Network Rail

King's Cross Station Redevelopment Programme

Phase II Temporary Service Yard, Option Arrangements

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King's Cross Station Redevelopment Programme

Phase II Temporary Service Yard, Option Arrangements

Concept Report

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1 Introduction

Arup has been commissioned by Network Rail King's Cross Station Redevelopment Programme team to undertake consultancy services for the King's Cross Station Redevelopment.

Part of this commission included the reconfiguring the existing "West Yard" service area that serves both King's Cross Mainline Station and Sub-urban Platforms, to facilitate the first tranche of piling works for the "Network Rail Plant Room".

On 12th April 2006, Arup was instructed to investigate a subsequent service yard arrangement (Phase II) to facilitate the second tranche of piling works.

On 24th April 2006, Arup met with Network Rail and outlined the potential options for the Phase II temporary service yard that had been developed. Subsequently, Arup was further instructed to prepare a functional specification for each option.

On 21st May, Arup's scope was increased to assess the viability of an off-site delivery centre and analyse refuse collection alternatives.

Consequently, this report has been prepared and comprises a brief commentary, analysis, recommendations, functional specification and concept drawing for each of the Phase II temporary service yard options that have been considered. In addition, historical and existing service yard layout drawings have been included for comparison.

2 West Yard Servicing

The King's Cross area is currently undergoing considerable regeneration by various developers and land owners.

Prior to any works commencing, the servicing arrangements for King's Cross Mainline Station and Sub-urban Platforms were directly from Cheney Road (now stopped up) know as the West Yard [refer to *Appendix A1*].

As part of London Underground Limited's (LUL) redevelopment of King's Cross Underground Station, the West Yard was formalised into the servicing arrangements currently on site [refer to *Appendix A2*].

During the proposed construction works, associated with redevelopment by Network Rail for the King's Cross Station Redevelopment and Argent for the King's Cross Central Development, the existing servicing arrangements will require reconfiguring in several phases to maintain servicing, prior to its ultimate relocation to the Network Rail Plant Room (basement area of the proposed plot A1).

Network Rail's "Functional Specification" and requirements for the West Yard are contained in *Appendix A10*. The schedule describes the current situation, the interim arrangements required during the Network Rail construction phase and the provision in the final scheme (Network Rail Plant Room). This information will be included in the Tripartite Agreement.

It is envisaged that the Phase I temporary service yard will be required from July 2006 to September 2007 to carry out service diversions and the first tranche of piling [refer to *Appendix A3 to A6 inclusive*]. The Phase II temporary service yard will be required for approximately one year, from September 2007 when the second tranche of piling will be undertaken.

LUL's Northern Ticket Hall worksite hoarding forms the southern boundary to the West Yard and is to be maintained until the Northern Ticket Hall worksite is handed over to Network Rail on 1st September 2008.

As part of the King's Cross Central regeneration by Argent, Pancras Road is to be realigned. Therefore, the Phase II temporary service yard options have been prepared in order to accommodate the potential realignment of Pancras Road during this period.

3 Temporary Service Yard Options

3.1 Option A – Realignment prior to CTRL opening

3.1.1 Road Layout Description

Option A [refer to *Appendix A7*] assumes that Pancras Road is realigned by September 2007, thus releasing the land previously occupied by the existing Pancras Road highway.

It should be noted that should the articulated vehicle loading bay not be provided, then a more direct pedestrian route from the Sub-urban Platforms to Pancras Road could be provided.

3.1.2 Functional Specification

- Area = 1150m² (excluding pedestrian routes);
- One 16.5m articulated vehicle loading bay (during the times when articulated delivery vehicles are not present, the assigned bay can be utilised by smaller delivery vehicles under marshalling);
- Four 7.5 tonne vehicle loading bays;
- Three disabled parking bays;
- Two short stay parking bays;
- One informal taxi set-down / pick-up bay;
- Compactor area;
- Delivery Marshall kiosk;
- Street lighting and CCTV coverage.

3.2 Option B –Pancras Road Realignment beyond CTRL Opening

3.2.1 Road Layout Description

Option B [refer to *Appendix A7*] assumes that Pancras Road is on its current alignment and that the realigned Pancras Road and "The Boulevard" are not constructed. Although this is advantageous as it removes the linkage with the realignment of Pancras Road, it does mean that there is insufficient space to accommodate the same number of loading bays as provided in Options A and C.

Section 4 sets out the operational concepts that would be required to maintain servicing within the constraints of Option B.

3.2.2 Functional Specification

- Area = 470m² (excluding pedestrian routes);
- One transit van loading bay;
- One 7.5 tonne vehicle loading bays;
- Three disabled parking bays;
- Informal taxi / car set down / pick up bay;
- Compactor area;
- Delivery Marshall kiosk;
- Street lighting and CCTV coverage.

3.3 Option C1 – Partial Permanent Realignment with Temporary Link

3.3.1 Road Layout Description

Option C1 [refer to *Appendix A7*] assumes that part of the realigned Pancras Road and "The Boulevard" are constructed and connects them back into the existing Pancras Road alignment by way of a mini-roundabout. A mini-roundabout is proposed at the junction, as visibility constraints would prevent a typical priority junction.

The temporary service yard is located to the west of the available space in order to maximise the area adjacent to the realigned Pancras Road.

3.3.2 Functional Specification

- Area = 700m² (excluding pedestrian routes)
- One 16.5m articulated vehicle loading bay (during the times when articulated delivery vehicles are not present, the assigned bay can be utilised by smaller delivery vehicles under marshalling);
- Four 7.5 tonne vehicle loading bays;
- Three disabled parking bays;
- One short stay parking bay;
- Informal taxi set-down / pick-up bay;
- Compactor area;
- Delivery Marshall kiosk;
- Street lighting and CCTV coverage.

3.4 Option C2 – Partial Permanent Realignment with Temporary Link

3.4.1 Road Layout Description

Option C2 [refer to *Appendix A7*] also assumes that part of the realigned Pancras Road and "The Boulevard" are constructed and connects them back into the existing Pancras Road alignment by way of a mini-roundabout.

The temporary service yard is located to the west of the available space (adjacent to Pancras Road) in order to maximise the worksite adjacent to the Mainline Station.

3.4.2 Functional Specification

- Area = 920m² (excluding pedestrian routes);
- One 16.5m articulated vehicle loading bay;
- Four 7.5 tonne vehicle loading bays;
- Three disabled parking bays;
- Two short stay parking bay;
- Informal taxi set-down / pick-up bay;
- Compactor area;
- Delivery Marshall kiosk;
- Street lighting and CCTV coverage.

3.5 Common to Options A, B and C

- Parking for British Transport Police (BTP) vehicles is provided at the southern end of Pancras Road, above LUL's Tube Ticket Hall, as part of the temporary BTP compound. Consequently, no further BTP parking is proposed within the temporary service area.
- As cycle facilities are provided alongside the Network Rail car park footpath, no further cycle facilities are proposed within the temporary service area.
- Emergency vehicle access and rendezvous point maintained.
- Existing pedestrian route from the Sub-urban Platforms to Pancras Road maintained.
- It is recommended that the Delivery Marshall is maintained to oversee co-ordinate deliveries, especially during peak periods.
- Existing LUL/MRSSL Northern Ticket Hall (NTH) hoarding line is retained in current location, as shown in *Appendix A7*.

4 Satellite Servicing Centre Concepts

4.1 Objectives

Option B assumes that the Temporary Service Yard is commissioned before Pancras Road is realigned. Although this is advantageous as it removes the linkage with the construction of Pancras Road, Option B does not possess sufficient space to accommodate the same number of loading bays as the present configuration.

This Section sets out the operational concepts that would be required to maintain servicing within the constraints imposed by the reduced number of loading bays in Option B.

4.2 Demand

A survey of deliveries to King's Cross Station was made in May 2006 [refer to *Appendix A9]*.

The pattern of deliveries is fairly typical of a mixed retail and office development, in that it shows a full range of delivery types from ad hoc van deliveries of small quantities of parcels, to time-critical deliveries of large quantities of perishable goods in articulated vehicles.

The pattern of scheduled deliveries is relatively evenly spaced over the week, with a small reduction at weekends. Ad hoc deliveries add variability (Table 1), but only account for a small proportion of the volume delivered.

	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Regular deliveries	61	53	58	58	55	44
Regular deliveries as % of weekly total	18%	16%	18%	18%	17%	14%
All deliveries[1]	72	65	65	71	67	46
All Deliveries as % of weekly total	19%	16%	17%	18%	17%	13%

Table 1: Delivery Profile by Day of the Week

The majority of deliveries are made by small and medium vans (Table 2).

	Transit	7.5 tonne	Artic	Variable
Day	53	97	28	81
Night (pre- 7 a.m.)	62	13	43	9
Total	115	110	71	90

Table 2: Delivery Profile by Type of Vehicle and Day or Night Delivery (weekly)

Many articulated vehicles deliver overnight or early in the morning to avoid traffic in the area, however a surprisingly large number of HGV deliveries take place during the day. These daytime HGV deliveries are made up of deliveries to two tenants, ISS Facility Services (20) and Whistlestop (8).

[1] Ad hoc deliveries have been added in a random pattern on two days per week.

Figure 1 shows that the majority of regular deliveries are completed by 8 a.m. The service yard operates at capacity between 6 a.m. and 9 a.m., when up to 15 deliveries are received per hour.

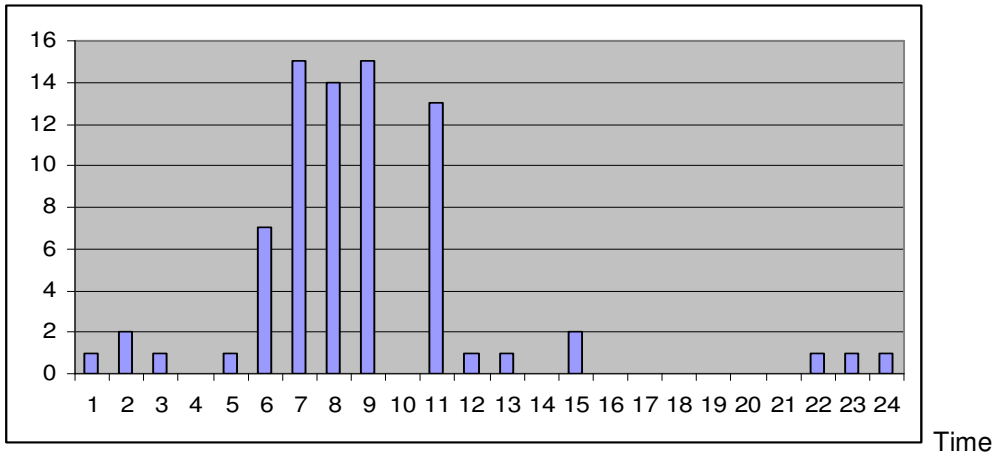


Figure 1: Frequency of Delivery by Time of Day (24hr clock)

4.3 Availability of Loading Bays

Option B provides one 7.5 tonne loading bay, one Transit loading bay and a compactor bay. There is insufficient space to provide a separate loading bay large enough to accommodate an articulated vehicle.

Swept path analysis shows that an articulated tractor with a 13.5m trailer can access the temporary service area if it straddles the Transit and 7.5 tonne bays. HGV deliveries are therefore not possible concurrently with deliveries by smaller vehicles.

Furthermore, an articulated vehicle would have to reverse into the temporary servicing area from Pancras Road, which should not be attempted without assistance and is not likely to be practical during the day.

4.4 Operational Methodology

There are two options to the successful operation of Option B:

- Cross docking deliveries remotely (Section 4.5)
- The marshalling of vehicles to prevent congestion and to optimise loading bay utilisation (Section 4.6)

Both of these assume the separation of HGV deliveries from deliveries by smaller vehicles.

The separation of HGV deliveries can be achieved by restricting the HGV access to the servicing area to night-time only. Since the majority of HGV deliveries already take place before 7 a.m., and those that do not are associated with only two tenants, this is not thought to present a significant obstacle to be overcome.

To ensure that the servicing area is made available for other users, the last HGV should leave the area by 6 a.m. at the latest.

HGV's would be obliged to reverse into the servicing area [refer to *Appendix A.8]* and would straddle the 7.5 tonne and Transit delivery bays. Vans delivering at night when an HGV

was unloading would have to park on the external road and handball their loads into the servicing area.

Night-time deliveries should be controlled by issuing timed delivery slots throughout the night, with an appropriate system of penalties for overstaying and late arrival.

4.5 Cross dock operation

The feasibility of a cross dock operation was reviewed as part of the study and there was found to be a number of operational disadvantages compared to the second method of operation. These are:

1. Need to take responsibility for goods in transit (insurance, liability and security)
2. Requirement to find a suitable location for the cross dock operation (estimated to be 200m² excluding manoeuvring area)
3. Range of storage required (ambient, chilled, frozen)
4. Low utilisation of consolidated trailer (operation is low volume)
5. High cost to Network Rail compared to marshalling solution

It is therefore recommended that the possibility of a cross dock operation be discarded in favour of the marshalling solution proposed below.

4.6 Marshalling

The number of deliveries during the day is much higher than those during the night. For Transit vans, Option B permits a maximum of two concurrent deliveries. Similarly, 7.5 tonne vans can only deliver one at a time.

The variability of traffic flow in London by day is such that a system of timed delivery slots would not be workable during daylight hours. Control can only be applied over short distances, when driving times can be reliably estimated between origin and destination.

Vehicles intending to deliver to King's Cross during the day should be required to report to a nearby holding area to be booked in, held until a bay is available and dispatched to the servicing area to unload.

This system is conceptually similar to that used to marshal taxis and will require similar management control and communications.

The temporary service area would require two marshals (banksmen) for the night shift (2000hrs – 0600hrs) and two or three during the day. A similar number of personnel would be required at the satellite holding area during the day only (0600hrs – 1600hrs).

4.7 Capacity of the Holding Area

The capacity of the holding area should match the current maximum capacity of the servicing yard.

Although the service area is virtually unused during the afternoon, the morning peak is dominated by time-critical deliveries and deliveries of perishable goods which cannot be delayed until the afternoon. The opportunity to reduce the morning peak is therefore extremely limited.

The equivalent of four 7.5 tonne bays (or two 16m artic bays taking two 7.5 tonne vans each) is required, plus facilities for marshalling and communication.

4.8 Location of the holding area

The driving time between the holding area and the servicing area should be no longer than approximately 15 minutes. Longer transit times would be unreliable in traffic and would potentially create unacceptable delays to the carriers.

Further consideration on the location of the holding area requires discussion of :-

- The availability of land within 15 minutes driving time
- The costs of securing the use of the land for the duration of Phase II
- Minimisation of disruption to the replenishment process
- Security
- Insurance and Liability

4.8.1 Potential Sites

We consider three options to be worthy of further investigation; a site within the Argent development, the former Royal Mail facility at Euston Station and a road side operation.

4.8.1.1 Argent Site

A site within the Argent development adjacent to King's Cross has been proposed. Whilst this site is physically very close to the Temporary Service Yard, there is no existing infrastructure to support a holding operation for goods deliveries.

The Tripartite Agreement should clearly set out the respective liabilities and primacy on the site. Construction traffic may interfere with daytime deliveries.

4.8.1.2 Euston Station

Following the withdrawal of the Royal Mail from Euston Station, the loading facilities used to transfer mail from HGV's to trains have been vacated. British Transport Police are expected to move into some part of the vacant premises, but the future use of the loading bays is unclear.

Euston would offer a number of advantages over the Argent site:

- No external rent for space
- Separation from construction site traffic
- Existing infrastructure (restrooms, catering, telephones, communications, etc)
- Security (CCTV, Police, etc.)
- Simplified Insurance and Liability situation
- Synergy with other deliveries to Network Rail and its tenants at Euston Station

The principal disadvantage is the longer driving time to King's Cross.

4.8.1.3 Road side

It may be possible to locate a suitable waiting area on the side of the road in the King's Cross area, either through an agreement with the London Borough of Camden (LBC) to have a temporary relaxation in parking restrictions or through the use of a lay-by on the side of the road.

This would present the cheapest option to Network Rail but needs to be reviewed with LBC and other interested parties.

4.9 Recommendations

Arup recommends that the potential sites (i.e. Argent, Euston Station, road side) for the satellite holding area are investigated further. It is proposed that Euston Station is an option that Network Rail could progress through internal discussions. The Argent/LCR and road side options could be progressed in conjunction with the Network Rail, MRSSL, Argent, URN and LCR working group.

It is acknowledged that the area currently occupied by the St. Pancras Station temporary taxi facilities, could provide a suitable location. This particular location and its operation is dependant upon the alignment of Pancras Road and therefore it is proposed that this location be investigated in conjunction with the separate “Pancras Road Options” study, Argent. Discussions with LBC could take place once a concept layout(s) has been developed.

In addition, discussions with King’s Cross Station tenants should be opened to gain their input on the proposed operation, particularly the night time HGV delivery slots and marshalling from the proposed satellite holding area.

5 Satellite Refuse Collection

5.1 Current Operation

The King's Cross Station waste management teams deal with waste generated by retail, office, catering and OBS areas, as well as waste from the trains. Currently, it is believed that there are three different internal waste contractors:-

- Station / Train cleaners
- Shop & Ticket office cleaners
- Main office cleaners

The current system of operation uses Eurocarts for local storage, which when full are taken to the 30m³ compactor in the West Yard either by using an electric vehicle (EV) to tow three Eurocarts or by pushing the Eurocarts one at a time. The compactor is collected on a daily basis usually between 8pm and 3am.

At the moment, segregation is limited to paper only from the offices, which is with dealt separately by an external contractor. All other waste is placed in the compactor.

5.2 Proposed alternatives

5.2.1 Remote compactor location (Option 1)

The fact that many of the Eurocarts are already moved using an EV, would make it easy to use a road licensed EV to move the Eurocarts to a remote compactor.

A road licensed EV usually requires the addition of number plates, lights, indicators and mirrors. It is believed that one of the current waste contractors, *Initial*, currently has a suitable vehicle at King's Cross Station (although it does require number plates). Reflectors will also be required on the Eurocarts. If a suitable EV is not available, then there are a number of options (these are budget figures provided as a guide only):-

- Buy a new road worth EV = £5,500 + VAT
- Lease an EV = £450/month + VAT
- Adapt one of the existing EV = £500 + VAT

It is proposed that despite being roadworthy, the Eurocarts should not be towed along Euston Road due to the volume of traffic. As the compactor should be located within half mile, this would suggest a location further north along Pancras Road (possibly within Argent land ownership).

5.2.2 Reduce compactor size (Option 2)

As noted above, the 30m³ compactor is already being collected every day and the use of a smaller compactor (say 10m³) is going to require additional daily collections without really releasing a significant amount of space (assuming the same compactor unit is used, the container will reduce by approximately 2.5m in length). Having possibly three daily collections could triple collections costs and will also increase the level of management required for waste disposal at King's Cross Station to ensure compactors are full at the right time for collection.

The collection vehicle will however be much smaller and more manoeuvrable, which will allow the compactor to be located in a tighter space.

5.2.3 Remove the compactor (Option 3)

This option is based on having a dustcart collection for Eurocarts rather than a collection for the compactor. The advantages are that the Eurocarts can be located within an enclosure, located within 10 metres of where the dustcart stops to load (a council requirement), which is more flexible than accommodating a 30m³ compactor and associated manoeuvring space.

The disadvantages are that to duplicate a 30m³ compactor, approximately 120 Eurocarts will have to be emptied everyday, which will require a minimum enclosure area of 150m² (based on 3 collections of 40). Collection costs will also increase (estimated £110 for compactor per day and £900 for Eurocarts per day + VAT).

5.2.4 Make use of other facilities (Option 4)

With St. Pancras Station being adjacent, there may be a possibility of temporarily making use of the waste storage facilities being provided at St. Pancras Station. Eurocarts could then be moved across as described in 5.2.1.

5.3 Recommendations

Option 4 is the preferred option as it does not require additional land to be found. We have not contacted the St. Pancras team to check the available waste storage equipment and space but, if this option is favoured, we suggest this be the next stage in developing this option.

If *Option 4* is not possible then *Options 1* and *3* would seem to be the most suitable as *Option 2* creates very little benefit for the increased costs. We have not tried to relocate the compactor on plan for *Option 1* as we recommend that this should be progressed in conjunction with the Network Rail, MRSSL, Argent, URN and LCR working group. *Option 3* requires the same coordination to be taken forward.

6 Design Development

6.1 London Borough of Camden

A meeting with the London Borough of Camden (LBC) was held on 20th April 2006 to present outline sketches of the options being considered with a view to obtaining early feedback from the Highway Authority.

LBC's initial comments were that Options B, C1 and C2 were feasible with no strong concerns. Option A was not sketched or discussed at this meeting.

Although not sketched, the area currently occupied by the St. Pancras Station temporary taxi facilities was discussed as a suitable location. Should the proposals to utilise this area involve trolleys being pushed across Pancras Road (whilst live), then LBC identified that they would have safety concerns.

Arup arranged a further meeting with LBC to ascertain if this location was at all possible. LBC's view was that they would not rule out the option, but would reserve their view until receiving additional information.

As this particular location and its operation is dependant up the alignment of Pancras Road, it is proposed that this location be investigated in conjunction with the separate "Pancras Road Options" study. Discussions with LBC could reopen once a concept layout(s) has been developed.

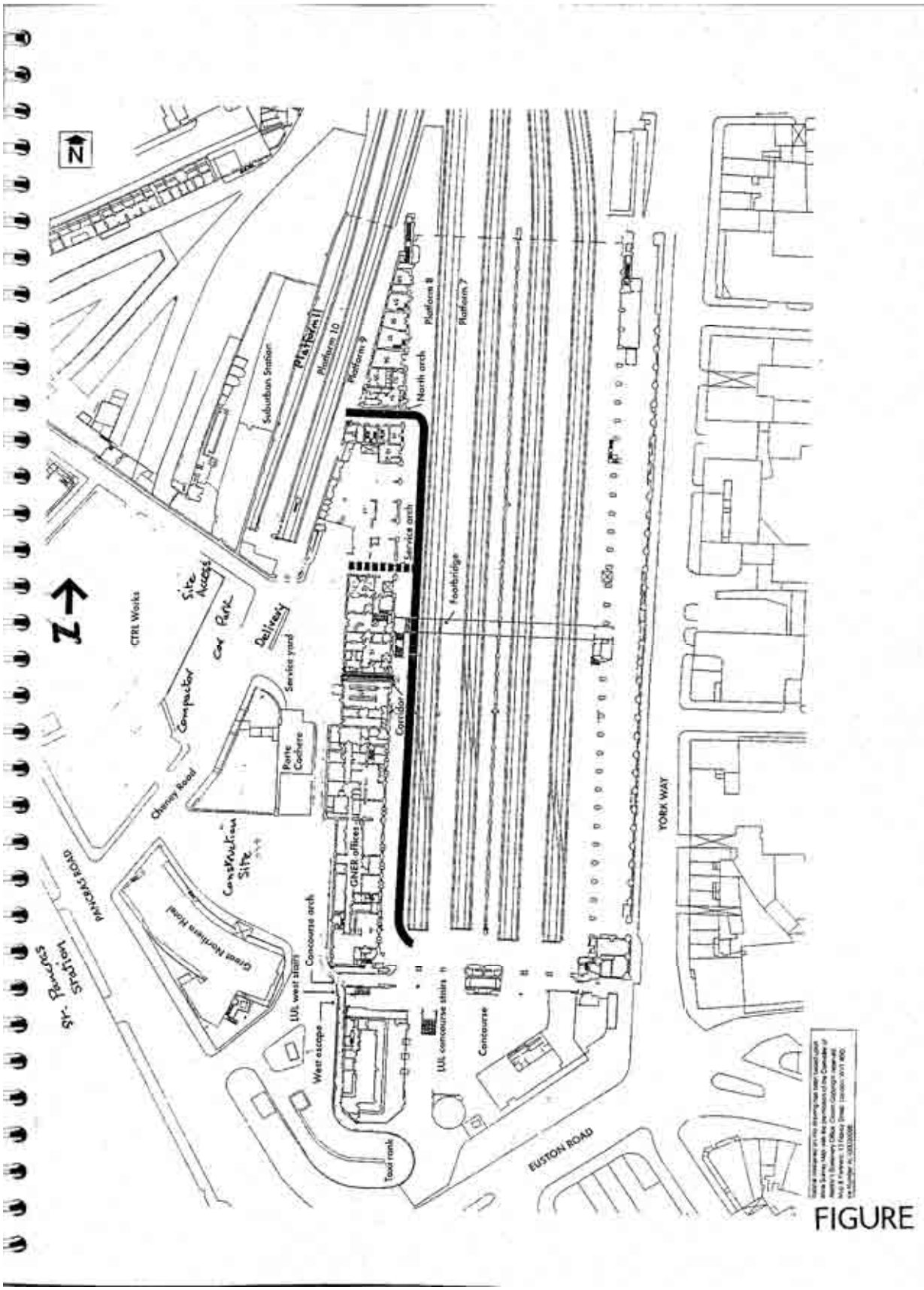
6.2 Next Steps

- Develop Network Rail's preferred option(s) taking into account satellite servicing centre and refuse collection recommendation.
- Develop preferred option(s) into scheme design for approval by Network Rail (Station Management and TOC's) and LBC. It may be necessary to implement two or more of the proposed options in order to fit in with the other construction activities in the vicinity;
- Develop scheme design into detailed design.

Appendix A

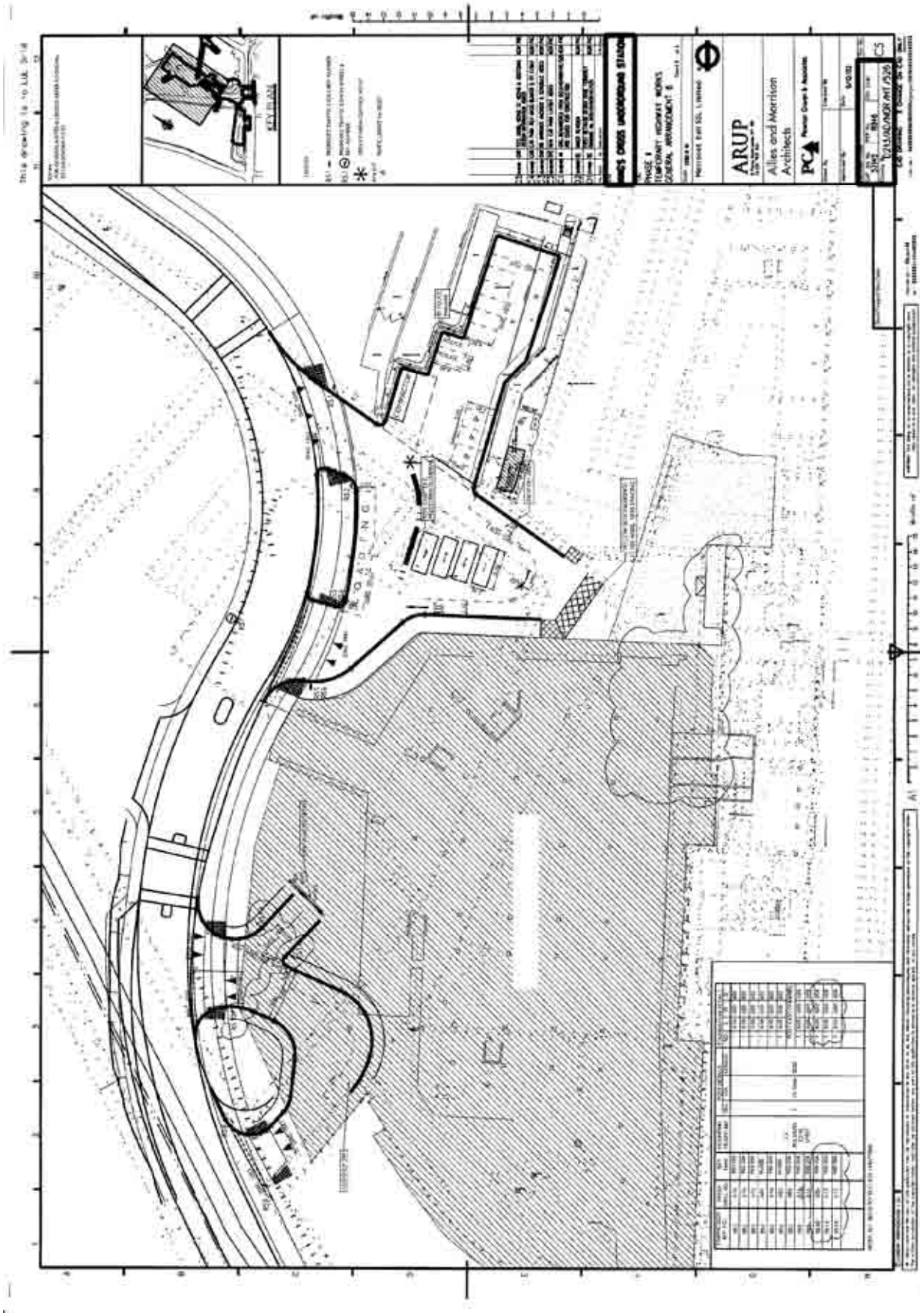
Figures

A1 Original Service Area – Cheney Road

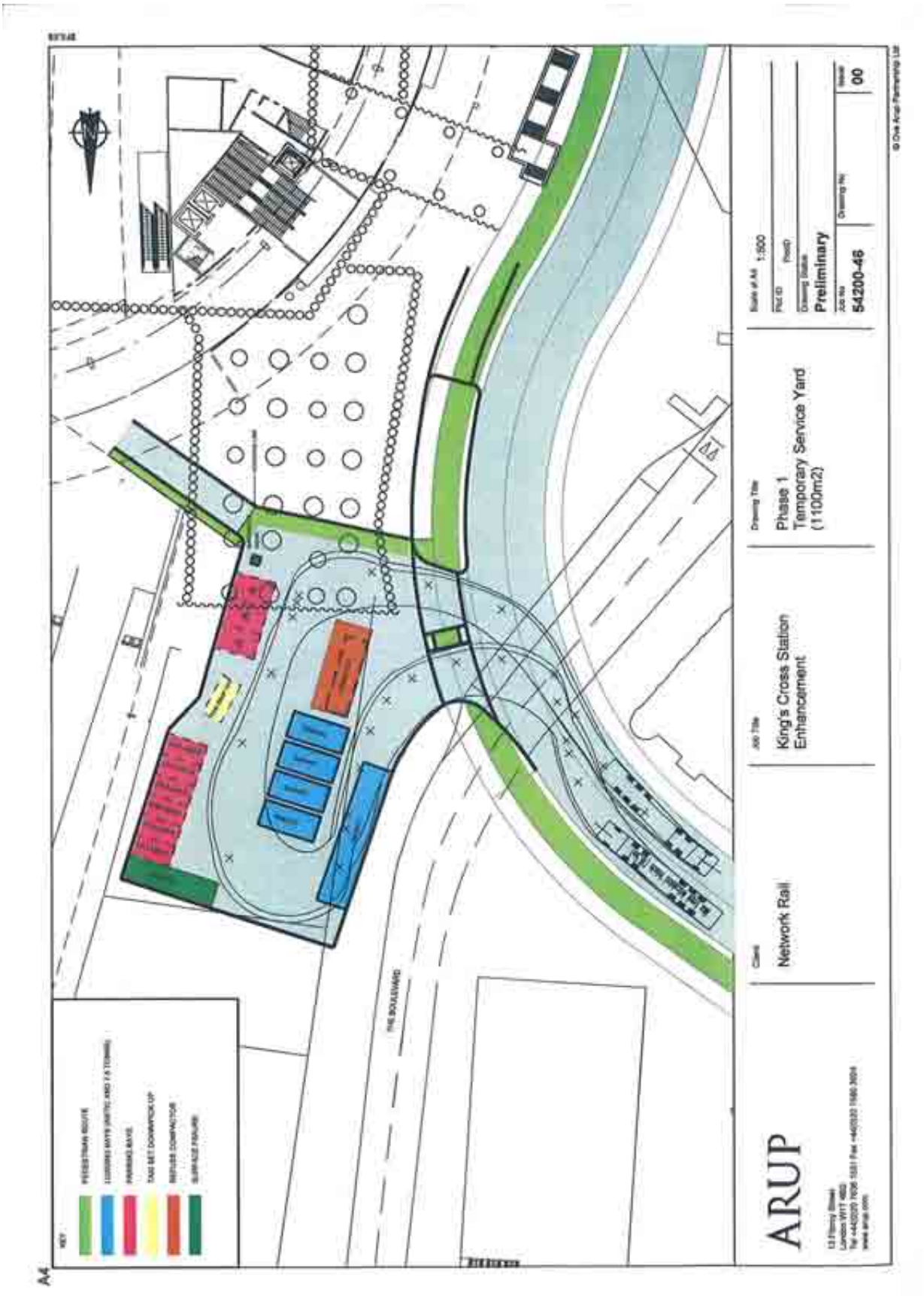


FIGURE

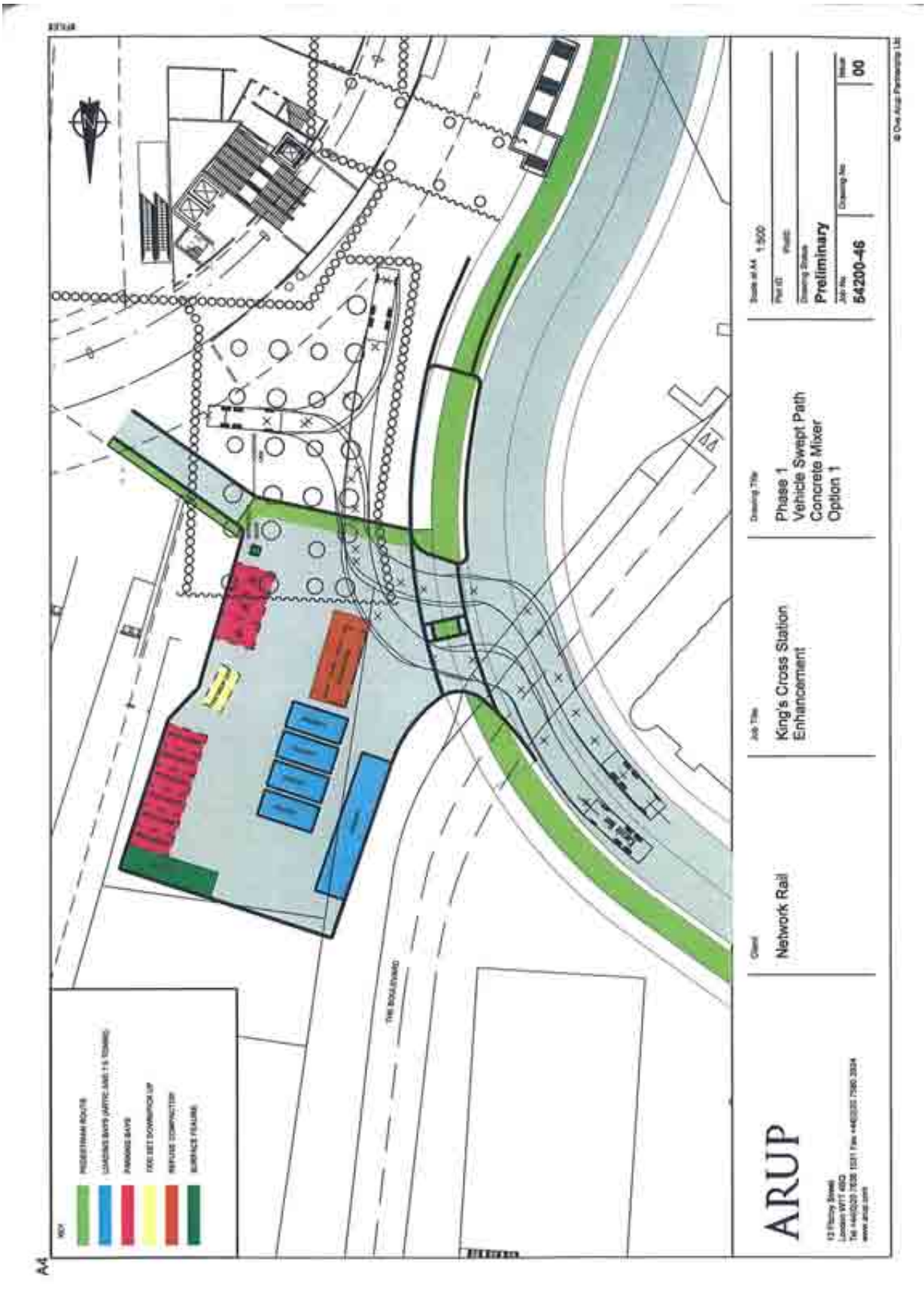
A2 Existing Service Yard (1310m²)



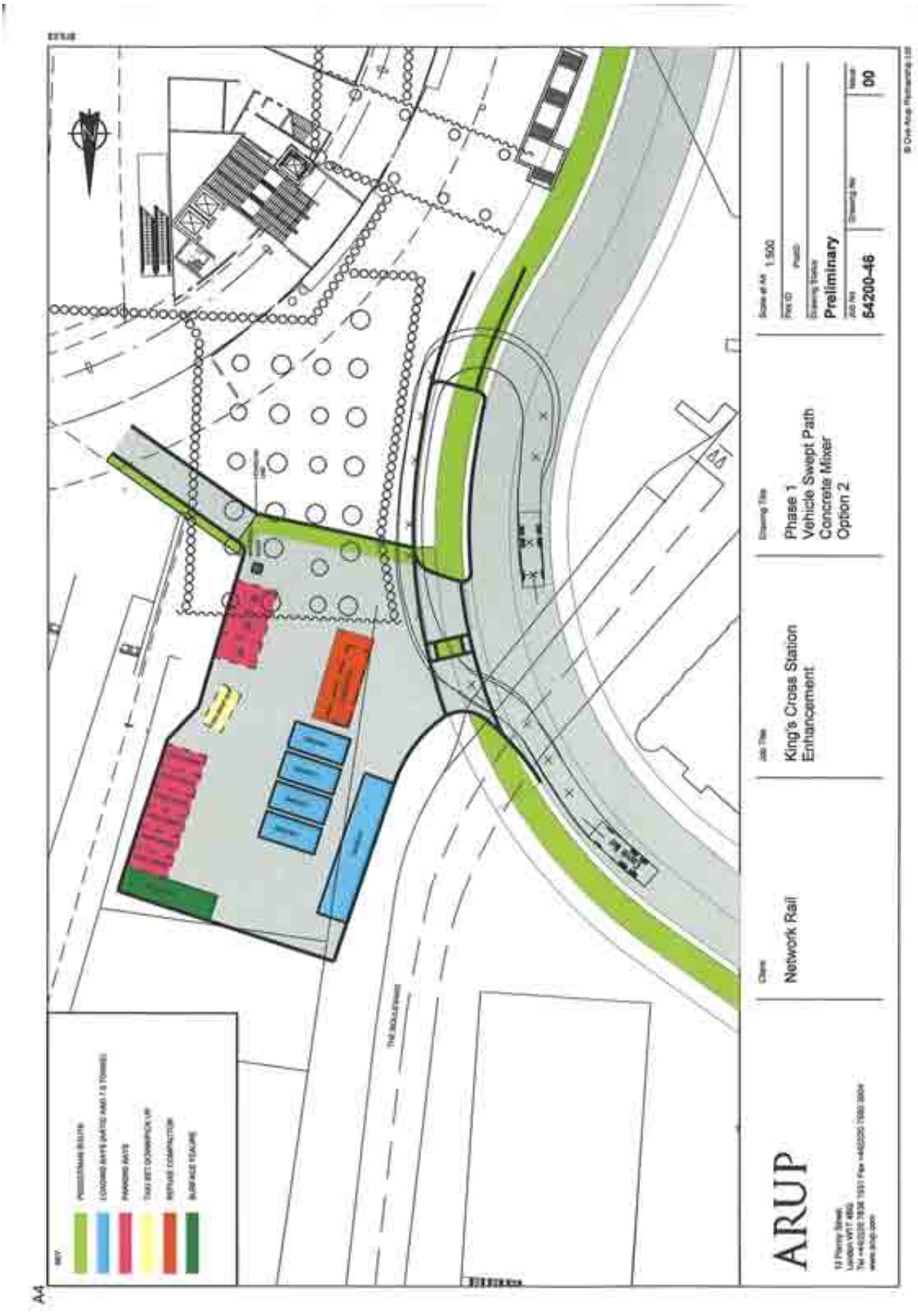
A3 Phase I – Temporary Service Yard (1160m²)



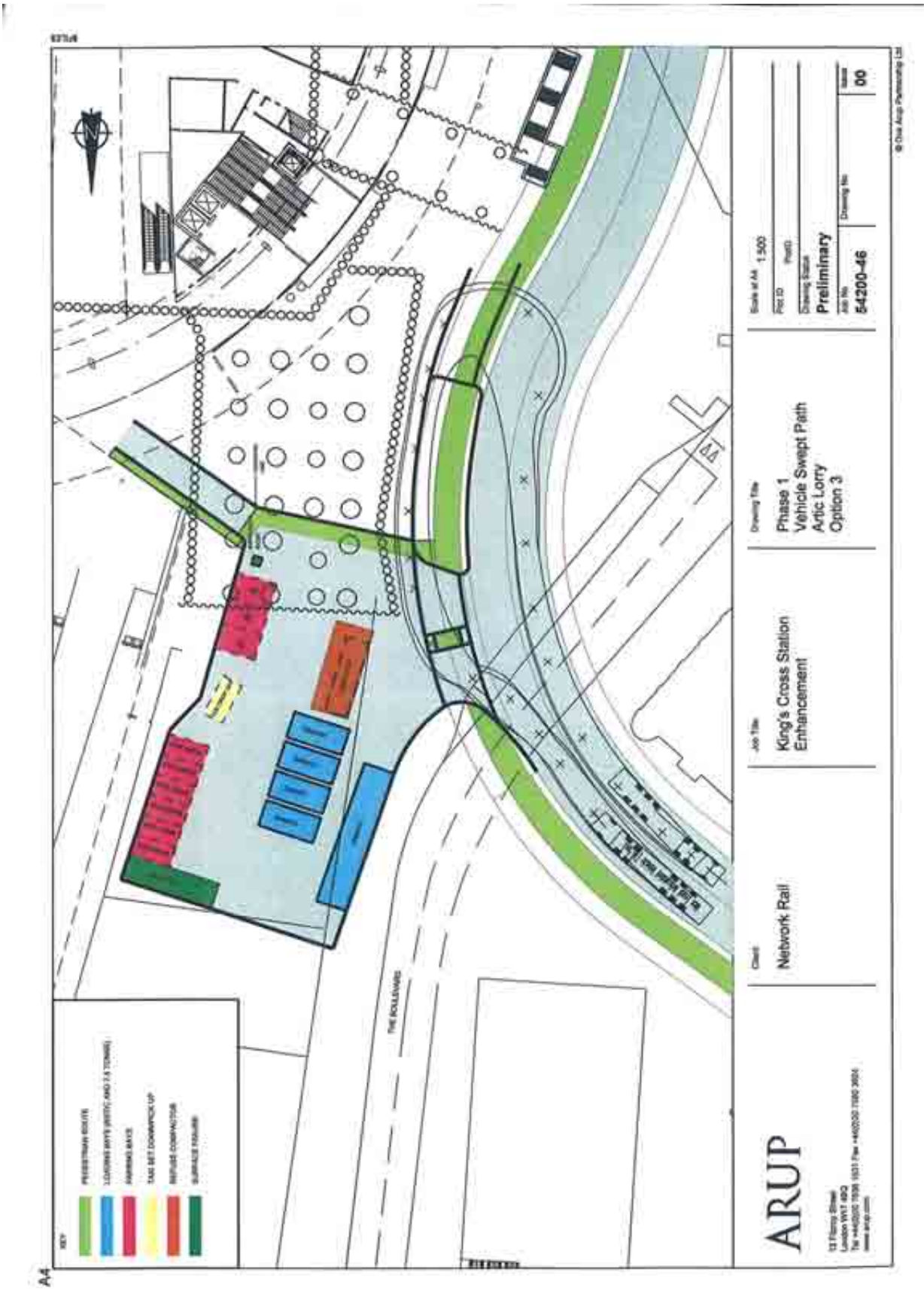
A4 Phase I – Construction Vehicle Access (i)



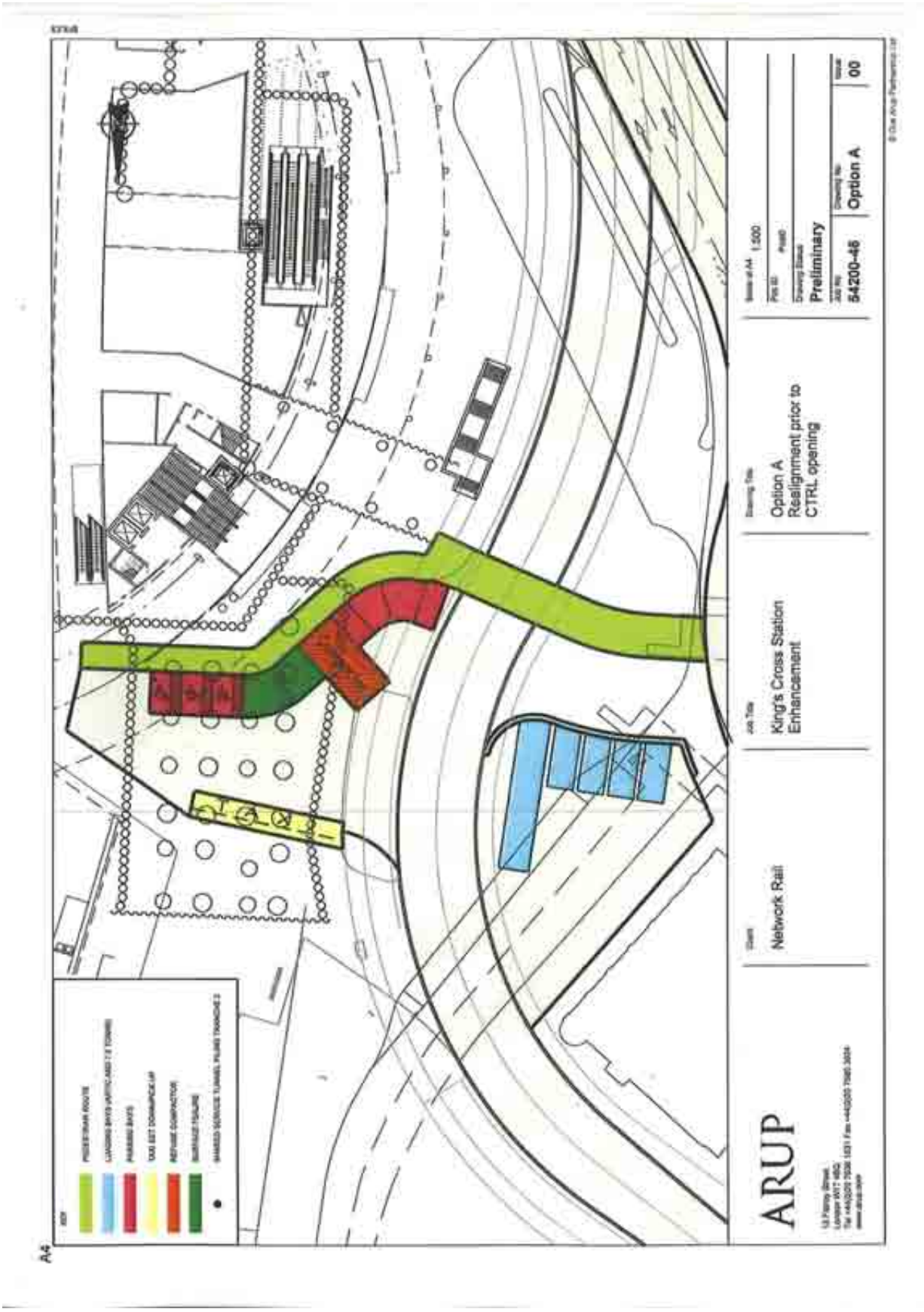
A5 Phase I – Construction Vehicle Access (ii)



A6 Phase I – Construction Vehicle Access (iii)



A7 Phase II – Temporary Service Yard Options




A4
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Network Rail
Job Title
King's Cross Station
Enhancement
Drawing Title
Option B
Pancras Road
Realignment beyond
CTRL opening
Preliminary
54200-46
Option B
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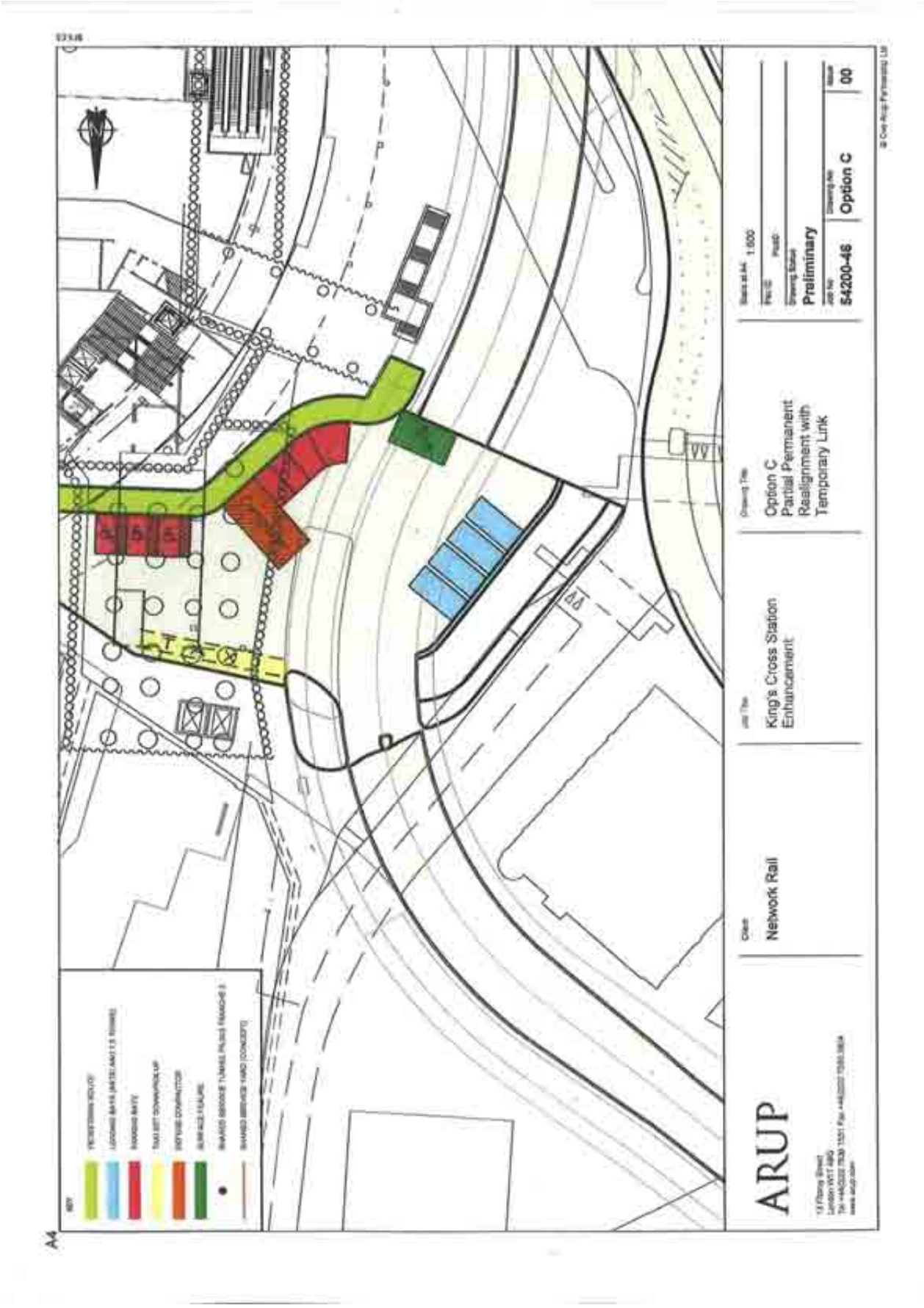
EXISTING LUL'S
NORTHERN
EDGET HALL
HOMERTON LINE
THE BOULEVARD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A8 Option B – Articulated Vehicle Manoeuvre

A9 West Yard Delivery Schedule (May 2006)

Name of receiving company	Name of delivery company	Day(s) of delivery	Time(s) of delivery	Size of delivery	Size of vehicle	Time to deliver
AMT Coffee	Andronica	Tuesday/Friday	08.30 - 13.30	2/3 Pallets	7.5 tonne	30 - 45 mins.
Boots	Boots DC	Sunday - Friday	00.00 - 04.00	15 Boxes	Transit	20 mins.
Bureau de Change	Securitas	Wednesday	09.00 - 12.00	1 Box	Transit	10 mins.
Burger King	Gray's (collect waste oil) Various Couriers	Twice per week Monday - Friday	06.00 - 07.00 Ad hoc	Varies Varies	Varies Varies	Varies Varies
Duke of York	Fullers TradeTeam Bibendum Coors	Tuesday Thursday Ad hoc	06.00 - 08.00 10.00 - 14.00 Ad hoc	20 Pallets 1 Pallet Varies	7.5 tonne 7.5 tonne Varies	2 hrs. 45 mins. Varies
FCC	DHL Corporate Express Etrinsic Greenhams	Sunday - Saturday Monday - Friday Monday - Friday Monday - Friday	08.00 - 18.00 08.00 - 18.00 08.00 - 18.00 08.00 - 18.00	1 - 120 Boxes 1 - 120 Boxes 1 - 120 Boxes 1 - 120 Boxes	Transit - 7.5 tonne Transit - 7.5 tonne Transit - 7.5 tonne Transit - 7.5 tonne	Up to 2 hrs. Up to 2 hrs. Up to 2 hrs. Up to 2 hrs.
GNER (Travel Centre)	Securicor DHL Hercules	Monday - Saturday Sunday - Saturday Sunday - Saturday	Ad hoc Ad hoc Ad hoc	Varies Varies Varies	Varies Varies Varies	Varies Varies Varies
GNER	M&S/Excl Eden Catering AK Supply Docqwise Guilbert/Niceday Benrose Booth Initial Washroom Services Jaspers Kraft Foods King Express Multitechnic National Rail Supplies Pitney Bowes	Monday - Friday Monday - Friday Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc Ad hoc	10.30 - 12.00 10.30 - 12.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00 09.00 - 17.00	2 - 3 Trays 2 - 3 Trays Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies	Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies Varies	15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins. 15 - 30 mins.
Initial Transport Services	Initial Washroom Services Bunzil	Thursday Once a month	05.00 05.30 - 06.00	Sanitary Bin Swap 4 Pallets	7.5 tonne Artic.	30 mins. 20 mins.
ISS Facility Services	Bunzil Pakex Dudley Stationary TNT Live Wire	Monday - Friday Monday - Friday Monday - Friday Monday - Friday	07.00 - 17.00 07.00 - 17.00 07.00 - 17.00 07.00 - 17.00	1 Box - 3/4 Pallets 1 Box - 3/4 Pallets 1 Box - 3/4 Pallets 1 Box - 3/4 Pallets	Transit - Artic. Transit - Artic. Transit - Artic. Transit - Artic.	Varies Varies Varies Varies
Ixxys Bagels	Bagel Factory	Sunday - Saturday	22.00 - 01.00	10 - 15 Boxes	Transit	15 mins.
Journeys Friend	London Crofters WH Smith News Retail Brake Bros. Journeys Friend H/O Post Office Collection Fish	Monday - Friday Monday - Sunday Monday - Sunday As and when Monday - Thursday Friday Ad hoc	06.00 - 07.00 05.30 05.30 10.00 - 16.00 07.00 09.00 - 16.00 10.00 - 16.00	1 Box 2 - 4 Bundles 1 - 2 Bundles 10 Boxes 4 Cages 2 Bags 1 - 2 Boxes	Transit Transit Transit Transit/7.5 tonne 7.5 tonne Transit/7.5 tonne Transit	5 mins. 5 mins. 5 mins. 5 mins. 30 mins. 5 mins. 5 mins.
lastminute.com	Courier	Monday - Friday Once per week	09.00 - 17.00	2 - 3 Boxes	Transit	10 mins.
LUL	Prestige Securitas Eden CDL	Last Thurs of month Sunday - Saturday Fortnightly Wednesday	08.30 - 15.30 10.00 Off Peak Off Peak	20 Boxes 5 - 20 Boxes 30 - 40 Bottles 10 - 40 Boxes	7.5 tonne 7.5 tonne Artic 7.5 tonne	30 mins. 30 - 60 mins. 60 mins. 30 mins.
Marks & Spencer	GIST (M&S)	Sunday - Saturday Sunday - Saturday	01.30 05.00	22 Pallets 24 Pallets	7.5 tonne 7.5 tonne	1 hr. 1 hr.

Network Rail	Grosvenor	Sunday - Saturday	21.00 - 00.00	1 Large Bin	20+ tonne	20 mins.
	Echo	Ad hoc	07.00 - 17.00	1 Box - 1 Pallet	Transit	1 hr.
	Securitas	Sunday - Saturday	06.00 - 08.00	1 Cage	7.5 tonne	1 hr.
	Guilbert/Niceday	Ad hoc	Ad hoc	5 - 12 Boxes	Transit	30 mins.
	PowWow	Ad hoc	Ad hoc	10 Plastic Bottles	7.5 tonne	30 - 60 mins.
	PowWow	Ad hoc	Ad hoc	Varies	7.5 tonne	10 mins.
	Office Depot	Ad hoc	Ad hoc	Varies	Transit	10 mins.
Rail Gourmet	Tom Granby	Sunday - Friday	23.00 - 04.00	1 - 6 Pallets	Artic	2 hrs.
	Sandwich Factory	Sunday - Saturday	08.00 - 09.00	1 - 2 Pallets	7.5 tonne	45 mins.
	Coca Cola	Monday/Thursday	08.00 - 15.00	1 - 2 Pallets	7.5 tonne	30 mins.
	Bunzl	Wednesday	08.00 - 15.00	1 - 2 Pallets	7.5 tonne	30 mins.
	Fresh Direct	Sunday - Friday	04.00 - 10.00	2 Pallets	7.5 tonne	45 mins.
	H & B	Once per week	06.00 - 10.00	10 Boxes	Transit	15 mins.
	King UK	Once per month	06.00 - 15.00	3 Pallets	7.5 tonne	1 hr.
	Dudson	Once per 3 months	06.00 - 15.00	1 Pallet	7.5 tonne	30 mins.
	M&J Sea Food	Twice per week	08.00 - 16.00	1 - 12 Boxes	Transit	30 mins.
	Russell Hume	Mon/Wed/Friday	07.00 - 10.00	1 - 2 Pallets	7.5 tonne	30 mins.
	P&H Snack	Wenesday/Thursday	08.00 - 16.00	1 - 12 Boxes	Transit	30 mins.
	Styropack	Thursday	08.00 - 16.00	100 Boxes	7.5 tonne	45 mins.
	Bookers	Monday - Friday	08.00 - 15.00	1 Pallet	Transit	30 mins.
	Angel Crousant	Monday - Friday	01.00 - 04.00	1 - 10 Boxes	Transit	25 mins.
	MH Foods	Thursday/Friday	08.00 - 16.00	1 - 8 Boxes	Transit	30 mins.
	3663 Food	Ad hoc	Ad hoc	Varies	Varies	Varies
	Service	Ad hoc	Ad hoc	Varies	Varies	Varies
	Harp Products	Ad hoc	Ad hoc	Varies	Varies	Varies
	Forms Tech.	Ad hoc	Ad hoc	Varies	Varies	Varies
	Hilden	Ad hoc	Ad hoc	Varies	Varies	Varies
	Lockhart Suppliers	Ad hoc	Ad hoc	Varies	Varies	Varies
	Lambert & Blaber	Ad hoc	Ad hoc	Varies	Varies	Varies
	Shefield Metals	Ad hoc	Ad hoc	Varies	Varies	Varies
	W/C Thomas					
Scribbler	Courier	Monday - Friday 3 - 4 per week	09.00 - 18.00	5 - 6 Boxes	Transit/7.5 tonne	15 mins.
SSP	3663 CD	Monday - Saturday	06.00 - 07.00/10.00	4 - 5 Pallets	Artic	30 - 45 mins.
	3663 BK	Monday - Saturday		4 - 5 Pallets	Artic	30 - 45 mins.
	Coca Cola	Monday/Thursday	06.00 - 07.00/10.00	4 - 5 Pallets	7.5 tonne	30 mins.
	King UK	Wednesday/Friday		4 - 5 Pallets	7.5 tonne	30 mins.
	Delice de France	Monday - Saturday	07.00/10.00	1 - 2 Pallets	7.5 tonne	20 - 30 mins.
	The Cheese Cellar	Monday - Friday	06.00 - 07.00/10.00	4 Boxes	Transit	10 mins.
	Co. Fab	Monday - Saturday		15 - 20 Boxes	Transit	10 mins.
	Foods	Monday - Friday	10.00 - 11.00	10 Boxes	Transit	10 mins.
	Kentas	Once per week	07.00 - 10.00	2 Boxes	Transit	5 mins.
	Da Vinci	Once per week	10.00 - 11.00	4 Boxes	Transit	5 - 10 mins.
Swatch	DHL	Tuesday	08.00 - 12.00	1 - 2 Boxes	Transit	15 mins.
Upper Crust	Daily Bake	Sunday - Saturday	06.00 - 06.30	4 Boxes	Transit	20 - 30 mins.
West Cornwall	West Cornwall	Sunday - Friday	12.00 - 16.00	2 Pallets	7.5 tonne	45 - 60 mins.
Whistlestop	P & H	Monday/Thursday	07.00 - 09.00	6 Pallets	Artic	30 mins.
	Madina	Mon/Wed/Friday	06.00 - 07.00	5 Boxes	Artic	15 mins.
	Simple-Simon	Monday - Saturday	07.00 - 10.00	25 Boxes	7.5 tonne	30 mins.
	Food PT	Sunday - Saturday	07.00 - 09.00	10 Boxes	Varies	15 mins.
	Bibandum	Monday/Thursday	11.00 - 16.00	1 Pallet	Artic	30 mins.
	Wavely	Monday/Wednesday	07.00 - 10.00	2 Pallets	Artic	30 mins.
	Cranbrook	Tuesday	10.00 - 14.00	35 Boxes	Varies	20 mins.
	Nila Way	Sunday	08.00 - 10.00	2 Pallets	Artic	30 mins.
	Daily Baker	Sunday - Saturday	06.00	2 Boxes	Varies	15 mins.
W.H. Smith	WHS News	Sunday - Saturday	05.30	2 Cages	Transit	30 mins.
	Hornsey	Ad hoc	Ad hoc	Varies	7.5 tonne	30 mins.
	WHS Holford	Monday - Saturday	02.00 - 04.00/12.00	4 Cages	Transit	1 hr.
	(Wincanton)	Sunday - Saturday		1 Cage	Transit	30 mins.
	WHS News	Mon/Wed/Friday	06.00	18 Boxes	Transit	10 mins.
	Slough	Monday - Saturday	07.30	2 Cages	7.5 tonne	10 mins.
	WHS News Retail	Monday - Friday	05.30	Varies	Transit	10 mins.
	Services	Monday - Friday	10.00 - 11.00	Varies	Transit	10 mins.
	Redbridge		09.00 - 15.00			
	Palmer & Harvey					
	ES					
	Securicor					

A10 Functional Specification

The West Yard service area at King's Cross Station is located on a area of land of 1310 m^2. A similar area of land is required during the interim arrangements to ensure that the functions contained within the space can be operated. Alternatively, functions can be located elsewhere if suitable working provisions can be made and agreed by Network Rail. The layout of the service area is determined by vehicle swept path analysis. Safe and dedicated walking routes for passengers must be identified and maintained at all times.

The following functions must be provided for:-

	Current Situation	**Interim Arrangements**	**Final Provision**
1	One compactor and compound (4.5m x 10m) with circulation space for the delivery vehicle to manoeuvre and replace the compactor bin.	One compactor and compound (4.5m x 10m) with circulation space for the delivery vehicle to manoeuvre and replace the compactor bin.	This facility will be located in the Shared Service Yard once the station works are completed. Functional Specification has been written for this space.
2	One bin store (10.8m x 3.0m).	One bin store (10.8m x 3.0m).	This facility will be located in the Shared Service Yard once the station works are completed. Functional Specification has been written for this space.
3	One 16.5m articulated delivery vehicle loading bay (40 tonnes when fully ladened).	One 16.5m articulated delivery vehicle loading bay (40 tonnes when fully ladened).	This facility will be located in the Shared Service Yard once the station works are completed where two 16.5m (40 tonne) articulated delivery vehicle loading bays will be provided.
4	Four 7.5 tonne delivery vehicle unloading bays.	Four 7.5 tonne delivery vehicle unloading bays.	This facility will be located in the Shared Service Yard once the station works are completed where two 7.5 tonne delivery vehicle loading bays will be provided.
5	Six short term public parking/drop off Bays.	Six short term public parking/drop off Bays.	Ten short term public parking/drop off Bays will be located next to the new Western Concourse once the station works are completed, three of which will be for disabled users.
6	Three disabled parking bays.	Three disabled parking bays.	These will be located next to the new Western Concourse once the station works are completed as described in item 5 above.
7	One informal taxi set down/pick up bay.	One informal taxi set down/pick up bay.	A new taxi drop off area will be constructed next to the new Western Concourse once the station works are completed.
8	Two British Transport Police (BTP) parking bays.	As part of the design of the new temporary BTP facility at the front of the station, three dedicated police parking bays have been provided.	There is no provision under new station plans for BTP vehicle parking bays.
9	Delivery Marshall Kiosk.	Delivery Marshall Kiosk.	This facility will be located in the Shared Service Yard once the new station works are completed.
10	Street lighting, CCTV coverage and PAVA.	Street lighting, CCTV coverage and PAVA.	Lighting, CCTV coverage and PAVA.
11	Access and rendezvous point for emergency vehicles.	Access and rendezvous point for emergency vehicles.	This will be located at the south end of Pancras Road to the Southern Public Realm area.