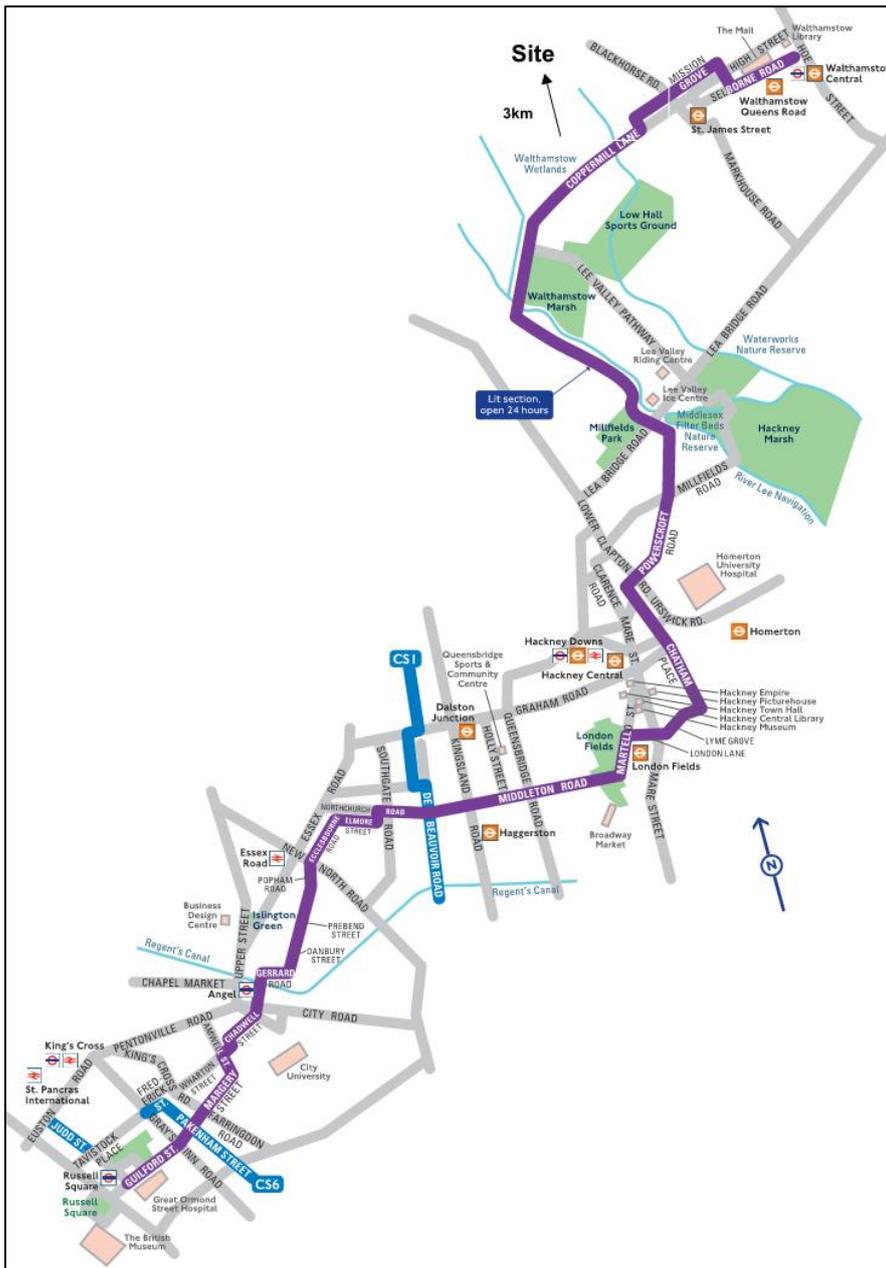
- National Cycle Network (NCN) Route 1 - The National Cycle Network is a series of traffic-free paths and quiet, on-road cycling and walking routes, that connect to every major town and city. The Docklands and Lea Valley section of the NCN1 is a traffic-free route that runs directly through the site along Towpath Road. The route runs from the site to Canary Wharf, a total distance of 15 km.
- Cycle Superhighway 1 (CS1, shown in Figure 6 is one of seven existing cycle superhighways in London. CS1 provides a continuous route and offers safer, faster and more direct journey into the city by bicycle. It can be accessed 1.5km from the centre of the site on Church Road, opposite White Hart Lane stadium. The route runs south from Church Road to Liverpool Street, a total distance of 11km.
- Quietway 2 - Quietways are continuous and convenient cycle routes on less-busy backstreets across London. They are clearly marked with purple signs to help cyclists find their way along roads they may have never cycled along before. They are ideal for people who want to cycle on lower-traffic streets, especially if they are new to cycling in London and/or on-road. Quietway 2, shown in Figure 7 can be accessed 3km from the centre of the site on Coppermill Lane. The route runs from Waltham Central to Russell Square, intersecting CS1 and CS6, over a total distance of 11km.

Figure 6: CS1 Route²



² <https://tfl.gov.uk/cdn/static/cms/documents/cycle-superhighway-route-1-map-city-to-tottenham.pdf>

Figure 7: Quietway 2 Route³



4.3.2 Local cycle routes

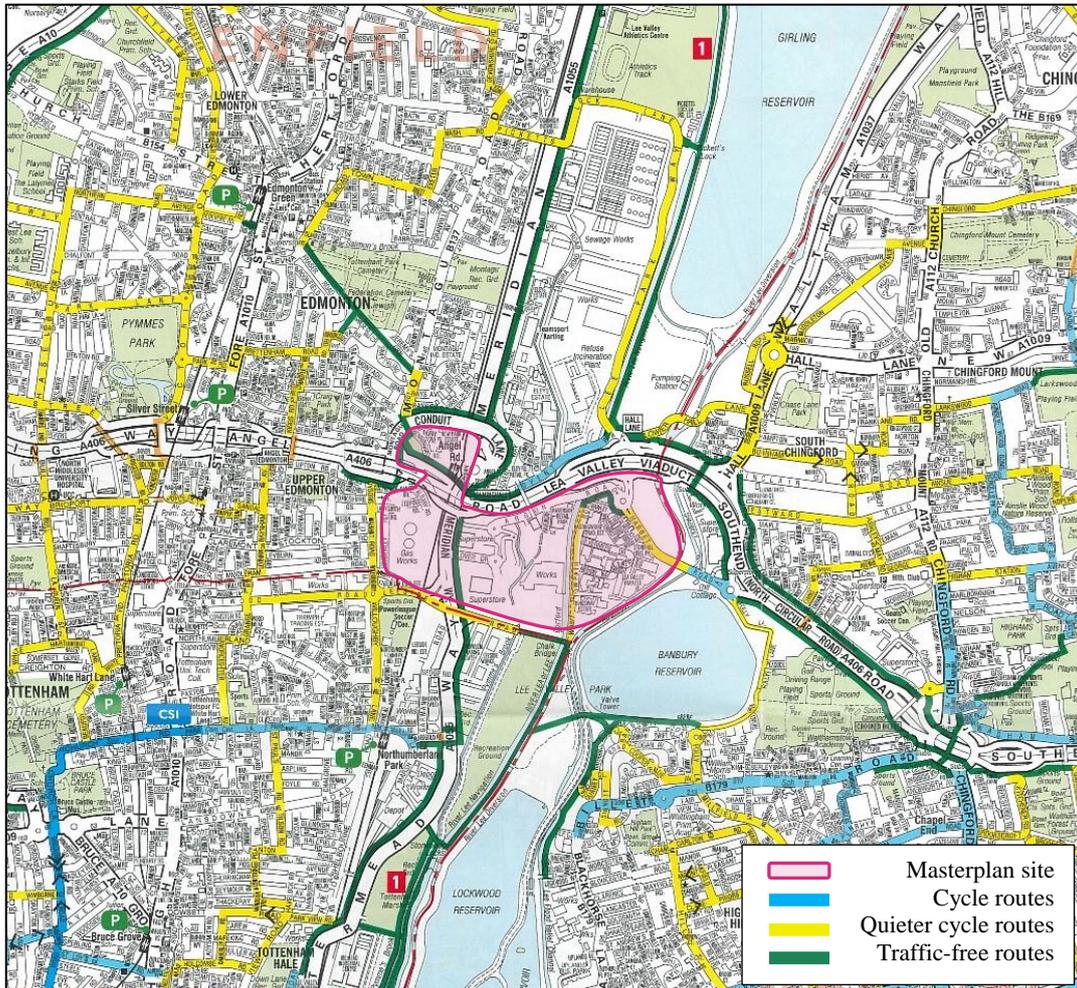
As per access by foot, there are some physical obstacles that reduces connectivity into and through Meridian Water for cycles especially in the east-west direction; the WAML tracks, and the presence of waterways that create severance in the north-south direction (i.e. Pymmes Brook, and River Lee Navigation). As a result, cyclists may be forced to take indirect routes to get to their desired destinations.

For reference, an extract from TfL’s cycle map is shown in **Figure 8**. It shows signed cycle routes in blue, quieter routes recommended by cyclists in yellow, and traffic-free routes in green. As shown, the site has various existing cycle routes

³ <https://tfl.gov.uk/cdn/static/cms/documents/q2-bloomsbury-walthamstow-east.pdf>

within its vicinity, however these are disparate and do not currently form a legible network, or are comprised of streets that are ‘recommended’ rather than more formally designated and/or signed.

Figure 8: Extract from TfL cycle map



Based on a high-level assessment of land uses, services and other destinations within the *Active Travel Zone* - a 20-minute cycle catchment of the site - the most likely attractors for active travel are considered to be nearby town centres. These locations are likely offer a different mix retail, commercial and entertainment options to what will ultimately be provided within Meridian Water itself, as well as access to alternate transport modes.

The key active travel routes from the site are therefore likely to be to Edmonton, Tottenham / White Hart Lane, Tottenham Hale / High Road Tottenham / Seven Sisters, and Walthamstow. Other destinations such as Upper Edmonton, Chingford Mount and Highams Park also lie within the site’s Active Travel Zone.

The following sections detail the provision of cycle routes in compass directions to and from the site.

- **Towards Enfield and the north and northwest**

In order to cycle to Edmonton Green and Enfield from the site, the current route requires following a mostly segregated cycle path along A1055 Meridian Way and Conduit Way. The path then ends for a short section along Montagu Road before an off-road path provides a direction connection to Plevna Road in Edmonton Green. Equally, to cycle to Edmonton along the designated routes would require the same route towards the A406 before taking the segregated cycle track westbound along the A406.

- **Towards Waltham Forest and the northeast**

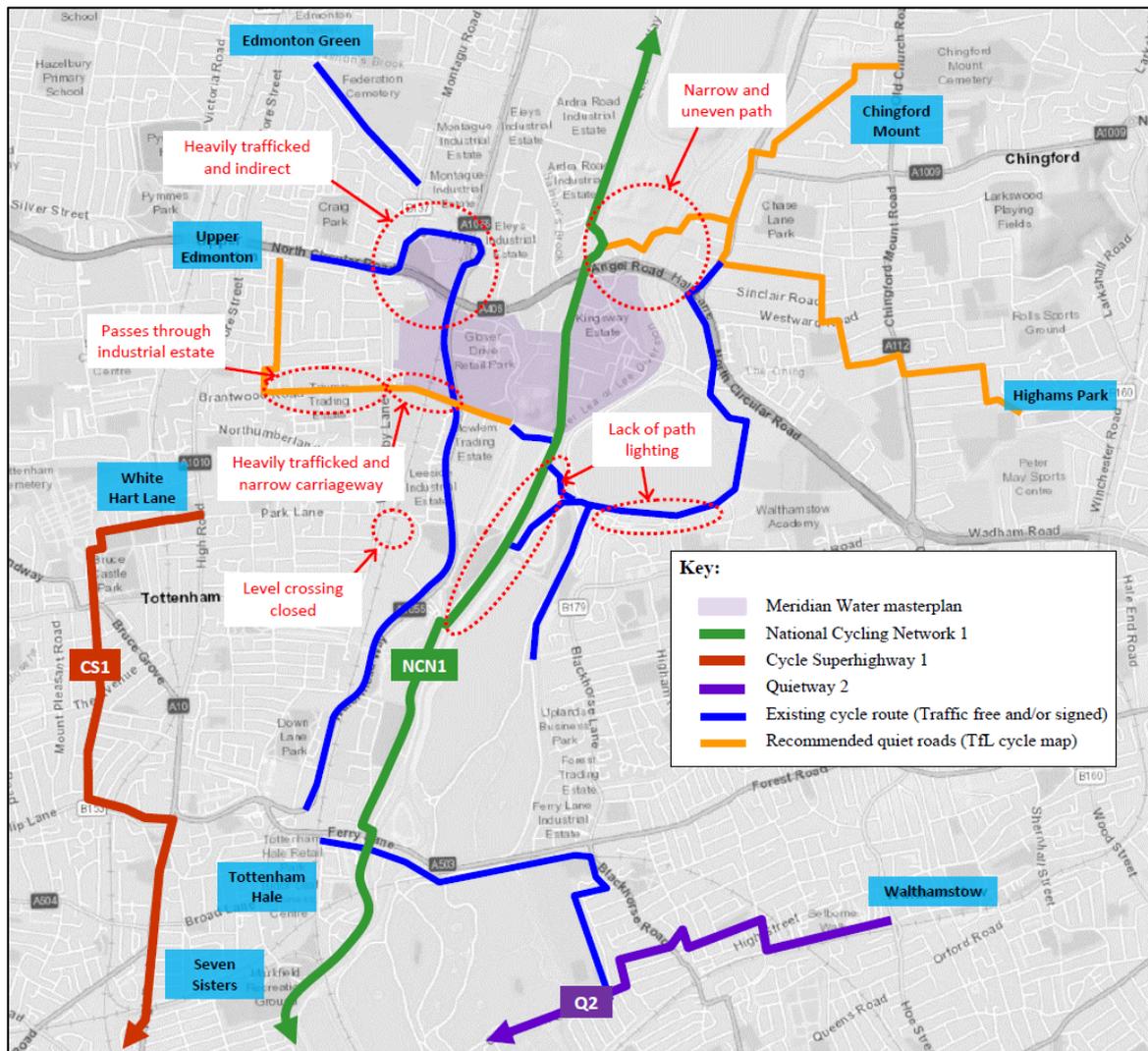
The current most direct route from the site to cycling routes within Waltham Forest requires following Harbet Road, which has no designated cycling path, towards the A406. The route then follows a narrow path directly adjacent to the A406 with no separation from the road for 200m. There is a stepped foot bridge passing over the A406 before a segregated cycle path can finally be reached. Continuing along this route will reach the Leyton to Chingford Cycle Route. Alternatively, a longer off-road route can be taken north on Towpath road, joining Lower Hall Lane and then Hall Lane which has a segregated cycle track.

- **Towards Haringey and the southwest and south**

There are currently a number of existing cycle routes which run south into Haringey; the route south along the A1055; the NCN1 south along Towpath Road; and off-road routes through the Tottenham Marshes. As discussed, the A1055 is not an attractive cycling option, however the NCN1 does provide good links to areas to the south of the site including Tottenham Hale and Seven Sisters.

Figure 9 has been prepared to highlight each of the above destinations and the most direct cycle routes currently available, highlighting some of the key barriers that currently exist.

Figure 9: Key destinations and existing cycle routes



4.3.3 Enfield Mini-Holland / Cycle Enfield

Cycle Enfield are in the process of improving cycle infrastructure across LB Enfield, including installing protected cycle routes on the A105 and A1010. A network of Quietway routes is being designed and implemented, using quiet back streets to link key destinations and corridors. Further discussion including a plan of Cycle Enfield’s proposed routes are provided in Appendix A3.4.

4.3.4 Cycle parking

Existing cycle parking within the site is limited. There is some cycle parking in the form of Sheffield stands provided near the entrances to Ikea and Tesco Extra, and within Ravenside Retail Park.

Nearby rail stations also provide cycle parking, including Tottenham Hale and Blackhorse Road, while a cycle hub has recently been installed at Edmonton Green. Cycle parking is also provided at the new Meridian Water rail station.

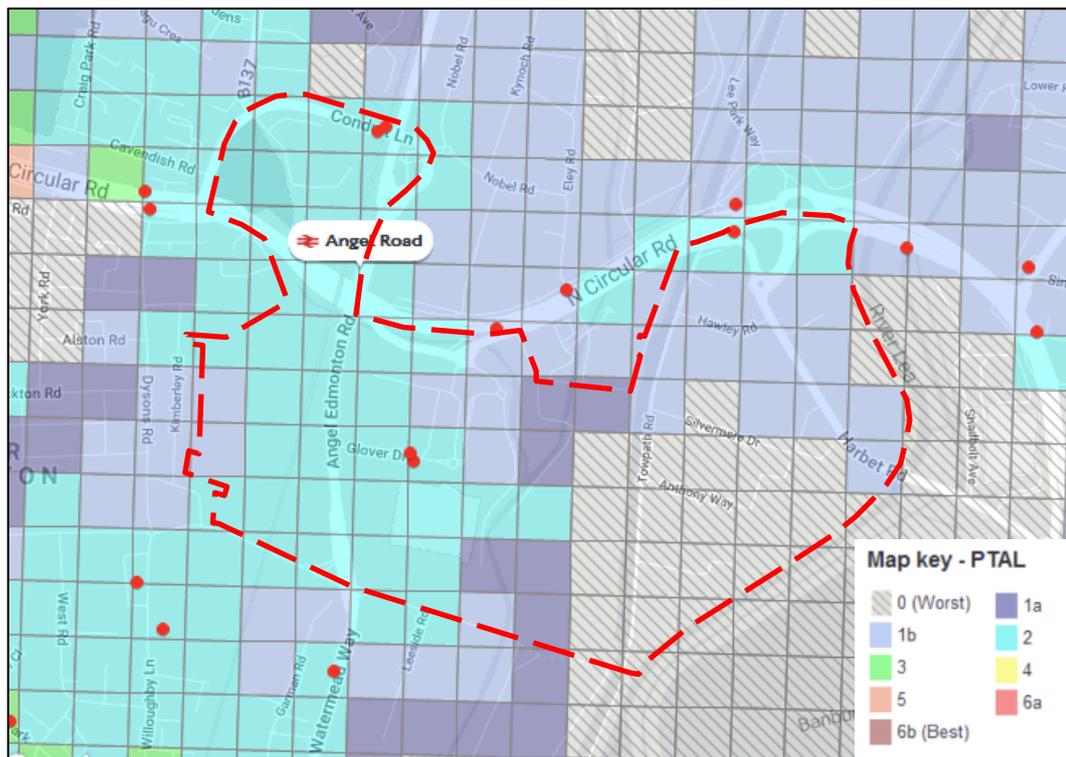
4.4 Access to/from public transport

Although not classed as an active travel mode in the context of this ATS, public transport connections are important to consider as part of the local transport network as any passengers using public transport would include either a walking or cycling trip as part of the journey.

The site currently has a Public Transport Accessibility Level (PTAL) ranging from 0 to 2 as shown in Figure 10, with 0 being the lowest accessibility and 6b being the highest level of accessibility.

There are currently railway lines which run alongside Meridian Way. Rail services connecting to London Stratford can be accessed from Meridian Water and Northumberland Park stations. Proximity to these rail services as well as bus services to the west of the site yield a higher PTAL rating, while the eastern half of the site receives the lowest possible score due to its isolation from public transport services.

Figure 10: Current site PTAL⁴



With the opening of the new Meridian Water station in June 2019, the PTAL of the site will increase as high as 3, as shown in Figure 11, while the easternmost fringe of the site remaining with a score of 0.

⁴ Sourced from TfL’s WebCAT planning tool - <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>

Figure 11: Baseline 2019 PTAL assessment with new Meridian Water station

The closest London Underground station to the site is Tottenham Hale to the south of the site. Tottenham Hale is served by the Victoria line between Walthamstow Central and Brixton. Additional rail services are also available from Tottenham, including direct trains to Liverpool Street station.

In addition to rail, there are four London Bus routes operating in close proximity to the site. Routes 192 and 341 are accessible from Glover Drive. Routes 34 and 444 are served by bus stops on the westbound and eastbound carriageway of the A406 North Circular.

4.5 Site Opportunities

A combination of the historic and prevailing land uses and quality of facilities to support active travel currently create a relatively unattractive environment for walking and cycling. Some of the existing routes are currently not well connected to one another and there is considerable variability in the quality of connection to these routes from the site.

The masterplan therefore presents a significant opportunity to create a step-change in walking and cycling activity both for the future population but also those currently located within its immediate vicinity. It presents a substantial opportunity to ensure that the future neighbourhood street network is designed from a 'Healthy Streets' approach from the outset, maximising opportunities for walking and cycling. This will offer significant benefits for future residents / visitors, as well as those that travel (or would like to travel) through the site.

Further opportunities relating to connections to the wider active travel network include:

- Allow for future connectivity to cycling projects being undertaken by Cycle Enfield so that the site forms part of LB Enfield's cycling network.
- Provide amenity and environmental improvements along established routes such as the NCN1 to increase their usage with and through the site.
- Provide / improve signage and wayfinding for existing and nearby cycle routes and to help minimise an existing sense of severance caused by road / rail lines.
- Improve and rationalise important pedestrian and cycle crossing facilities at the interfaces of the site, e.g. the Meridian Way / Leaside Road junction.
- Deliver improved connections to established land uses (IKEA and Tesco) to increase the proportion of staff and visitors using active travel, and
- Identify alternative solutions for walking or cycling along heavily trafficked routes such as Leaside Road.

An aspirational network of cycling links that would connect the masterplan to key cycling infrastructure and nearby town centres is presented in Section 5.3.

5 Meridian Water - Active Travel Framework

5.1 Masterplan Transport Visions

As described in Section 3, emerging planning policy and strategies place a strong emphasis on the importance of active travel which can bring wider health, social and economic benefits.

In the context of existing site opportunities and constraints, discussed in Section 2, the Meridian Water masterplan presents a clear opportunity to achieve the desired outcomes of these policies in order to deliver a successful, vibrant and healthy place to live and work.

The objectives to make the Meridian Water Masterplan a successful and sustainable new neighbourhood are:

- To provide a street network and public realm that encourages walking and cycling underpinning a ‘Healthy Streets’ approach;
- To integrate the existing street network and the proposed street network with the aim of creating better connectivity and access between Meridian Water, LBE and neighbouring Boroughs;
- To ensure public transport integration that secures shared objectives such as access to jobs, health and education providing integrated walk, cycle, bus and rail infrastructure;
- To promote the implementation of new transport infrastructure, public transport services and other sustainable transport measures to provide excellent alternatives to private car use;
- To encourage all future occupiers and visitors to undertake walking, cycling and public transport journeys reducing single occupancy car journeys;
- To promote smarter operations that reduce the need for freight transport and optimise last mile deliveries; and
- To facilitate bus journeys and operation through the site.

This section of the ATS describes the overarching active travel principles that have been set for the masterplan to ensure the above objectives are realised, resulting in a healthy, active and accessible community of the future.

5.2 Walking Framework

As set out in Section 3, the importance of walking for transport is widely recognised and is now more than ever being reflected in the changing direction of urban planning policy.

Walking is a healthy, non-polluting and low-cost form of transportation. It is important that physical activity is designed back into everyday life by facilitating and encouraging walking as a regular daily mode of transport. The benefits of

good walking networks go beyond accessibility, safety and comfort and will have a profound effect on the health and liveability of the future neighbourhood.

There are a number of principles that can be taken into consideration when providing for walking. The walking framework can be distinguished into two major sections:

- **Network Level** - recommends walking strategies to create a comprehensive and continuous pedestrian network within the masterplan; and
- **Street Level** - looks at the finer-grain of the network and describes the elements the masterplan needs must consider in order to prioritise pedestrians and provide universal accessibility to a range of users.

5.2.1 Network level

As part of developing the masterplan and its individual phases, the following features of a quality walking network should be taken into consideration:

- **Permeability** - The masterplan shall have a comprehensive pedestrian network with a high degree of permeability. The pedestrian network should have continuous, paved and unobstructed paths providing a safe passage for pedestrians on all routes, thereby prioritising walking over other modes.
- **Route choice** - The walking network must be well-connected to key destinations and provide pedestrians with multiple routes to arrive to these destinations. Pedestrians should have good access to key destinations including Meridian Water station, bus stops, parks, schools, retail and commercial streets. By improving the connectivity and directness between these destinations, people's willingness to walk from one destination to another will be increased. In addition, the network must be designed to provide pedestrians with multiple routes to choose from. For example, if any routes are under maintenance, pedestrians would still have the option of selecting an alternative route of a similar quality.
- **Connectivity** - Provide the necessary infrastructure to improve east-west connectivity. For the full and successful activation of the site, the necessary pedestrian infrastructure should be provided which provide an east-west connection over of existing waterways. Early construction of the pedestrian bridges over the waterways (Pymmes Brooks and River Lee Navigation) should be considered prior to plot developments east of the waterways.
- **Way-finding** - Signage and way-finding should be thoughtfully placed throughout the masterplan and at key destinations. The information presented should be clear such that it is universally understood by all street users following Legible London principles. The signage and way-finding system could contain information such as a map of the local transport network, location of key destinations, walkability catchment area (10 to 20 minutes' walk of a neighbourhood's destinations), and information on how and where street users can switch to different modes of transport (e.g. cycle hire, rail, taxi locations and bus stops).

- **Capacity** - The capacity and width of the footways / paths will depend on the street hierarchy and its surrounding context. Pedestrian footways not only facilitate users in reaching their desired destinations but are also part of the urban infrastructure, fostering social interaction and local business (i.e. shops and cafes seating areas on footways).⁵ As a result, width and capacity of the footway / paths will depend on how the street is classified according to the movement and place designation. Where the 'place' designation is identified as being high, pedestrians will have priority and therefore footways and places to rest (parklets, squares) shall be wider than standard. To determine the clear footway width and crossing widths needed within the site, the TfL Pedestrian Comfort guidance tool should be used.

In addition to making improvements within the masterplan's boundaries, it is also important to provide good connectivity to existing and future key destinations externally. The walking network should therefore align with the planning aspirations identified in the Lee Valley Regional Park Planning Framework.⁶ The framework proposes various new leisure opportunities (sporting and community) within the Park that may have an effect on pedestrian routing. To enhance opportunities for walking, infrastructure should be provided within the masterplan to connect to existing / proposed off-road foot and cycle paths in Lee Valley Regional Park.

5.2.2 Street level

To provide a high-quality walking environment, the following street level design elements should be taken into consideration for the masterplan at an appropriate design phase:

- **Crossings** - pedestrian crossings and junctions should be provided at reasonable frequency and should closely align with desire lines. Crossings should be logically provided where pedestrians desire lines exist and allowance for crossings should be considered where future provision is likely to be required. The design of the crossing and junctions should facilitate eye contact between all street users. The crossing points should be clearly delineated with road markings and supported with infrastructure to control vehicle speed (signals, when deemed necessary), raised elements, pedestrian refuges and kerb extensions.
- **Priority** - speed and traffic reduction measures should be employed in areas where priority is given to active and sustainable mobility choices. A change in vehicular speed results in behavioural changes from drivers.⁷ By lowering vehicular speeds, the chance of accidents, fatalities and injuries will be significantly reduced. The aim is to safely design the geometry of the street or,

⁵ Arup. June 2016. *Cities Alive: Towards a walking world*.

http://publications.arup.com/publications/c/cities_alive_towards_a_walking_world

⁶ Lee Valley Regional Park Authority. (April 2013). *Park Development Framework: Area 4 Proposals, The Waterlands: Banbury Reservoir to Pickett's Lock*.

http://www.leevalleypark.org.uk/media/viewfile.ashx?filetype=4&filepath=/pdf/LVRPA_Proposal_Area04_LowRes.pdf

⁷ National Association of City Transportation Officials (NACTO). *Global Street Design Guide*. October 2016

if necessary, through enforcement measures such as road markings and traffic signs.⁸

- **Lighting** - should be placed appropriately along all walking networks to ensure a safe and comfortable street experience. Street lighting induces a sense of security because it improves a pedestrian's visibility and recognition at a distance. Lighting should illuminate streets for all street users with greater emphasis in higher volume pedestrian areas and at crossings and junctions. Lighting around Meridian Water station and in the masterplan's retail and commercial streets (i.e. The Central Spine Road) will also facilitate a night-time economy and help to prevent crime.
- **Inclusive design** - footways, junctions and crossing should all be designed with all vulnerable users in mind. Pedestrian spaces must be safe for all types of users, considering age and ability, with different walking speeds and at different times of the day. Seating should be provided frequently to allow people with limited mobility and the elderly to stop and rest. Lastly, additional infrastructure should be provided for the blind and visually impaired to help them navigate through the site. This includes tactile pavements, colour contrast to delineate the footways, controlled crossings with audible crossing information and rotating cones.⁹

The following resources provide useful reference for designing functional and attractive environments for walking:

- [TfL Streetscape Guidance](#)
- [Pedestrian Comfort Guidance for London](#)
- [Healthy Streets toolkit](#)

5.3 Cycle Framework

Similar to walking, the benefits of good cycle networks go beyond accessibility, safety and comfort and have a profound effect on the liveability of the community.

With the vast array of benefits and policy support, the masterplan has an opportunity to not only integrate with the existing cycle network, but to also deliver high quality cycle facilities (i.e. network and infrastructure) that is above and beyond to encourage even more cycling in and around LBE.

In order to achieve these objectives, the cycle framework can be distinguished into two major sections:

- **Planning at a network level** - the masterplan should deliver a comprehensive and continuous cycle network through the site and should evidence

⁸ Department of Transport. *Local Transport Notes Traffic Calming* (LTN 1/07). 15 March 2007. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/329454/lt-1-07_Traffic-calming.pdf

⁹ TRL Limited. *Pedestrian Environment Review System for London TfL Edition Review Handbook*. Version 2, May 2006.

opportunities for connection to existing and future cycle networks outside site boundaries.

- **Planning at a street level** - the masterplan and individual phases should aim to provide a liveable environment where people of all ages and abilities can safely, comfortably and easily ride a bicycle to their desired destination.

5.3.1 Network level

A comprehensive network of cycling facilitates must be planned and designed to support the active travel visions of the masterplan. The following features of a quality cycling network should be taken into consideration:

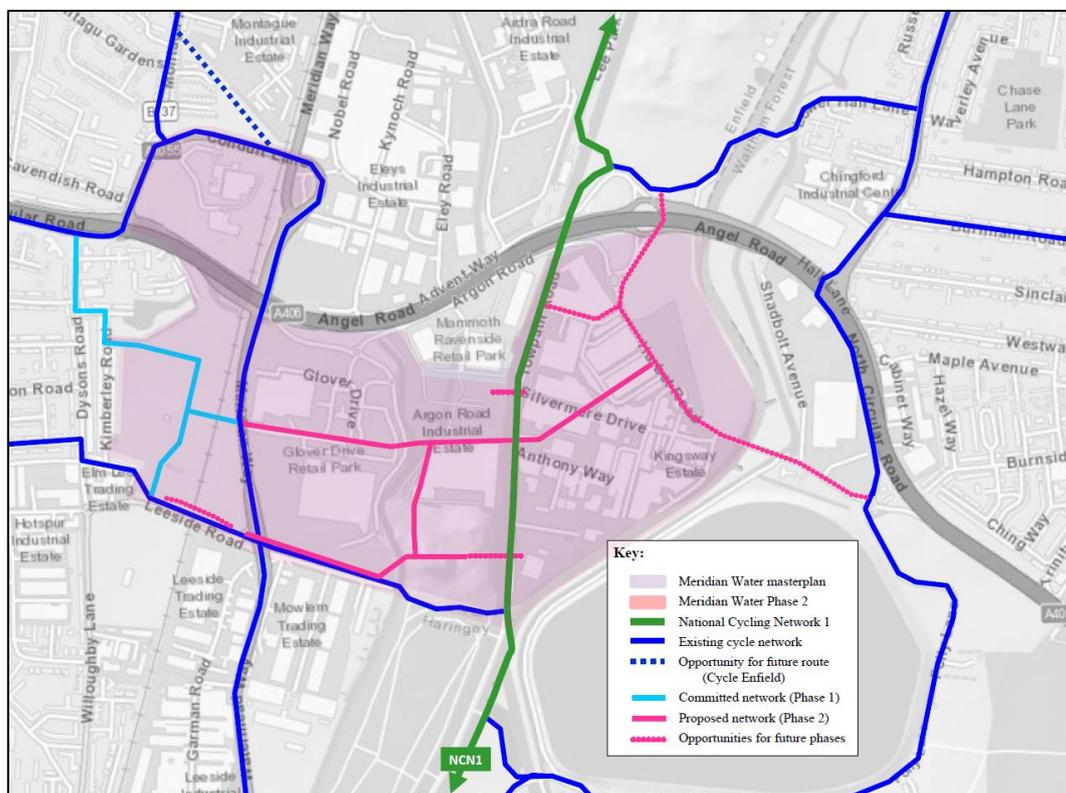
- **Routing** - the overall network of cycle routes should be direct, logical and convenient for cyclists without obstacles and diversion. Less direct routes should be only implemented where there are topographical constraints or the indirect route presents itself as a more comfortable option.
- **Destination** - the overall cycle network should connect to multiple key destinations within and beyond the masterplan. The cycle network should be connected to key destinations such as: Meridian Water station, the Central Spine Road, high streets, hospitals, education establishments (schools, colleges, and universities), offices, community facilities and services, entertainment and leisure venues, etc. Cycle routes should be well connected beyond the masterplan boundaries linking to Edmonton Green, Enfield Town and other neighbouring boroughs including Haringey, Walthamstow, and Chingford.
- **Fit for purpose** - the type of cycle interventions for the masterplan will depend on the street's functional requirement and potential traffic demand. TfL's *London Cycle Design Standards* (LCDS) outlines multiple options for cycle interventions that can be implemented (i.e. segregated lanes, shared bus lanes, mixed traffic). The cycle interventions implemented in the network should be based on the street's functional requirement, the key destinations and how it integrates with other sustainable modes (walking, public transport system).
- **Priority** - cyclists should be given high levels of priority on the primary highway routes.
- **Connectivity** - the masterplan should provide the necessary cycle infrastructure to improve east-west connectivity. The construction of bridges across existing waterways which cater for cycling would ensure that access to future development phases are not severed as is currently the case. Gradient changes on any bridges should be kept at a minimum to provide a good level of comfort to a range of cyclists of all ages and abilities.
- **Wayfinding** - a signage and way-finding system should be implemented throughout the masterplan to enforce a safe, comfortable, legible and coherent cycle network. The system should allow cyclists to better navigate the masterplan and increase awareness among other transport users. The signage system and surface markings should indicate information including distances,

general directions, areas of priorities and areas that are shared with different street users.

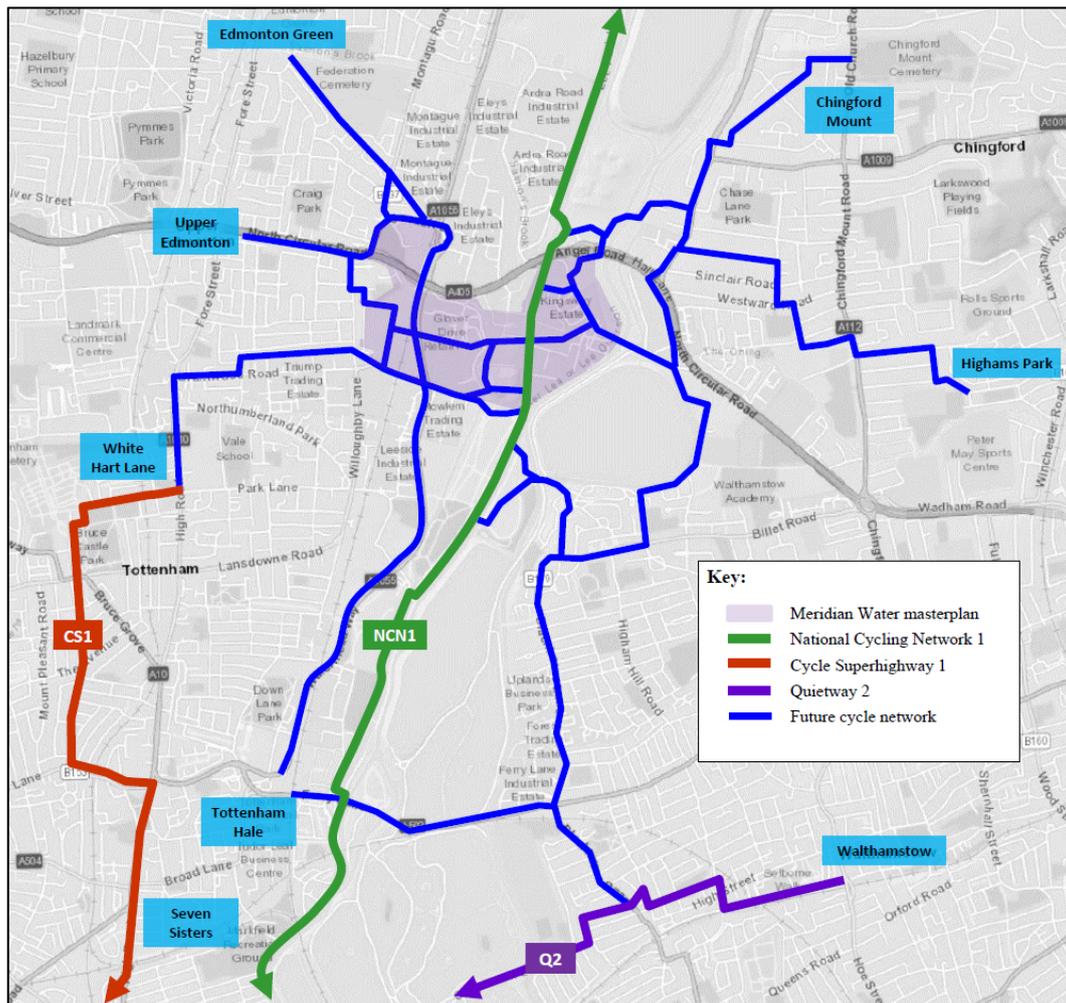
- **Cycle hire** - a cycle hire system in future with a full masterplan build-out could be implemented to promote and attract more cyclists in the masterplan area. Opportunity to extend the cycle hire stations / docks in future should be explored. Cycle hire docks could be placed strategically in key destinations (e.g. at stations), near cycle infrastructure and visible along the Central Spine Road and high streets to encourage short and impromptu trips.

An indicative future cycling network for the masterplan has been prepared and is shown in Figure 12. As shown, the masterplan looks to create a fine-grain network of cycle-friendly routes, comprising segregated cycle lanes, shared paths and quiet streets. The aspiration is for the east-west Central Spine Road to cater for pedestrian, cycle and bus movements only, providing connection to Meridian Water station and major north-south routes such as the NCN1.

Figure 12: Meridian Water potential future cycling network



At a broader scale, Figure 13 shows the wider aspirational network of cycling links that would connect the masterplan to key cycling infrastructure and nearby town centres. Some of these connections would need to be delivered by others (such as Cycle Enfield), while others are recommended to be delivered as part of future masterplan phases.

Figure 13: Future network cycle map

5.3.2 Street Level

The masterplan provides an opportunity to integrate with the existing cycling network and to deliver excellent infrastructure to foster a stronger culture of cycling in LBE. The following street-level elements should be taken into consideration at an appropriate design stage:

- **Intersections** - cycle interventions at junctions and crossings should be implemented throughout the masterplan to facilitate and prioritise safe cycle turning movements, particularly along key corridors.
- **Inclusive design** - cycling facilities should be designed for a range of age, abilities and desired destination. Cycle facilities should be designed for highly capable and experienced cyclists but also for children, the elderly and adults carrying children.
- **Cycle facilities** - cycle infrastructure should be visible, safe and attractive in order to encourage more cycle trips. The cycle facilities should contribute positively to and enhance the urban realm.
- **Filtered permeability** - filtering streets could be implemented to encourage cycling. Designing streets and junctions with physical barriers on the road that

only allow cyclists (and pedestrians) to ‘filter’ through will facilitate easier and more direct cycling trips.

- **Cycle parking** - cycle parking facilities should complement the street network and public realm. Cycle parking facilities should be well located and designed to be fit-for-purpose and accommodate a range of bicycle types (i.e. cargo bicycles and electric cycles / e-bikes) and riders (all abilities, children with tricycles). There should be sufficient parking available to future demand adopting Draft London Plan requirements at minimum, with an appropriate balance of short and long-term provision. Cycle stands should be located in secure and visible, well-lit places that have high levels of natural surveillance.

The following resources provide useful reference for designing functional and attractive environments and end-of-trip facilities for cycling:

- [London Cycle Design Standards](#)
- [TfL Streetscape Guidance](#)
- [Healthy Streets toolkit](#)
- [Draft London Plan Policy T5 \(Cycle Parking\)](#)

For reference, general guidance on designing facilities for cycling has been provided at Appendix B.

5.4 Integration with Public Transport

Alongside walking and cycling outcomes, the masterplan represents an opportunity to deliver an integrated network of public transport (rail and buses), providing connectivity in all directions, building on the existing services and enabling new services to be introduced, in turn generating more active travel trips to and from these services.

There is an opportunity to capitalise on major transport infrastructure such as Crossrail 2, which will boost the accessibility of the site. According to current parameters relating to PTAL, Crossrail 2 could raise the site accessibility to a very good level around the station.

Provision for an integrated public transport, cycling and walking facilities/network around Meridian Water station will require a phased approach as the expected demand for services grows. This will ensure that use of sustainable modes grow as the masterplan develops, and it is will be important that pedestrian and cycle routes to and from the station are of high quality.

5.5 Partnership with key stakeholders

Achieving good alignment with Healthy Streets principles requires active engagement with partners across the public, private and community sectors. Local stakeholders and constituents can offer valuable knowledge and critical insights to complement the technical expertise of the design team.

As each development phase progresses, engagement and dialogue should be held with the following key stakeholders:

- LBE and the neighbouring boroughs (LB Haringey, LB Waltham Forest);
- Cycle Enfield and other local cycle user groups and cycling organisations;
- TfL and their cycle specific representatives;
- Local employers and other generators of significant cyclist movements (i.e. higher education establishments and hospitals). It is key that new employers understand the importance of cycling and the benefits it provides for their employees;
- Developers whose land may be affected or who may be asked to contribute funding;
- Existing local residents and local amenity groups;
- Schools and colleges; and
- Specific interest groups (i.e. local disability groups, pedestrian accessibility, inclusive cycling).

Alignment with Healthy Streets approach

As identified as a key aspiration of the masterplan in Section 3.2, the Healthy Streets approach must lie at the core of the masterplan. To ensure alignment with this approach, Table 2 sets out an appraisal of the masterplan's active travel framework against the ten Healthy Streets indicators.

This is a high-level appraisal of principles only, noting that more detailed assessments of Healthy Streets metrics can be undertaken as part of individual Phase applications (e.g. using the *Healthy Streets Check for Designers*¹⁰).

¹⁰ More information can be found at <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/healthy-streets>

Table 2: Masterplan Framework Healthy Streets appraisal

Healthy Streets Indicator		Masterplan Active Travel Framework Outcomes
<i>People choose to walk, cycle and use public transport</i>	<i>Walking and cycling are cheap, accessible and sustainable activities. Social norms influence active travel - people are more likely to walk and cycle when they see others doing the same.</i>	<p>By ensuring appropriate and high-quality infrastructure for walking and cycling is designed in to each phase of the masterplan, a high uptake in active travel modes can be expected, noting the objective of achieving at least 80% of trips by walking, cycling or public transport.</p> <p>This includes ensuring that end-of-trip facilities are incorporated into streetscapes and buildings, where appropriate, from the outset and ensuring the needs of disabled persons are appropriately catered for.</p>
<i>Pedestrians from all walks of life</i>	<i>Environments that are safe and inviting for journeys made on foot or by bike will be inclusive for all and encourage people from all walks of life to walk and cycle.</i>	Thoughtful and inclusive streetscape design in line with current and best practice design standards will allow for people of all ages and abilities to safely and confidently walk or cycle around the site at will.
<i>Clean air</i>	<i>Concerns about air quality may influence Londoners' choice to travel actively. It is sometimes appropriate for people with respiratory conditions to limit vigorous activity when pollution is high.</i>	Low vehicle traffic through the site due to limited private car parking will contribute to a clean and healthy public environment for people to walk and cycle within.
<i>People feel safe</i>	<i>People will actively travel if it is a pleasant experience. Anyone being injured on the road contributes to it feeling unsafe for them and others. Walking levels are influenced by safety concerns and perceived road danger is a barrier to cycling in London.</i>	<p>Key design elements such as safe crossing points, low vehicle traffic volumes and speeds, street lighting and passive surveillance will contribute to perceived and actual safety for those who walk and cycle.</p> <p>The masterplan will bring a step-change from current conditions on the site.</p>

<i>Not too noisy</i>	<i>It is more pleasant to walk or cycle where noise levels are low. Noise pollution can put people off walking or spending time on certain streets.</i>	As per ‘clean air’, low levels of car parking provided across the site will limit unnecessary vehicle usage through the masterplan and allow public spaces and streets to have a more ‘organic’, human feel and be subject to low noise levels from man-made sources.
<i>Easy to cross</i>	<i>People prefer direct routes. Unsafe streets with fewer crossings and higher traffic speeds and volumes are all associated with lower levels of active travel.</i>	Prioritised pedestrian crossings particularly along key active travel corridors through the masterplan will promote the convenience of walking and cycling as the first-choice mode of travel, while improving safety and accessibility for disabled persons.
<i>Places to stop and rest</i>	<i>People are more willing to visit, spend time in, or meet other people in areas where there are places to stop and rest.</i>	Through active and passive streetscape and public realm design, the masterplan aims to provide pleasant and comfortable places to rest and socialise in public areas.
<i>Shade and shelter</i>	<i>Temperature and rain influence walking rates and shade and shelter can encourage active travel. Cycling levels are also closely related to average daytime temperatures.</i>	Particularly on routes to / from public transport and in locations where people may gather or be stationary, provisions made for all weather conditions will enable active travel to occur during all times of the year.
<i>People feel relaxed</i>	<i>People are more likely to walk or cycle in areas where they feel relaxed and which have other people in and pleasant and scenic elements such as trees, landscaping, public art, attractive gardens and shop frontages.</i>	Active street frontages, public gathering spaces and the activation of the waterways proposed throughout the site will create interesting and exciting places for people to walk or cycle to or through.
<i>Things to see and do</i>	<i>People are more likely to travel actively when the street at eye-level is interesting and attractive and when there are local destinations e.g. shops that can be reached by a short walk or cycle ride.</i>	The internal network will feature a mixture of ‘movement’ and ‘place’ street functions which both encourage trips by active travel, while streetscape design which encourages slow traffic speeds will contribute to a ‘calm’ environment for people walking and cycling.

6 Meridian Water - Active Travel Proposals

6.1 Introduction

This section sets out the active travel measures which are proposed to be implemented as part of each phase of the masterplan forming part of a package of improvements to be undertaken in the wider area in due course.

Given the project programme, it is intended that this section of the ATS be subject to updates as each development phase is explored and refined in greater detail.

Due to

The masterplan's internal street and path network and public realm shall be designed to incorporate appropriate and quality pedestrian and cycle facilities throughout the site in accordance with the framework set out in Chapter 5 of this ATS.

6.2 Masterplan Phase 1

The street network and connections as part of Phase 1 of the masterplan have been designed with active travel in mind, and will include the following:

- Minimum street widths and tight corner radii to encourage low vehicle speeds, to create an environment in which pedestrians can walk, or stop and chat, without feeling intimidated by motor traffic, and to make it easier for people to move around and promote social interaction;
- Traffic calming measures to slow traffic. Safe crossing points and raised tables are provided following pedestrian desire lines and will feature tactile paving and dropped kerbs;
- Shared surface type design with smaller kerb up-stand and block pavers (being aware that shared surfaces can cause problems for some disabled people, for example people with cognitive difficulties may find the environment difficult to interpret so pedestrians are provided with 'safe spaces' on the footway and frequent DDA compliant crossing points);
- Internal layout and junctions designed for speeds of 20mph and lower, enabling priority for pedestrians at the junctions.

Figure 14 shows the future pedestrian and cycle routes proposed through the Phase 1 site, notably the connection over the WAML which will remove the existing east-west severance for pedestrians, significantly improving access within and across the site. It was established that providing a cycle crossing at the station would not be practical and a future solution has since been explored adjacent to Leaside Road and discussed in the following section.

Figure 14: Phase 1 pedestrian and cycle routes and connectivity

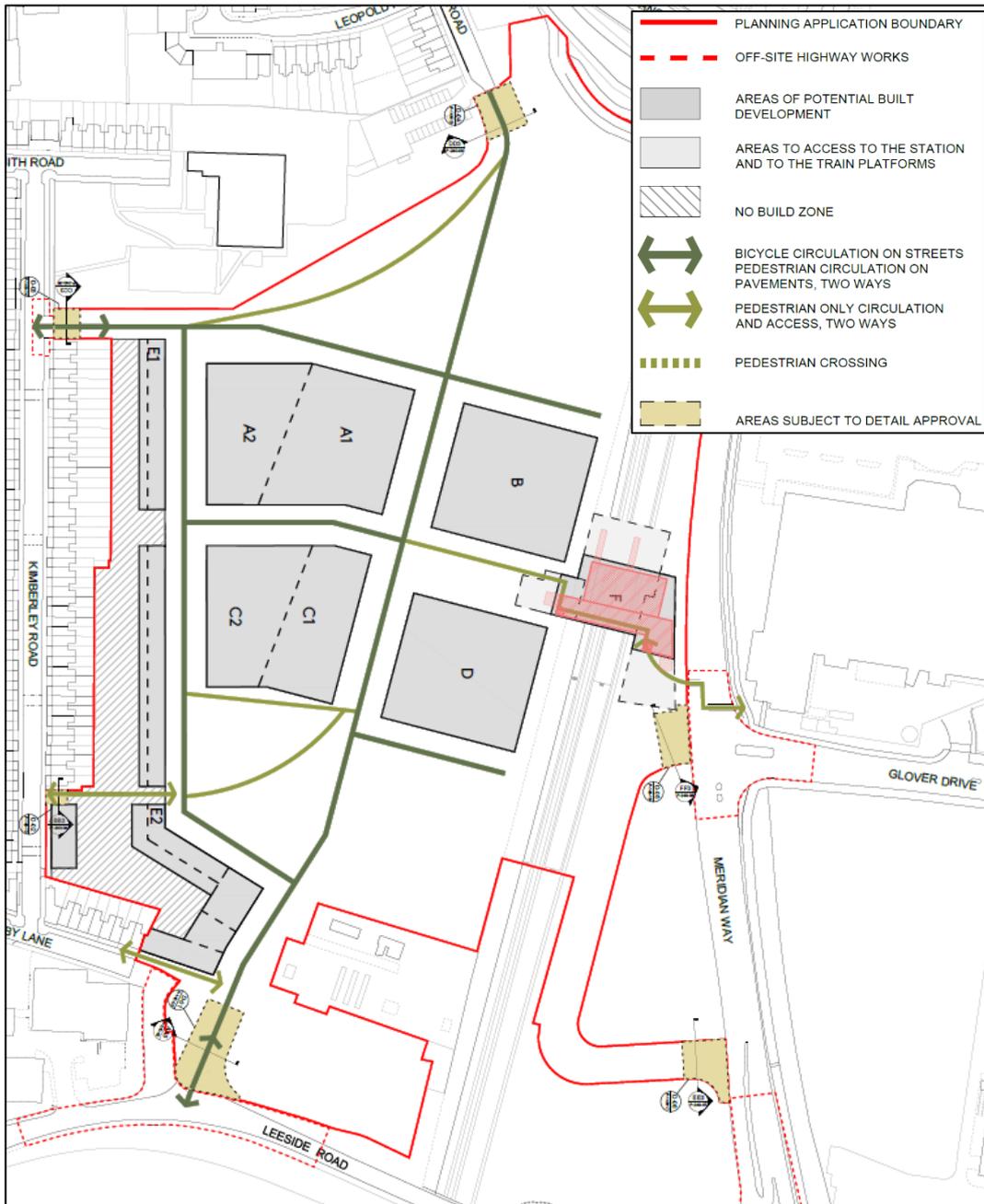


Figure 15 provides a visualisation of the future pedestrian / public realm environment within Phase 1.

Figure 15: Phase 1 public realm visualisation (looking east, towards new station)



Image courtesy of KCA, 2019

6.3 MWSIW

6.3.1 Overview

The MWSIW will deliver a package of works that will comprise:

- The ‘Central Spine Road’ & Leaside Link Road;
- Brooks and River Lee Navigation Bridges (x5); and
- Other works relating to landscaping, flood alleviation and utilities.

The proposed infrastructure that would be delivered will be critical to achieving active travel outcomes across the site. The Central Spine Road is envisaged to be for bus / cycle / pedestrian movements only along the middle section to reduce traffic volumes and provide a high-quality environment for active travel.

The construction of pedestrian / cycle bridges over the waterways (Pymmes Brook and River Lee Navigation) removes existing severances and unlocks future plot developments east of the waterways and for the delivery of an east-west active travel corridor through the entire site.

There are also future proposals to look into the delivery of a new cycle / pedestrian bridge connection adjacent to Leaside Road, which will form part of a separate planning application to be submitted at a later date.

This new bridge and the junction improvements at Meridian Way / Leaside Road are discussed in greater detail later in this section.

6.3.2 Leaside Road pedestrian and cycle bridge

To improve east-west accessibility and permeability for pedestrians and cyclists, it is proposed that a new foot and cycle bridge along the north side of Leaside Road will be provided.

The proposed bridge, location shown conceptually in Figure 16, will significantly improve these conditions by providing a separated facility for pedestrians and cyclists. It will provide a much-needed traffic free east-west link directly between Edmonton and the eastern ‘half’ of the masterplan, reducing conflicts at the existing junctions to the north and opening up routes for active travel between Edmonton Green, Enfield and the western and eastern areas of the masterplan.

Figure 16: Leaside Road concept sketch

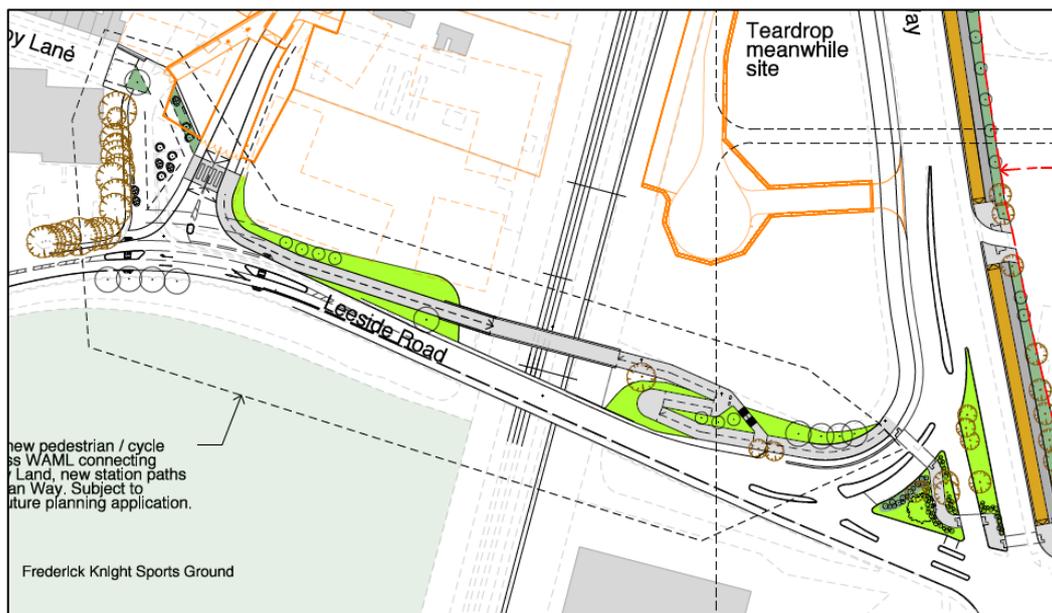


Image courtesy of 5th Studio Architects, 2019

It will also provide connectivity to a number of schools within Upper Edmonton, and with the planned routes of Cycle Enfield will provide further connectivity to routes connecting; The London College of Accountancy Business and Computers; Pymmes Park; Firs Farm Wetlands Park & Playing Fields; and Edmonton Green shopping centre, all within 5km of the site.

The cycle and pedestrian bridge over Leaside Road will also serve to connect the site to the A1010 High Road, with local shops and entertainment, including the new White Hart Lane Stadium. This will also provide alternative access to Tottenham town centre, 3km away. Without this route, the most direct alternative on-road cycle route into Tottenham is via the A1055 south, a road that is congested without dedicated cycle facilities and unfavourable topography in parts.

Providing links to A1010 High Road has the added benefit of easier access to Church Road, where the CS1 begins. This provides a continuous, segregated cycle lane to Liverpool Street. Key areas of interest along the route within 5km of the site include; St Francis de Sales Junior School; Bruce Grove Station; The College of North East London; and St Ignatius RC Primary School. Further afield, Our

Lady's Convent High School can be accessed within 5.5km of the site. It will also open up access to Wood Green, 5km and Alexandra Palace, 6km.

All three routes combined provide good links to Tottenham Hale and south-east Haringey. However, links to central and eastern Haringey are poor. The proposed Leaside Road cycle and pedestrian bridge will therefore provide a much-needed link to these areas to enable the expected increase in walking and cycling demand in the area.

6.3.3 Meridian Way / Leaside Road junction improvements

There are existing cycle lanes and crossing points at the existing Meridian Way / Leaside Road junction. However, these are only provided on the southern side of the junction, with none provided to the north and as such these do not fit in with desire lines, are not direct and are difficult to navigate for pedestrians and cyclists.

In order to improve this and provide a better connection between the development and proposed Leaside Road pedestrian and cycle bridge, minor improvements are proposed to the junction as shown in Figure 17. These works will provide a more direct crossing point for pedestrians and cyclists whilst making use of the existing traffic signal staging and therefore will not have an impact on highway capacity or junction operation.

Figure 17: Proposed improvements to the Meridian Way / Leaside Road junction



Image courtesy of 5th Studio Architects, 2019

6.4 MWP2

6.4.1 Overview

In addition to the MWSIW discussed above, MWP2 will deliver a high-quality network of cycle and pedestrian facilities, which comfortably sit within the Heathy Streets approach and the masterplan's active travel principles.

The internal street network within MWP2 will include two-way cycle paths which provide direct connections to Meridian Water station and Leaside Road to the west (shown in Figure 18).

Figure 18: Phase 2 Street Hierarchy

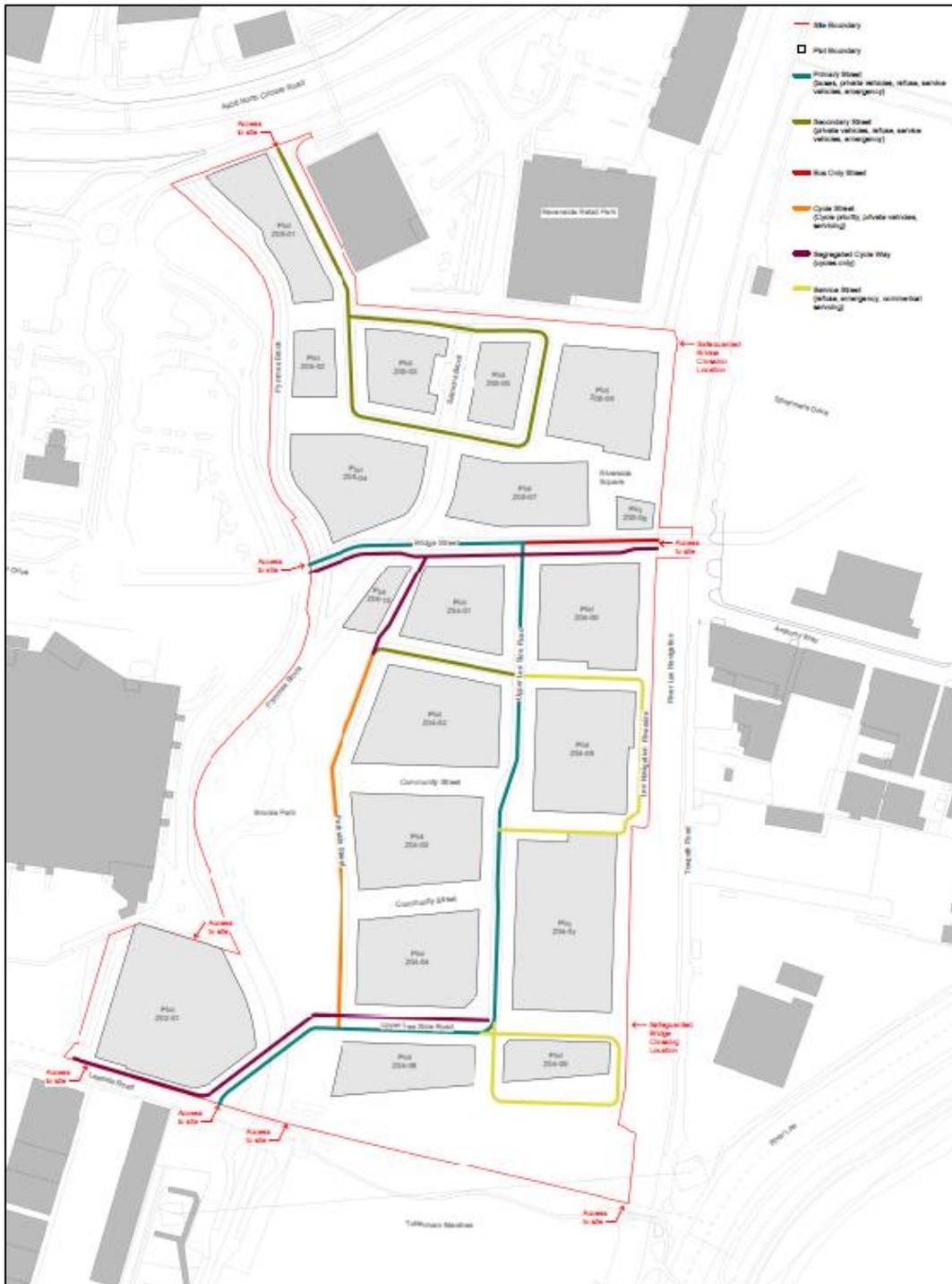


Image courtesy of KCA, 2019

As per Phase 1, the street network and connections have been designed with active travel in mind, and will included the following:

- Minimum street widths and tight corner radii to encourage low vehicle speeds, to create an environment in which pedestrians can walk, or stop and chat, without feeling intimidated by motor traffic, and to make it easier for people to move around and promote social interaction;

- Traffic calming measures to slow traffic. Safe crossing points and raised tables are provided following pedestrian desire lines and will feature tactile paving and dropped kerbs;
- Shared surface type design with smaller kerb up-stand and block pavers;
- Internal layout and junctions designed for speeds of 20mph and lower, enabling priority for pedestrians at the junctions.

Figure 19 provides a visualisation of the future pedestrian / public realm environment within Phase 2.

Figure 19: Phase 2 public realm visualisation (looking east, across Pymmes Brook)



Image courtesy of KCA, 2019

6.5 Future Opportunities

The following opportunities are identified as those which may enhance the active travel network in the vicinity of the site. While not necessary to support existing development phases of Meridian Water; they are already being investigated or could be investigated further in future. Additional opportunities may also be identified in future.

6.5.1 Meridian Water station cycle parking

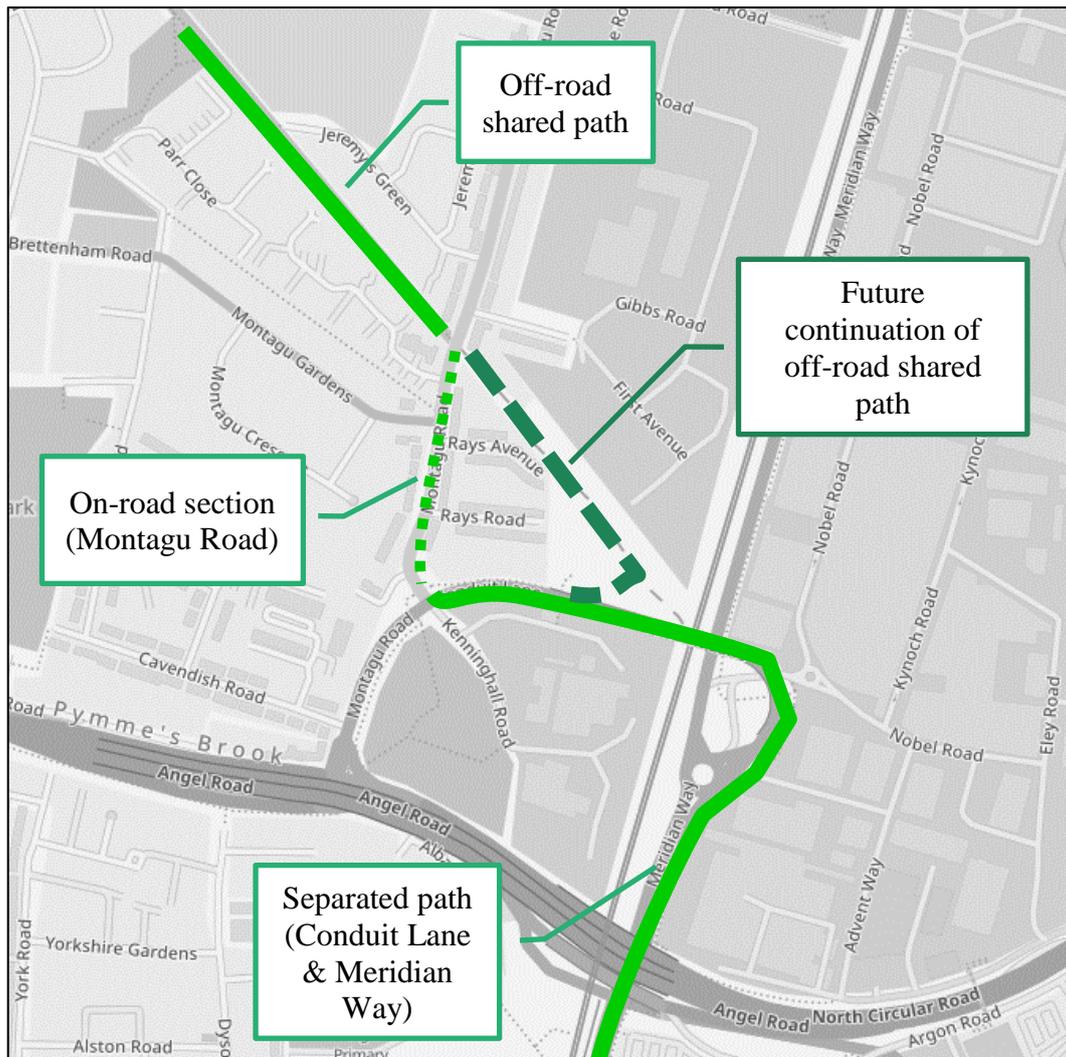
With the opening of Meridian Water station in June 2019 comes an opportunity to encourage more people to cycle or walk as part of their connection to rail services. Providing facilities such as the signalised crossing of Meridian Way and bicycle end-of-trip facilities at the station will encourage not only residents, employees and visitors to Meridian Water to travel sustainably but also cater for those travelling from further afield. An appropriate quantum and type of cycle parking should be provided at the station to cater for the likely increase in demands at the station as development continues, and this forms part of a separate study as well as how access to the station can be enhanced.

6.5.2 Continuation of off-road path between Edmonton and Meridian Water

Cycle Enfield are currently investigating where new routes could be introduced in future to improve north-south off-carriageway routes which linking Meridian Water with surrounding key destinations.

One of these potential enhancements could be the extension of the existing off-road shared path which currently runs between Edmonton Green (Plevna Road) and Montagu Street. There is a potential opportunity to extend this path across Montagu Street and connect to Conduit Lane as shown indicatively in Figure 20.

Figure 20: Potential extension of off-road path



6.5.3 Upgrade path between Towpath and Lower Hall Lane

There is an opportunity for improvements are made to the route off Towpath Road to the northeast along Lower Hill Lane to improve the safety, accessibility and overall cycling experience and providing an attractive cycling option towards

Waltham Forest. The existing path and section of path improvement is shown in Figure 21.

With LB Waltham Forests’ plans to create a Mini-Holland network, the improved link from the site will provide direct cycling routes to Chingford Town Centre, Blackhorse Village, Walthamstow Village, Leyton Town Centre and Leytonstone town centre, all within 5km of the site.

It will also provide a link to Quietway 2, providing further afield links to Hackney Central, 7.5km from the site; London Fields, 8.5km from the site; Essex Road, 11km from the site; and Angel 12.5km from the site.

Figure 21: Potential section of path improvement – Lower Hall Lane



6.6 Summary

Based on the above, Table 3 sets out the key active travel infrastructure being delivered as part of each masterplan development phase. It is envisaged that further details will emerge as each phase is refined in due course, while further recommendations may be put forward as development phases are constructed and occupied.

Discussions with local boroughs and TfL should continue during the planning for each phase, so that opportunities can be identified and to ensure alignment in active travel network planning across the area. Through the investigation of Active Travel Zones (ATZ) as part of each development phase, improvement opportunities will be identified and presented for further consideration by the TfL, the local or highways authority.

Table 3: Active travel infrastructure by development phase

Development Phase	Key Active Travel Infrastructure
1	<ul style="list-style-type: none"> • Internal street network designed to encourage low vehicle speeds and prioritise active travel modes. • Meridian Water rail station, including providing east-west access across the rail line. • Signalised crossing at northern leg of Meridian Way / Glover Drive junction.
2	<ul style="list-style-type: none"> • MWSIW: <ul style="list-style-type: none"> ○ ‘Central Spine’ & Leaside Link Road including separated cycle lane ○ Leaside Road pedestrian and cycle bridge ○ Meridian Way / Leaside Road junction improvements • MWP2: <ul style="list-style-type: none"> ○ Internal street network designed to encourage low vehicle speeds and prioritise active travel modes.
3-8	<i>TBC</i>

Appendix A

Active Travel Policy Background

A1 National Policy

A1.1 National Planning Policy Framework - Department of Communities and Local Government (2012)

The Department for Communities and Local Government (DCLG) published the National Planning Policy Framework (the NPPF) in March 2012. The NPPF replaces the previous planning policy guidance (PPG) and planning policy statement (PPS) documents.

With specific reference to transport, the NPPF states that “the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel”. The NPPF also indicates that “developments should be located and designed where practical to:

- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones; and
- consider the needs of people with disabilities by all modes of transport”.

The NPPF indicates that “a key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan”.

The Department for Transport (DfT) produced Good Practice Guidelines: Delivering Travel Plans through the Planning Process in April 2009 as best practice guidance. This document sets out the actions that can be taken in producing high-quality Travel Plans. The guidelines aim to help those creating and implementing Travel Plans understand the process involved and outlines good practice steps for achieving successful and sustainable Travel Plans.

The Walking and Cycling Action Plan, published by the DfT in 2004 promotes the elevation and greater prioritisation of pedestrians over highway and transport planning. This Plan places pedestrians, in most instances, on top of the transport modal hierarchy, followed by cyclists, public transport and lastly private vehicles.

In relation to the promotion of walking and cycling, the main objectives of the Walking and Cycling Action Plan are to:

- Create places in which people want to walk and cycle;
- Provide high-quality facilities for safe walking and cycling;
- Promote educational resources, training and marketing to influence travel behaviour; and

- Monitor success through better targets and indicators.

A1.2 Working Together to Promote Active Travel

In May 2016, Public Health England published “Working Together to Promote Active Travel - A briefing for local authorities”. Although aimed at local authorities, it contains useful background and context regarding the connection between physical and mental health and transport usage.

It also describes the wider impacts of active transport, including its overall benefits in achieving positive social, equity and economic outcomes. These outcomes are linked to how streets, the public realm and neighbourhoods are developed.

A2 Regional (London-wide) Policy

A2.1 Draft London Plan (2018)

The draft New London Plan (“Draft Plan”) outlines the Mayor’s proposed approach to spatial development in London, promoting a new strategy called ‘Good Growth’ which aims “to re-balance development in London towards more genuinely affordable homes for working Londoners to buy and rent.” The Draft Plan also intends to revolutionise travelling around London by “enabling a boom in active travel, with walking and cycling becoming the main mode of choice for millions of Londoners”. Chapter 10 of the Draft Plan relates directly to transport and presents a number of key policies.

- **Policy T1** states that “all development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes”.
- **Policy T2** advocates for the Mayor’s Healthy Streets Approach to be applied to all types of land uses. Developments will be required to:
 - “Demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance”;
 - “Reduce the dominance of vehicles on London’s streets whether stationary or moving”; and
 - “Be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport”.
- **Policy T4** states that “development proposals should reflect and be integrated with current and planned transport access, capacity and connectivity”, and where “the ability to absorb increased travel demand through active travel modes has been exhausted, existing public transport capacity is insufficient to allow for the travel generated by proposed developments, and no firm plans and funding exist for an increase in capacity to cater for the increased demand, planning permission may be

contingent on the provision of necessary public transport and active travel infrastructure”.

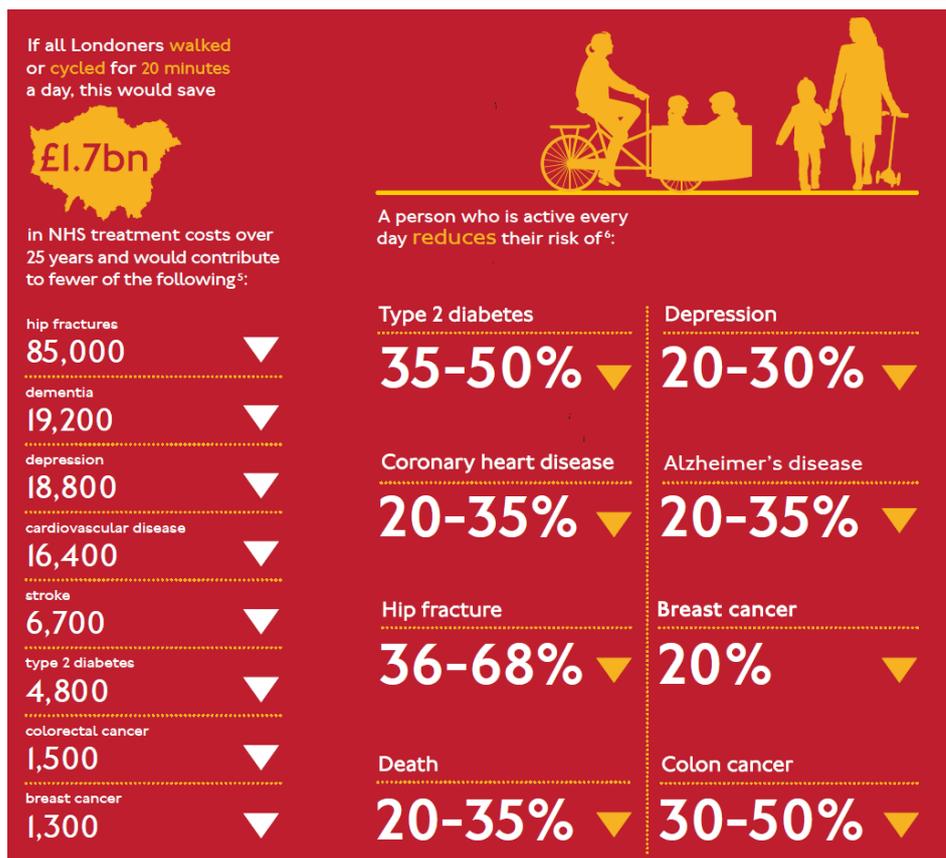
- **Policy T5** promotes cycling as a key mode in relation to the future development of London. To support this “development proposals should help remove barriers to cycling and create a healthy environment in which people choose to cycle”.
- **Policy T9** states that “[planning] obligations and contributions may include the provision of new and improved public transport services, capacity and infrastructure, the expansion of the London-wide cycle networks and supporting infrastructure, and making street pleasant environments for walking and socialising, in line with the Healthy Streets Approach”.

Public consultation on a new draft London Plan commenced in December 2017, with the aim of the Plan undergoing an Examination in Public in late 2018 ahead of adoption in Autumn 2019.

A2.2 Healthy Streets for London

The ‘Healthy Streets’ approach is the system of policies and strategies to help Londoners use cars less and walk, cycle and use public transport more. At the core of the approach is the positive health benefits achieved by walking and cycling at least 20 minutes per day, as summarised in Figure 22.

Figure 22: Health Benefits of Walking & Cycling



The Healthy Streets Approach is not an idealised vision for a model street. It is a long-term plan for improving Londoners' and visitors' experiences of our streets, helping everyone to be more active and enjoy the health benefits of using our streets on a daily basis.

The 'Healthy Streets Indicators' are ten evidence-based indicators which define the important elements that makes streets appealing, healthy and inclusive places. Working towards these indicators on our street networks will contribute towards creating a healthier city. The ten healthy streets indicator are shown in Figure 23.

Figure 23: The Healthy Streets indicators



The ten indicators are summarised below:

- **Pedestrians from all walks of life** - London's streets should be welcoming for everyone;
- **People choose to walk, cycle and use public transport** - this shift to healthier ways to travel will only happen if we reduce the dominance of motor traffic and improve streetscape experience;
- **Clean air** - this benefits everyone and reduces unfair health inequalities;
- **People feel safe** - everyone should feel safe at all times on London's streets;
- **Not too noisy** - less motor traffic noise will directly benefit health, street environment ambience and encourage active travel and human interaction;
- **Easy to cross** - by removing physical barriers, fast moving or heavy traffic and enabling more direct routes, streets will be more permeable;

- **Places to stop and rest** - more places to stop and rest will benefit everyone including local businesses by making streets more attractive places to spend time in;
- **Shade and shelter** - protection from high winds, heavy rain and direct sun will enable everyone to use London's streets, despite the weather;
- **People feel relaxed** - without the dominance of motorised traffic and with clean, well-maintained, clutter-free footways and cycleways, people will feel more comfortable; and
- **Things to see and do** - attractive views, buildings, planting and street art will all make for better, more interesting and stimulating journeys on London's streets, thus encouraging people not to drive short distances.

TfL have published "Healthy Streets for London" which provides the framework of policies and strategies that are needed to achieve the ambition for all Londoners to enjoy the benefits of being active through walking or cycling for at least 20 minutes a day. It sets out the methods to:

- improving local environments by providing more space for walking and cycling, and better public spaces where people can interact,
- prioritising better and more affordable public transport and safer and more appealing routes for walking and cycling, and
- planning new developments so people can walk or cycle to local shops, schools and workplaces, and have good public transport links for longer.

TfL have developed and provide a toolkit to deliver Healthy Streets, including the Healthy Streets Check for Designers, Healthy Streets survey, and Small Change Big Impact (a practical guide to delivering temporary, light touch and low-cost projects to change the way a street looks and feels).

A2.3 Mayor's Transport Strategy (2018)

The Mayor's Transport Strategy (MTS) was published in March 2018 and sets out the policies and proposals to reshape transport in London over the next two decades.

There is a clear recognition throughout the MTS that the way in which London's street networks are developed can have significant impacts on the social, economic and environmental 'health' of the city. The various benefits of active travel contribute to each of these outcomes, and for that reason the central aim of MTS is for **80% of all trips in London to be made on foot, by cycle or using public transport by 2041.**

There are three key themes at the heart of the strategy which are:

- **Healthy Streets and healthy people** - streets make up 80% of London's public spaces. The MTS explains how street environments and the wider street network will be planned (using the Healthy Streets approach) to promote healthier, more efficient and more sustainable transport options.

If everyone in London walked or cycled for 20 minutes every day, it would reduce their individual health risks significantly. Physical health and mental health are interdependent, and as well as reducing the risk of chronic illness and early death, walking and cycling have been shown to improve mood and self-esteem, and reduce stress, anxiety and depressive symptoms (MTS, p45)

- A good public transport experience - public transport is the most efficient way for people to travel distances that are too long to walk or cycle. The MTS explains how consideration of the whole journey will improve quality of life and reduce car dependency by providing attractive and accessible alternatives to car use.
- New homes and jobs - the MTS applies the Healthy Streets Approach to London's future development, creating the principles of Good Growth. This will ensure that regeneration and future development are planned around walking and cycling for shorter trips and cycling and public transport for longer ones.

The MTS sets out an approach for outer London (of which Enfield is defined within) of:

- Addressing the dominance of motorised transport
- Improving walking and cycling environments to enable trips made by car to be made on foot or by cycling
- Making significant improvements to public transport, both rail and bus
- Bringing in a more joined-up approach to planning transport and dense, mixed land-use developments to encourage active, efficient and sustainable travel patterns.

A2.4 Walking and Cycling Action Plans (TfL)

TfL is implementing a campaign to encourage walking and cycling. This includes promoting the health benefits of being active, publishing the Walking Tube map, and promoting the use of Santander Cycles and free Cycle Skills session.

Delivery and actions plans are being developed which include more detail about how the Mayor and TfL will achieve the visions and objectives of the MTS. Those relevant to this ATS include the following:

A2.4.1 Walking action plan

This action plan is aimed at making London the world's most walkable city, with a target to increase the number of walking trips by more than one million a day by 2024, and to make walking the most obvious, enjoyable and attractive means of travel for all short trips.

The action plan identifies four main areas for action, including; building and managing streets for people walking, planning and designing for walking (including incorporating the 'Healthy Streets' approach), integrating walking with public transport, and leading a culture change.

A2.4.2 Cycling action plan

The vision of the cycling action plan is to make London the world's best big city for cycling, ensuring that everyone who wants to cycle for their journeys in London will be able to do so confidently and comfortably.

It provides an evidence-based approach to planning London's key cycling network and infrastructure by the year 2041. It also sets out a series of actions designed at improving street environments for cycling, making it easier to plan journeys, and promoting and encouraging cycling by breaking down barriers.

An outcome of the cycling action plan is to publish an update to the London Cycling Design Standards (LCDS) in 2019, which will include a methodology to benchmark cycle routes through a series of quality criteria which incorporates the 'Healthy Streets' approach.

A3 LB Enfield Council Local Policy

A3.1 LB Enfield Core Strategy (2010)

The Enfield Plan Core Strategy 2010 - 2025 (2010) sets out the spatial planning framework for the long term development of LBE from the next 15 to 20 years from 2010. It is a strategic document that provides the broad strategy for the scale and distribution of development and the provision of infrastructure to support this. The Core Strategy contains policies for delivering the spatial vision, guiding patterns of development and it is supported by other development plan documents contained within the Local Development Framework (LDF).

With respect to transport, the Core Strategy sets out a number of core policies that "aim to both address the existing deficiencies in transport in the Borough and to ensure that planned growth is supported by adequate transport infrastructure that promotes sustainable transport choices" (paragraph 7.45).

Core Policy 25 (Pedestrians and Cyclists) indicates that LBE "will seek to provide safe, convenient, and accessible routes for pedestrians, cyclists and other non-motorised modes by:

- Developing and implementing improvements to strategic and local walking and cycle routes in the Borough;
- Improving the quality and safety of the public realm, implementing streetscape improvements to be outlined in the Enfield Design Guide and relevant area action plans, fostering road safety, and implementing 'Streets for People' initiatives; and
- Working with Department for Transport, Network Rail and Transport for London to ensure that Abellio Greater Anglia rail line improvements address

the barrier to east-west movements for pedestrians and cyclists caused by the line in the east of the Borough, including the identification of alternative crossing points."

A3.2 LB Enfield Development Management Document (2014)

Council's Development Management Document (DMD) provides detailed criteria and standard based policies by which planning applications will be determined in order to deliver the vision and objectives as set out in the Core Strategy.

In relation to transport, the DMD seeks to minimise car parking and to promote sustainable transport options. It seeks to ensure that any new development is of the highest quality, is attractive to use and links in with the surrounding street network. Developments must also be fully accessible to pedestrians and cyclists, and assist with general movement within an area

For walking, it requires that all developments should make provision for attractive, safe, clearly defined and convenient routes and accesses for pedestrians, including those with disabilities. For cycling, access to new developments should be designed to ensure cycling is a realistic alternative travel choice to that of the private car. Council will seek the provision of segregated cycle routes to adoptable standards as part of a new development, where appropriate.

A3.3 LB Enfield Draft New Local Plan (2018-2036)

LB Enfield are currently in the process of developing a new Local Plan to shape how Enfield is developed in the future. Consultation on the issues and options for the plan was held over winter 2018/19, with further consultation planned for later in 2019. The new Local Plan is expected to be adopted in 2021.

In the meantime, the current Core Strategy and Development Management Plan will continue to apply until Local Plan policies are adopted following consultation and independent examination.

The new Local Plan is expected to continue to promote the Mayor's Healthy Streets approach, which will contribute to the health and wellbeing of Enfield's community and the wider population. This approach will be supported by the Council's Walking and Cycling with Healthy Streets Action Plan.

Draft policy T3 seeks to ensure that active travel modes are the natural choice for trips less than 2km in length. It sets the following actions:

For **cycling**:

The Council will encourage and support the increase use of bicycles by requiring new developments to contribute towards the following measures:

- a) To include the provision and maintenance of convenient accessible and safe secure cycle parking within the boundary of the site;*
- b) To include the provision of changing and showering facilities;*

Developer contribution for improvements to cycling infrastructure, including contributions to the extensions of the Cycle Enfield initiative or other cycle hire scheme to mitigate their impact on the existing network.

For **walking**:

The Council will facilitate walking by requiring major developments to:

- c) Protect and enhance existing footpaths. Proposals that negatively affect existing footpaths, walkways and public realm will be required to demonstrate that alternative provisions adequately outweigh losses such routes;*
- d) Provide new walkways which are accessible, inclusive and safe, within and through their site;*
- e) Provide walkways that are wide enough to support cycle and pedestrian uses; and*
- f) Provide links between existing footpaths and walkways and to town centres, public transport infrastructure and green spaces, where appropriate.*

A3.4 LB Enfield Transport Plan Incorporating Third Local Implementation Plan

LB Enfield's Local Implementation Plan (LIP) is a statutory document, prepared under Section 145 of the Greater London Authority Act 1999, which sets out how a London borough proposes to implement the London Mayor's Transport Strategy in the borough locally. A LIP must contain the borough's proposals for implementing the MTS in its area.

Enfield's LIP is focused on delivering improvements on the transport network which the Council is responsible for, via a wide-ranging programme which includes:

- Cycling and walking infrastructure improvements through Cycle Enfield.
- Encouraging active travel including through travel planning and measures to support people to walk and cycle.
- Improving access to the public transport network with a focus on bus stops.
- Making school travel more active, safe and sustainable.
- Road safety measures including delivering Quieter Neighbourhoods.

The LIP identifies seven key objectives, a number of which relate to active transport as follows:

- 1. Deliver Cycle Enfield and supporting measures which encourage more cycling and walking in the borough.*
- 2. Promote safe, active and sustainable transport to and from schools.*

7. *Maintain and improve the transport network in Enfield including developing potential interventions.*

The LIP also states Council’s commitment to supporting the Mayor of London in achieving an overarching target of 80% of trips to be made by active, efficient and sustainable modes by 2041. For Enfield this means meeting proportionate mode share targets:

Percentage of all trips to be on foot, by cycle or by public transport	Year(s)
52%	Average 2014 to 2017
55%	2021
69%	2041

To 2021, the Council’s target is to increase cycling trips from around 5,000 to 25,000.

A3.5 Cycle Enfield

LB Enfield was one of three London boroughs awarded a £30 million grant from TfL in 2012 to develop a Mini-Holland scheme, which is now known as Cycle Enfield¹¹. By transforming high streets and town centres, promoting more active forms of travel, and creating safe and secure cycle routes for everyone, Cycle Enfield has the following key aims:

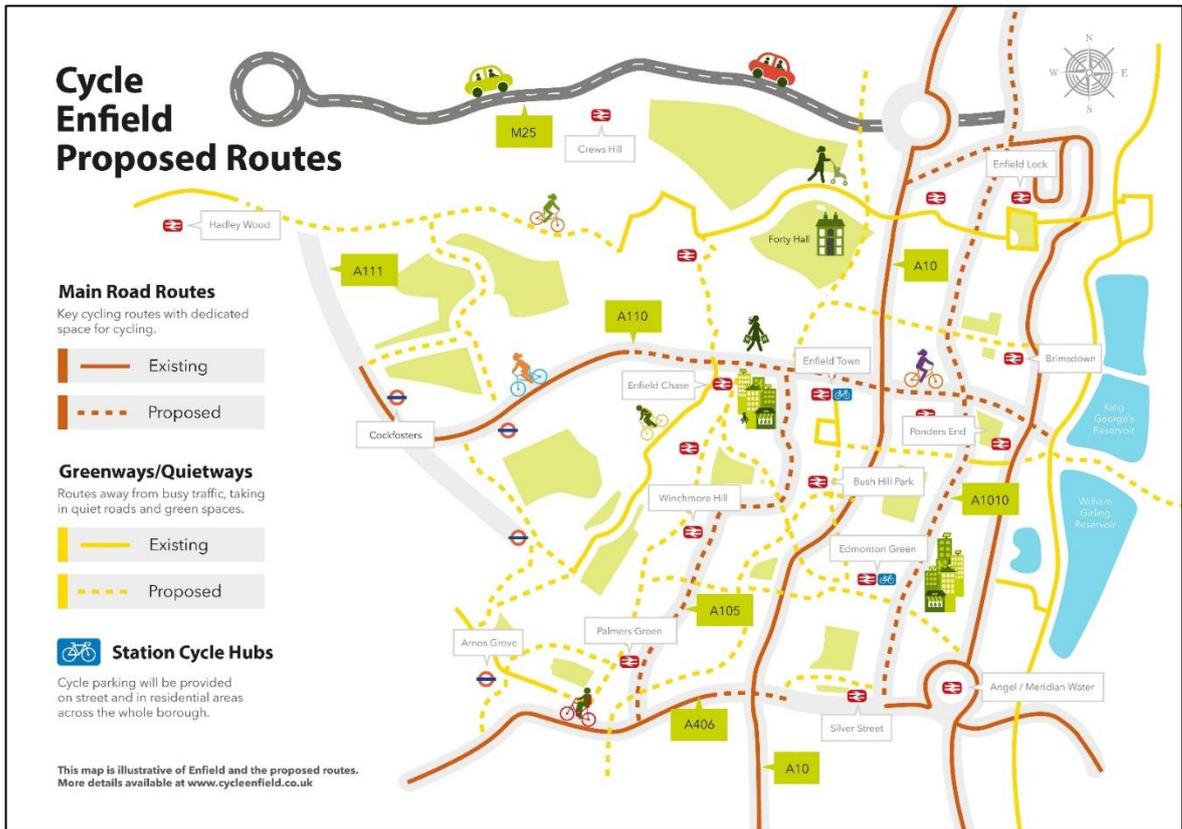
- To support more people to cycle.
- To enable more journeys to be made by bicycle.

Currently only 0.7% of journeys are by bicycle in Enfield and Cycle Enfield has the goal of increasing this figure towards 5% by 2020.

A series of infrastructure improvement works have been made to achieve this goal. This includes protected cycle routes on the A105 Green Lanes and the A1010 Hertford Road. A network of Quietway routes is being designed and implemented, using quiet back streets to link key destinations and corridors. Traffic calming and other measures will also be used to create Quieter Neighbourhoods. Enfield town centre will be redesigned to make it more pleasant and safer to walk and cycle around. **Figure 24** shows the future network envisaged by Cycle Enfield.

¹¹ Refer to <http://cycleenfield.co.uk/>

Figure 24: Cycle Enfield - Proposed and Existing Routes



A3.6 Healthy Enfield

As part of ‘Healthy Enfield’, LB Enfield are active in promoting programmes that encourage active travel, particularly for schools and young people¹². These programmes complement the works being delivered as part of Cycle Enfield.

¹² <https://new.enfield.gov.uk/healthandwellbeing/active-transport/>

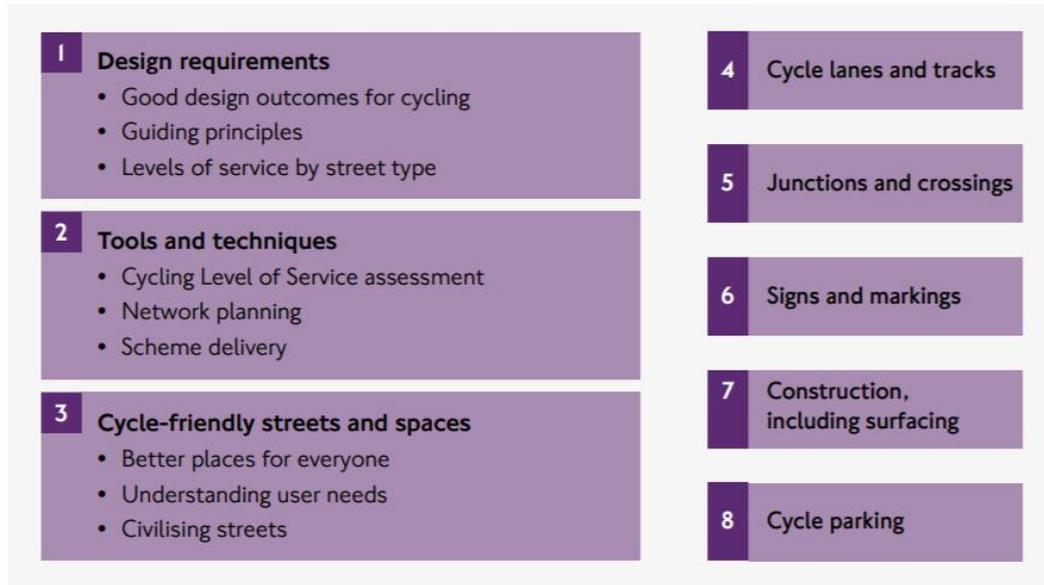
Appendix B

London Cycle Design Standards

B1 Design Standards

TfL's *London Cycling Design Standards* (LCDS) sets out requirements and guidance for the design of cycle-friendly streets and spaces. The LCDS should be the first point of reference for the design of cycle infrastructure within the masterplan. Figure 25 shows the structure of the design standards.

Figure 25: Structure of LCDS¹³



B1.1 Design Requirements

Section 1: Design requirements sets out a series of best practice design principles which are at the centre of the proposed improvements that will be made. They include:

B1.1.1 Safety

It is vital to help make cycling safer and to address negative perceptions about safety. Lanes should be segregated from roads where possible, particularly when moving through junctions and along busy roads. Figure 26 provides examples of good and bad practice.

¹³ <http://content.tfl.gov.uk/lclds-chapter1-designrequirements.pdf>

Figure 26: Good and Bad Practice of Safe Design

B1.1.2 Directness

Routes must be logical and continuous, avoiding unnecessary obstacles, delays and diversions, and planned holistically as part of a network. Figure 27 is an example of where cyclists may choose to stay on the carriageway, in this case cyclists are required to give way on both sides of the road, causing delays.

Figure 27: Good and Bad Practice of Direct Design

B1.1.3 Comfort

Riding surfaces along the lanes and on transitions from one area to another should be fit for purpose, smooth, well-constructed and maintained.

Figure 28: Good and Bad Practice for Comfort Design

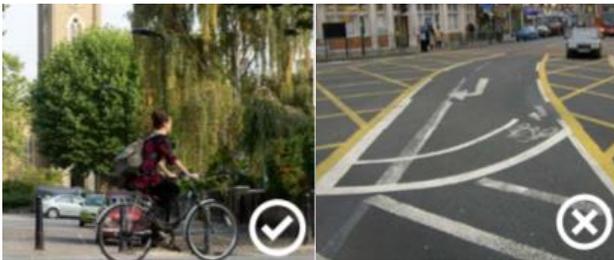
B1.1.4 Coherence

Infrastructure should be legible, intuitive, consistent, joined-up and inclusive. It should be usable and understandable by all users. Neither cyclists nor pedestrians benefit from unintuitive arrangements that put cyclists in unexpected places away from the carriageway

Figure 29: Good and Bad Practice for Coherent Design

B1.1.5 Attractiveness

Infrastructure should not be ugly or add unnecessarily to street clutter. Well designed cycling infrastructure should enhance the urban realm. Sometimes well-intentioned signs and markings for cycling are not only difficult and uncomfortable to use, but are also unattractive additions to the streetscape

Figure 30: Good and Bad Practice for Attractive Design

B1.1.6 Adaptability

Cycling infrastructure should be designed to accommodate users of all types of cycle, and an increasing numbers of users over time. Where streets have been engineered primarily for use by motor vehicles, it is difficult to make infrastructure for cycling that is legible and adaptable.

Figure 31: Good and Bad Practice for Adaptable Design

B1.2 Cycle lanes and tracks

Section 4 of the design standards provides guidance on the types of cycling routes and dimensions of lanes/tracks.

B1.2.1 Degrees of separation

Separation refers to the of physical barrier that exists between cyclists, other road users and pedestrians. Where possible, the maximum amount of separation should be provided, as this offers the safest and often most direct means of travel. **Error! Reference source not found.** outlines the degrees of separations, as outlines in the LCDS.

Table 4: On-carriageway degrees of separation

Degree of Separation ¹⁴		Description	
Full separation	Segregated lane/track	Cycle lane or track separated by a continuous or near-continuous physical upstand along links (usually verges or kerbed segregating islands).	
	Stepped track	Vertically separated cycle tracks at an intermediate level between the footway and main carriageway, with or without a buffer.	
'Dedicated' cycle lanes	Light segregated lane	A facility separated and protected by intermittently placed objects. These generally include formal, mandatory lane markings.	
	Mandatory cycle lane	A marked lane for exclusive use of cyclists during the advertised hours of operation.	
'Shared' lanes	Shared bus/cycle lane	Cyclists may use the full width of the bus lane during and beyond its hours of operation.	

¹⁴ <http://content.tfl.gov.uk/lclds-chapter4-cyclelanesandtracks.pdf>

	Advisory cycle lane	An area intended for, but not legally restricted to, cyclists' use. Other vehicles are permitted to enter or cross it.	
Integration of users	Cycle street	A street where cyclists have assumed priority in a speed restricted area, variously marked with or without formal cycle lanes or indicative areas for cycling.	
	Mixed traffic	A street or space without cycle lanes or tracks, often including cycle symbols on carriageway. Motorised traffic is either absent or at low volumes and speeds.	

Dimensions

Cycle lanes should be designed with adaptability and growth in cycling numbers in mind. It should be noted that physical barriers reduce the effective width of the facility - 200mm for a low upstand such as a kerb. Indicatively, high cycle flows - over 800 cycles per hour at peak one-way, or 1,000 two-way - will require widths of 2.5 metres one-way or 4.0 metres two-way, see Table 5 for more information.

To maximise the effective width of kerb-separated facilities, the level of the lane/track can be raised above that of the carriageway, reducing the height of the kerb upstand on the cyclists' side to a minimum of 50mm. Use of angled (battered or splayed) kerbs can also help reduce loss of effective width and lower the risk of cyclists catching a pedal on a high kerb.

Width of cycle lane/track, frequency and size of gaps and type of kerb all need to be considered in relation to access by vehicles for maintenance, cleaning, clearing of leaves and winter gritting. Where the facility is too narrow for such vehicles, wide breaks in the segregating island need to be provided to allow access. A demountable bollard in such gaps may be desirable.

Table 5: Cycle infrastructure - recommended dimensions

Lane Type	Recommended minima		
<ul style="list-style-type: none"> Cycle lanes 	<ul style="list-style-type: none"> 2.0 metres Lanes of 1.5 to 2 meters may be acceptable provided that the adjacent traffic lane does not have fast-moving traffic and a high proportion of HGVs and is not less than 3.2 metres wide. 		
<ul style="list-style-type: none"> Nearside lead-in lanes to Advanced Stop Lanes (ASLs) 	<ul style="list-style-type: none"> 1.5 metres This should be for short lead-ins only, allowing space for cyclists to pass waiting traffic and access the ASL. Site-specific physical and traffic conditions may dictate that a 1.2- to 1.5-metre lead-in is preferable to no lead-in. 		
<ul style="list-style-type: none"> Bus/cycle lanes 	<ul style="list-style-type: none"> 4.5 metres A 'narrow bus lane' of 3.0 to 3.2 metres may be provided in constrained scenarios - this does not allow for overtaking. Bus lanes of 4.0 to 4.5 metres can be acceptable, depending on site specific conditions (risk associated with bus or cycle crossing into adjacent lane when overtaking). 		
<ul style="list-style-type: none"> On-carriageway segregated cycle lanes/tracks 		<ul style="list-style-type: none"> One-way 	<ul style="list-style-type: none"> Two-way
	<ul style="list-style-type: none"> Very low / low flow Medium flow High / very high flow 	<ul style="list-style-type: none"> 1.5 metres 2.2 metres 2.5 metres 	<ul style="list-style-type: none"> 2.0 metres 3.0 metres 4.0 metres +

Appendix C

Cycle Parking Strategy

C1 Cycle Parking Strategy

C1.1 Cycle Parking Standards

Cycle parking should be provided in accordance with the minimum standards set out in the Draft London Plan and LCDS. The provision of both short-stay and long-stay cycle parking provisions are important to the site.

Meridian Water will be a large regeneration development and we are designing for sustainable travel as one of our biggest priorities. We expect a lot of internal-internal trips (education, employment, leisure etc)

We will therefore also ensure that secure, fit-for-purpose and convenient cycle parking will be provided at all origins and destinations within the development.

C1.2 Cycle Parking Types

When locating cycle parking, consideration should be given to the type of user and their requirements. There are two cycle parking systems that should be considered; a combination of the two can be installed. The two cycle parking systems suggested are:

- Sheffield cycle stands; and
- Cycle stacking systems.

Sheffield cycle stands are the most common form of cycle parking and are usually recommended by local authorities. It is recommended that any outdoor visitor parking should be in the form of Sheffield cycle stands. Each cycle stand has the capacity to accommodate two bicycles.

Cycle parking stacking systems offer a more efficient use of space than Sheffield stands. Two bicycles are stacked one on top of the other and therefore sufficient headroom to accommodate this is required (minimum 2.7m). They are suitable for use by residents, staff and visitors. There are numerous manufactures of cycle stacking systems; however, JOSTA are generally considered market leaders.

Long-stay residential and commercial cycle parking would normally be provided in separate locations for operational and security reasons. Long-stay cycle parking should always be covered from the elements and secure.

Staff cycle parking should be suitable for long-stay parking in terms of location, security and protection from the elements and inclement weather. In places of employment, supporting facilities are recommended, including changing rooms, maintenance facilities, lockers (at least two per three long-stay spaces are recommended) and shower facilities (at least one per ten long-stay spaces is recommended). Accessible facilities for disabled cyclists should also be provided.

It is best practice to provide a minimum of 5% of long-stay cycle parking in form of Sheffield stands to ensure there is provision for disabled cyclists / alternative bicycle configurations. These bays typically need to be 1200mm width by 2800mm length. LCDS suggests providing an access aisle width of 1800mm or more after the last stand in each bay to accommodate larger bikes.

Short-stay cycle parking should be available for visitors to individual uses throughout the site and should be convenient and readily accessible. Short-stay cycle parking should have step-free access and be located with 15m of the building entrance, where possible.

C1.3 Cycle Parking Access

To ensure that cycle parking is accessible to all (including those with disabilities), the primary access to cycle parking if not provided at ground floor, should be by lift. Alternative access by stairs (with wheeling channels) and ramp can also be provided to increase access capacity.

Door widths should be sufficient to allow cyclists to pass through them easily and should be sized as follows:

- The minimum door width is 1.0m; and
- Access to larger communal areas of cycle storage should be 1.2m (made up of double doors, one of which should be at least 0.8m wide).

The minimum recommended corridor width for cyclist access is 1.5m. However, it may be appropriate to increase this to 2.5m-2.8m for corridors serving large communal cycle storage where two-way cyclist flows are expected.

C1.4 Principles for Cycle Parking Provisions at Public Transport Interchanges

There are six stations within 3km of the site (including the new Meridian Water station which will replace Angel Road station), all of which will need to increase their cycle parking provisions according to the principles in the London Cycling Design Standards outlined below:

Cycle parking at stations and public transport interchanges should be:

- Located within footprint of the station, with convenient access to all entrances and exits
- Accessed via a step-free route, particularly for stands capable of accommodating larger cycles (with spaces reserved for disabled users)
- Served by lifts to platforms large enough to accommodate types of cycle used by people with physical, sensory and cognitive impairments (who will need to take their cycle onto the train)
- Provided through different types of stand (ie not all two-tier)
- Well managed and maintained

- Overlooked, with high levels of natural surveillance and CCTV coverage
- Well integrated with pedestrian facilities (ie not an obstruction)
- Clearly signed, in and outside of the station, and shown on station maps and websites
- Compliant with security standards for National Rail (eg Transec compliant)
- Included in travel information provided to passengers

Further information and guidance about cycle parking at railway stations may be found in Association of Train Operating Companies (ATOC), Cycle-Rail Toolkit (2012).

Appendix F

MWSIW Layout Overview



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Rev	Date	By	Chkd	Appd

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London Borough of Enfield

Project Title
Meridian Water

Drawing Title
Highways Works

Scale at A1 NTS

Role

Suitability - For Information -

Arup Job No
260637-20-ATR

Name
SK-078

Rev
A

Appendix G

Delivery and Servicing Plan

London Borough of Enfield
**Meridian Water Phase 2 and
Strategic Infrastructure Works**
Delivery and Servicing Plan

MWSIW-6 / MWP2-7 – Appendix G

Final | 21 June 2019

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 260637-20

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Figure 1: Meridian Water Development Zones

Figure 2: Design Considerations from Kerbside Loading Guidance (TfL, 2017)

Appendices

Appendix A

Street Hierarchy & Masterplan Layout

1 Introduction

1.1 Background

This Delivery and Servicing Plan (DSP) has been prepared by Ove Arup and Partners Ltd. ('Arup') on behalf of the London Borough of Enfield regeneration team (the 'Applicant'). The application falls within the London Borough of Enfield ('LBE') and the Local Planning Authority ('LPA') will determine the planning application. Some ancillary highway works fall within the adjoining London Borough of Haringey and will be addressed under the Highway Acts.

The Applicant will oversee the delivery of infrastructure works and will be appointing developers to deliver development plots. An earlier phase, Meridian Water Phase 1, is progressing to delivery, with a developer partner selected and the new Meridian Water Station opened in June 2019.

Meridian Water Phase 2 and Strategic Infrastructure works ('the project') is the next phase of Meridian Water. This is made up of two linked planning applications which constitute the 'Proposed Development', namely

- Full planning application for Meridian Water Strategic Infrastructure Works ('MWSIW')
- Outline planning application for Meridian Water Phase 2, a mixed-use residential-led development ('MWP2')

The majority of the land for the Proposed Development is within the ownership of LBE. There are a number of other landowners who have been notified and with whom there are ongoing discussions regarding the proposals.

1.2 Structure of Application(s)

The two planning applications for the Proposed Development comprise a suite of co-developed plans and documents. On the basis that the two applications are being submitted in tandem and have a number of interrelationships, planning documents have been shared where appropriate.

For example, the Environmental Statement reports the findings of the Environmental Impact Assessment as undertaken for the combined project and the Design and Access Statement has been produced with site context and masterplan material which applies equally to the two separate applications. The following table sets out the application documents, reference numbers and identifies which documents are shared or not.

Table 1: Planning application documents

Document Title	MWSIW	MWP2	Shared
Cover Letter, Application Form	MWSIW-0	MWP2-0	N
Planning Statement	MWSIW-1	MWP2-1	N
Environmental Statement	MWSIW-2 / MWP2-2		Y
ES Non-Technical Summary	MWSIW-2.1 / MWP2-2.1		Y
Remediation Baseline and Framework	MWSIW-2.2 / MWP2-2.2 MWSIW-2.3 / MWP2-2.3		Y
Archaeological Desk Based Assessment	MWSIW-2.4 / MWP2-2.4		Y
Draft Code of Construction Practice	MWSIW-2.5 / MWP2-2.5		Y
Habitats Regulation Assessment	MWSIW-2.6 / MWP2-2.6		Y
Ecology Baseline Surveys	MWSIW-2.7 / MWP2-2.7		Y
Arboricultural Report	MWSIW-2.8 / MWP2-2.8		Y
Water Framework Directive Assessment	MWSIW-2.9 / MWP2-2.9		Y
Statement of Community Involvement	MWSIW-3 / MWP2-3		Y
Design Code	N/A	MWP2-4	N
Design and Access Statement	MWSIW-4 / MWP2-5		Y
Flood Risk Assessment	MWSIW-5 / MWP2-6		Y
Transport Assessment	MWSIW-6 / MWP2-7		Y
Framework Travel Plan	MWP2-7.1		Y
Construction Logistics Plan	MWP2-7.2		Y
Sustainability and Energy Statement	MWSIW-7 / MWP2-8		Y
Energy Assessment	N/A	MWP2-8.1	N
BREEAM Pre-Assessment	N/A	MWP2-8.2	N
Site Waste Management Plan	MWSIW-7.1	MWP2-8.3	N
Integrated Water Management Plan	MWSIW-7.1 / MWP2-8.4		Y
Daylight and Sunlight Assessment	N/A	MWP2-8.5	N
Affordable Housing Viability Assessment	N/A	MWP2-9	N

1.3 Meridian Water Context and Vision

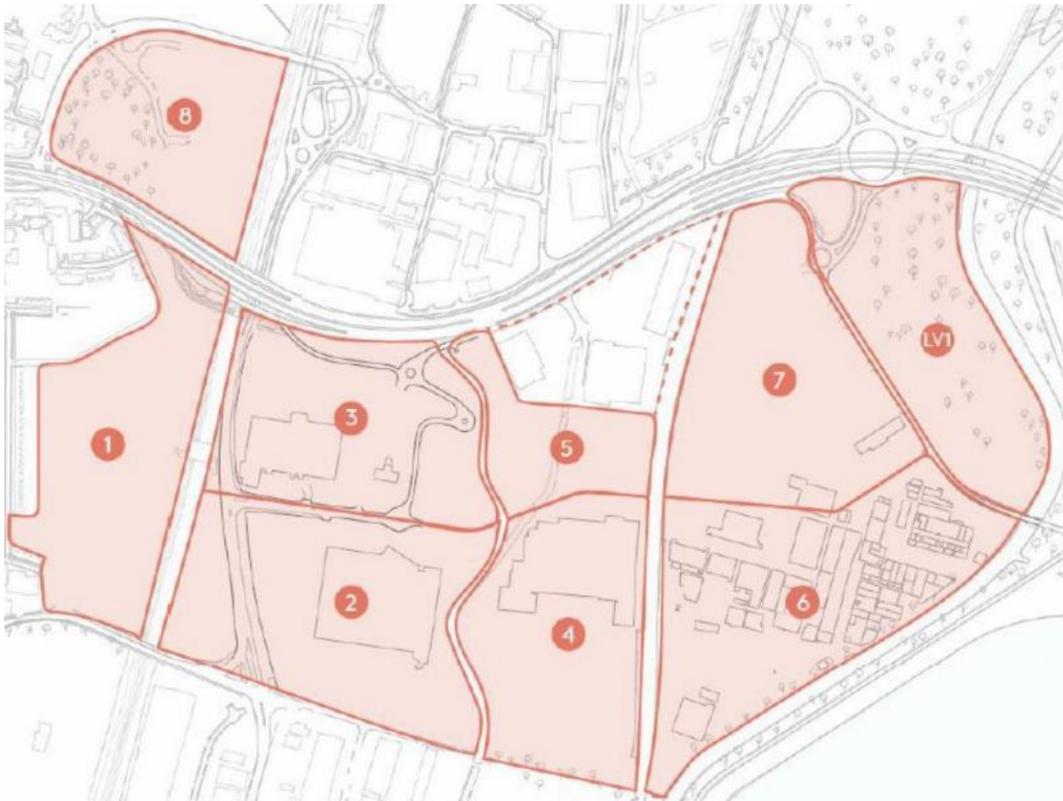
Meridian Water is one of the largest brownfield development opportunities in Greater London, which has the potential to deliver significant housing and employment growth ambitions of LBE, as set out in the 2010 Core Strategy. Meridian Water will contribute to the delivery of much-needed homes and jobs, meeting the strategic need and regeneration ambitions of London as set out in the adopted London Plan 2016 and emerging Draft New London Plan.

LBE is leading a pioneering approach to regeneration at Meridian Water for the long-term benefit of local people and future generations through the delivery of new homes, employment and infrastructure.

Meridian Water is a mixed-use regeneration scheme, comprising 85 hectares (ha) of land in Upper Edmonton. The regeneration scheme will bring forward land for redevelopment over time to maximise the potential for what is currently either vacant or low density industrial and retail land. For reference purpose the Development Zones of Meridian Water are set out on Figure 1.

The project will deliver elements of a successful new neighbourhood including schools and other social infrastructure, new rail infrastructure, connection to the Meridian Water Heat Network (MWHN) and new open spaces.

Figure 1: Meridian Water Development Zones



LBE has already invested significant resources, particularly in land assembly, remediation and infrastructure and Meridian Water has now reached the exciting first phase of development, known as ‘Meridian One’ comprising 725 residential units next to the new Meridian Water station with a development partner now

selected. A range of innovative meanwhile uses are also being explored to activate and make efficient use of LBE landholdings prior to development.

1.4 Strategic Infrastructure Works Application

LBE (‘the Applicant’) is seeking full planning permission for Strategic Infrastructure Works (MWSIW) at Meridian Water with the following description of development:

“Full application for redevelopment of the site to provide infrastructure works for the delivery of a mixed-use development comprising: Construction of an east-west link road between Glover Drive and Harbet Road (‘the Central Spine’); alteration of access road between Argon Road and Glover Drive, construction of a link road between Leaside Road and the Central Spine, pedestrian and cycleway improvements to Glover Drive and Leaside Road, the construction of 4 no. bridges across the Pymmes and Salmon Brooks and River Lee Navigation; alteration to the Pymmes Brook channel and associated landscaping. Enabling works, comprising: earthworks; remediation; flood conveyance channel, storage and outfall works; utilities infrastructure; demolition of existing buildings and associated works.”

In summary, the MWSIW comprises the following elements:

- **The Central Spine Road** - a new tree-lined east-west boulevard connecting to Glover Drive and new Meridian Water Station in the west, crossing the Pymmes and Salmons Brook and River Lee Navigation to Harbet Road in the east;
- **Leaside Link Road** – a new link road providing access for cars, pedestrians and cyclists from Leaside Road through to the Central Spine Road;
- **Bridges (x4)** – erection of bridges and associated works to enable the Central Spine Road and Leaside Link Road to span the Pymmes and Salmons Brook and River Lee Navigation;
- **Brooks Park and River Naturalisation** – naturalising the channelised Pymmes Brook to introduce an ecological river landscape, as well as providing riverside parkland;
- **Edmonton Marshes and Flood Alleviation Works** – re-levelling and remediation of land to the east of Harbet Road, providing comprehensive flood alleviation works and a new high quality public open space within the Lee Valley Regional Park.
- **Access Works** – third party access works to provide new and altered accesses to the IKEA store, a new north-south link between Argon Road and Glover Drive, the creation of a link between the Central Spine Road and Anthony Way and other improvements to maintain access, along with other ancillary highway works to Glover Drive, Leaside Road and Meridian Way.
- **Earthworks, Remediation, Utilities and other ancillary works** – earthworks, retaining structures and remediation within Development Zones 4

and 5, installation of main utility networks and ancillary works including the demolition of existing buildings and structures.

1.5 Meridian Water Phase 2 Application

LBE ('the Applicant') is seeking outline planning permission for Meridian Water Phase 2 (MWP2) at Meridian Water with the following description of development:

“Outline planning application for comprehensive mixed use redevelopment at Meridian Water, comprising up to 2,300 residential units (Class C3), Purpose Built Student Accommodation and/or Large-Scale Purpose-Built Shared Living (Sui Generis); a hotel (Class C1), commercial development (Class B1a,b,c); retail (Class A1 and/or A2 and/or A3 and/or A4), social infrastructure (Class D1 and/or D2), a primary school up to three forms of entry, hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access (all matters reserved).”

The proposal entails the comprehensive redevelopment of Meridian Water Development Zone 4 and 5 and a part of Zone 2 for up to 284,600 sq m (GEA) of residential led mixed use development.

In summary, the Proposed Development comprises the following elements:

- Up to 2,300 new homes (Use Class C3), of which 40% shall be affordable;
- Option to provide a Hotel (Use Class C1) circa 250 rooms with up to 16,000 sq m GEA (allowing for a range of specification from budget to luxury);
- Option to provide Purpose Built Student Accommodation (PBSA) and/or Large-Scale Purpose-Built Shared Living (LSPBSL) (Sui Generis) with up to 18,000 sq m GEA in total;
- Up to 26,500 sq m GEA of commercial workspace development (Use Class B1a,b,c);
- Up to 2,000 sq m GEA of retail (Use Class A1 and/or A2 and/or A3 and/or A4);
- Up to 5,500 sq m GEA of social infrastructure (Use Class D1 and/or D2);
- A three-form entry primary school;
- The associated works to create hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access.

1.6 Purpose and Structure

The purpose of this report is to set out the anticipated demand for vehicular servicing associated with the MWP2 proposals and provide a strategy how

servicing will be accommodated and managed onsite. There will be no servicing and delivery activities in conjunction with the MWSIW.

This report should be read in conjunction with the Transport Assessment (TA) that sets out future accessibility of the site; influencing the proposed servicing strategy set out in this report.

The structure of the report is as follows:

- Section 2 outlines the objectives of the DSP;
- Section 3 sets out the proposed delivery and servicing trip generation associated with MWP2;
- Section 4 outlines the servicing area requirements of MWP2;
- Section 5 provides a breakdown of the measures proposed as part of this DSP;
- Section 6 describes the enforcement, monitoring and review strategy proposed as part of this DSP; and
- The summary and conclusions of this study are included in Section 7.

2 DSP Objectives

2.1 Objectives

The objectives and strategies outlined within this DSP have been developed within the context of the guidance provided within the following policy documents:

- Draft New London Plan (GLA, 2018)
- Mayor's Transport Strategy (TfL/GLA, 2018)
- London Environment Strategy (GLA, May 2018)
- Freight and servicing action plan (GLA March 2019)
- Upper Lee Valley Opportunity Area Planning Framework (Mayor of London, 2013)
- Adopted Enfield Core Strategy (LBE, 2010)
- Development Management Development Plan Document (LBE, 2014)
- TfL's best practice guidance.

A DSP provides a framework to make sure that freight vehicle activity to and from buildings works effectively for organisations. DSPs will specifically help to:

- Proactively manage deliveries to reduce the number of delivery and servicing trips, particularly in the morning peak
- Identify and promote areas where safe and legal loading can take place
- Select delivery companies who can demonstrate their commitment to following best practice – for example, the Freight Operator Recognition Scheme (FORS)

This DSP will therefore seek to achieve the following objectives in support of the policy objectives above:

- Demonstrate that goods and services can be delivered, and waste removed, in a safe, efficient and environmentally-friendly way;
- Identify deliveries that could be reduced, re-timed or consolidated, particularly during busy periods;
- Improve the reliability of deliveries to the site;
- Reduce the operating costs of building occupants and freight companies; and
- Reduce the impact of freight activity on local residents and the environment.

3 Delivery and Servicing Trip Generation

3.1 Goods Vehicle Generation

The travel demand associated with servicing and deliveries has been established using TRICS to identify relevant comparable site surveys from which appropriate LGV and OGV trip rates and daily profiles have been derived.

The selection criteria used to derive the LGV and OGV trip rates follows the same principles as the trip generation as set out within the Transport Assessment, noting the following:

- The A1 Retail provision used servicing trip rates derived for the A1 Retail Convenience Store provision as this was considered to be a comparable proxy, albeit higher than would be expected for most local retail;
- The servicing trip rates used for the Office B1a provision were derived from B1 TRICS sites that were not constrained by parking provision and PTAL (in order to obtain a higher number of site surveys and therefore a more reflective average); and
- The servicing trip rates used for the Office B1b & B1c provision were derived from B1 TRICS sites that were not constrained by parking provision and PTAL (in order to obtain a higher number of site surveys and therefore a more reflective average) and that had over 50% B1b/B1c provision on site.

Further details and the TRICS outputs which have informed this assessment can be found in in the Trip Generation Technical Note, within Appendix L of the Meridian Water MWP2 TA.

A summary of the servicing trip rates derived per land use is provided for MWP2 within Table 2 and trip generation in Table 3.

It should be noted that the methodologies used to forecast these servicing and delivery trips take no account of the strategies and economies of scale likely to be achieved through the adoption of this DSP and therefore these estimates are likely to be a worst-case scenario.

Table 2: MWP2 Servicing Trip Rates

	Residential (Private Flats Per Unit)				Residential (Affordable Flats Per Unit)				C1 Hotel (Per Room)			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
LGV	0800-0900	0.002	0.003	0.005	0800-0900	0.014	0.011	0.025	0800-0900	0.011	0.017	0.028
	1300-1400	0.006	0.007	0.013	1300-1400	0.008	0.009	0.017	1300-1400	0.004	0.002	0.006
	1700-1800	0.007	0.007	0.014	1700-1800	0.008	0.006	0.014	1700-1800	0.013	0.008	0.021
	Daily	0.072	0.070	0.142	Daily	0.108	0.104	0.212	Daily	0.118	0.125	0.243
OGV	0800-0900	0.001	0	0.001	0800-0900	0	0	0	0800-0900	0.006	0.006	0.012
	1300-1400	0.002	0.003	0.005	1300-1400	0.002	0.002	0.004	1300-1400	0.002	0.004	0.006
	1700-1800	0.001	0.001	0.002	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	0.019	0.02	0.039	Daily	0.011	0.011	0.022	Daily	0.037	0.035	0.072
	Retail Convenience Stores (Per 100sqm)				Retail Local Shops (Per 100sqm)				Retail F&B (Per 100sqm)			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
LGV	0800-0900	0.115	0.173	0.288	0800-0900	0.115	0.173	0.288	0800-0900	0	0	0
	1300-1400	0.115	0.115	0.23	1300-1400	0.115	0.115	0.23	1300-1400	0.046	0.046	0.092
	1700-1800	0	0.058	0.058	1700-1800	0	0.058	0.058	1700-1800	0.091	0.091	0.182
	Daily	1.9	1.901	3.801	Daily	1.9	1.901	3.801	Daily	1.359	1.352	2.711
OGV	0800-0900	0.173	0.173	0.346	0800-0900	0.173	0.173	0.346	0800-0900	0	0	0
	1300-1400	0	0	0	1300-1400	0	0	0	1300-1400	0.046	0.091	0.137
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0.046	0.046	0.092
	Daily	0.636	0.634	1.27	Daily	0.636	0.634	1.27	Daily	0.375	0.375	0.750
	D1 GP Surgery (Per 100sqm)				D1 Library (Per 100sqm)				D2 Gym (Per 100sqm)			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
LGV	0800-0900	0.137	0.137	0.274	0800-0900	0	0	0	0800-0900	0	0	0
	1300-1400	0.092	0.137	0.229	1300-1400	0	0	0	1300-1400	0	0	0
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	2.842	2.84	5.682	Daily	0.222	0.222	0.444	Daily	0.188	0.188	0.376
OGV	0800-0900	0	0	0	0800-0900	0	0	0	0800-0900	0	0	0
	1300-1400	0	0	0	1300-1400	0	0	0	1300-1400	0	0	0
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	0.092	0.092	0.184	Daily	0	0	0	Daily	0	0	0
	B1a Office (Per 100sqm)				B1b Office (Per 100sqm)				B1c Office (Per 100sqm)			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
LGV	0800-0900	0.021	0.017	0.038	0800-0900	0.038	0.024	0.062	0800-0900	0.038	0.024	0.062
	1300-1400	0.009	0.008	0.017	1300-1400	0.027	0.028	0.055	1300-1400	0.027	0.028	0.055
	1700-1800	0.008	0.012	0.02	1700-1800	0.008	0.018	0.026	1700-1800	0.008	0.018	0.026
	Daily	0.174	0.171	0.345	Daily	0.316	0.316	0.632	Daily	0.316	0.316	0.632
OGV	0800-0900	0.002	0.003	0.005	0800-0900	0.004	0.003	0.007	0800-0900	0.004	0.003	0.007
	1300-1400	0	0	0	1300-1400	0.004	0.004	0.008	1300-1400	0.004	0.004	0.008
	1700-1800	0	0.001	0.001	1700-1800	0.001	0.002	0.003	1700-1800	0.001	0.002	0.003
	Daily	0.016	0.016	0.032	Daily	0.05	0.048	0.098	Daily	0.05	0.048	0.098

Primary Education (Per Pupil)				
	<i>Time Period</i>	<i>Arrivals</i>	<i>Departures</i>	<i>Totals</i>
LGV	0800-0900	0.001	0.001	0.002
	1300-1400	0.004	0.002	0.006
	1700-1800	0	0	0
	Daily	0.013	0.013	0.026
OGV	0800-0900	0.001	0.001	0.002
	1300-1400	0.001	0.001	0.002
	1700-1800	0	0	0
	Daily	0.005	0.005	0.01

Table 3: MWP2 Total Servicing Trips

	Residential (Private Flats)				Residential (Affordable Flats)				C1 Hotel			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
LGV	0800-0900	3	4	7	0800-0900	11	9	19	0800-0900	2	3	5
	1300-1400	9	10	19	1300-1400	6	7	13	1300-1400	1	0	1
	1700-1800	10	10	20	1700-1800	6	5	11	1700-1800	2	1	4
	Daily	104	101	204	Daily	84	81	164	Daily	21	23	44
OGV	0800-0900	1	0	1	0800-0900	0	0	0	0800-0900	1	1	2
	1300-1400	3	4	7	1300-1400	2	2	3	1300-1400	0	1	1
	1700-1800	1	1	3	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	27	29	56	Daily	9	9	17	Daily	7	6	13
LGV	Retail Convenience Stores & Local Shops								Retail F&B			
	Time Period	Arrivals	Departures	Totals					Time Period	Arrivals	Departures	Totals
	0800-0900	1	2	3					0800-0900	0	0	0
	1300-1400	1	1	3					1300-1400	0	0	1
	1700-1800	0	1	1					1700-1800	1	1	1
OGV	Daily	23	23	46	Daily	11	11	22				
	0800-0900	2	2	4	0800-0900	0	0	0				
	1300-1400	0	0	0	1300-1400	0	1	1				
	1700-1800	0	0	0	1700-1800	0	0	1				
	Daily	8	8	15	Daily	3	3	6				
LGV	D1 GP Surgery				D1 Library				D2 Gym			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
	0800-0900	1	1	1	0800-0900	0	0	0	0800-0900	0	0	0
	1300-1400	0	1	1	1300-1400	0	0	0	1300-1400	0	0	0
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0	0	0
OGV	Daily	14	14	28	Daily	7	7	14	Daily	3	3	7
	0800-0900	0	0	0	0800-0900	0	0	0	0800-0900	0	0	0
	1300-1400	0	0	0	1300-1400	0	0	0	1300-1400	0	0	0
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	0	0	1	Daily	0	0	0	Daily	0	0	0
LGV	B1a Office				B1b & B1c Office				Primary Education			
	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals	Time Period	Arrivals	Departures	Totals
	0800-0900	2	2	4	0800-0900	6	4	10	0800-0900	0	0	1
	1300-1400	1	1	2	1300-1400	4	4	9	1300-1400	2	1	3
	1700-1800	1	1	2	1700-1800	1	3	4	1700-1800	0	0	0
OGV	Daily	18	18	37	Daily	50	50	100	Daily	6	6	12
	0800-0900	0	0	1	0800-0900	1	0	1	0800-0900	0	0	1
	1300-1400	0	0	0	1300-1400	1	1	1	1300-1400	0	0	1
	1700-1800	0	0	0	1700-1800	0	0	0	1700-1800	0	0	0
	Daily	2	2	3	Daily	8	8	16	Daily	2	2	5

4 Delivery and Servicing Design Requirements

This section sets out the space requirements for the service areas for the proposed land uses for MWP2.

The size of the delivery space will depend on the following:

- Maximum size of goods vehicle and the required turning and manoeuvring space;
- Width of the offloading zone;
- Access routes each side of the loading bay;
- Size of the area required for turning and manoeuvring.

MWP2 is likely to be serviced by light goods, medium goods and heavy goods vehicles. The type and dimensions of typical service vehicles anticipated at the site are included in Table 4 below.

Table 4: Typical dimensions for loading bays and manoeuvring spaces

Dimensions for Loading Bays & Manoeuvring Space					
Vehicle Length (metres)	Minimum Headroom (metres)	Loading Bay Width (metres)	Manoeuvring Space in front of Vehicle (metres)	Width of Offloading Zone (metres)	Total Length (metres)
10.0	4.5	3.6	11.0	3.0	24.0
8.0		3.6	11.0	3.0	24.0
6.0		3.0	3.0	3.0	9.0

The total width of the loading zone should include 1.5 m access strips along each flank to allow drivers or facilities management (FM) staff, in the event of an emergency, to move away from the offloading zones towards the open manoeuvring spaces.

From Table 4 above a 10m rigid vehicle will require a loading zone 24m long including the offloading zone behind the vehicle. This sets out the maximum dimensions for servicing areas that .

All servicing activities will take place within the site. The design of the development will be subject to detailed reserved matters application(s) but the illustrative masterplan shows the principles of servicing:

- Provision of designated and marked off-street loading bays close to building cores.
- Given the low traffic flows, some activity is also expected to take place on the carriageway.

- Dwell times are not expected to exceed 20 minutes in most cases.
- Designed to accommodate 10.0m rigid vehicles as the largest vehicle typically expected to serve a residential development.

4.1.1 Street Layout and Design

The streets within MWP2 have been designed to accommodate the type of large vehicles expected for deliveries. Swept path analysis of the streets expected to carry servicing activity is contained in Appendix C of the TA. This shows a 10m rigid vehicle performing manoeuvres to service cores within the plots across the site.

4.1.1.1 On-Street Servicing

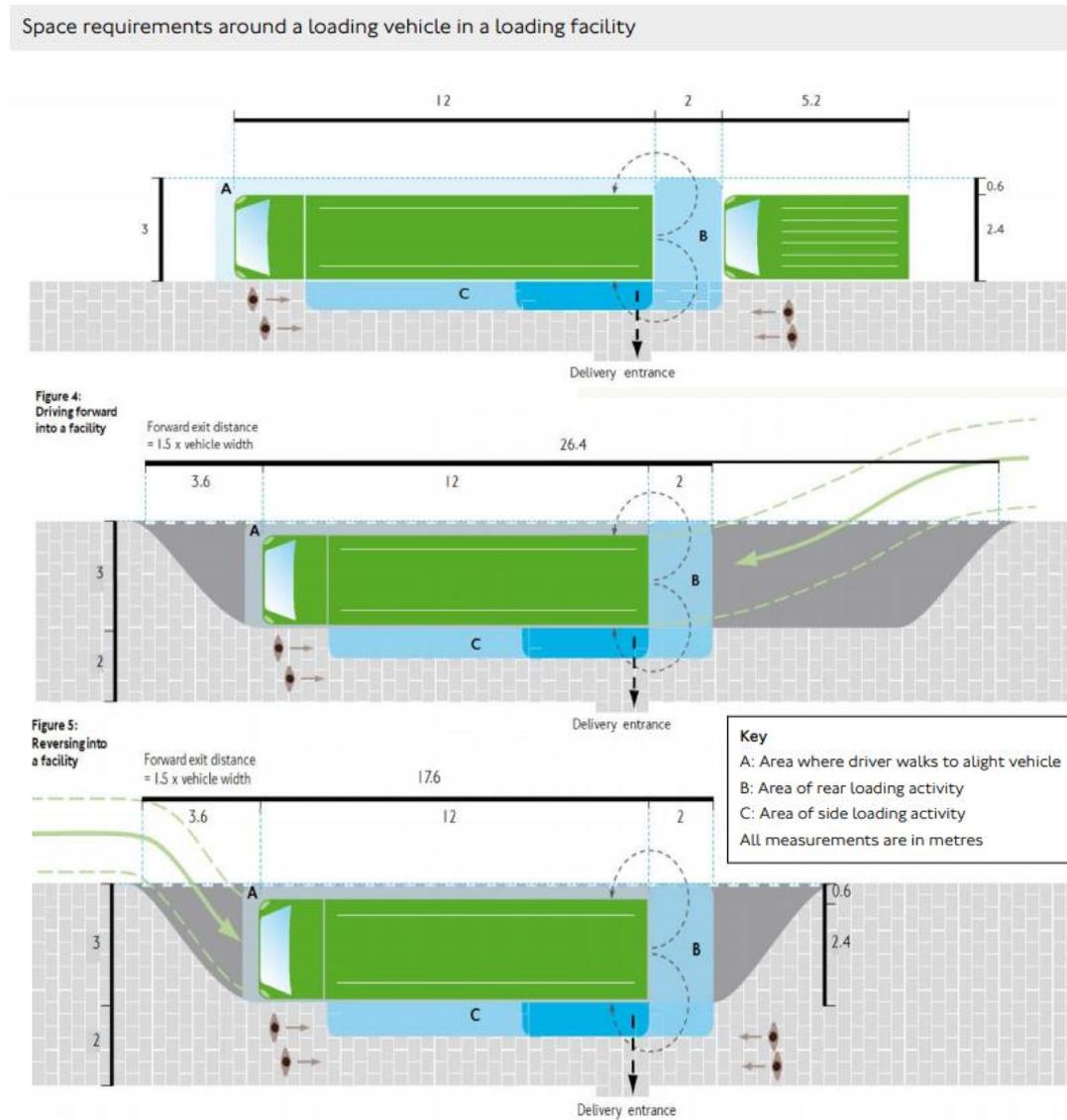
Considering the volume of servicing vehicle activity that is planned to take place across the proposed development, the vast majority of servicing activity is proposed to take place on-street.

On the Central Spine Road, where a number of the non-residential uses will need to be serviced from, servicing is expected to be undertaken on-street. The Central Spine Road will be Bus-only through its central section, and as such the overall volumes of vehicular traffic using this route is expected to be low.

4.1.2 Off-Street Loading

TfL's Kerbside Loading Guidance has been consulted to determine the spatial requirements for the off-street loading bays. The relevant design considerations have been applied to the design of the off-street loading bays that will be provided along the Leaside Road Link and the Central Spine Road. Figure 2 replicates the design considerations from the TfL Kerbside Loading Guidance.

Figure 2: Design Considerations from Kerbside Loading Guidance (TfL, 2017)



4.2 Quantum of Servicing Bays

The trip generation set out within Section 3 clearly sets out the overall volume of servicing vehicles expected to be generated by the proposed development. General assumptions over the length of stay have been used to determine the estimated high-level number of bays required. This is set out in Table 5.

Table 5: Expected Number of Loading Bays Required

Land Use	Peak Movements		Expected Bays
	In	Out	
A1/A3 Retail	3	4	2
B1 Land Use	2	2	1
C1 Hotel	3	4	1
C3 residential	14	12	6
Other residential accommodation	1	1	1
Primary School	0	0	1

Land Use	Peak Movements		Expected Bays
	In	Out	
Healthcare Facility	1	1	1 (Library/Gym/Medical shared)
Library	0	0	1 (Library/Gym/Medical shared)
Gym	0	0	1 (Library/Gym/Medical shared)
Total	24	24	13

Whilst the specific location of loading bays will not be detailed within the planning application due to its outline nature, the spatial requirements for providing this number have been incorporated into the layout and street design to ensure that there is sufficient and adequate loading space available in order to efficiently manage and service the masterplan site. This has been based on a principal of allowing space for a servicing vehicle to stop per building core.

A plan showing the street hierarchy and layout of the proposed development and where there is expected to be servicing vehicle movements allowed is included within **Appendix A**.

5 DSP Measures

5.1 Introduction

This section outlines the overarching measures and initiatives included within the DSP which are applicable to all land-uses provided within the development site.

This DSP will specifically aim to ensure that servicing of the development can be carried out efficiently, without creating any negative impacts upon the local highway network, residents and commercial occupiers within and surrounding the site, and the environment.

5.2 Design

As set out in previous chapters good design can minimise disturbance for residents at or on-route to the site. The scheme has been designed to be accommodate the manoeuvres of a 10.0m rigid vehicle, the largest vehicle typically expected at a residential development. Large vehicles can enter and exit the site in forward gear.

Deliveries will be made direct to cores from the Leaside Road Link, the Central Spine Road and internal residential and servicing streets. There has been space allocated within the parameter plans for the scheme to allow efficient delivery of goods to buildings from dedicated off-street bays within some of the streets, servicing the residential element and other non-residential uses will be serviced directly from the street, where sufficient kerbside space is provided.

5.3 Risk Assessment of Servicing Areas

A risk assessment would be normally undertaken by suitably trained site management staff prior to use. This assessment will examine the following issues.

- Adequate manoeuvring space for the vehicles;
- Interaction with pedestrians and cyclists;
- Adequate unloading area;
- Level route from vehicle to destination;
- Interaction with vehicles; and
- Visibility of management staff.

5.4 Accommodating Special Deliveries

Special deliveries to the site, such as plant maintenance vehicles will need to be pre-arranged. The delivery time and duration will be negotiated with the site management office to minimise the impact upon the routine daily servicing

requirements of the development. Out of peak deliveries will be encouraged for such deliveries wherever possible.

5.5 Procurement Strategy

Procurement process should demonstrate an awareness of all vehicle activity associated with the site, its impacts and appropriate measures to reduce it. This will be undertaken by the site management company.

5.5.1 Freight Operator Recognition Scheme

Commercial occupiers will be encouraged to contract suppliers registered with a best practice scheme, such as the Freight Operator Recognition Scheme (FORS). Full details of the benefits associated with FORS are detailed earlier within this document.

5.5.2 Consolidation of Suppliers

Residents will be encouraged to source everyday items from local shops in order to contribute towards reducing the number of deliveries to the site. The location of local shops and services, including supermarkets, will be promoted through the residential travel pack that will be issued to residents as part of the Travel Plan.

Commercial occupiers will also be encouraged to co-ordinate deliveries wherever possible in instances where common suppliers are used. This will be achieved through an arrangement of an informal businesses forum.

5.6 Communication of Delivery Procedures

The delivery procedures in operation on the site will be communicated to workplace occupiers and residents upon occupation.

5.7 Road Trip Reduction

The number of service vehicle trips has been set out in Section 3 of this document where it should be noted that the methodologies used to forecast these servicing and delivery trips take no account of the strategies and economies of scale likely to be achieved through the adoption of this DSP and therefore these estimates are likely to be a worst case scenario.

The number of service vehicle trips could potentially be reduced through consolidation of deliveries. As part of the wider masterplan there will be full servicing strategy developed that will investigate the potential to provide consolidation services for the site.

Workplace occupiers of the site will be encouraged to use suppliers who are affiliated to the Freight Operator Recognition Scheme and operating green fleets complying with the emission standards set out by the London Emission Zones. Workplace occupiers will also be encouraged to publicise sustainable 'best practice' measures via the Freight Information Portal. In so doing this measure

will contribute towards encouraging more maintenance contractors to use electric vehicles.

6 Enforcement, Monitoring and Review

6.1 Monitoring

The development management team will monitor the delivery and servicing management activity against the objectives set out in this document and make adjustments as necessary to address issues and improve upon operation. The management team will also be the point of contact for any issues that may arise.

6.2 Highway adoption and Enforcement

The contents of this strategy have been prepared in order to inform the local authority (LBE) of the developer's intent for the operation of the site and it is anticipated this strategy will be secured by planning conditions to be fully detailed upon submission of detailed reserved matters applications.

No firm conclusions have yet been drawn regarding the extent of streets likely to be put up for adoption as public highway. At this stage there are three principle options

- All Streets remain private
- Central Spine Road adopted as public Highway
- Central Spine Road and Leaside Link Road adopted as public highway

The limit of adoption will also be related to the management of car parking and servicing on street. The applicant would welcome further discussion with LBE to agree the adoption and maintenance strategy for the scheme.

7 Summary

The proposed development includes residential, retail, office and light industry, a hotel, a primary school and social infrastructure uses.

The service vehicle trip rates used for estimating the number of deliveries associated with the proposed development land uses have been obtained from the TRICS database.

The design of the proposed development layout adequately provides off-street loading bays/areas in locations where there is expected to be an impact upon the movement of people walking, cycling or using public transport if they were to take place on-street.

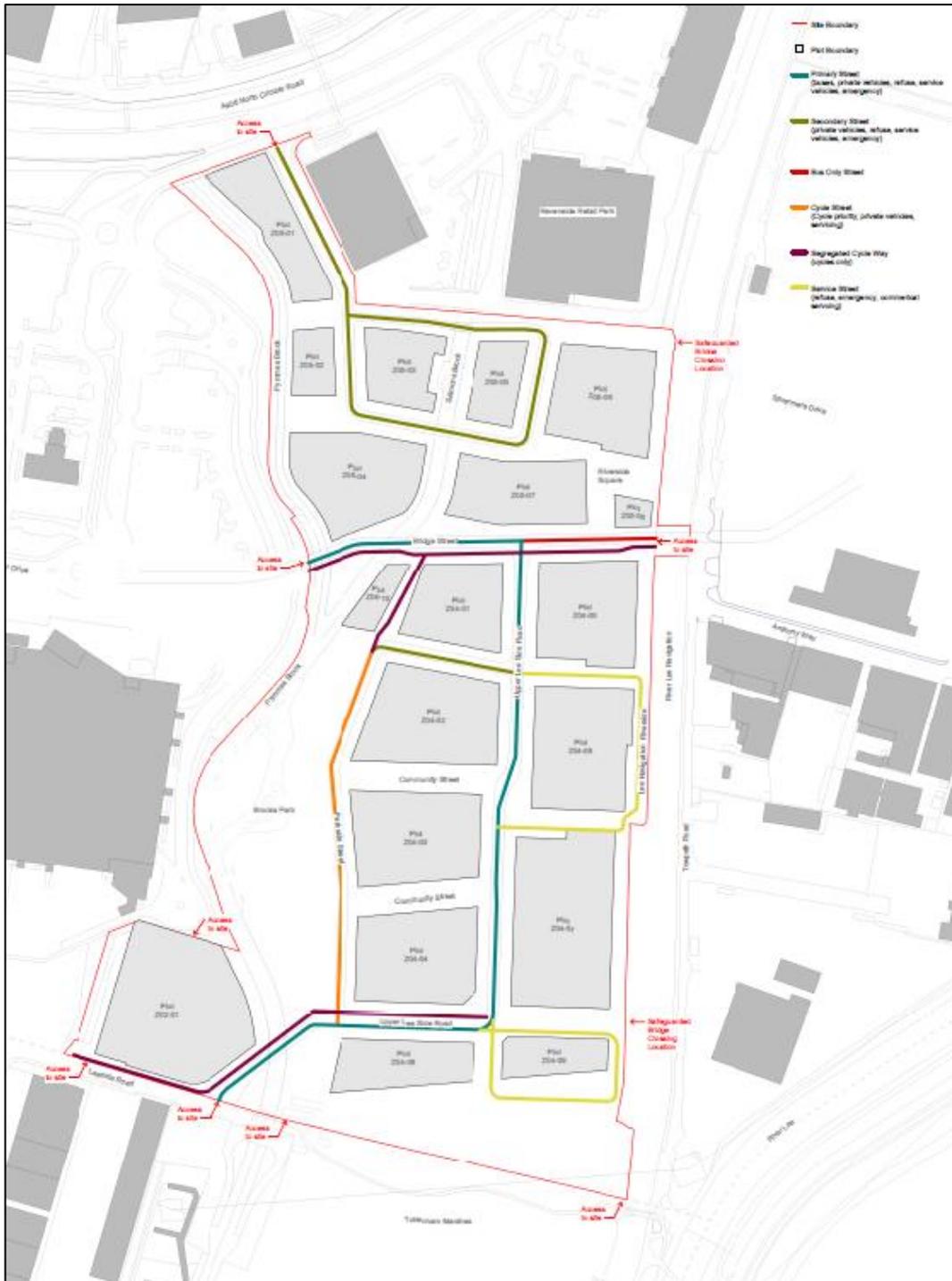
On sections of highway where there is expected to be low vehicular flows, such as the Central Spine Road, delivery and servicing activity is proposed to be undertaken from the street.

There are proposed measures in place in order to reduce the overall impact of the expected number of delivery and servicing vehicular trips to and from the site.

Appendix A

Street Hierarchy & Masterplan Layout

A1 Street Hierarchy



A2 Masterplan Layout



Appendix H

Car Parking Strategy

London Borough of Enfield
**Meridian Water Phase 2 and
Strategic Infrastructure Works**
Parking Design and Management
Plan

MWP2-7/MWSIW-6 – Appendix H

Final | 21 June 2019

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 260637-20

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1 Introduction

1.1 Background

This Transport Assessment has been prepared by Ove Arup and Partners Ltd. ('Arup') on behalf of the London Borough of Enfield regeneration team (the 'Applicant'). The application falls within the London Borough of Enfield ('LBE') and the Local Planning Authority ('LPA') will determine the planning application. Some ancillary highway works fall within the adjoining London Borough of Haringey and will be addressed under the Highway Acts.

The Applicant will oversee the delivery of infrastructure works and will be appointing developers to deliver development plots. An earlier phase, Meridian Water Phase 1, is progressing to delivery, with a developer partner selected and the new Meridian Water Station opened in June 2019.

Meridian Water Phase 2 and Strategic Infrastructure works ('the project') is the next phase of Meridian Water. This is made up of two linked planning applications which constitute the 'Proposed Development', namely

- Full planning application for Meridian Water Strategic Infrastructure Works ('MWSIW')
- Outline planning application for Meridian Water Phase 2, a mixed-use residential-led development ('MWP2')

The majority of the land for the Proposed Development is within the ownership of LBE. There are a number of other landowners who have been notified and with whom there are ongoing discussions regarding the proposals.

1.2 Structure of Application(s)

The two planning applications for the Proposed Development comprise a suite of co-developed plans and documents. On the basis that the two applications are being submitted in tandem and have a number of interrelationships, planning documents have been shared where appropriate.

For example, the Environmental Statement reports the findings of the Environmental Impact Assessment as undertaken for the combined project and the Design and Access Statement has been produced with site context and masterplan material which applies equally to the two separate applications. The following table sets out the application documents, reference numbers and identifies which documents are shared or not.

Table 1: Planning application documents

Document Title	MWSIW	MWP2	Shared
Cover Letter, Application Form	MWSIW-0	MWP2-0	N
Planning Statement	MWSIW-1	MWP2-1	N
Environmental Statement	MWSIW-2 / MWP2-2		Y
ES Non-Technical Summary	MWSIW-2.1 / MWP2-2.1		Y
Remediation Baseline and Framework	MWSIW-2.2 / MWP2-2.2 MWSIW-2.3 / MWP2-2.3		Y
Archaeological Desk Based Assessment	MWSIW-2.4 / MWP2-2.4		Y
Draft Code of Construction Practice	MWSIW-2.5 / MWP2-2.5		Y
Habitats Regulation Assessment	MWSIW-2.6 / MWP2-2.6		Y
Ecology Baseline Surveys	MWSIW-2.7 / MWP2-2.7		Y
Arboricultural Report	MWSIW-2.8 / MWP2-2.8		Y
Water Framework Directive Assessment	MWSIW-2.9 / MWP2-2.9		Y
Statement of Community Involvement	MWSIW-3 / MWP2-3		Y
Design Code	N/A	MWP2-4	N
Design and Access Statement	MWSIW-4 / MWP2-5		Y
Flood Risk Assessment	MWSIW-5 / MWP2-6		Y
Transport Assessment	MWSIW-6 / MWP2-7		Y
Framework Travel Plan	MWP2-7.1		Y
Construction Logistics Plan	MWP2-7.2		Y
Sustainability and Energy Statement	MWSIW-7 / MWP2-8		Y
Energy Assessment	N/A	MWP2-8.1	N
BREEAM Pre-Assessment	N/A	MWP2-8.2	N
Site Waste Management Plan	MWSIW-7.1	MWP2-8.3	N
Integrated Water Management Plan	MWSIW-7.1 / MWP2-8.4		Y
Daylight and Sunlight Assessment	N/A	MWP2-8.5	N
Affordable Housing Viability Assessment	N/A	MWP2-9	N

1.3 Meridian Water Context and Vision

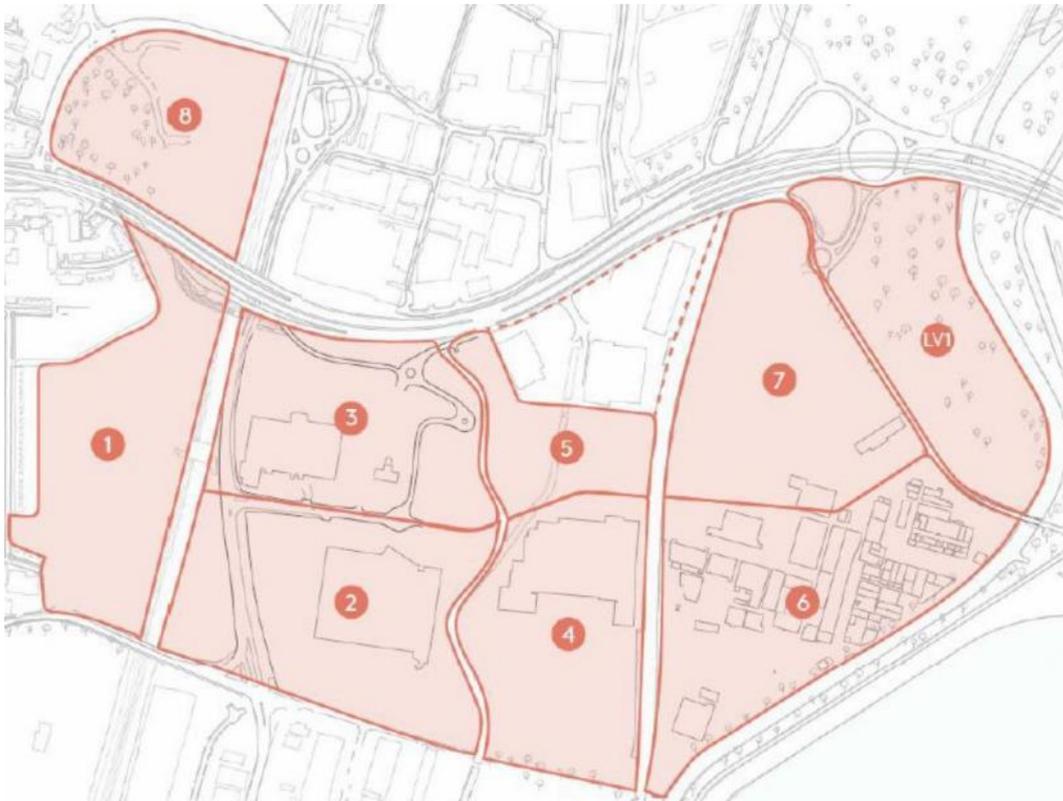
Meridian Water is one of the largest brownfield development opportunities in Greater London, which has the potential to deliver significant housing and employment growth ambitions of LBE, as set out in the 2010 Core Strategy. Meridian Water will contribute to the delivery of much-needed homes and jobs, meeting the strategic need and regeneration ambitions of London as set out in the adopted London Plan 2016 and emerging Draft New London Plan.

LBE is leading a pioneering approach to regeneration at Meridian Water for the long-term benefit of local people and future generations through the delivery of new homes, employment and infrastructure.

Meridian Water is a mixed-use regeneration scheme, comprising 85 hectares (ha) of land in Upper Edmonton. The regeneration scheme will bring forward land for redevelopment over time to maximise the potential for what is currently either vacant or low density industrial and retail land. For reference purpose the Development Zones of Meridian Water are set out on Figure 1.

The project will deliver elements of a successful new neighbourhood including schools and other social infrastructure, new rail infrastructure, connection to the Meridian Water Heat Network (MWHN) and new open spaces.

Figure 1: Meridian Water Development Zones



LBE has already invested significant resources, particularly in land assembly, remediation and infrastructure and Meridian Water has now reached the exciting first phase of development, known as ‘Meridian One’ comprising 725 residential units next to the new Meridian Water station with a development partner now

selected. A range of innovative meanwhile uses are also being explored to activate and make efficient use of LBE landholdings prior to development.

1.4 Strategic Infrastructure Works Application

LBE (‘the Applicant’) is seeking full planning permission for Strategic Infrastructure Works (MWSIW) at Meridian Water with the following description of development:

“Full application for redevelopment of the site to provide infrastructure works for the delivery of a mixed-use development comprising: Construction of an east-west link road between Glover Drive and Harbet Road (‘the Central Spine’); alteration of access road between Argon Road and Glover Drive, construction of a link road between Leaside Road and the Central Spine, pedestrian and cycleway improvements to Glover Drive and Leaside Road, the construction of 4 no. bridges across the Pymmes and Salmon Brooks and River Lee Navigation; alteration to the Pymmes Brook channel and associated landscaping. Enabling works, comprising: earthworks; remediation; flood conveyance channel, storage and outfall works; utilities infrastructure; demolition of existing buildings and associated works.”

In summary, the MWSIW comprises the following elements:

- **The Central Spine Road** - a new tree-lined east-west boulevard connecting to Glover Drive and new Meridian Water Station in the west, crossing the Pymmes and Salmons Brook and River Lee Navigation to Harbet Road in the east;
- **Leaside Link Road** – a new link road providing access for cars, pedestrians and cyclists from Leaside Road through to the Central Spine Road;
- **Bridges (x4)** – erection of bridges and associated works to enable the Central Spine Road and Leaside Link Road to span the Pymmes and Salmons Brook and River Lee Navigation;
- **Brooks Park and River Naturalisation** – naturalising the channelised Pymmes Brook to introduce an ecological river landscape, as well as providing riverside parkland;
- **Edmonton Marshes and Flood Alleviation Works** – re-levelling and remediation of land to the east of Harbet Road, providing comprehensive flood alleviation works and a new high quality public open space within the Lee Valley Regional Park.
- **Access Works** – third party access works to provide new and altered accesses to the IKEA store, a new north-south link between Argon Road and Glover Drive, the creation of a link between the Central Spine Road and Anthony Way and other improvements to maintain access, along with other ancillary highway works to Glover Drive, Leaside Road and Meridian Way.
- **Earthworks, Remediation, Utilities and other ancillary works** – earthworks, retaining structures and remediation within Development Zones 4

and 5, installation of main utility networks and ancillary works including the demolition of existing buildings and structures.

1.5 Meridian Water Phase 2 Application

LBE ('the Applicant') is seeking outline planning permission for Meridian Water Phase 2 (MWP2) at Meridian Water with the following description of development:

“Outline planning application for comprehensive mixed use redevelopment at Meridian Water, comprising up to 2,300 residential units (Class C3), Purpose Built Student Accommodation and/or Large-Scale Purpose-Built Shared Living (Sui Generis); a hotel (Class C1), commercial development (Class B1a,b,c); retail (Class A1 and/or A2 and/or A3 and/or A4), social infrastructure (Class D1 and/or D2), a primary school up to three forms of entry, hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access (all matters reserved).”

The proposal entails the comprehensive redevelopment of Meridian Water Development Zone 4 and 5 and a part of Zone 2 for up to 284,600 sq m (GEA) of residential led mixed use development.

In summary, the Proposed Development comprises the following elements:

- Up to 2,300 new homes (Use Class C3), of which 40% shall be affordable;
- Option to provide a Hotel (Use Class C1) circa 250 rooms with up to 16,000 sq m GEA (allowing for a range of specification from budget to luxury);
- Option to provide Purpose Built Student Accommodation (PBSA) and/or Large-Scale Purpose-Built Shared Living (LSPBSL) (Sui Generis) with up to 18,000 sq m GEA in total;
- Up to 26,500 sq m GEA of commercial workspace development (Use Class B1a,b,c);
- Up to 2,000 sq m GEA of retail (Use Class A1 and/or A2 and/or A3 and/or A4);
- Up to 5,500 sq m GEA of social infrastructure (Use Class D1 and/or D2);
- A three-form entry primary school;
- The associated works to create hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access.

1.6 Report Purpose and Structure

The purpose of this report is to:

- review the accessibility of the site and examine data available to determine an adequate level of car parking provision to meet the needs of the development and how the reduced level of car parking on site is justified;
- identify the how parking on site will be designed and allocated across a range of land uses and individual users to ensure most efficient usage that promotes use of sustainable modes;
- identify the strategy for enforcing the use of car parking spaces to ensure that only those eligible make use of the facilities, including preventing parking by non-site users and those not having spaces as part of their ownership/tenancy; and
- establish how the site will ensure and enforce appropriate use of the car park such that it remains accessible to eligible users.

This report should be read in conjunction with the Transport Assessment (TA) which sets out existing and future accessibility of the site that influences the parking strategy set out in this report.

The structure of the report is as follows:

- Section 2 outlines the relevant car parking policy;
- Section 3 provides an overall site context and identifies existing car ownership details for the surrounding area;
- Section 4 describes the design and approach to the proposed level of residential car parking;
- Section 5 describes the design and approach to the proposed level of non-residential car parking; and
- the summary and conclusions of this study are included in Section 6.

2 Car Parking Policy and Guidance

The aspirations for Meridian Water are to provide a high-quality, sustainable travel environment which is in keeping with the Healthy Streets principles and facilitates walking, cycling and the usage of public transport as the main modes of transport over the use of the private car. This chapter sets out the national, regional and local policy context that underpins the approach to car parking that has been developed for the Proposed Development

2.1 National Policy

2.1.1 National Planning Policy Framework-Department of Communities and Local Government (February 2019)

The latest edition of the National Planning Policy Framework (NPPF) was published by the department of communities and Local Government (DCLG) in February 2019.

The NPPF sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 9 of the NPPF deals with sustainable transport. It states that in setting local parking standards for residential and non-residential development, policies should take into account:

- *The accessibility of the development;*
- *The type, mix and use of development;*
- *The availability of and opportunities for public transport;*
- *Local car ownership levels; and*
- *The need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.*

2.2 Regional Policy

2.2.1 Draft London Plan (2017)

Public consultation on a new draft London Plan commenced in December 2017, with the aim of the Plan undergoing an Examination in Public in late 2018 ahead of adoption in Autumn 2019.

Chapter 10 of the draft plan deals with transport. Policy T1 "Strategic approach to transport" states that development proposals should support:

- *The delivery of the Mayor's strategy target of 80 percent of all trips in London to be made by foot, cycle or public transport by 2041*

Policy T2 "Healthy Streets" states that:

- *Development proposals and Development Plans should deliver patterns of land use that facilitate residents making shorter, regular trips by walking or cycling.*

Policy T2 also states that:

- *In Opportunity Areas and other growth areas, new and improved walking, cycling and public transport networks should be planned at an early stage, with delivery phased appropriately to support mode shift towards active and public transport travel. Designs for new or enhanced streets must demonstrate how they deliver against the ten Healthy Streets Indicators.*

Policy T2 also notes that development proposals should:

- *reduce the dominance of vehicles on London's streets whether stationary or moving.*

Policy T6.1 deals with residential car parking and notes that new residential developments should not exceed the maximum car parking standards set out in the plan. The standards applicable to the residential, commercial and retail land uses are set out below:

- Table 10.3 of the Draft London Plan states that the maximum car parking provision for **Residential** Outer London sites with PTAL 4 and Outer London Opportunity Areas should be up-to 0.5 spaces per unit.
- Table 10.4 of the Draft London Plan contains maximum parking standards for **Office** developments. From this table car parking provision for Outer London Opportunity Areas should be up to 1 space per 600 m² Gross Internal Area (GIA).
- Table 10.5 of the Draft London Plan contains maximum parking standards for **Retail** developments. From this table maximum car parking provision for Outer London Opportunity Areas retail land uses should be up-to 1 space per 75 m² GIA.

2.2.1.1 Non-Residential Disabled Parking Standards

Policy T6.5 of the draft London Plan deals with non-residential disabled persons parking and the relevant parts of the policy are replicated in Table 2.

Table 2: Draft London Plan Table 10.6 - Non-residential disabled persons parking

	Designated bays (percent of total parking provision)	Enlarged bays (percent of total parking provision)
Workplace	5 percent	5 percent
Education	5 percent	5 percent
Retail, recreation and leisure	6 percent	4 percent

2.3 Local Policy

2.3.1 Enfield Council Development Management Document

Enfield Council's Development Management Document (DMD) was adopted in November 2014. Section 7 of the document deals with transport and parking.

DMD 45 deals with parking standards and states that:

Car parking proposals will be considered against the standards set out in the London Plan and:

- *The scale and nature of the development;*
- *The public transport accessibility (PTAL) of the site;*
- *Existing parking pressures in the locality;*
- *Accessibility to local amenities, and the needs of the future occupants of the developments.*

For developments where no standards exist, parking should be provided to ensure that:

- *Operational needs are adequately met, having regard to the need to maximise use of sustainable modes of transport.*

DMD 45 also states that:

- *The Council will encourage proposals for car clubs, especially those that would; support lower levels of off-street parking in new developments; be available to the wider public; and where new car club bays would support or develop the existing car club network.*

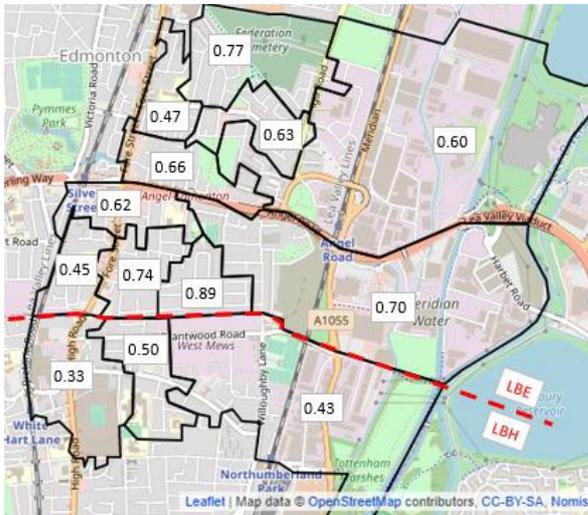
3 Existing Car Ownership and Transport Accessibility

A review of the local car ownership from Census 2011 data and the site's Public Transport Accessibility Level (PTAL) has been undertaken.

3.1 Car Ownership

The local car ownership from Census 2011 is shown in Figure 2.

Figure 2: 2011 Census Car Ownership per dwelling



The car parking ownership information that has been interrogated from Census demonstrates that the existing residential car ownership in areas surrounding the Proposed Development site varies from 0.33 spaces per dwelling to 0.89 spaces per dwelling.

The lowest car ownership areas are located along the Fore Street / High Road corridor, near White Hart Lane in Haringey and around Silver Street / Edmonton and Northumberland Park stations.

Within the vicinity of the Meridian Water masterplan area, the existing car ownership is 0.7 cars per dwelling., whilst when assessing the average car ownership for just flatted development, across the Enfield is an average of 0.58 cars per household.

3.2 Transport Network

The site currently has a low public transport connectivity, and the network is described in the following sections.

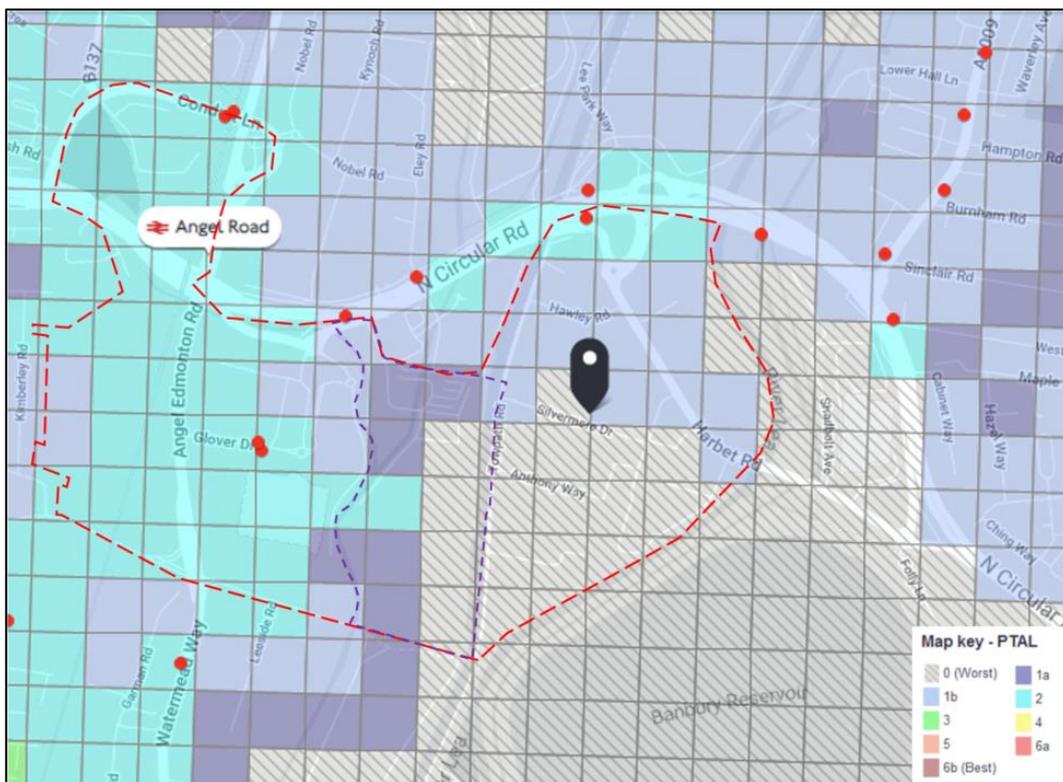
3.2.1 Public Transport Accessibility Level

The Public Transport Accessibility Level (PTAL) is a measure of connectivity by public transport which is calculated using TfL’s online Web-based Connectivity Assessment Toolkit (WebCAT). This is the standard industry method to benchmark the accessibility of a site by public transport.

It assumes a walking speed of 4.8km/h and considers all London Underground and rail stations within a 12-minute walk (960m) of the proposed development site and all bus stops within an eight-minute walk (640m). The Assessment indicates PTAL range from 0 to 6b, with 0 being the lowest accessibility and 6b being the highest accessibility to public transport services.

The Public Transport Accessibility Level of the Meridian Water development area ranges from 0 to 2. The existing PTAL across the proposed development site is shown in Figure 3. The PTAL of the Proposed Development site is currently poor and commensurate with the current public transport services and accessibility of the site in terms of walking and cycling connections.

Figure 3: Existing Public Transport Accessibility Level (2019)

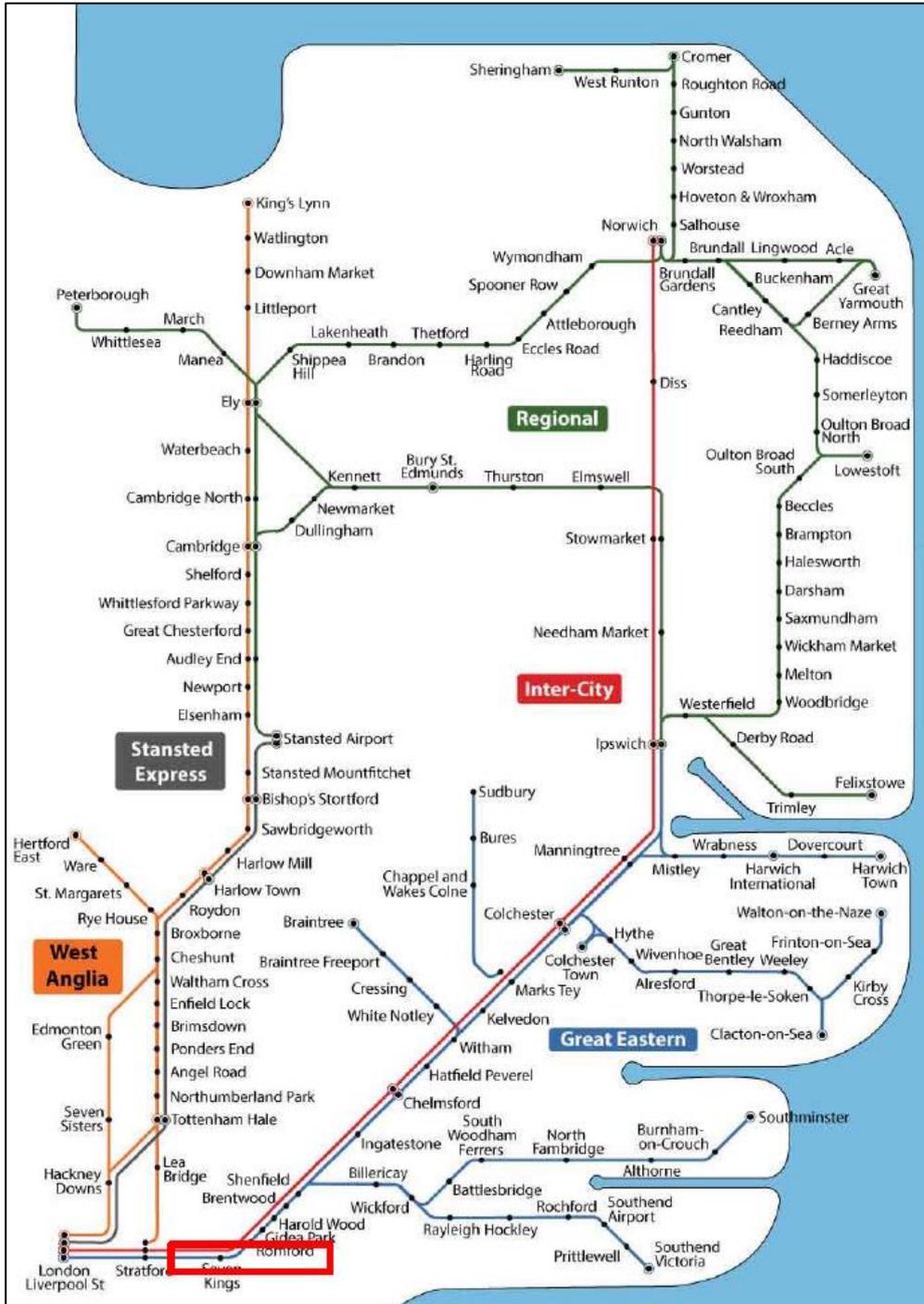


3.2.2 National Rail

The West Anglian Main Line (WAML) runs parallel to Meridian Way through the masterplan site. At present national rail services operate from Angel Road station (located off Conduit Lane) and is within a walkable distance, less than 1 mile, from the site. This station is served by West Anglia services.

The current services from the station are to London Liverpool Street, Stratford, and Hertford East. The current rail services map is shown in **Figure 4**.

Figure 4: West Anglian Railway Map



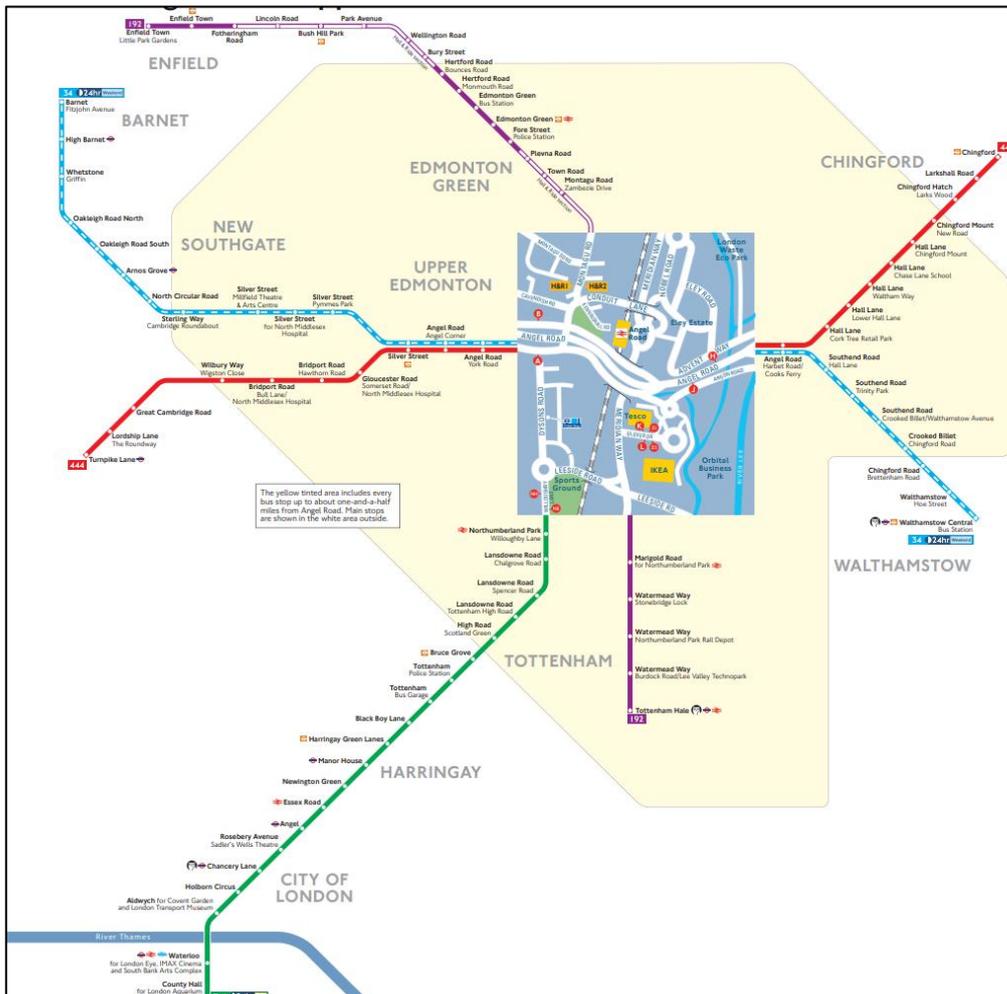
At present the train frequency at the station is two trains per hour in each direction. There are no direct services to Central London. The accessibility to the station is in need of improvements.

3.2.3 Bus Network

Transport for London bus network serves the area surrounding the site. There are four London Bus Routes operating in the vicinity of the development. The bus spider map of bus routes available is shown in Figure 5.

Bus Route 192 is accessible from Glover Drive (Stop K, L) and Sedge Road Stop (NP) which are within a 15-minute walking distance from the site. Whereas, Bus Route 341 can be accessed through Glover Drive (Stop K, L). The bus stops adjacent to A406, Ravenside Trading Estate (Stop J) and Eley Trading Estate (Stop H) serves 34 and 444 bus routes.

Figure 5: Bus Network Spider Map



3.2.4 London Underground

There are no London Underground stations accessible within 960 metres. The closest London underground station is Tottenham Hale served by the Victoria line located some 2.7 kilometre south of the site.

This station is accessible via a 9-minute bus ride from Glover Drive, adjacent to the site.

3.3 Highway Network

The road network in the vicinity of the site is controlled by TfL, LBE and London Borough of Harringay (LBH).

3.3.1 Transport for London

Transport for London (TfL) is responsible for the management of the TfL Road Network (TLRN), also known as the Red Route.

The key strategic highway route in the vicinity of the site is the A406 North Circular Road. This forms part of the Transport for London Road Network (TLRN) and provides the main east to west connection across north London.

3.3.2 Strategic Road Network

The Strategic Road Network (SRN) comprises strategically significant roads in London for which TfL has a network management duty.

The A1055 Meridian Way is part of the SRN and runs north-south in the vicinity of the proposed site. Conduit Lane is situated to the north of the site and provides a link between the SRN and TLRN.

3.3.3 Local Road Network

Currently, the connectivity of the development site to the local road network is very limited. There is no direct connectivity to the development site through the local road network.

The local highway network comprises borough routes including the A1055 Meridian Way to the west of the site, and the local links Argon Road to the north of the site.

North of the proposed development site, Argon Road gives access from the A406 North Circular. This also provides access to the east and west local connectivity.

There are a few neighbourhood routes which provide access to Ravenside Retail park and these may be considered as current local network connections. These roads have traffic calming measures.

Leeside Road that can be accessed via the bicycle route to south of the proposed development site provides east-west connection over the rail line.

3.4 Transport Improvements

A new train station is proposed at the Meridian Water site. The opening of this new station will greatly improve public transport accessibility in the area. Train frequency at the new train station in the immediate future is expected to be 3

trains per hour (tph) to Stratford and Central London via Tottenham Hale during the AM peak hour.

A Housing Infrastructure Funding Bid has been submitted to central government seeking to secure funds to deliver rail infrastructure to facilitate an uplift in the rail frequency up to 7tph at the site to be delivered by 2031.

Further into the future Crossrail 2 proposals would increase train frequent, up to 12tph, to a wider range of destinations. However, Crossrail 2 is not currently committed and there are no timescales for when this would be delivered in relation to the phasing of Meridian Water.

Meridian Water will also require high frequency bus services to improve accessibility, particularly at the eastern part of the site during the early phases of development.

The introduction of Crossrail 2 services and high frequency bus services would ensure that the area around the station will achieve a PTAL of 6a. It should be noted that other areas of the site would achieve a PTAL of 4 and pockets of the site would achieve PTAL of 2.

4 Proposed Residential Parking Strategy

This chapter sets out the proposed approach to residential car and parking provision for the Proposed Development.

4.1 Supporting Evidence

In determining the car parking provision for the Proposed Development, the following information has been considered:

- The scale and nature of the mixed-use Proposed Development;
- The existing and future PTAL of the site;
- The existing car ownership in the local area;
- The current walking and cycling infrastructure in the area and the proposed improvements coming forward as part of the Proposed Development;
- Existing parking pressure in the surrounding area;
- Range of local amenities and the needs of the future occupants of the development;
- Maximum car parking standards set out in policy (including Draft New London Plan).

4.2 Parking Strategy Principles

The principles that the car parking strategy of the proposed development has been based are as follows:

- In line with national and regional policies to support sustainable development there is a requirement to provide alternatives to the private car and promote the use of sustainable, active modes;
- Based on the location of the site and access to public transport there is an opportunity to encourage walking, cycling, rail and bus as the main modes of travel and reduce the reliance on private car use;
- The development proposals prioritise pedestrians and cyclists over vehicles through the creation of a network of footways and, segregated in places, cycle routes through the site, connecting residential areas with key destinations onsite and external connections to the surrounding local attractors;
- Facilitating travel by active modes is a fundamental design principle, with development proposals incorporating both new and improved pedestrian and cycling connectivity. Residents, visitors and employees onsite will benefit from internal and enhanced external pedestrian and cycle facilities.

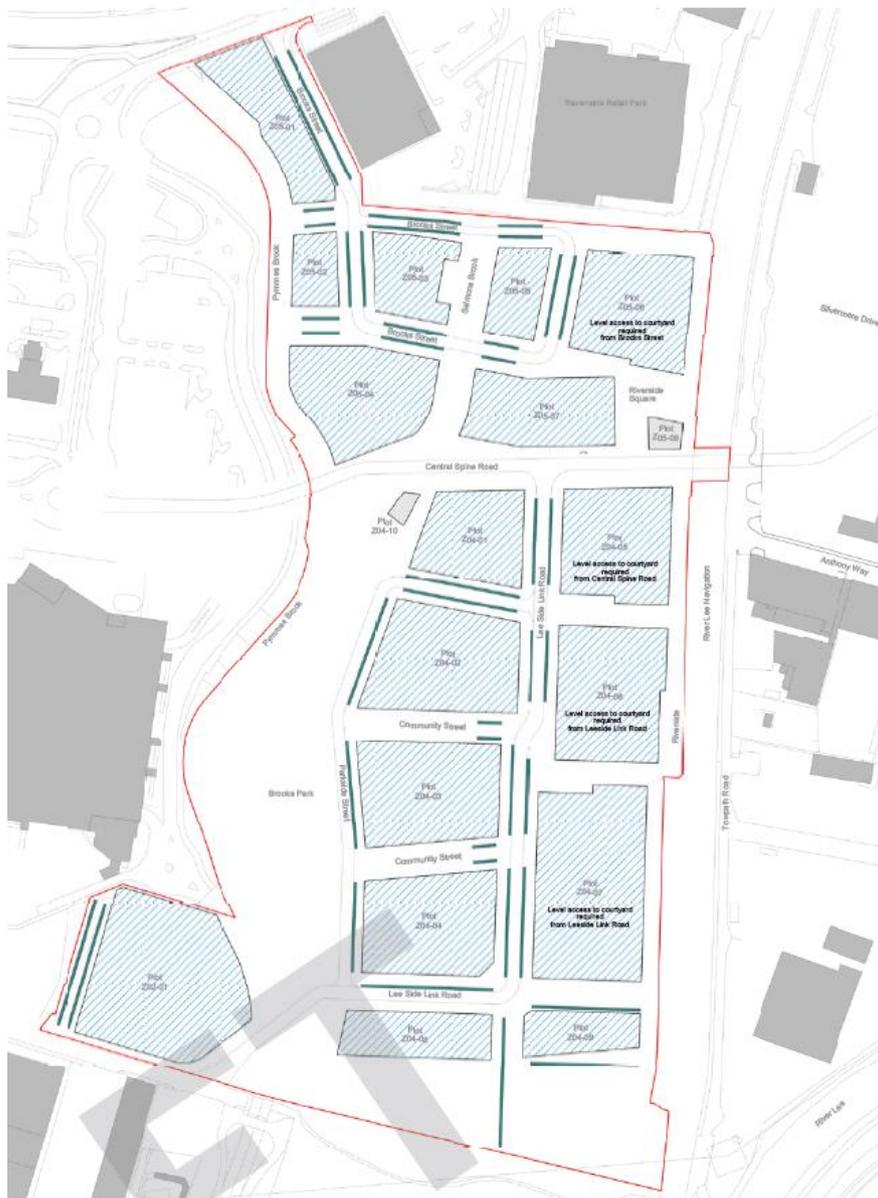
4.3 Car Parking Design and Location

The key design principles behind the street layout and parking design is to facilitate prioritised movement by walking and cycling, with parking provided alongside main roads within the internal road network.

Car parking has been designed to be seamlessly designed into the public realm and streetscape. The public realm has been actively designed to reduce the potential for informal illegitimate parking.

The location of the parking areas provided for both residential and non-residential spaces is shown in **Figure 6**. Due to the outline nature of the scheme, the precise location of individual car parking spaces will be brought forward through detailed reserved matters applications, whilst the spatial requirements for the overall required quantum have been designed into the parameter plans of the masterplan area.

Figure 6: Car Parking Locations



4.4 Proposed Car Parking Provision

As stated in preceding chapters, the existing residential car ownership in the area varies from 0.33 spaces to 0.89 spaces per dwelling, with car ownership in the vicinity of the Meridian Water masterplan area at 0.7 cars per dwelling.

In order to meet the aspirations of the masterplan development, it is the intention for the level of parking to be restricted with the proposed parking provision at 0.25 spaces per unit, which would essentially satisfy the requirement for Blue Badge parking and visitors only.

Based on the above it is proposed to provide c.500 car parking spaces to serve up to c.2,215 dwelling residential element of the proposed development which represents a parking provision of 0.25 spaces per unit.

4.5 Blue Badge Parking Provision

Blue Badge parking will be provided at a ratio of 3% of units from the outset. A further 7% of the residential parking spaces will be designed with in-built flexibility for these to be easily adapted, by utilising available space on footways for on-street spaces and via the re-arrangement of white line painting within podium parking areas, in order to provide up to 10% of units with a Blue Badge space if required in future, in accordance with the Draft New London Plan.

4.6 Car Parking Allocation

A parking permit or a right to park system will operate within the site for residents. The system will operate whereby parking permits will be awarded to eligible residents based on need. Eligible residents will need to demonstrate:

- Proof of residency;
- That they are the registered keeper of the vehicle;
- the vehicle has a current MOT certificate, where applicable;
- the vehicle has up to date proof of VED payment; and
- the vehicle has current insurance cover.

It is envisaged that that priority of parking space allocation will be agreed with LBE, however the expected priority is:

1. Those holding valid Blue Badges.
2. Residents of larger residential dwellings (3-4 bed dwellings) where proof can be provided of more than 1 child resident at the property.
3. Key Workers providing an essential public service.

4. Other demonstrable need (such as where a vehicle is an integral part of their employment).

This will allow a residential unit to have a permit that enables them to park anywhere within the podium car parking areas and internal residential streets. Permits will be allocated on an annual basis and applicable residents will need to apply every year. The number of permits issued each year will be carefully monitored in line with demand and monitoring of usage. There is likely to be a charge applied for the administration of the scheme.

For visitor parking, an arrangement will be made for parking monitoring and control. This will be agreed prior to its introduction with a mechanism for its monitoring and amendment as the site develops as part of a Car Park Management Plan.

It is currently envisioned that a maximum duration of stay, likely to be 4 hours maximum, would be enforced during the day, between 08:00 and 20:00 hours to prevent all-day parking and additional residential car ownership, however overnight parking for occasional residential visitors would be permitted subject to a suitable charge.

4.7 Cycle Parking Provision

Cycle parking will be provided in accordance with the Draft New London Plan (2018). Table 3 shows the proposed level of cycle parking for the residential element. It is envisaged that the long-stay residential spaces will be provided internally within building plots, with direct external access from ground floor level, sufficient space within the area to adequately manoeuvre cycles and also a mix of provision of spaces to facilitate ownership of non-standard spaces.

Table 3: Proposed cycle parking provision

Land Use		Long Stay Spaces	Short Stay Spaces	Total Spaces
C3-C4	Dwellings	4,098	57	4,155

4.8 Motorcycle Parking

Motorcycle parking will be provided where demand arises. It is not currently proposed to provide any within the site's allocation, however as parking permits are being allocated and monitored across the lifetime of the development if there is an identified demand for motorcycle parking there is opportunity to convert car parking spaces.

4.9 Electric Vehicle Charging Points

Electric vehicle charging points will be provided in accordance with the Draft New London Plan which requires 20% active provision and 80% passive provision. Service corridors and ducting will be provided in order to provide comprehensive utility provision across the site and serve all parking spaces if required in future with electric vehicle charging points.

The design principles of the site are to work to efficient street patterns and maximise space for pedestrian and cycle movement and as such, the design will be looking to minimise street clutter. It is therefore proposed that innovative solutions such as installing charging points in lighting columns will be investigated.

4.10 Travel Plan Measures

To support and complement the level of car parking provision on site, Travel Plan measures will be implemented. This will promote different transport modes available to residents, inform residents of local destinations, and encourage an active lifestyle.

The Travel Plan is expected to play a core part in the new community and is key in building a culture where travel should not be limited to using the private car.

4.11 Car Parking Summary

Table 4 sets out below the summary for the overall parking provision for the residential element of the scheme.

Table 4: Residential Car Parking Provision

Parking Type	Max Dwellings	Draft New London Plan Standards (2018)	Allowed for by (2018)	Car Parking Proposed
Blue Badge	60 @ 3% 200 @ 10%	3% in the first instance with further 7% to be easily adaptable to meet overall 10% provision	At least one disabled bay	60 spaces (with further 140 easily adaptable)
Standard Residents	2,215 dwellings	Up to 0.5 spaces per unit	0.25 per dwelling	c.550 spaces for residents

5 Proposed Non-Residential Car Parking

The proposed Phase 2 Meridian Water development will include non-residential land uses. The proposed car parking strategy for these land uses is set out in this chapter.

5.1 Proposed Non-Residential Land Uses

The planning application takes a flexible approach with maximum land use quantum being applied for the Proposed Development. The site will be not able to accommodate the maximum floor areas for all land uses. For example, the option to provide a Hotel, Purpose Built Student Accommodation (PBSA) and/or Large-Scale Purpose Built Shared Living (LSPBSL) would reduce the maximum number of residential dwellings that could be provided.

For the purposes of this TA, the reasonable development scenario is assessed which considers a robust case in terms of trip generation. This is set out in the following table. So, for example, the student accommodation would have less effect on peak hour movement, whereas a hotel would create a different balance of demand from pure residential. As a result, for the assessment no student accommodation was assumed, and a hotel was included together with reduced residential (reflecting the maximum limit) to provide a robust case in terms of trip generation.

Table 5: Assumed development quantum

Land Use	Maximum floor area	TA Development Quantum
Residential (C3)	2,300 homes	2,215 homes. This is lower than the maximum to allow the provision for a hotel.
Hotel (C1)	14,500 sqm	180 rooms
PBSA / LSPBSL (Sui Generis)	14,500 sqm	Residential use would generate more peak hour trips and therefore no PBSA / LSPBSL assumed.
Commercial workspace (B1 a, b, c)	26,500 sqm	26,500 sqm
Retail (A1-A4)	2,000 sqm	2,000 sqm (assumed 1200 sqm A1 retail, 800 sqm A3 cafes and restaurants)
Social infrastructure (D1-D2)	5,500 sqm	5,500 sqm (assume 3,250 sqm library, 500 sqm health centre, 1,750 gym)
Primary School	4,750 sqm (three-form entry)	4,750 sqm (three-form entry with 450 pupils)

This chapter outlines the parking provision associated with the non-residential land uses. The non-residential uses are proposed to have car parking which is within policy standards, however where there are no exact standards available, similar sites either from the TRICS trip generation database or from recent approved planning applications have been reviewed and a suitable number of parking spaces have been identified to meet operational and Blue Badge requirements.

5.2 A1/A3 Retail; Convenience Store, Local Shops, Food and Beverage

The Proposed development will include 1200m² GIA A1 Retail convenience store, and 800m² GIA A3 Food and Beverage.

From the Draft London Plan the maximum parking provision for retail developments is up to 1 space per 75m² GIA. This is equivalent to a maximum parking provision of 27 spaces.

It is proposed to provide 20 spaces to serve the A1/A3 retail development which is in accordance with the standards set out in the Draft London Plan.

5.3 B1 (a,b,c) Commercial

The Proposed Development includes a total of 21,750 m² GIA commercial floorspace which includes B1a Office development of 9,000m² GIA, B1b R&D of 6,750 m² GIA and B1c Light Industry of 6,000 m² GIA.

The Draft London Plan maximum parking standards for B1 developments is up to 1 space per 600m² for Outer London Opportunity Areas.

Applying these standards, the maximum parking provision for the proposed B1 development would be 36 car parking spaces. Therefore, it is proposed to provide 36 car parking space to serve the B1 development in line with the Draft London Plan parking standards.

5.4 C1 Hotel

The Proposed will include a 9,000m² GIA hotel with a capacity of 180 rooms.

The Draft London Plan indicates that in areas with PTAL of 4 any on-site parking provision should be limited to operational needs, disabled persons parking and parking required for taxis, coaches and deliveries or servicing.

It is proposed to provide 60 car parking spaces and one of these spaces will be a disabled bay. This is equivalent to a parking provision of one space per three bedrooms. It is expected that this parking provision would satisfy the parking needs of the proposed hotel considering its location and likely future guests.

5.5 Student Accommodation

The Proposed Development includes 14,500m² GIA student accommodation which will comprise 250 rooms. It is proposed that this land use would be car-free due to its nature. There will be at least 1 Blue Badge parking space provided if this was to come forward.

5.6 D1 Primary School

The Proposed Development includes a primary school of 4,750m² GIA that would accommodate up to 450 pupils.

It is proposed to provide 20 car parking spaces to serve this land use and one of these spaces will be a Blue Badge bay.

This parking provision is similar to the parking provision of other existing schools. In addition, this parking provision would allow for a proportion of staff that come from further afield to drive to the site. This has been determined utilising a car parking accumulation study based on the parking utilisation of other local primary schools.

It is therefore considered that this car parking provision would suffice for the operational needs of the Proposed Development.

5.7 D1/D2 Social Infrastructure

The Proposed Development comprises a GIA of this land use of 5,500 m² GIA and will likely include a library, healthcare facilities/GP Surgery and a gym.

It is proposed to provide 20 car parking spaces to serve the healthcare facilities/GP Surgery and one of these would be a disabled parking bay.

The gym and library are envisaged to be completely car-free as they will be servicing residents on site. Therefore, the total parking provision of 20 spaces for this land use is considered appropriate.

5.8 Cycle Parking

Cycle parking will be provided in accordance with the Draft New London Plan (2018). Table 6 shows the typical level of cycle parking based on non-residential proposals.

Table 6: Proposed cycle parking provision

Use Class	Land Use	Long Stay Spaces	Short Stay Spaces
A1	Food Retail	3	10
	Non-Food Retail	4	7
A2-A5	Financial / Professional Services; cafes / restaurants	5	20
B1	Business Offices	71	12
	Light Industry and R&D	64	16
B2-B8	General industrial, storage or distribution	0	0
C1	Hotels	9	4
C2	Hospitals	0	0
	Care Homes / secure accommodations	0	0
D1	Nurseries	0	-
	Primary schools/secondary schools/sixth form colleges	66	5
	Universities and colleges	0	0
	Health Centre, including dentists	6	10
	Other (e.g. library, church, etc.)	0	33
D2	Other (e.g. cinema, bingo, etc.)	0	0
	Sports (e.g. sports hall, swimming gymnasium)	0	18
Total		228	135

The trip generation methodology does not assess PBSA/LSPBSL because residential would generate more peak hour trips. However, cycle parking for the PBSA/LSPBSL will be provided in accordance with the Draft New London Plan requirement of one space per room. The short stay requirement is the same as the C3 residential use.

5.9 Summary

In summary, the overall non-residential car parking numbers are provided in Table 7.

Table 7: Summary Table of Non-Residential Parking Provision

Land use	Max floor area (sqm)	Draft New London Plan Standards (2018)	Allowed for by standards (2018)	Car Parking Assumed
Retail	2,000 sqm	Up to 1 space per 75 sqm	27 spaces (of which 3 disabled / enlarged)	c.20 spaces
Workspace	26,500 sqm	Up to 1 space per 600 sqm	37 spaces (of which 4 disabled / enlarged) (assume all offices)	c.37 spaces

Hotel	16,000 sqm / 250 rooms	Assessed on a case-by-case basis	At least one disabled bay	c.60 spaces for guests
PBSA or LSPBSL**	18,000 sqm	No standards, at least one disabled bay	At least one disabled bay	c.35 spaces for residents
Primary School 3FE	4,750 sqm	No standards, at least one disabled bay	At least one disabled bay Staff spaces based on accumulation.	c. 20 spaces for staff No drop-off / pick-up
Social infrastructure	5,500 sqm	No standards, at least one disabled bay	At least one disabled bay Spaces	GP Surgery to provide 20 spaces 0 for other uses.

6 Management and Enforcement

Due to the restricted level of parking and the constraint this will apply considering the existing level of car ownership in the area it is crucial that there is comprehensive management and enforcement of parking on site. This section sets out the expected processes that will be undertaken on site.

No firm conclusions have yet been drawn regarding the extent of streets likely to be put up for adoption as public highway. At this stage there are three principle options

- All Streets remain private;
- Central Spine Road adopted as public Highway; or
- Central Spine Road and Leaside Link Road adopted as public highway.

The limit of adoption will be related to the management of car parking and servicing on street. The Applicant would welcome further discussion with LBE to agree the adoption and maintenance strategy for the scheme.

The favoured approach is for the streets that are being provided in detail as part of MWSIW (Central Spine Road and Leaside Road), these streets will be fully adopted by the LPA and that the parking spaces that are located upon this route would need to follow standard LBE on-street residential parking arrangements.

The internal podium parking areas and parking on local residential streets to be delivered by individual plot developers would be delivered on private land, however there would need to be a site-wide management plan put in place.

As sated above, the following sections set out the expected approach to management and enforcement, and at this should assume to be covering all car parking on site.

6.1 London Borough of Enfield Residential Parking Permit System

Permits for residents, businesses and carers last for one year and must be renewed after the expiry date. You must purchase a permit for each vehicle registered under your name. At a borough level, permits are limited to three per person. For the MWP2 it is envisaged that this will be limited to one permit per household, with a maximum cap in line with the car parking provided on site which will be allocated as per the criteria in Section 4.6.

Currently, resident permit prices are based on vehicle engine size and Blue Badge holders can apply for a resident permit free of charge. Prices are set out in Table 8.

Table 8: Residential Car Parking Permit Prices

Engine size	Price for all-day zones	Price for 1-to-4 hour zones
1000cc or less	£55	£27.50
1001cc to 1600cc	£110	£55
1601cc to 1999cc	£165	£82.50
2000cc to 2499cc	£220	£110
2500cc to 2999cc	£275	£137.50
3000cc	£330	£165

6.2 Enforcement Process

Certain activities within the car parking areas will be seen to constitute a trigger for enforcement action. Enforcement in the areas where the highway is adopted will be carried out by London Borough Enfield and any company they contract to operate the enforcement on their behalf.

Activities that will cause enforcement action include the following:

- Vehicle not authorised to park (in the first instance, without a site parking permit or right to park permit);
- Vehicle not parked in a correct space (Blue Badge space);
- Vehicle not parking within a demarcated space, but otherwise authorised;
- Vehicle parking inappropriately and liable to cause obstruction. Vehicles without displayed on-site parking permits (including unauthorised parking)

In the event that a vehicle is parked in the area but not displaying a valid permit, the parking enforcement, will in the first instance, cross reference the vehicle registration with the issued permit database. In the event that a vehicle is authorised to park, but not displaying a permit, a first warning notice will be issued. Subsequent offences by the same vehicle will warrant the normal procedures set out below.

In the event that a vehicle is not authorised to park, a fine will be issued. This will ensure that adequate space is made available for those who correctly have an expectation to be able to park. A notification will be made to vehicle owners with a fee payable.

6.2.1 Vehicles Not Parked in Correct Space

Where vehicles otherwise authorised to park in the development have not parked in the correct space, such as a Blue Badge space, in the first instance a ticket will be issued, with a commensurate fine. In the event that the vehicle remains in the space for an extended period of time or the offence is repeated, further tickets will be issued with the commensurate fine.

The resident in receipt of the ticket will have the option to appeal against the issue of ticket and the case will be judged against the prevailing conditions. For

instance, if the misuse of disabled space coincided with an enforcement action against an unauthorised parked vehicle, leading to a deficiency of appropriate spaces for the authorised resident, the ticket may be retracted.

6.2.2 Authorised Vehicles Parked Outside of Demarcated Spaces

Where vehicles displaying a valid permit are parking informally, outside of demarcated spaces, the procedure set out above will be pursued. However, if the location of a vehicle would prejudice any of the following, removal procedures will be enacted:

- Other parking spaces are wholly obstructed
- The access is obstructed such that safe operation could no longer continue
- Access by service vehicles could not be completed in a safe and suitable manner, including allowing turning on site that avoids the need to reverse to or from the highway

The contractor will be required to produce photographic evidence of the offence as committed.

6.2.3 Vehicle Parking Inappropriately

All vehicles will be required to park entirely within the defined car parking spaces. In the first instance, a judgement as to the severity of the situation will be made. Where it is judged that the nature of parking is likely to obstruct other users of the car park, most noticeably service vehicles, or where the action constitutes a repeat or sustained occurrence, immediate removal procedures will be enforced.

In the event that no immediate impediment to access will result, a ticket to the vehicle will be issued.

7 Summary

This Parking Design and Management Plan forms part of a suite of documents that have been submitted in support of a planning application for two applications are collectively known as the Proposed Development in this report, which includes a full detailed planning application for Strategic Infrastructure Works and an Outline planning application for Meridian Water Phase 2 development.

The purpose of this report is to:

- review the accessibility of the site and examine data available to determine an adequate level of car parking provision to meet the needs of the development and how the reduced level of car parking on site is justified;
- identify the quantum of parking on site, how it will be designed and allocated across a range of land uses and individual users to ensure most efficient usage that promotes use of sustainable modes;
- identify the strategy for enforcing the use of car parking spaces to ensure that only those eligible make use of the facilities, including preventing parking by non-site users and those not having spaces as part of their ownership/tenancy; and
- establish how the site will ensure and enforce appropriate use of the car park such that it remains accessible to eligible users.

Due to the Outline nature of the development proposals it is envisaged that this Plan operates as an overarching strategy securing the overall quantum of car parking, and which sets the framework for future reserved matter applications to come forward in future.