

**RESERVED MATTERS APPLICATION  
FOR PHASE 1A (SOUTH) BRENT CROSS CRICKLEWOOD  
EXPLANATORY REPORT – OCTOBER 2015**

**APPENDICES PART 2**



## APPENDIX 5

### RESERVED MATTERS TRANSPORT REPORT

Argent (Property Development)  
Services LLP

**Brent Cross South Phase 1A  
(South)**

**Reserved Matters Transport Report**

245526-00/RMTR

Issue | 22 October 2015

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 245526-00

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**ARUP**

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# 1 Introduction

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Arup has been commissioned by Argent (Property Development) Services LLP (Argent) to provide transport planning and highways infrastructure services in support of a Reserved Matters Application (RMA) for Brent Cross South (BXS) Phase 1A (South), part of the Brent Cross Cricklewood (BXC) development. This report is the Reserved Matters Transport Report (RMTR) for Phase 1A (South) as required by the outline planning permission granted pursuant to a Section 73 application and dated 23 July 2014 (ref. F/04687/13) (the '2014 Permission').

The BXC site is located in northwest London within the London Borough of Barnet (LBB) and includes land to the north and south of the A406 North Circular Road between junctions with the A5 Edgware Road, M1 and A41 Hendon Way. BXS covers the southern part of the BXC site, bounded by the A406 to the north, A5 to the west and A41 to the east, as shown in Figure 1. This RMTR relates specifically to the highways infrastructure requirements of Phase 1A (South), and as such comprises two sections of highway intended to facilitate further plot development within BXS.

The scope of this RMTR is therefore limited to the impacts relating to the introduction of two additional pieces of highway infrastructure, Claremont Park Road (Part 1) and School Lane, where these links connect to the highway network that has been presented in the RMTR for Phase 1A (North). These sections are shown in the context of the wider development in Figure 2.

## 1.1 Planning Context

There is an extant outline planning permission in place for BXC, namely, the 2014 Permission (which, if implemented, will supersede the original outline planning permission which was granted in 2010 (the '2010 Permission')). The 2014 Permission sets the framework of control that will ensure that the BXC development will be carried out in a manner that is consistent with the transport analysis undertaken at the time of the planning application, the BXC Consolidated Transport Assessment (see below).

The Section 106 (S106) document and conditions 37.5 and 37.6 of the 2014 Permission sets out the requirement to provide a Reserved Matters Transport Report (RMTR) to be submitted for each sub-phase of the development.

## 1.2 The Consented BXC Documents

A full Transport Assessment accompanied the 2010 Permission. The transport information was updated in 2013 and the updated information forms part of the 2014 Permission. The list below provides a reference to the transport documents issued in support of the 2014 Permission:

- BXC 05 Volume 1 Consolidated Transport Assessment Main Report
- BXC 05 Volume 2 Consolidated Transport Assessment Appendices

- BXC 05 Volume 3 Consolidated Transport Assessment Travel Plans
- BXC 05 Volume 4 Consolidated Transport Assessment Highway Engineering Proposals
- BXC 05 Volume 5 Section 73 Transport Report
- BXC 05 Volume 6 Section 73 Highway Engineering Report

The 2014 Permission divides the site up into a series of Phases and Sub Phases. Phase 1A South is defined as consisting of three Critical Infrastructure items:

- A5/Diverted Geron Way (Waste Handling Facility) Junction;
- Claremont Park Road (Part 1); and
- School Lane.

As set out in the Revised Development Specification and Framework (“RDSF”) (which is tied to the 2014 Permission under Condition 1.16), the 2014 Permission provides full planning consent in respect of nine junctions, referred to as the Gateway Junctions controlled under Condition 1.29. Reserved matters approval does not, therefore, need to be sought for these works. The A5/Diverted Geron Way (Waste Handling Facility) Junction is one of the nine Gateway Junctions and therefore it is not covered within this report.

As well as the 2014 Permission documentation, this RMTR also refers to the relevant Phase Transport Plan (PTR:P1); the approved PTR for Phase 1 also forms part of the associated background information. Where appropriate, reference to documents submitted under the BXC Phase 1A (North) RMAs has also been made.

The RMTR draws on the background information and analysis provided as part of these documents throughout. The S106 documents set out the requirements for this study and will therefore also form an important reference document.

### 1.3 Consultation

The scope of this RMTR has been discussed with LBB and approved under condition 37.1 of permission reference F/04687/13. The infrastructure proposed as part of the Phase 1A (South) RMA is not expected to form part of the Transport for London Road Network (TLRN) nor Highway’s England’s (HE) Strategic Road Network (SRN), and is therefore expected to fall under LBB’s control as the local highway authority, and as such neither TfL or HE have been formally consulted.

### 1.4 Scope of Reserved Matters Transport Report: Phase 1A (South)

This RMTR is submitted with the RMA for BXS Phase 1A (South) to address the associated detailed transport issues. The scope of the RMTR for Phase 1A (South) is set out in the approved scope document 245526-00/SRMTR.

Comments received on the scoping document and from LBB in respect of the draft proposals have been incorporated into this document as appropriate.

## 1.5 Report Structure

Following on from this section the remainder of the report is structured as follows:

- Section 2 provides details of existing site information in relation to public transport, pedestrians and cyclists;
- Section 3 examines the baseline transport networks and provides data for buses, coaches, rail and London Underground;
- Section 4 examines the development proposals in relation to the S73 scheme, the Phased Transport Report and the BXS Phase 1A (South) proposals, including impacts on public transport, pedestrians and cyclists;
- Section 5 summarises the proposals for BXS Phase 1A (South) in relation to the Phased Transport Strategy; and
- Section 6 provides the summary and conclusions for the RMTR.

## 2 Existing Conditions

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This chapter presents a review of the existing transport conditions relevant to the development proposals in the context of the existing site. The overall accessibility of the site has been assessed with respect to public transport, pedestrian, cycle and vehicular access and presents the 2015 baseline position illustrating the connectivity of the site with the surrounding area.

### 2.1 Existing Site Information

The BXC site is located in northwest London within the London Borough of Barnet (LBB) and includes land to the north and south of the A406 between junctions with the A5, M1 and A41. BXS covers the southern part of the BXC site, bounded by the A406 to the north, A5 to the west and A41 to the east.

The BXS site currently comprises a range of land uses, comprising mainly residential, retail, industrial and business land uses to the south of the A406. BXS Phase 1A (South) connects to the network approved in relation to BXC Phase 1A (North); the context of the existing site, BXC Phase 1A (North) and BXS Phase 1A (South) is shown in Figure 2.

### 2.2 Public Transport Accessibility Level (PTAL)

TfL's WebCAT interface provides existing (2011) and future forecast (2021 and 2031) public transport accessibility level (PTAL) mapping for Greater London. Areas are graded from 1a (poor public transport accessibility) to 6b (very good public transport accessibility). Reviewing the area covered by BXS Phase 1A, PTALs across the site range from 2 to 4; the future forecasts do not yet show any improvements associated with the BXC development. The PTAL outputs for BXS Phase 1A (South) are contained in Appendix A.

In the wider context, PTALs increase closer to Brent Cross Underground station and Brent Cross bus station to the north, and Cricklewood Railway Station to the south. The lowest PTALs in the immediate vicinity of BXS Phase 1A (South) lie to the south, on Clitterhouse Playing Fields and to the west of Brent Terrace.

### 2.3 Pedestrian and Cyclist Amenities

As presented in transport documents BXC05 submitted under the Section 73 application, existing pedestrian and cycle connectivity across BXC, and in particular BXS, is limited beyond the immediate area. The location of the site in relation to the A406, A41, A5 and M1 corridors as well as the Midland Mainline (MML) railway and Cricklewood railway lands to the west essentially isolates the site from the surrounding area by cycle or on foot. The existing pedestrian and cycle network is presented in BXC05, and is reproduced in Figure 3.

Within the immediate area associated with the BXS Phase 1A (South) development, pedestrian links through Clarefield Park and Clitterhouse Playing Fields provide connections to the west and south, while pedestrian links to Brent

Cross Shopping Centre and Bus Station to the north are via footways along Claremont Road and Brent Terrace. Access to Tesco and the Hendon Leisure Centre to the east is via Claremont Road and Marble Drive.

Cycle facilities are currently poor with little connectivity across the development area. There are several designated cycle routes and combined cycle/pedestrian routes in the area, some of which form part of the TfL cycle network, but they are difficult to identify on the ground. In general provision between the BXC site and the adjacent residential areas is constrained by the existing major transport corridors and the River Brent, which together form a barrier around much of the site.

The majority of cycle provision is on road, with locally signed routes along Claremont Road, Prayle Grove, Brent Terrace and Tilling Road. There are some combined pedestrian/cycle facilities, in particular via the pedestrian bridges across the A406 and at the A5 and M1 junctions and underpasses at the A41 and MML, however in the main cyclists are required to dismount to minimise conflict with pedestrians.

TfL have proposed to extend the Cycle Superhighways scheme towards the regeneration area with the proposed CS11 route, however further details are not publically available at the present time. The proposed Cycle Superhighway is expected to start in Central London and provide improved connections to and from the centre of London for cyclists along the A41.

A detailed review of the existing transport conditions was presented in the PTR:P1, which this report should be considered to be supplementary to. Further information on pedestrian and cycle facilities associated with Phase 1A (South) is presented in the Pedestrian and Cycle Strategy for Phase 1A (South) submitted alongside this report.

## 3 Baseline Transport Data

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The limited extent of Phase 1A (South) results in limited interaction with the existing highway network. The larger changes to the existing network fall under the remit of Phase 1A (North), and as such there are two elements to consider in relation to Phase 1A (South); the existing highway network and the highway network improvements under the RMAs for Phase 1A (North).

The highway network in Phase 1A (South) provides connections for further plot development from the Phase 1A (North) network, as well as providing a temporary connection to Claremont Road via School Lane. Connections to the Phase 1A (North) network are at the following junctions:

- Claremont Avenue/Market Square/School Lane; and
- Claremont Avenue/Orchard Lane/Claremont Park Road.

The following links are therefore key to determining the baseline network prior to the construction of the links comprising Phase 1A (South):

- Claremont Road (existing);
- Claremont Avenue (Phase 1A (North));
- Orchard Lane (Phase 1A (North)); and
- Market Square (Phase 1A (North)).

The RMAs for Phase 1A (North) also incorporated detailed requirements for Claremont Park, which bounds Claremont Park Road to the south. The local highway network at Phase 1A (North) is presented within the RMTR:P1AN appendices, and is not reproduced here. Further details on the wider baseline network are presented in PTR:P1, and as such are also not reiterated here.

### 3.1 Highway network

Claremont Road, Claremont Avenue, Orchard Lane and Market Square connect the proposed development in Phase 1A (South) to both the existing and approved networks.

Claremont Road is a key north-south distributor which connects Clitterhouse Playing Fields and the existing residential areas to the south to the southern end of the Phase 1A (North) highway network where it becomes Claremont Avenue (at the junction with Orchard Lane and Claremont Park Road). The northern section of Claremont Road which connects to Tilling Road remains in Phase 1A (South), and is connected to the Phase 1A (South) element of School Lane. It is presently a two-way single carriageway street with a 30mph speed limit and footways on both sides. Responsibility for the road lies with LBB.

Claremont Avenue is proposed to provide a north-south connection between Tilling Road and New Templehof Avenue to the north and Claremont Road to the south. Within *Parameter Plan 002 – Transport Infrastructure* it is allocated as a primary route; it is shown under the Phase 1A (North) drawings to be a two way

30mph single carriageway road, with segregated cycle tracks and footways on both sides.

Orchard Lane replaces the section of Claremont Road between the junction with Claremont Avenue and Prayle Grove. It is classified within *Parameter Plan 002* as a managed vehicular route, and is proposed to be a two-way single carriageway road.

High Street South (east works) connects Claremont Avenue to New Templehof Avenue in Phase 1A (North), being allocated as a “public transport route” in the final stage within *Parameter Plan 002*. Within Phase 1A (North), it is shown as a two way single carriageway road connecting to New Templehof Avenue.

Accident data analysis on the existing highway network has previously been presented within PTR:P1, and as such no further analysis is presented here.

### 3.1.1 Pedestrian and Cycle provision

Within Phase 1A (North), alongside additional carriageway provision as outlined above, segregated cycle tracks are to be provided along Claremont Avenue and High Street South providing a dedicated cycle link to the north of the BXC site. Wide footways are provided adjacent to the segregated cycleways. Shared areas are provided adjacent to Toucan crossings, and pedestrian links to bus stops provided across cycle tracks where required. Combinations of signage, finishes, physical segregation and road markings are used to define pedestrian and cycle priority as appropriate.

The Living Bridge is also proposed to replace the existing footbridge across the A406, providing a shared pedestrian and cycle linkage to the north of the BXC site. Proposals under Phase 1A (South) connect to the southern end of the Living Bridge as well as into facilities on Claremont Avenue under Phase 1A (North).

## 3.2 Existing Public Transport Provision

Existing public transport provision within the vicinity of the site was presented in detail within the PTR:P1 and RMTR:P1AN reports, and as such is not presented in detail here. The key issues and provision are summarised by mode below.

### 3.2.1 Bus Services

A range of bus services are accessible via Brent Cross Bus station, with full details presented in Section 3 of the PTR:P1 including origin-destination data and passenger flow analysis; further information is presented in RMTR:P1AN. In close proximity to the proposals for Phase 1A (South), routes 189,102 and C11 currently operate along Claremont Road, towards Brent Cross bus station to the north, and Cricklewood or Golders Green to the south.

Under Phase 1, these same bus routes are to divert along Claremont Avenue towards Brent Cross and the bus station via New Templehof Avenue. Buses are not proposed to serve the northern section of Claremont Road. To facilitate this change to bus routings, new bus stops are to be provided on High Street South and

New Templehof Avenue in addition to the existing stops on the southern section of Claremont Road.

### 3.2.2 Coaches

No coach services currently serve BXS. Details of coach services are presented within PTR:P1 and RMTR:P1AN as appropriate.

### 3.2.3 Rail

No changes have been implemented in respect of National Rail lines in the vicinity of the site, and no changes are proposed under Phase 1A (North). The information presented within BXC05 and PTR:P1 remains relevant, with access to Cricklewood Railway Station to the southwest provided via Claremont Road and the A407. Thameslink services from Cricklewood Railway Station are operated by Govia Thameslink Railway, and run between Luton/St Albans via St Pancras. Through services also serve Bedford to the north and Brighton and Gatwick to the south.

Links from BXS are via the existing highway and public transport networks as presented in PTR:P1, with bus services via Claremont Road as above. Pedestrian and cycle access is also via Claremont Road.

### 3.2.4 London Underground

Within the vicinity of the wider BXC site, access to London Underground services is available via Brent Cross, Hendon Central, Golders Green and Willesden Green stations. These stations provide access to the Northern, Metropolitan and Jubilee line services respectively. Further details of station capacity and train loading was presented within PTR:P1 and remains relevant to this application.

The proposals within BXS Phase 1A (South) do not provide additional connectivity to these stations, and as such no further information can be provided over and above that within RMTR:P1AN.

## 4 Proposed Development

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The RMA for BXS Phase 1A (South) addresses two discrete sections of highway, comprising the eastern section of Claremont Park Road (i.e. Claremont Park Road (Part 1)) from the junction with Claremont Avenue, and the western section of School Lane from the junction with Claremont Avenue to the current alignment of Claremont Road. The extent of these sections in respect of the wider proposed highway layout is shown in Figure 2.

Proposed highway layout drawings and associated swept path analysis are provided in Appendix B. Where the works for BXS Phase 1A (South) are linked to detailed layouts under the RMAs for BXC Phase 1A (North) these layouts have also been incorporated, and are shown accordingly. It should be noted that no changes to approved highways layouts for BXC Phase 1A (North) are proposed.

No plot development is included within the scope of this application, and as such no review of person-trip generation or specific land use characteristics has been undertaken; where appropriate, this is addressed in the wider PTR:P1 report.

### 4.1 Highway layout proposals

#### 4.1.1 Claremont Park Road (Part 1)

The proposed section of Claremont Park Road (Part 1) extends from the junction with Claremont Avenue/Claremont Road/Orchard Road to the west for ~160m from the extent of the Phase 1A (North) highway works, and is shown in drawing BXC-ARP-XX-DR-C-7001. It is proposed to be a 20mph two way single carriageway road, of 4.8m width plus 1.5m advisory cycle lanes on either side. In terms of TfL's Roads Taskforce matrices, it is intended to be a local street; within *Parameter Plan 002* it is shown as a secondary road, and has therefore been designed for local traffic travelling at relatively low speeds. A turning head is shown at the western end to provide temporary turning facilities ahead of completion of Claremont Park Road (Part 2) in a later phase.

To the south, 2.5m footways are provided to the boundary of Claremont Park, while to the north 4m footway is provided, both inclusive of landscaping. Cycle lanes and pedestrian footways connect to the cycle provision shown under Phase 1A (North) at the junction with Claremont Avenue and are considered appropriate for the type and volume of movements associated with residential plots and local trips.

Raised tables are shown indicatively to align with the pedestrian routes from Claremont Park. These are also intended to align with future junctions that will provide access to residential plots immediately to the north (i.e. future plots 11, 12 and 13), however these do not form part of this application. Raised tables have been chosen as speed reduction measures whilst also providing step-free access for pedestrians across Claremont Park Road (Part 1). Following discussions with LBB, the use of raised tables and other speed reduction measures to maintain a 20mph speed limit will be considered further at detailed design stage.

It is considered that providing good pedestrian and cycle linkages both across Claremont Park Road (Part 1) and to and through the wider development is key to promoting sustainable travel within BXS. The details of pedestrian crossing arrangements will be determined at detailed design, and may need to take into consideration the likely traffic levels associated with the completion of Claremont Park Road (part 2). The crossing locations will also be a key consideration when determining the locations of the minor accesses to plots 11, 12 and 13, to ensure that pedestrian safety is not compromised by the new junction layouts.

The carriageway is restricted to 4.8m with the addition of advisory cycle lanes, this is considered appropriate and in line with guidance in Manual for Streets as sufficient width to allow commercial vehicles to pass cars. As the cycle lanes are advisory, vehicles would be able to use the additional space allocated to cyclists to pass one another if required. However it is not considered that this will occur frequently, and as such is not considered a point of concern. Similar arrangements operate successfully at various locations in London, in particular Larkhall Lane in London Borough of Lambeth and Beech Street in City of London.

Within the wider BXC development, the western end of Claremont Park Road (i.e. Claremont Park Road (Part 2), which is outside of the scope of these proposals) is expected to provide part of the future bus network. Claremont Park Road itself is not proposed to form part of the bus network, however it is possible that should buses need to be rerouted away from High Street South for any reason then Claremont Park Road may operate as a diversionary route. The proposed highway layout is considered to be suitable for this on an infrequent basis.

#### 4.1.2 School Lane

Within the context of Phase 1A (South), School Lane provides a link from Claremont Avenue at the junction with High Street South to Claremont Road. School Lane is to provide general vehicle access in the interim Phase 1 state, however it has been assessed within the wider BXC development as bus only, and as such has been designed with this future capability. No bus services are proposed to use School Lane in Phase 1, and as such no bus priority measures have been considered at this stage.

The carriageway is therefore to be 6.4m wide in line with advice from TfL to allow buses to pass, as shown on drawing BXC-ARP-00-XX-DR-C-7002. Bus stops are shown indicatively on the proposed layout, however details of the proposed end-state bus routing are to be determined, and as such these are to be provided in line with TfL recommendations to serve later phases. Where School Lane meets Claremont Road to the east, it is proposed to provide a priority junction at Phase 1A (South) ahead of the determination of the alignment of Whitefield Avenue between Marble Drive and Tilling Road.

Footways are provided on both sides of School Lane, with a segregated cycle track provided between the carriageway and the southern footway. The northern footway is proposed to be 4m wide including landscaping, while the southern footway is to be 3m wide including landscaping. The cycle track is to be 3m wide in line with guidance in TfL's London Cycle Design Standards (LCDS) and

facilities provided within Phase 1A (North), with a 0.5m strip between track and carriageway. At the illustrative bus stop locations, a designated pedestrian crossing provides a means of crossing the cycle track to the bus stop island, which will be suitably sized.

## 5 Phased Transport Strategy

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Given the limited scope of BXS Phase 1A (South), it is not considered to contribute at this stage to significant elements of the Integrated Transport Strategy (ITS) beyond that addressed under PTR:P1 and Phase 1A (North).

### 5.1 Transport modes

The provision of the first sections of School Lane and Claremont Park Road (Part 1) under BXS Phase 1A (South) do not contribute significantly to the highway network in Phase 1, largely providing links to facilitate adjacent plot development. As such, no significant public transport improvements result from the implementation of Phase 1A (South), nor do any additional trips arise within the network for which capacity would need to be provided beyond that presented within PTR:P1.

Phase 1A (South) provides additional walking and cycling provision to connect to and complement that promoted within Phase 1A (North). Pedestrian linkages are provided:

- from Claremont Park across Claremont Park Road to and from the High Street and Market Square locally; and
- toward the Living Bridge and the north of the site from School Lane and on a wider scale.

Dedicated cycle facilities are provided on:

- Claremont Park Road (Part 1); and
- School Lane.

### 5.2 Management measures

As BXS Phase 1A (South) does not comprise any development plots, the management measures currently required under Phase 1A have already been addressed within PTR:P1 and RMTR:P1AN. It is therefore not considered that there is a requirement for provision of or input to the following under Phase 1A (South):

- Framework Travel Plan or individual Travel Plans;
- Transport Advisory Group/Transport Forum;
- Construction Impact Assessment; and
- Construction Logistics Plan and Construction Code of Practice.

## 6 Summary and Conclusions

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Arup has been commissioned by Argent (Property Development) Services LLP to provide transport and highways advice in support of an application for highways infrastructure for Brent Cross South Phase 1A (South).

The proposals for Phase 1A (South) comprise two sections of highway designated as the eastern end of Claremont Park Road from the junction with Claremont Avenue (Claremont Park Road (Part 1)), and the western end of School Lane from the junction with Claremont Avenue to Claremont Road. Both of these roads tie into highways infrastructure addressed under BXC Phase 1A (North), and as such the proposals here are intended to complement those of Phase 1A (North). No plot development is to be brought forward under Phase 1A (South), and as such no assessment of trips has been undertaken.

Claremont Park Road (Part 1) is to be a 4.8m wide road with additional 1.5m wide advisory cycle lanes on both sides, plus 2.5m footway to the south and 4m to the north inclusive of landscaping. Claremont Park Road is allocated as a secondary road in *Parameter Plan 002* of the Section 73 application, and falls under the Roads Taskforce classifications as a local street.

The proposed carriageway width, provision of cycle lanes, and illustrative provision of raised tables at access junctions to facilitate good north-south pedestrian linkages between Claremont Park and development immediately to the north of Claremont Park Road are all consistent with low traffic speeds and are intended to promote travel by more sustainable modes for a range of trip purposes. Consideration has been taken of the possible use of Claremont Park Road as a diversionary bus route in the end state, and as such it is considered that the design of the road is sufficient to allow this without promoting high speeds and high traffic volumes in everyday use.

School Lane is shown on *Parameter Plan 002* as a minor road, and proposed within Phase 1 to be accessible by a range of private vehicles, with future and end-state modelling allocating this as a bus only link. As such, the carriageway is proposed to be 6.4m wide to accommodate two buses passing. Bus stops are shown indicatively. To the east, School Lane connects to the existing Claremont Road via a priority junction.

Cycle provision on School Lane is to be by segregated cycle tracks on the southern side to align with that provided along Claremont Avenue and the wider Phase 1A (North) highway network. Pedestrian footways are provided adjacent to the cycleway to the south and to the carriageway along the northern edge of School Lane, at a minimum width of 3m including landscaping.

Overall, the proposals for BXS Phase 1A (South) are in line with the wider constraints and design guidance under the BXC scheme and the more local constraints arising from the proposals of Phase 1A (North). As no plot development is proposed under Phase 1A (South), it is considered that, with the exception of the Pedestrian and Cycle Strategy submitted alongside this RMTR, there is no additional requirement for strategy documents relating to travel planning and construction management.

## Figures

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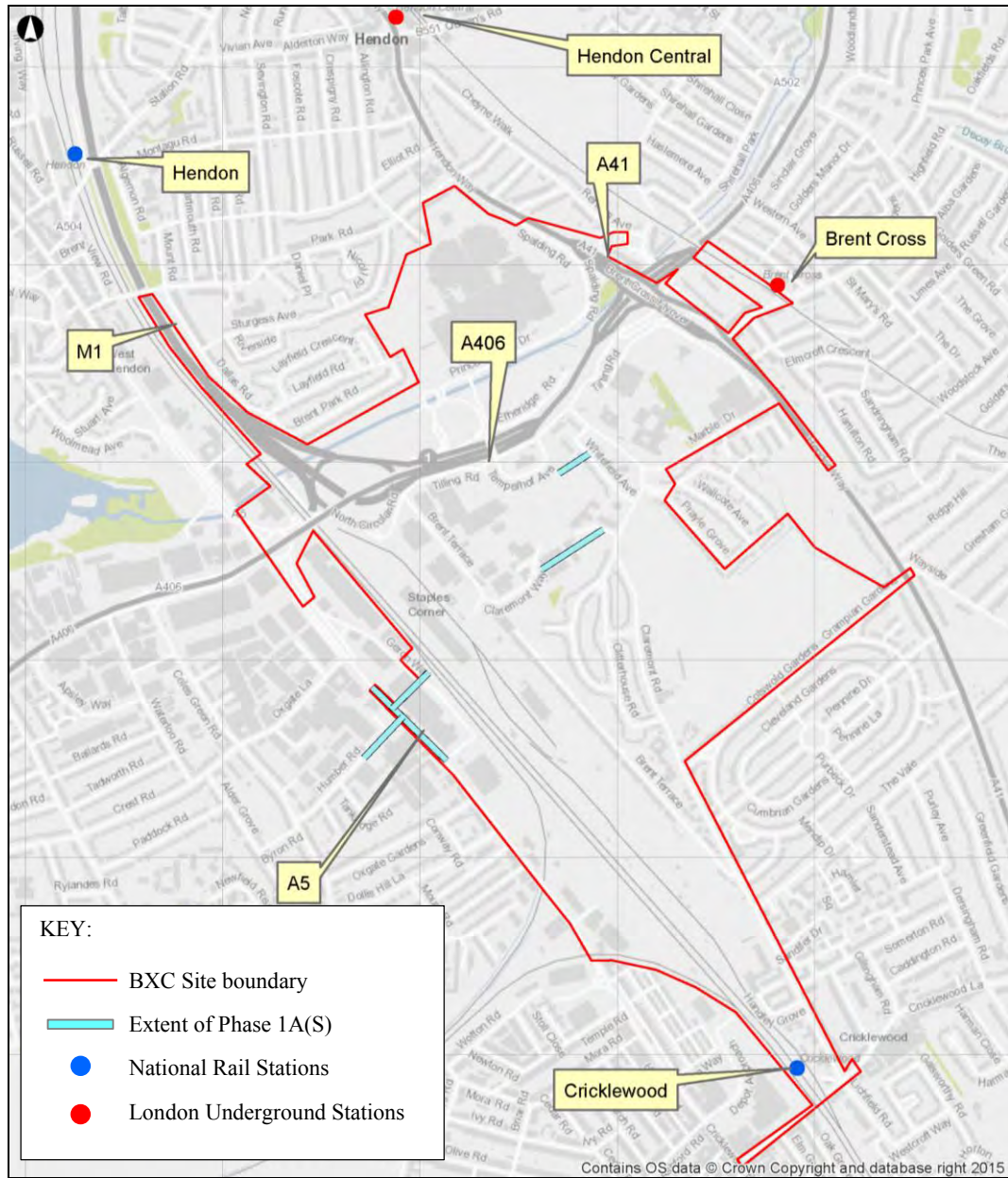


Figure 1 Site Location Plan



KEY:

Extent of highway infrastructure in Phase 1A(S)

Figure 2 Extent of assessed transport infrastructure in Phase 1A (South)

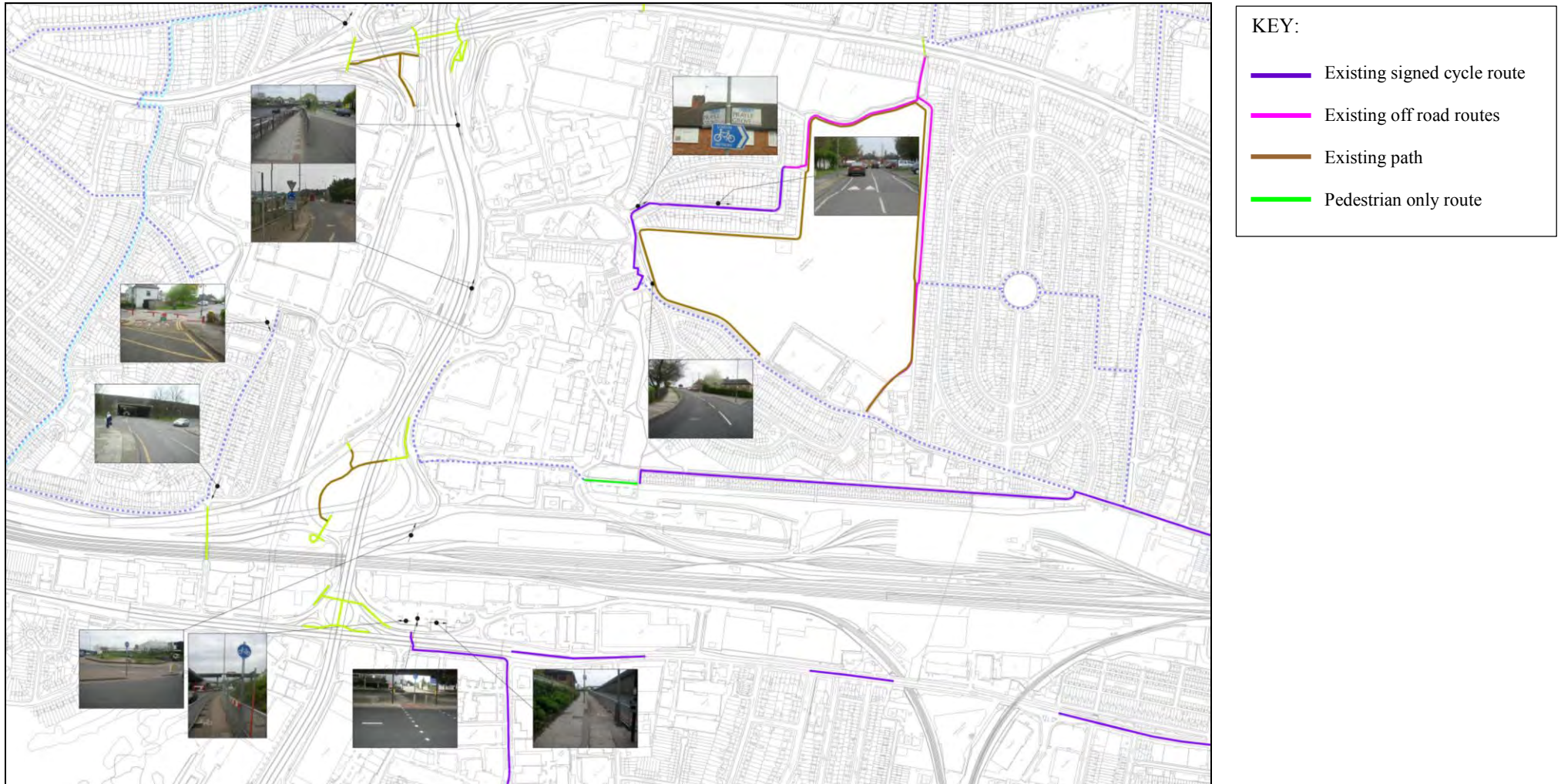
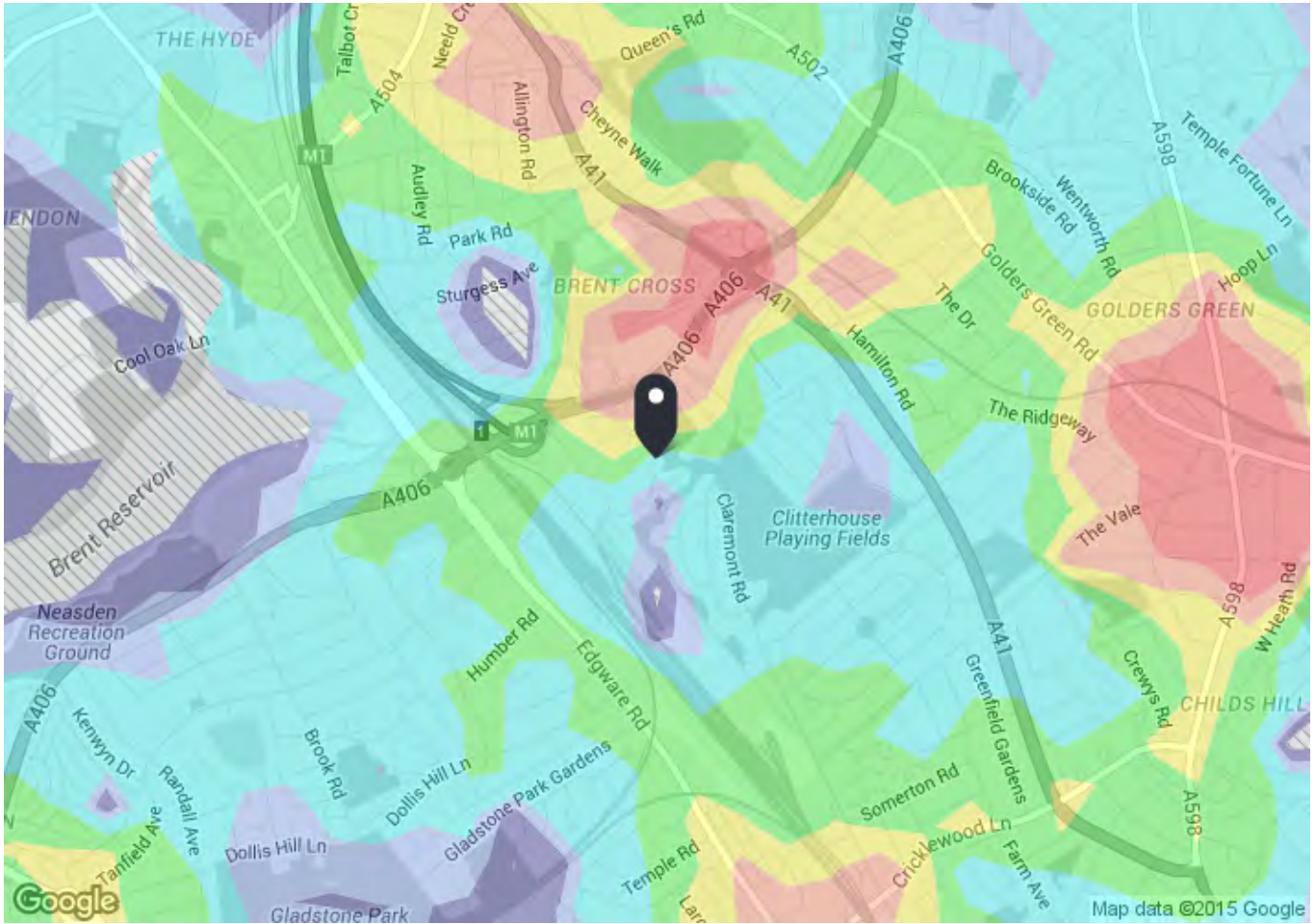


Figure 3 Existing pedestrian and cycle networks

## **Appendix A**

### **Existing Site PTAL Outputs**



PTAL output for 2011 (Base year)  
2

16 Claremont Way London NW2 1AJ, UK

Easting: 523307, Northing: 187317

Grid Cell: 117010

Report generated: 25/09/2015

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Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL

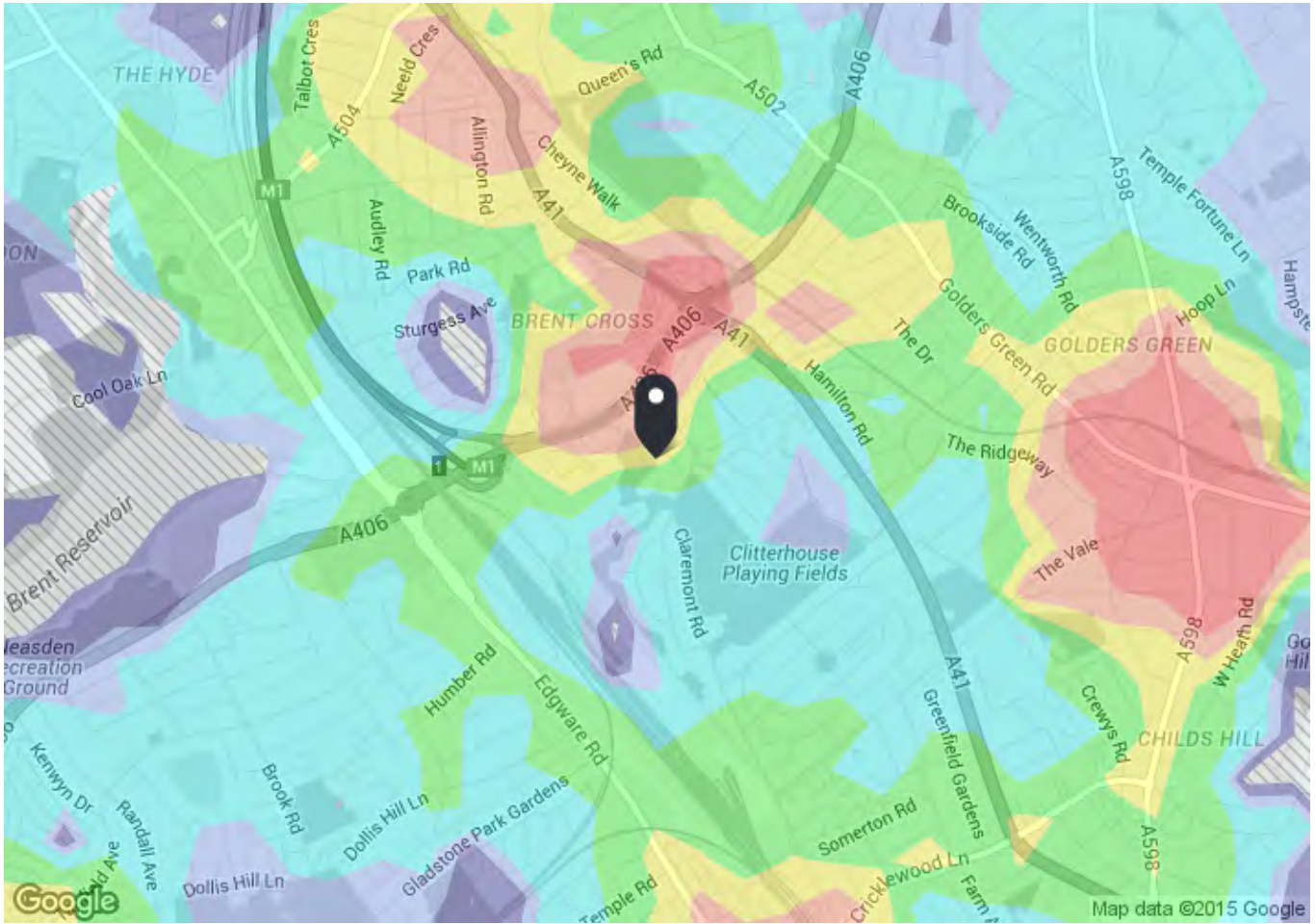
0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

- PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	CLAREMONT RD	C11	223.94	7.5	2.8	6	8.8	3.41	0.5	1.7
Bus	CLAREMONT RD	102	223.94	7.5	2.8	6	8.8	3.41	1	3.41
Bus	CLAREMONT RD	189	223.94	7.5	2.8	6	8.8	3.41	0.5	1.7
<b>Total Grid Cell AI:</b>										<b>6.82</b>



PTAL output for 2011 (Base year)  
4

6 Whitefield Ave, London NW2 1TH, UK

Easting: 523441, Northing: 187432

Grid Cell: 117567

Report generated: 25/09/2015

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Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

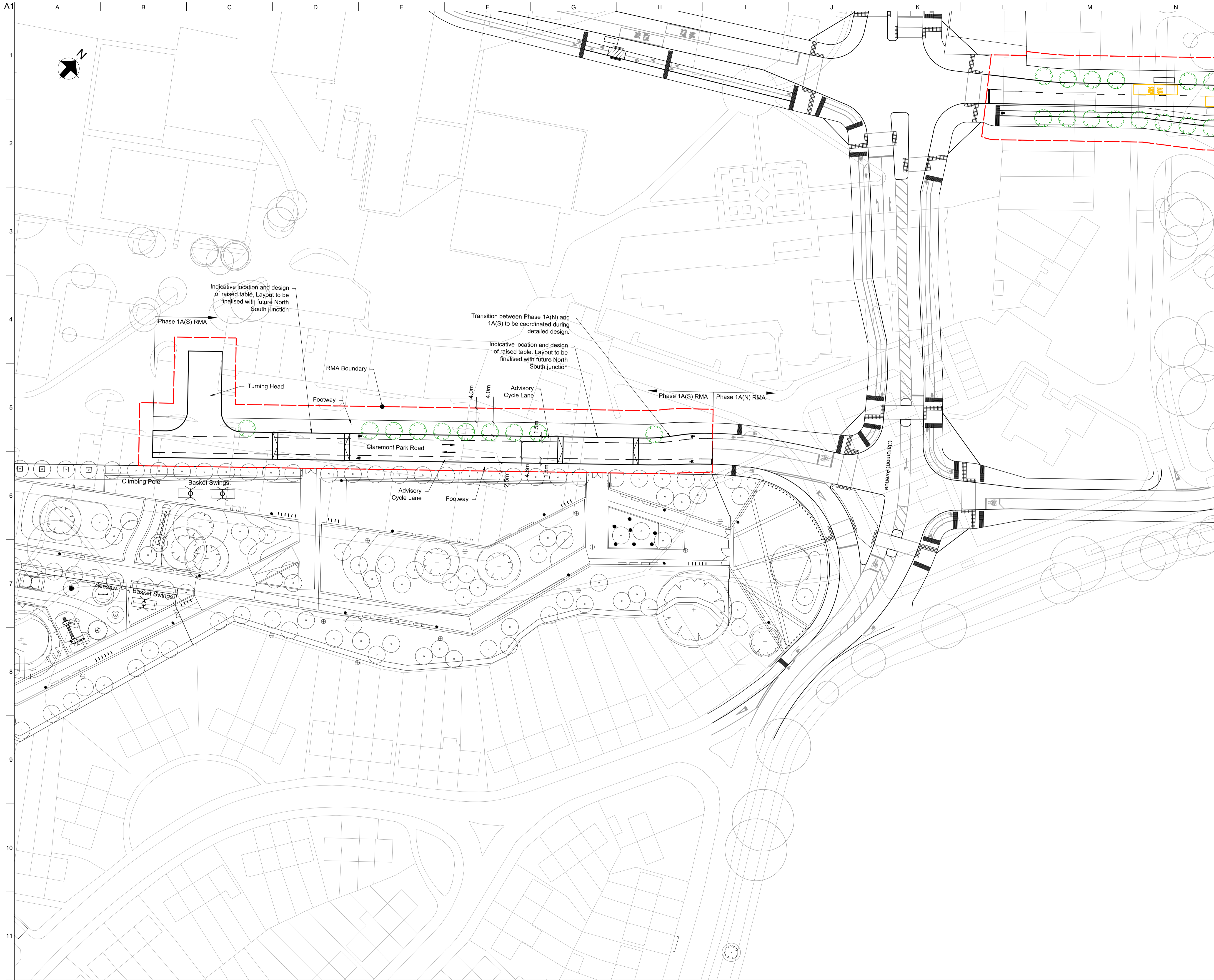
- PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	BRENT CROSS ETHERIDGE RD	266	602.67	7.5	7.53	6	13.53	2.22	0.5	1.11
Bus	BRENT CROSS ETHERIDGE RD	112	602.67	5	7.53	8	15.53	1.93	0.5	0.97
Bus	BRENT CROSS ETHERIDGE RD	182	602.67	7.5	7.53	6	13.53	2.22	0.5	1.11
Bus	BRENT CROSS ETHERIDGE RD	232	602.67	4	7.53	9.5	17.03	1.76	0.5	0.88
Bus	BRENT CROSS ETHERIDGE RD	142	602.67	5	7.53	8	15.53	1.93	0.5	0.97
Bus	HENDON WN.CIR RD	113	632.06	6	7.9	7	14.9	2.01	0.5	1.01
Bus	CLAREMONT RD	C11	181.73	7.5	2.27	6	8.27	3.63	0.5	1.81
Bus	CLAREMONT RD	102	181.73	7.5	2.27	6	8.27	3.63	1	3.63
Bus	CLAREMONT RD	189	181.73	7.5	2.27	6	8.27	3.63	0.5	1.81
Bus	TILLING RD CLAREMONT RD	324	361.27	3	4.52	12	16.52	1.82	0.5	0.91
Bus	TILLING RD CLAREMONT RD	210	361.27	7.5	4.52	6	10.52	2.85	0.5	1.43
<b>Total Grid Cell AI:</b>										<b>15.62</b>

## **Appendix B**

### Proposed Highway Layout Drawings



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9

P04	22/10/15	JJ	TM	TM
For Information				
P03	20/10/15	JJ	TM	TM
For Information				
P02	16/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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Client  
**Argent**

Job Title  
**Brent Cross  
 Cricklewood**



**Brent Cross Phase 1A South  
 Claremont Park Road (Part 1)  
 General Arrangement**

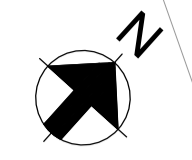
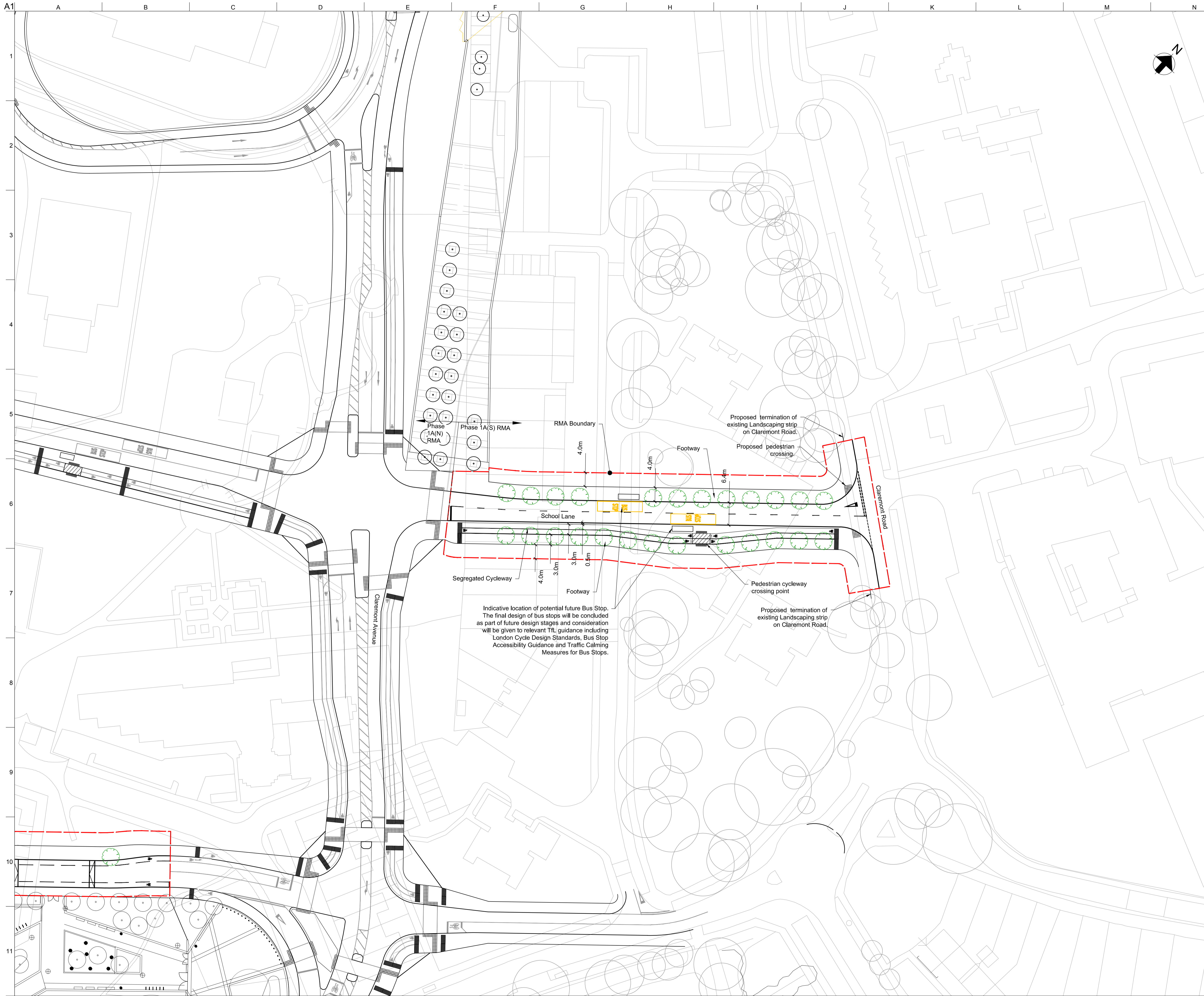
Scale at A1 1:500 Scale at A3 1:1000

Discipline No default available

Job No Drawing Status


**245526 For Information**

Drawing No Issue  
**BXC-ARP-00-XX-DR-C-7001 P04**



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9

Key:

 Proposed Bus Stop

P04	22/10/15	JJ	TM	TM
For Information				
P03	20/10/15	JJ	TM	TM
For Information				
P02	16/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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Client  
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Job Title  
**Brent Cross Cricklewood**



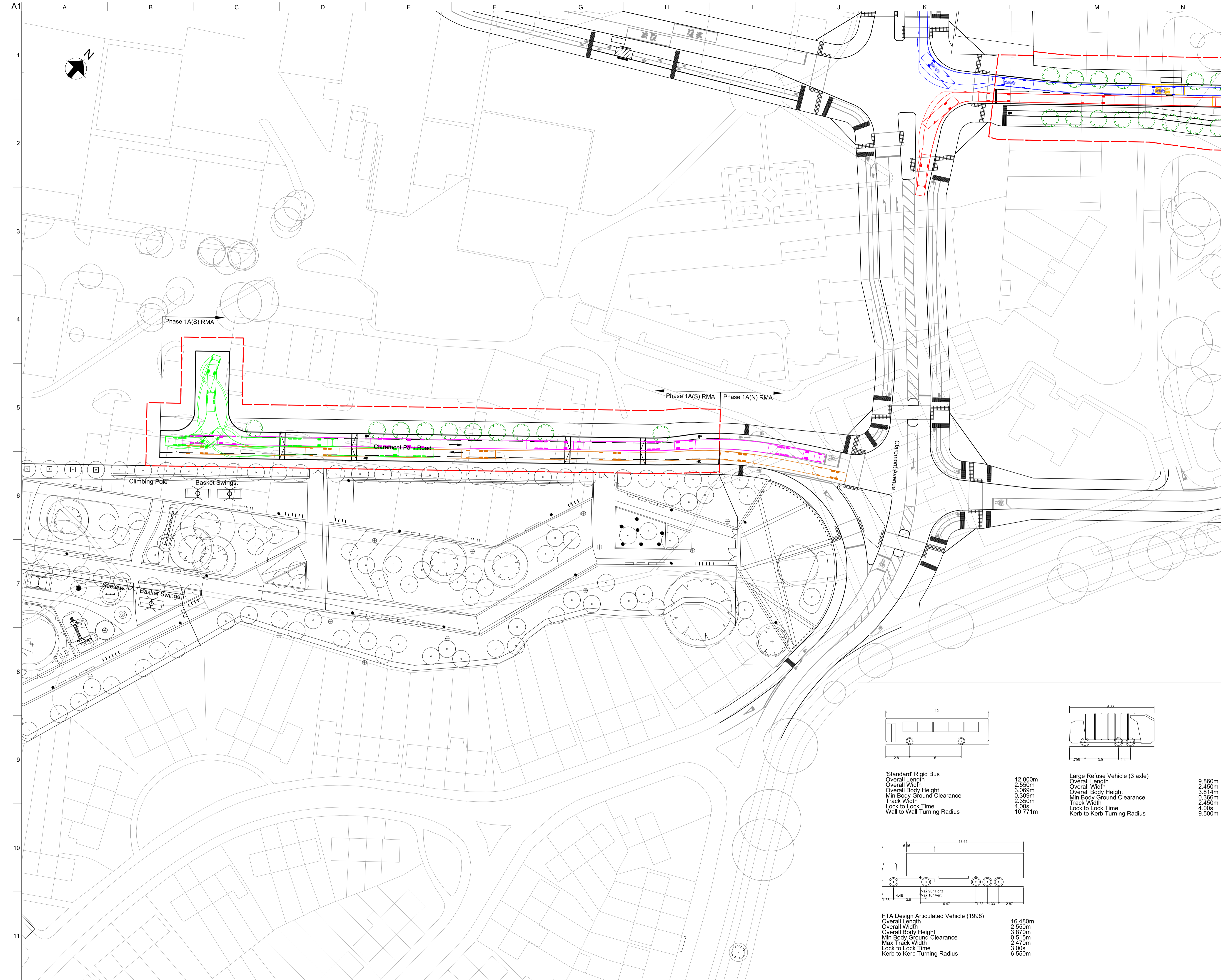
**Brent Cross Phase 1A South School Lane General Arrangement**

Scale at A1 1:500 Scale at A3 1:1000

Discipline No default available

Job No **245526** Drawing Status **For Information**

Drawing No **BXC-ARP-00-XX-DR-C-7002** Issue **P04**



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-R-JRS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9

- Key:
- TFL Bus - 12m long
  - TFL Bus - 12m long
  - Max Legal Articulated Vehicle 16.5m long
  - Max Legal Articulated Vehicle 16.5m long
  - Large Refuse Vehicle (3 axle) 9.86m long

P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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Job Title  
**Brent Cross  
 Cricklewood**

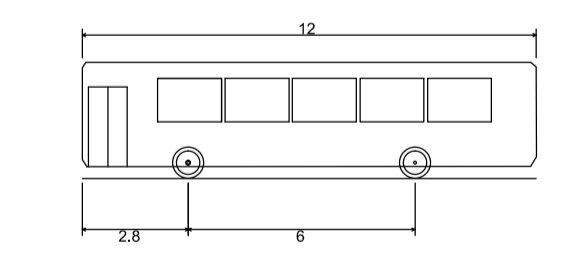


**Brent Cross Phase 1A South  
 Claremont Park Road (Part 1)  
 Vehicle Tracking**

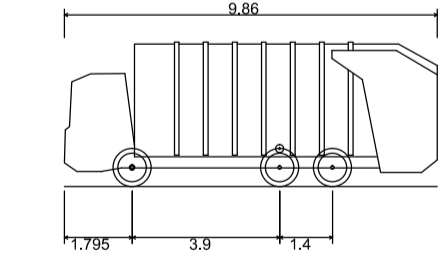
Scale at A1 1:500 Scale at A3 1:1000

Discipline No default available

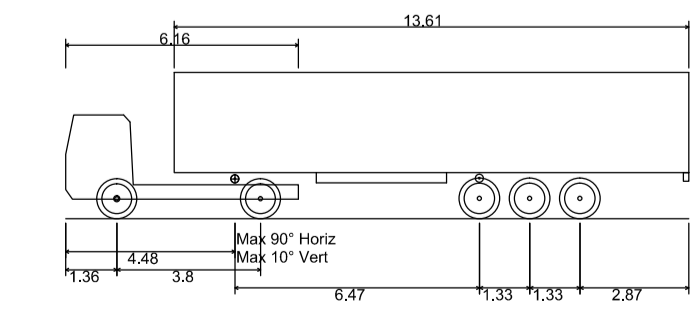
Job No	Drawing Status
<b>245526</b>	<b>For Information</b>
Drawing No	Issue
<b>BXC-ARP-00-XX-DR-C-700</b>	<b>P02</b>



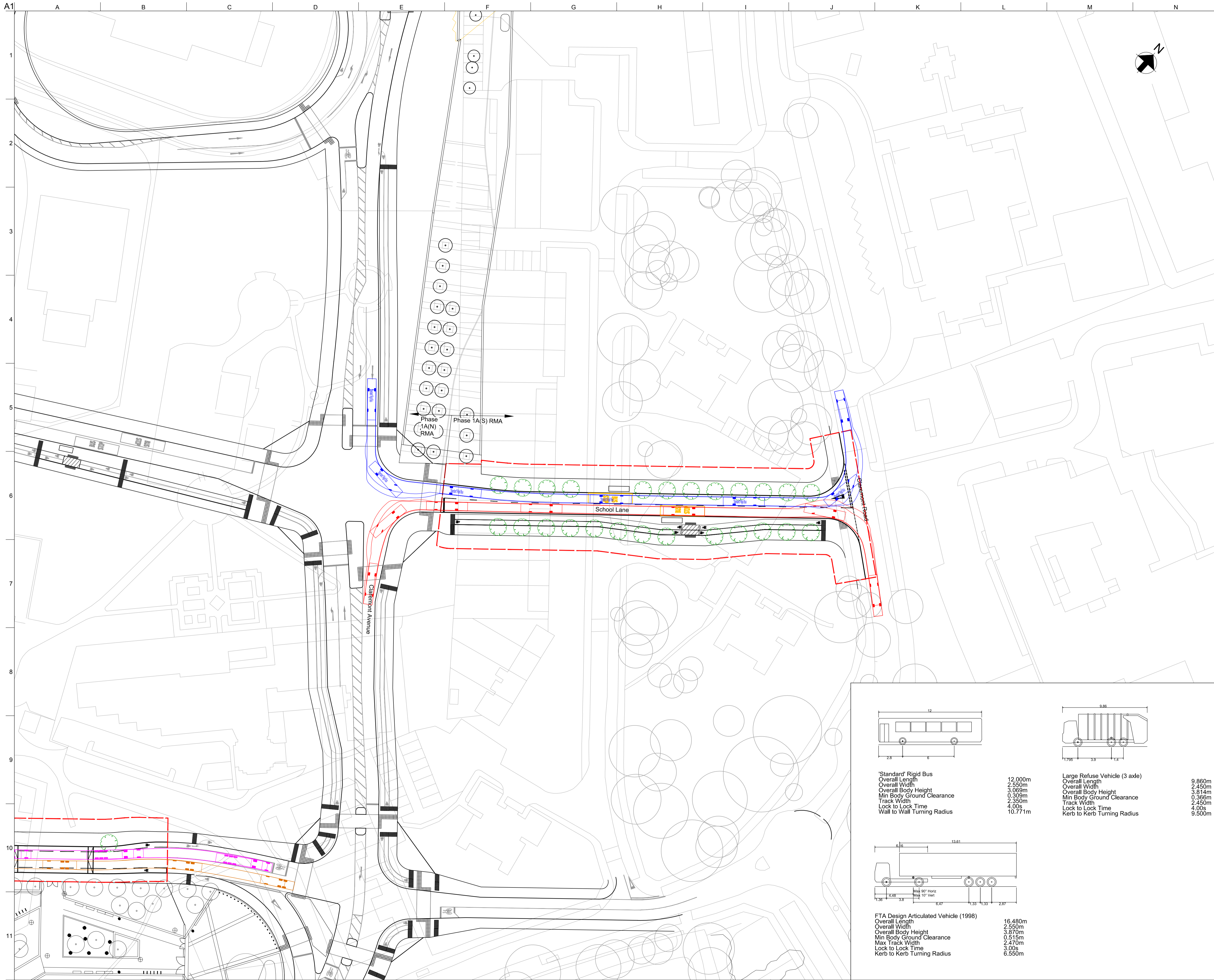
'Standard' Rigid Bus  
 Overall Length 12.000m  
 Overall Width 2.550m  
 Overall Body Height 3.069m  
 Min Body Ground Clearance 0.366m  
 Track Width 2.350m  
 Lock to Lock Time 4.00s  
 Wall to Wall Turning Radius 10.771m



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



FTA Design Articulated Vehicle (1998)  
 Overall Length 16.480m  
 Overall Width 2.550m  
 Overall Body Height 3.870m  
 Min Body Ground Clearance 0.515m  
 Max Track Width 2.470m  
 Lock to Lock Time 3.00s  
 Kerb to Kerb Turning Radius 6.550m



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-RJRS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9

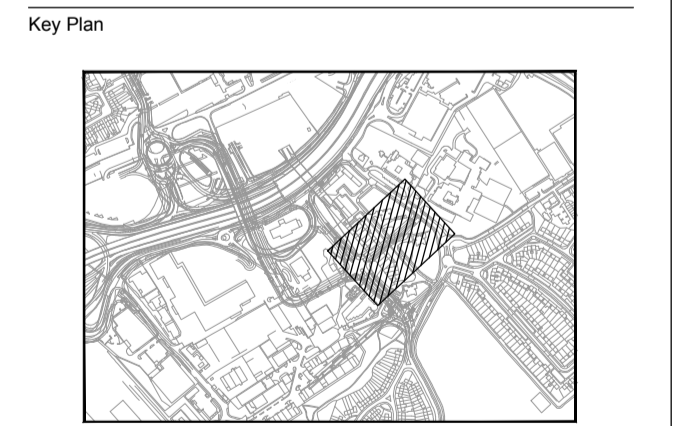
- Key:
- TFL Bus - 12m long
  - TFL Bus - 12m long
  - Max Legal Articulated Vehicle 16.5m long
  - Max Legal Articulated Vehicle 16.5m long
  - Large Refuse Vehicle (3 axle) 9.86m long

P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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Client  
**Argent**

Job Title  
**Brent Cross  
 Cricklewood**



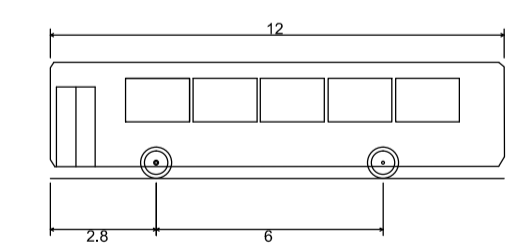
**Brent Cross Phase 1A South  
 School Lane  
 Vehicle Tracking**

Scale at A1 1:500 Scale at A3 1:1000

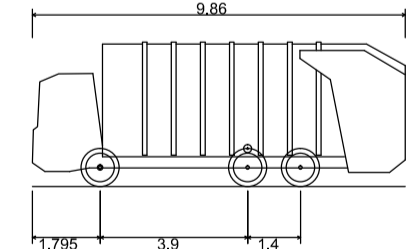
Discipline No default available

Job No **245526** Drawing Status **For Information**

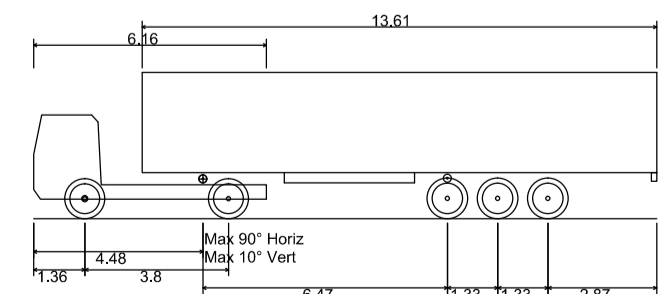
Drawing No **BXC-ARP-00-XX-DR-C-7004** Issue **P02**



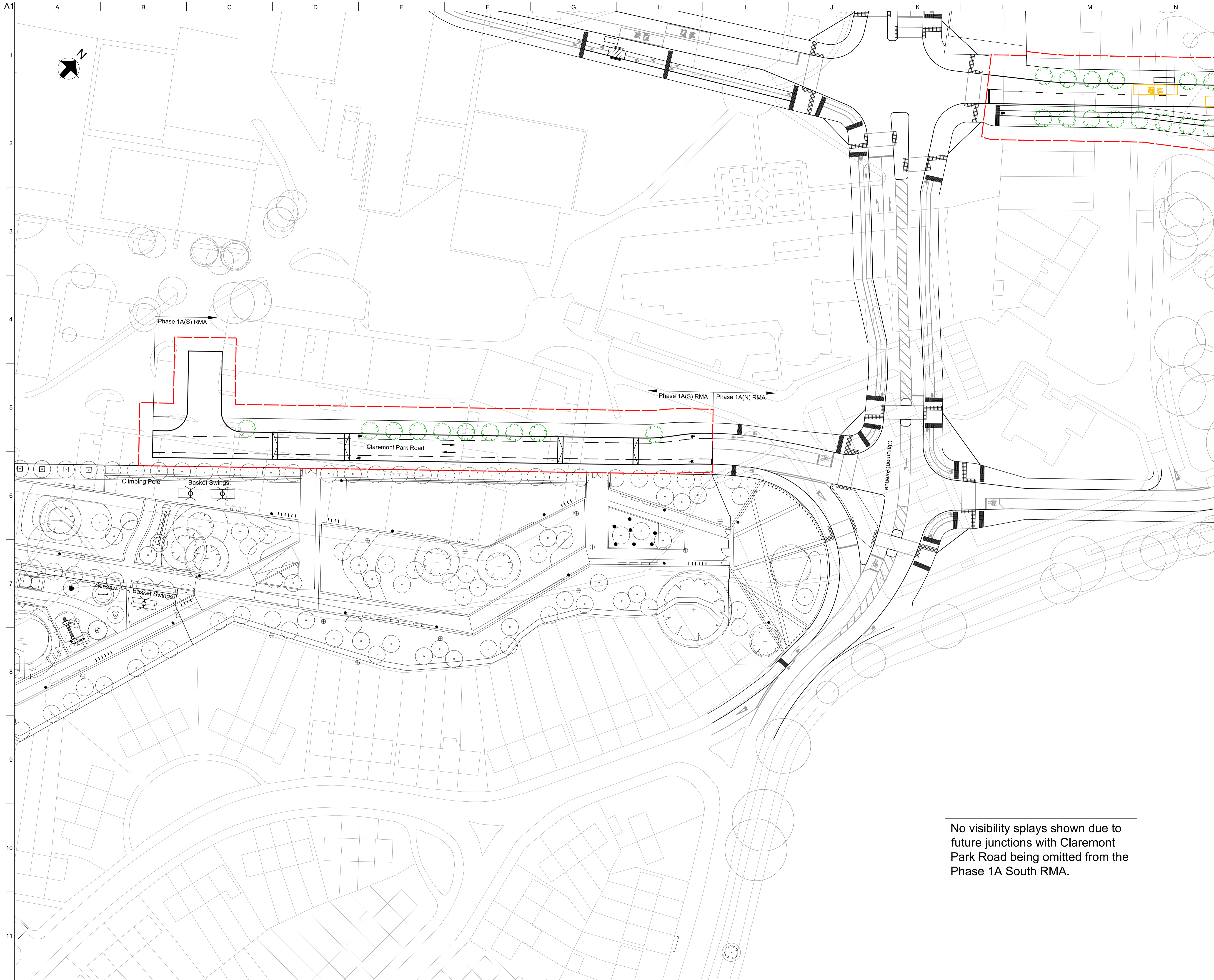
'Standard' Rigid Bus  
 Overall Length 12,000m  
 Overall Width 2,550m  
 Overall Body Height 3,069m  
 Min Body Ground Clearance 0,309m  
 Track Width 2,350m  
 Lock to Lock Time 4,00s  
 Wall to Wall Turning Radius 10,771m



Large Refuse Vehicle (3 axle)  
 Overall Length 9,860m  
 Overall Width 2,450m  
 Overall Body Height 3,814m  
 Min Body Ground Clearance 0,366m  
 Track Width 2,450m  
 Lock to Lock Time 4,00s  
 Kerb to Kerb Turning Radius 9,500m



FTA Design Articulated Vehicle (1998)  
 Overall Length 16,480m  
 Overall Width 2,550m  
 Overall Body Height 3,870m  
 Min Body Ground Clearance 0,515m  
 Max Track Width 2,470m  
 Lock to Lock Time 3,00s  
 Kerb to Kerb Turning Radius 6,550m



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9

Key:

- Visibility Splay (20mph design speed) In accordance with 'Manual for Streets' 2.4m setback, 22m extensions.

P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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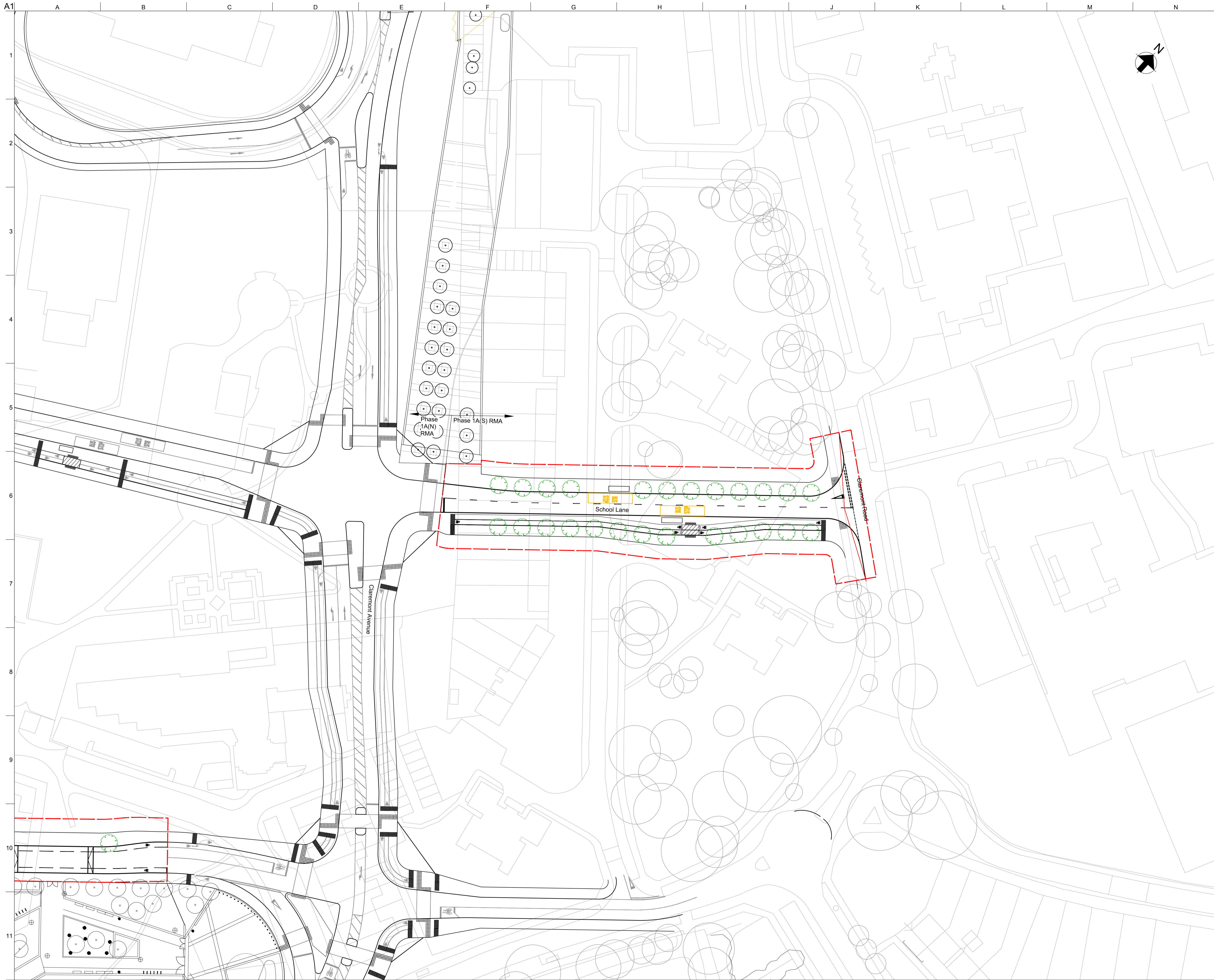
Job Title  
**Brent Cross  
 Cricklewood**



No visibility splays shown due to future junctions with Claremont Park Road being omitted from the Phase 1A South RMA.

**Brent Cross Phase 1A South  
 Claremont Park Road (Part 1)  
 Visibility Splays**

Scale at A1	1:500	Scale at A3	1:1000
Discipline	No default available		
Job No	245526		
Drawing No	BXC-ARP-00-XX-DR-C-7005		
Drawing Status	For Information		
Issue	P02		



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9
- Key:
- Visibility Splay (20mph design speed) In accordance with 'Manual for Streets' 2.4m setback, 22m extensions.

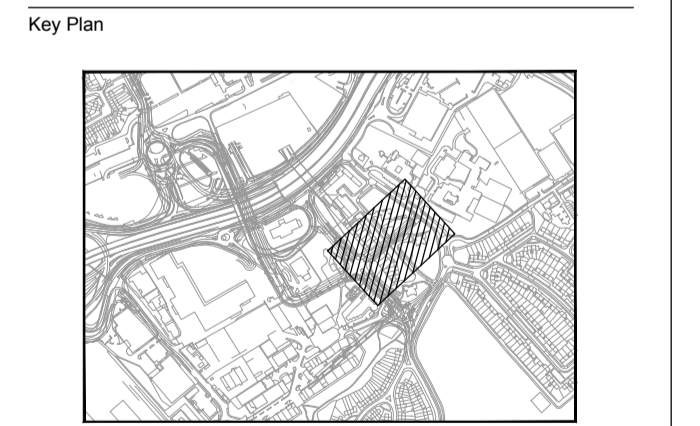
P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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Client  
**Argent**

Job Title  
**Brent Cross  
 Cricklewood**



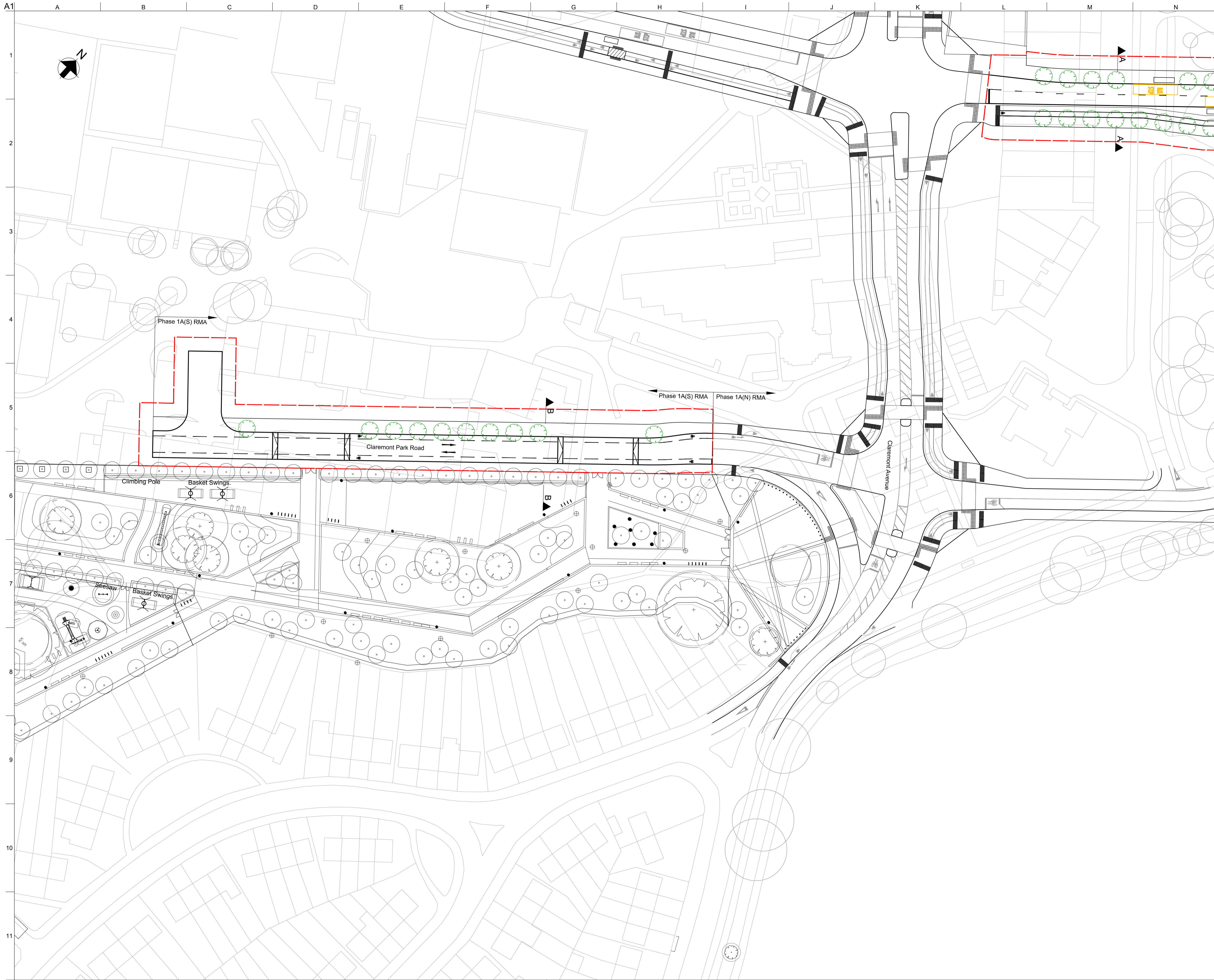
**Brent Cross Phase 1A South  
 School Lane  
 Visibility Splays**

Scale at A1 1:500 Scale at A3 1:1000

Discipline No default available

Job No **245526** Drawing Status **For Information**

Drawing No **BXC-ARP-00-XX-DR-C-7006** Issue **P02**



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9
  - Refer to drawing BXC-ARP-00-XX-DR-C-7009 for Highway Cross Sections.

P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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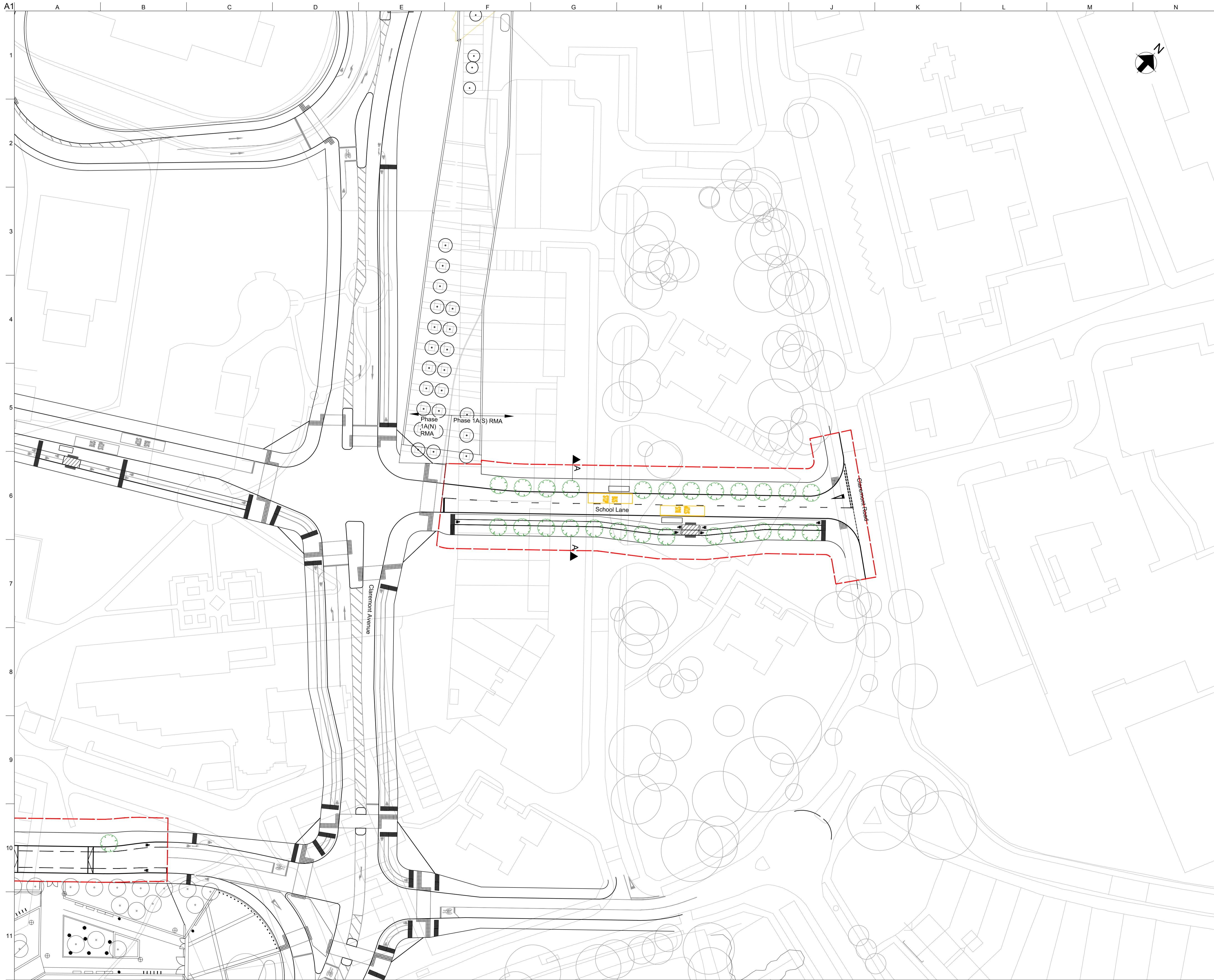
Client  
**Argent**

Job Title  
**Brent Cross  
 Cricklewood**



**Brent Cross Phase 1A South  
 Claremont Park Road (Part 1)  
 Plan Location of Highway  
 Cross Sections**

Scale at A1	1:500	Scale at A3	1:1000
Discipline	No default available		
Job No	Drawing Status		
<b>245526</b>	<b>For Information</b>		
Drawing No	Issue		
<b>BXC-ARP-00-XX-DR-C-7007</b>	<b>P02</b>		



- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.
  - Phase 1A(N) Highway alignment is based on URS drawing: BXC-URS-ZZ-HW-M2-CE-00002 P24
  - Landscaping Masterplan is based on 649\_07\_019\_Phase 1 Indicative Layout Plan\_P9
  - Refer to drawing BXC-ARP-00-XX-DR-C-7009 for Highway Cross Sections.

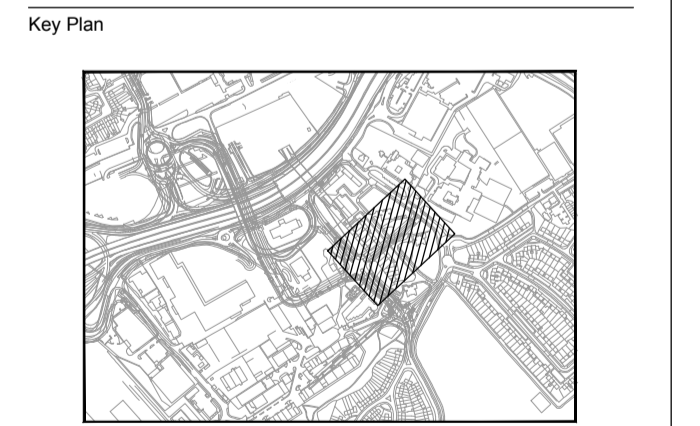
P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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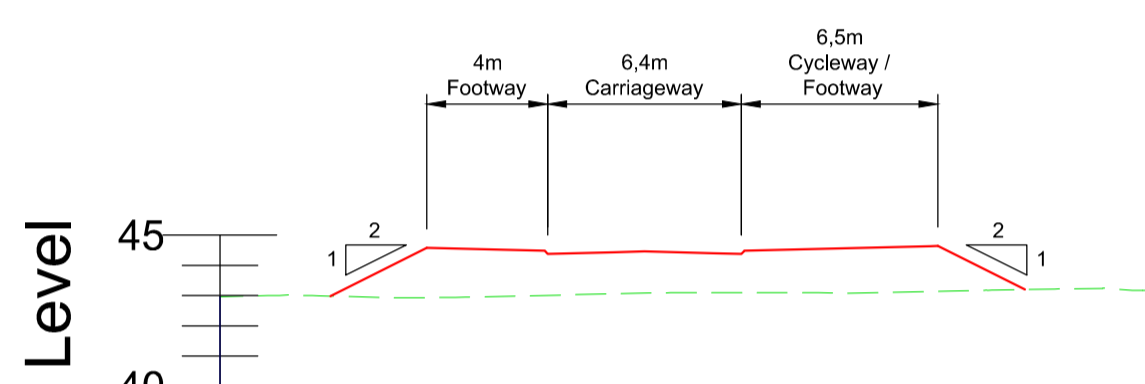
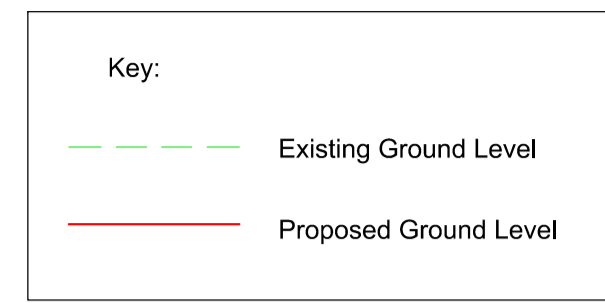
Client  
**Argent**

Job Title  
**Brent Cross  
 Cricklewood**



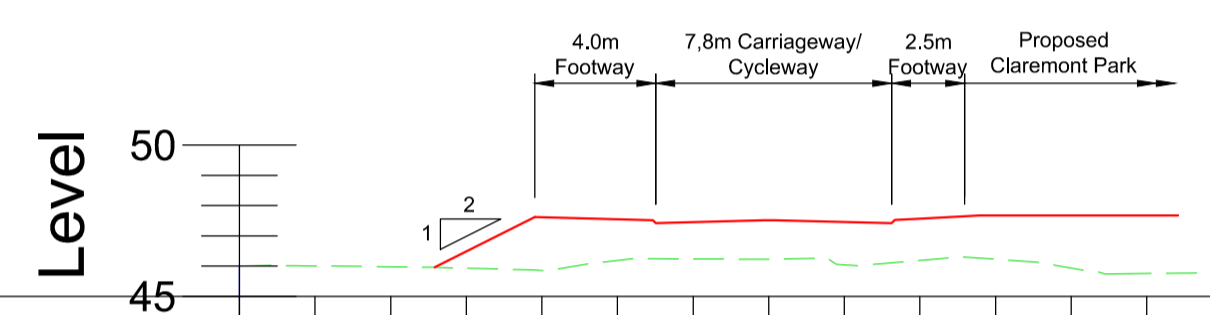
**Brent Cross Phase 1A South  
 School Lane  
 Plan Location of Highway  
 Cross Sections**

Scale at A1	1:500	Scale at A3	1:1000
Discipline	No default available		
Job No	<b>245526</b>	Drawing Status	<b>For Information</b>
Drawing No	<b>BXC-ARP-00-XX-DR-C-700</b>	Issue	<b>P02</b>



Chainage	00.000	02.500	05.000	07.500	10.000	12.500	15.000	17.500	20.000	22.500	25.000	27.500	30.000
Existing Levels	42.958	43.003	42.951	42.942	42.991	43.048	43.095	43.096	43.094	43.116	43.174	43.218	43.172
Proposed Levels			44.564	44.502	44.424	44.438	44.486	44.548	44.610				

Section A-A  
(School Lane)  
Scale: H 1:500, V 1:500. Datum: 40.000



Chainage	00.000	02.500	05.000	07.500	10.000	12.500	15.000	17.500	20.000	22.500	25.000	27.500	30.000	32.500
Existing Levels	46.001	46.007	45.977	45.933	45.855	46.190	46.238	46.225	46.040	46.186	46.227	45.937	45.755	45.782
Proposed Levels				47.613	47.551	47.453	47.516	47.462	47.567					

Section B-B  
(Claremont Park Road)  
Scale: H 1:500, V 1:500. Datum: 45.000

- Notes:
- All dimension, chainages, levels and coordinates are in meters unless otherwise stated.
  - This drawing is to be read in conjunction with project health and safety file for any identified potential risks.

P02	22/10/15	JJ	TM	TM
For Information				
P01	09/10/15	JJ	TM	TM
For Information				
Issue	Date	By	Chkd	Appd

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**Argent**

Job Title  
**Brent Cross  
Cricklewood**

**Brent Cross Phase 1A South  
Highway Cross Sections**

Scale at A1 As Shown

Discipline Civil

Job No **245526** Drawing Status **For Information**

Drawing No **BXC-ARP-00-XX-DR-C-7009** Issue **P02**