

TRANSPORT AND WORKS ACT 1992

**THE NETWORK RAIL (OLD OAK COMMON GREAT WESTERN MAINLINE TRACK
ACCESS) ORDER**

PROOF OF EVIDENCE

OF

NICHOLAS GALLOP BSc

SUBMITTED ON BEHALF OF BELLAVIEW PROPERTIES LTD

DEPARTMENT FOR TRANSPORT REFERENCES:

TWA/21/APP/O1/OBJ/8;TWA/23/APP/02

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1 Introduction

- 1.1 My name is Nicholas Gallop and for the last 33 years I have practiced as a transport planning specialist. I hold a Bachelor of Science (Hons) degree in Transport Management & Planning.
- 1.2 I am Director of Intermodality, an independent transport and logistics consultancy specialising in rail and intermodal transport projects. Prior to founding the company in 2002 I was a Senior Consultant at Sinclair Knight Merz, a Senior Logistics Consultant at Deloitte, and Rail & Freight Officer for Kent County Council.
- 1.3 Intermodality has been appointed by Bellaview Properties Ltd (**BPL**) since October 2021 to provide advice on rail-related matters for its proposed redevelopment of 239 Horn Lane. I was appointed by Bellaview Properties Ltd in September 2023 to review the rail access and logistics proposals of Network Rail in relation to the use of 239 Horn Lane.
- 1.4 I have spent 35 years working with the railway industry, including for and with Infrastructure Managers, Train Operating Companies, users of the railway and those wishing to develop property alongside or across the national rail network. I am familiar with the access arrangements to the national rail network, having been involved in projects with the rail industry which have included, adjoined, relocated or closed engineering access points. I am currently working on 2 projects which will involve relocation of engineering access points on the West Coast Main Line, and 4 other projects which propose the creation of new engineering access points on the Chiltern Main Line, the Liverpool to Manchester main line and the Edinburgh to Aberdeen main line.
- 1.5 This Proof of Evidence concerns the rail-related aspects of the Inquiry Statement of Matters, principally:

Matter 2: The main alternative options considered by NR and the reasons for choosing the Scheme. This should include alternatives that did not require compulsory acquisition.

- 1.6 This Proof of Evidence reviews and considers:
- An overview of the operations and challenges associated with main line engineering access, including the use of Road/Rail Vehicles (RRV) and associated Road Rail Access Points (RRAP);
 - Provision of a temporary Road Rail Access Point (RRAP) to access the GWML Main Lines, the southernmost of the 4 main running lines forming the GWML through the area of interest, in support of construction of the new station at Old Oak Common (OOC);
 - Provision of a permanent RRAP to access the GWML Main Lines.
- 1.7 Some of the documentation I have reviewed is provided to the Inquiry within the Core Documents; other key information has been obtained from Network Rail via Freedom of Information Requests, and some information has been provided by Network Rail and their contractor (Colas) during recent discussions to agree site sharing arrangements to enable progression of BPL's proposed redevelopment of the 239 Horn Lane site, alongside NRs temporary RRAP access. Where information is not available in the Core Document Library I have referenced its source and included it as an Appendix to this Proof of Evidence.

2 Engineering access to main line railways

2.1 Core Document CD34¹ paragraphs 1.3 and 1.3.1 summarise the role of RRAPs on the network. RRAP need to address, as far as possible within available constraints, some or all of the following:

- Access for “traditional” style track maintenance and renewal activities, where groups of maintenance staff and their vehicles will park in a safe and secure location alongside the railway, using the RRAPs to gain access for them to move onto and along the railway to undertake inspections and localised maintenance with portable tools (e.g. tightening bolts, lubricating mechanisms, repacking of ballast);
- Access for HGVs delivering/recovering plant and material for unloading adjacent to the railway. Whilst most HGVs associated with use of RRAPs may fall within the standards for rigid and articulated lorries (up to 16.5m in the case of the latter, now increased to 18.55m as part of Government trials), specialised over-length vehicles may be required to deliver specialist equipment or components;
- Access for RRVs to/from the railway, using their road wheels to move between HGVs and the railway, where they then position themselves over the relevant running line and deploy rail wheels to then travel up and down the railway to reach the target worksite. RRVs based around mobile cranes or excavators (colloquially known as “JCBs” or “360 machines”) will typically have a maximum speed when travelling in “rail” mode of up to 19mph (32km/h), but some lorry-based RRVs can travel up to 60mph (100km/h) where permitted. Appendix B shows examples of RRVs with dimensions in road and rail modes, giving an indication of the space required for manoeuvring. In addition, some specialist rail maintenance plant may be delivered directly onto the railway by HGV, the plant then being able to lift itself clear of the HGV trailer in order to rotate on the centreline of the running line facing the direction of travel, as shown in Appendix C.
- Space to store materials, as far as possible fitting these around the remaining space available beyond that needed for HGV and RRV access and manoeuvring. Space constraints may dictate that materials are either delivered to the trackside by rail-based equipment from elsewhere (CD34 paragraph 1.3.1 noting that RRVs may move personnel and material direct from maintenance depots to worksites) or are delivered to site in smaller quantities on a “just-in-time” (JIT) basis. A recent site visit with Network Rail’s contractor Colas Rail confirmed the ability to provide offsite storage space, with delivery of materials and plant on a JIT basis to a RRAP. It is therefore entirely feasible to separate the RRAP functions in terms of road/rail access (on site) and compound areas for laydown of materials (off site). This is reflected in the various RRAP already provided along the GWML, each of which varies in overall size and capability of the land associated with the RRAP – some like Barlby Gardens having space to store materials, others such as Jacobs Ladder only having space for a small number of RRVs.

2.2 In my experience, from engagement with railway maintenance staff and projects involving main line access, gaining access can be challenging, particularly in urban areas close to residential properties. Appendix D provides a sample of press articles documenting the problems faced by Network Rail from engineering works. Complaints from residents may cover a range of issues, including:

- Cars, vans and heavy goods vehicles delivering materials and plant to access points, generating noise from engines, brakes, reversing beacons and other hydraulic / pneumatic systems;

¹ Network Rail Infrastructure Access Points Best Practice Design Guide Network Rail Ltd CS075481

- Groups of personnel assembling at site for safety briefings and general conversation, including use of mobile communications, sometimes having to use raised voices or amplified mobile devices to hear above the noise of operational equipment;
- Maintenance activities on or near the track and associated light, noise and dust emissions.

2.3 Due to these challenges, as well as the scale of equipment and materials needed to carry out maintenance and renewals in a timely manner (as engineering access to the main line is necessarily limited), Network Rail is responding with new and innovative means of access, including:

- **Multi-Purpose Vehicles (MPV)**, self-propelled trains which can be driven from either end, designed with flat load platforms which can accept a range of different demountable modules, depending on the nature of the activity. Network Rail maintains a fleet of 18 single MPV power units and 32 double power units (between which can then be coupled intermediate wagons) introduced from 1999, to undertake a range of construction and maintenance tasks. Appendix E provides further information;
- **High Output Plant System (HOPS)**: In an effort to minimise disruption during installation of OLE, Network Rail now uses "factory trains" or HOPS, based around MPV. These have been introduced to allow Adjacent Line Operation (ALO), where works can be carried out on one running line while other trains operate on adjacent running lines. The HOPS comprises a series of modules, each of which handles a different aspect of the installation. These can be coupled together to work as one unit, or separated to work independently. For electrification of the GWML from London to Chippenham and Cardiff, the HOPS trains have been maintained at the High Output Operations Base (HOOB) in Swindon, on the site of former railway sidings. Further information is provided in Appendix F;
- **Mobile Maintenance Trains (MMT)**, recently introduced to allow maintenance staff to undertake work on the main line, remote from access points. The trains carry the staff, materials, tools and power supplies to and from site, the fully-enclosed trains helping reduce noise and light emissions as works are undertaken on the main line, and also help with ALO by reducing or avoiding the need to close the adjacent main line tracks. Introduced to the UK in 2015, the fleet of 8 MMTs introduced to date work from bases at Darlington, Derby, Horsham, Paddock Wood (Kent), Peterborough, Retford, Romford and Woking. Further information in Appendix G explains how the MMT improve on the traditional slow and labour-intensive means of track maintenance, including the time and extent of activities which would be otherwise be undertaken around the access points at the start and finish of the works;

2.4 In addition to the physical means of gaining access to the main line, the process of securing "possessions" or "blocks" for staff to work safely on the main line will normally be planned months or years in advance (excluding emergency engineering works). The possessions may be a few hours or several months in duration, depending on the nature of the works, and may apply to one, several or the entire group of running lines through a particular section of route. As well as closing the lines to scheduled passenger and freight services, power supplies may also need to be isolated for the duration of the works. As with RRAPs, the sites where power can be isolated will also be limited.

2.5 Network Rail has, does and will continue to carry out disruptive engineering possessions (i.e. those requiring closure of sections of the railway) as a matter of routine. The company's Engineering Access Statement (EAS) provides significant advance notice to train operating companies of the need to undertake partial or complete engineering possessions of the main line. Network Rail notes in respect of maintenance works that it plans the timetables 12 months in advance and schedules in time for works to

improve the network.² This, in turn, allows train operators and Network Rail to prepare contingency plans in advance, whether in providing replacement services and/or ticket acceptance on parallel modes of transport. Therefore, the alternative to seeking third-party land for additional access points and storage areas would be to further review the possessions strategy for the OOC works, to provide the time if and when required to access the works site from existing or alternative points of access.

² Appendix H

3 The availability and suitability of alternative sites for temporary access for OOC works

- 3.1 The delivery of works on Network Rail infrastructure include a number of inter-linked elements:
- Storage locations, to allow bulk materials and components to be delivered at scale by road or rail prior to delivery at the relevant worksite;
 - Transport services, to move materials from storage / pre-assembly sites to the worksites;
 - Engineering possessions, to gain access to part or all of Network Rail infrastructure to allow physical works to be undertaken;
 - Access points, where required and available to allow materials to be delivered as close to the worksites as possible;
 - Worksites, where the works are undertaken.

Storage and transport to site

- 3.2 In terms of material storage, HS2 already leases a 30 acre site at Willesden Euroterminal immediately to the north of OOC as the primary logistics hub for works in the London area, using logistics techniques and systems to ensure materials are delivered as and when required, preventing congestion at the worksites.
- 3.3 There is a balance to be achieved between operating a small number of large storage sites (economies of scale in storage, pre-fabrication and onward transport, with lower site-related costs but higher transport-related costs) and a large number of smaller storage sites (where the reverse would apply). The costs associated with sites will in part be determined by whether they currently reside in railway ownership and control, or whether additional costs would be involved in securing powers and acquiring additional land.
- 3.4 In this regard, it is apparent that OOC is already surrounded by three large areas of land owned by Network Rail and the Secretary of State, namely Acton Goods Yard to the west, the North Pole Depot to the south and Willesden Euroterminal to the north. Within these sites, land and/or covered floorspace is available which could be used to address the requirements for storage and pre-assembly of OLE and other components for the OOC worksite, delivered to site on a “Just In Time” (JIT) basis. Specialist equipment is available (e.g. MPV / HOPS, or RRV) which could be used to transport OLE to site, as well as other road and rail equipment. Given the proposed temporary RRAP would only be used every other week (Statement of Case paragraph 7.3) it would be possible during the intervening period to assemble materials off-site to ensure these are ready for delivery to the worksite by road and/or rail.
- 3.5 The material supplied as part of the TWAO application does not explain in the Statement of Case or the Statement of Aims why the logistics compound must be on the same site as the RRAP, and why the storage and associated activities could not be met at existing, larger railway operational sites in the immediate vicinity of OOC. This is particularly relevant with the current status of the HS2 project, given the statement from the Secretary of State in March 2023 “prioritising delivery of HS2 from Old Oak Common to Birmingham Curzon Street to ensure passenger benefits as soon as possible.” With the section from OOC to Euston effectively paused over the next 2 financial years, this would reduce the level of construction logistics activity passing through HS2’s main logistics hub at Willesden, creating further space on site for supporting OOC construction in the intervening period.
- 3.6 Without providing compelling evidence for the need to co-locate storage and access arrangements on

the same, third-party site at Horn Lane (Network Rail acknowledging that office accommodation could be spread amongst multiple sites³), as opposed to using the considerable space available on existing railway land, the justification for consideration and scale of provision on alternative sites (particularly third-party land) has yet to be determined.

Possessions

3.7 In terms of possessions, construction of HS2 has and will also require partial and complete blockades of Network Rail infrastructure, HS2 providing estimates of weekend possessions needed at OOC:⁴

Total weekend possessions	Indicative date	Lines affected	Indicative disruption to passenger services during closure
- 29 x all-weekend - 4 x 1-day - 13 x half-day	2021 - 2025	Great Western / Crossrail	Services reduced so that they can operate on two tracks. Occasional full closure with some trains diverted to other terminals.

3.8 HS2 also shows a number of other locations between London and Birmingham involving full closure of Network Rail lines, including Euston station, West Ruislip to Princes Risborough, Coventry to Leamington, Derby to Birmingham and the Handsacre area of Birmingham. HS2 indicates a total of 133 weekend possessions on passenger lines (46 x 1-day and 87 x 2-3 day), excluding the 13 x half-day possessions noted above.⁵ In the wider context, Network Rail regularly undertakes major possessions across the national rail network, varying from hours to months.⁶

3.9 The circumstances at OOC are therefore not unique, in terms of how to achieve physical access to the railway when access points and time are both constrained. Unlike most of the cases shown above, however, passengers affected by possessions in the OOC area do have a number of alternative transport options available, including:

- South West Main Line into London Waterloo station via Reading;
- Chiltern Lines into London Marylebone station via Oxford or Banbury;
- West Coast Main Line into London Euston station via Milton Keynes;
- London Underground via the Central Line and District Line through Ealing Broadway;
- Bus services through Ealing Broadway.

3.10 Without providing compelling evidence to demonstrate the inability of the possessions strategy to allow

³ Appendix L section 4.3.8

⁴ Appendix H Table 3.1

⁵ Appendix H paragraph 3.2

⁶ Appendix I

opportunities to access OOC from existing railway land, or to be able to amend the possessions strategy, particularly in the light of the latest developments with phasing of HS2, the justification for consideration and scale of provision on alternative sites has yet to be determined.

Access points to the OOC worksite

- 3.11 Network Rail maintains a database of access points for RRVs and other On-Track Plant (OTP) within the public domain. A third-party also provides information on 18,000 access points across the rail network for personnel and vehicles.⁷ From this it is possible to identify around 20 existing access points surrounding the Horn Lane site (see Appendix A).
- 3.12 The TWAO application as presented seeks temporary access and facilities to support construction of the new OOC station, Network Rail is understood to be looking for land proximate to the GWML and the OOC site for receipt and storage of OLE and other components, for on-site assembly and movement to the station works across all four main line tracks (2 Relief Lines to the north and 2 Main Lines to the south).⁸ There will also be a requirement for office space for up to 100 people.”⁹
- 3.13 Network Rail guidance on new RRAP sites (Core Document 34) sets out in paragraph 1.3.2 “what is considered ‘Best Practice’ for the design of access points with the capability for HGV deliveries and for on and off-tracking heavy RRVs by means of a Road Rail Access Point (RRAP).” Paragraph 1.6.1 of the guidance provides an overview of methodology for determining sites for RRAP, stating:

Following the LCC [Life Cycle Cost], SA [Sustainability Assessment], SIC [Safety in Construction] and SIU [Safety in Use] a weighted pointing system will be applied in order to categorize the preferred infrastructure solutions as defined below [Table showing process].

- 3.14 There is no apparent evidence to suggest that this process has been undertaken, in terms of the overall scoring of the various site options identified by Network Rail from which to demonstrate the design solution with the lowest points (i.e. LCC + SA + SIC + SIU). The Statement of Case (paragraph 7.6) states that several alternative locations have been explored, but dismissed in the Statement of Aims [CD.03] as summarised in Table 2 of the Statement of Case. The following options are identified in Table 2 of the Statement of Case, namely (see map in Appendix A):
1. North Pole Depot existing RRAP (also known as Barlby Gardens);
 2. Jacob’s Ladder existing RRAP;
 3. Southall existing RRAP;
 4. Acton Main Line Station;
 5. Westcott Park Community Garden;
 6. Old Oak Common Lane (existing Hitachi Depot); and
 7. Westway Estate.
- 3.15 The SoA additionally identifies Noel Road RRAP and Bloomsbury Close, but does not mention Westcott Park Community Garden, Old Oak Common Lane (existing Hitachi Depot) or Westway Estate, thus it is

⁷ Ontrac Ltd

⁸ Appendix L, paragraph 4.2.7.2

⁹ Appendix L, Section 4.3.8

difficult to understand how these are summarised in the Statement of Case.

3.16 I address below each of the options referred to above, and have addressed two further alternative optionsl :

1. **North Pole Depot (also known as Barlby Gardens)**,¹⁰ an existing permanent RRAP at the eastern end of the North Pole Depot area. The site is around 2.4km distance by rail from the RRAP east onto the Down Main and return to the eastern end of the proposed OOC platforms, which assuming a notional 30km/h travelling speed would take no more than 5 minutes to traverse. Figures 4 and 20 of the Arcadis report for Network Rail (Appendix L) show the layout of the RRAP and associated 1,500m² fenced compound for parking and laydown. Page 17 of the report describes how movements between site and OOC by rail could be undertaken, page 48 also noting the proposal to create a temporary rail access into the site close to the existing RRAP. The report then states that the site can be accessed via Mitre Way and Scrubs Lane, and has “easy access links for large vehicles,” page 44 confirming the highway access arrangements which are already used by RRVs. The report considers (page 27) that the site would be suitable for OLE storage, assembly and delivery and confirms that no permits or purchase of land would be required. The RRAP and compound could be co-located, the significant areas of land to the west (including a former rail-served building) offering a greater footprint than available at the Horn Lane site;
2. **Jacob’s Ladder**, an existing RRAP located off Felix Road. Whilst this is likely to be located too far to the west of the OOC site, and has no room for expanding the compound, it is worth noting that the site is accessed through a third-party operational area (Waitrose supermarket), the RRAP and compound together covering a total site area of less than 500m²;
3. **Southall**, an existing RRAP located off Collett Road in Southall. This is probably also located likely to be located too far to the west of the OOC site to be a practicable alternative to those sites closer to the site itself, despite the availability of land around the RRAP to provide an expanded compound area;
4. **Acton Main Line station**, a former RRAP which has now been removed by development of the station as part of the Crossrail (Elizabeth Line) project, and now sits below an overbridge with very limited physical access out to Horn Lane. No scope exists to achieve a RRAP or a co-located compound;
5. **Westcott Park Community Garden**, which has a considerable level difference (6m higher than the GWML) which, in combination with the constrained nature of the highway access, would not offer a practicable proposition for a RRAP or a compound;
6. **Old Oak Common Lane (existing Hitachi North Pole Depot)**, freehold title registered with the Secretary of State.¹¹ The former depot for the Eurostar international passenger train fleet until 2007, part of the site is now leased to Agility Trains (and in turn sublet to Hitachi) for maintenance of the Intercity Express Train (IET) fleet. North Pole is one of 3 depots used to maintain the IET trains used by the Great Western Railway (GWR) franchise, the other two depots being at Bristol and Swansea, as well as another depot in London (Bounds Green) which maintains the same family of IET trains used by the London North Eastern Railway (LNER) franchise. The depots undertake daily cleaning and servicing of the IET fleet, together with scheduled maintenance of items such as the wheelsets (bogies), power units and traction control systems. The site is south of the main OOC

¹⁰ Appendix L, Section 4.2.7

¹¹ Lease plan attached at Appendix N

works site, with road access to the west to Old Oak Common Lane and to the east into the A219 Scrubs Lane, both proximate to the A40 Westway to the south. In addition to the existing RRAP and maintenance compound, over 4 Ha of the site is disused, including a former rail-linked maintenance building constructed for Eurostar. The site has a high level of security from its original use for maintaining the Eurostar fleet.

The site has an existing contractor compound within the depot with no permanent occupation, immediately adjacent to the GWML Main Lines, as well as the western end of the proposed OOC station platforms. The compound is surrounded by security fencing, CCTV and lighting columns. Road access is available to the west from Old Oak Common Lane and to the east from Mitre Way / Scrubs Lane (noting comments in a) above in respect of the Barby Gardens site). There are no apparent obstacles in terms of lineside equipment which would otherwise make this a more difficult site to deliver than the Horn Lane site. A general arrangement drawing of a potential layout for a RRAP is attached as Appendix Q, showing the ability of the site to provide for the same type of articulated lorries as assumed by Network Rail for the Horn Lane site. Space for material laydown and equipment, as well as the RRAP itself, totals around 1,500m² of space, excluding the other disused land and floorspace which could be exploited on site.

The Arcadis report (Appendix L) makes no reference to the potential availability of the former rail-linked maintenance building on site, despite the scope for this to provide covered space for component delivery, storage and assembly. Page 27 of the report indicates that the area will be used for welfare facilities and an access for the majority of the works timeline from 2022. Page 28 states that use of the site would require agreement from Hitachi as the depot “owner”, but does not confirm that the site is in the ultimate ownership of the Secretary of State, for whom the OOC works are being undertaken. Page 28 summarises the highway access arrangements which are expanded upon on in section 5.3.6, noting that the current headroom restriction on Old Oak Common Lane north of the site could be lifted as “the Old Oak Common Lane GWML bridge will be replaced and the road lowered as part of the major civils works on the project. This will provide an opportunity for larger vehicles to utilise this route as the programme develops.” The report recommends in the Executive Summary on page 1 that an agreement should be reached with Hitachi for the provision of access through the “Hitachi North Pole Depot” to validate the assumptions made in the report regarding access to the south of the GWML. It is unknown whether this recommendation has been taken up by Network Rail; It is understood that compulsory purchase powers could be obtained over Agility Trains / Hitachi’s interests in the site putting them in the same position as any other third party landowner (such as BPL).

The Network Rail report (Appendix M section 4.2.2. 4th bullet) raises a concern regarding crossing of the internal level crossing. This is not clear as to its meaning, but can be addressed in two ways depending on use of the term “road” which in railway parlance can refer equally to railway lines as to highways:

- i) If the concern is about the depot railway lines being blocked by HGVs traversing the level crossing, the movements could be scheduled from either the eastern or western end of the depot site by agreement with the North Pole Depot management to avoid conflicts;
- ii) If the concern is about the depot railway lines being blocked by RRVs traversing the level crossing, the intention would be for the RRVs to be unloaded to the north of the level crossing within the existing compound area, using the new RRAP to gain direct access to the Main Lines without disrupting the internal movement of IETs within the Depot. There is a supplementary point to note here in that, when the Main Lines are closed for maintenance between Paddington and OOC (allowing access by RRV on and off the RRAP), IETs could not move on or off the

depot;

7. **Westway Estate**, a small parcel of land to the west of the existing sidings within the North Pole Depot complex. The site is constrained on all sides by the existing depot sidings, the main line, a transformer complex feeding Network Rail electrification, an industrial estate and the abutments / embankment carrying the Richmond to Stratford line over the GWML. A facility could not be achieved here without shortening the depot sidings (materially affecting their stabling capabilities), and acquiring part of the Westway industrial estate;
8. **Noel Road**, an existing RRAP within the main OOC works site. Sited north of the GWML, the close proximity to the western end of the new OOC platforms would provide opportunities to components during all-line blockades of the GWML, either using long-reach cranes working from the OOC worksite or the Relief Lines (particularly if the new GWML alignment through OOC will require partial or complete dewiring of the OLE), and/or by additional crossings to allow RRV to and from the Main Lines. In this way the site could be used as an alternative or complementary facility for providing temporary access to OOC, not least as it is located wholly within the station worksite itself;
9. **Bloomsbury Close**: an area of land elevated c.5m relative to the GWML which would then need a new access ramp constructed down to main line level with space to manoeuvre RRVs. Access would require use of purely residential highways via Oakley Avenue / Western Gardens. Achievement of the RRAP and access ramp up to Bloomsbury Close would require demolition of most of the existing 80 garages providing parking area for residents, leaving little or no space for a compound. It would also introduce additional HGV traffic and on-site activities immediately adjacent to residents living in the 80 apartments up to 9 storeys high. This could not therefore be considered to be a better alternative means of gaining temporary access to OOC.

3.17 Other sites could also be considered to provide part or all of the temporary requirements, including:

10. **Acton Goods Yard**, freehold title registered with Network Rail, with a freight train operator tenant (DB Cargo UK), which acts as a major hub for construction materials delivered into London by rail. The c.10 Ha site has road access for HGVs onto the A4000 Horn Lane, north of the 18-tonne weight restriction over the GWML, in close proximity to the A40 Western Avenue. The site has an existing permanent RRAP which Network Rail accesses by agreement with DB Cargo (UK) Ltd with a compound for storage of materials. Acton Goods Yard has connections to the GWML Relief Lines and Poplar Lines at either end of the site, the RRAP connected into Reception Line 1 within the Yard itself. The site is 1.5km distance by rail from the RRAP east onto the Down Main and return to the western end of the proposed OOC platforms, which assuming a notional 30km/h travelling speed would take no more than 3 minutes to traverse. Discussions with DB Cargo indicate that the company would be willing to work with the relevant parties to provide access for OOC construction works with c.8,500m² of land available for a compound linked to the existing sidings and RRAP.¹² This could therefore provide an alternative means to provide greater storage capacity for the OOC works, with materials delivered by rail to the Relief Lines and by road to other locations as required.

The Arcadis report (Appendix L) notes in section 4.1.2 that the site is “used today for regular construction and maintenance access. This access will be critical to the delivery of materials and plant to the North of station build on the Relief side.” The report then states that “The RRAP has the benefit of being located in the yard, offering the opportunity to take an early possession of Reception line 2 and 3 to load machines ready for the shift and prior to the Relief line possession

¹² Lease plan attached at Appendix O, correspondence at Appendix S

being granted.” Section 4.2.5 goes on to summarise the opportunities presented by the site, stating:

4.2.5.2 Use: This compound could be utilised throughout the constructability phases, as it provides crucial access to the Relief lines from the West. Acton compound would be particularly useful for the storage and delivery of OHLE Steelwork, signals, signal structures, cable, location cabinets, and if required REB's and PSP's to the main OOC worksite.

4.2.5.3 Land Purchase/Permits: This site may be used in its current configuration to serve the project, but as it is outside of the HS2 Hybrid Bill Statement, development of the site to enhance the existing provision would require its own planning submission, bringing inherent risks and potential programme impacts.

4.2.5.4 The facility at Acton is 3rd party owned¹³/operated and has restrictions on frequency of use and space available for Network Rail operations. However, Acton Yard was used to serve the construction of Crossrail, so subject to the necessary permissions and consents, it is a feasible option.

4.2.5.5 Access: Access and egress from Horn Lane; road to the right of the compound in Figure 16. There could be potential restrictions on access due to the ownership of the compound. however, it will predominantly be accessed at the beginning and end of shifts and should not cause a significant disruption to the access and egress from site. The access and egress restrictions will be determined through the permits required and discussions with the 3rd party owners.¹⁴

11. **Willesden Euroterminal**, freehold title registered with Network Rail which acts as HS2's major logistics hub for London. The c.12 Ha site, previously a major intermodal rail freight interchange, has road access for HGVs onto the A4000 Old Oak Lane and is less than 900m by road to the main OOC works site to the south. DB Cargo's sub-underlease of the site to the Secretary of State specifically provides for HS2 Phase 1 purposes which would include all construction works, the lease expires after December 2029 (when Network Rail advises that it needs the Horn Lane site until).¹⁵ This could therefore provide an alternative means to provide greater storage capacity for the OOC works, with materials delivered by rail to the Relief Lines and by road to other locations as required.
- 3.18 It is apparent that the overall areas available at North Pole Depot, Acton Goods Yard and Willesden Euroterminal have far greater capacity for providing space for office facilities and other staff amenities, HGVs and RRVs and material laydown than the Horn Lane site.
- 3.19 Without providing compelling evidence to demonstrate the inability of the possessions strategy to allow opportunities to access OOC from existing railway land, or to be able to amend the possessions strategy, particularly in the light of the latest developments with phasing of HS2, the consideration and scale of provision on alternative sites (including third-party land) cannot be properly validated.
- 3.20 On the basis of this considerable under-utilised area of existing railway operational land, in close proximity to the OOC and/or Horn Lane sites, with greater space for material storage and vehicle circulation, there appears a lack of over-riding evidence (e.g. a quantitative Life Cycle Cost appraisal) for the additional acquisition of the Horn Lane site to perform for the same functions.

¹³ The statement regarding ownership is incorrect, as the site is owned by Network Rail and leased to DB Cargo UK

¹⁴ As above

¹⁵ Lease plan attached at Appendix P, correspondence at Appendix S

4 The availability and suitability of the Horn Lane site for temporary access for OOC works

- 4.1 By comparison, the **Horn Lane** site¹⁶ is not owned by Network Rail or the Secretary of State, with an established use within an established residential area, with a resolution to grant planning permission for redevelopment for residential led mixed use. Being directly opposite Acton Goods Yard, the distance from and time to reach the western end of the OOC site would be similar.
- 4.2 Network Rail provides guidance on development of new RRAPs (Core Document CD34). My appraisal of the Horn Lane site therefore uses the methodology and criteria as guidance for assessment of the merits of the Horn Lane site.

Track geometry and infrastructure

- 4.3 Network Rail's guidance in CD34 states that:

2.3.1 Careful consideration for siting new access points is to be considered with respect to the existing track and infrastructure. The design is to take in to account all operational lineside equipment e.g. OLE [Overhead Line Equipment], 3rd Rail, cabinets, track, gantries, signals, drainage etc.

- 4.4 This assessment only appears to have been undertaken in detail on the Horn Lane site, which as this Proof of Evidence sets out below, highlights the challenges facing the temporary RRAP proposals in particular.

Environmental issues

- 4.5 Network Rail's guidance in CD34 states that:

2.4.1 The impact on the environment is to be taken into account when siting a new access point. An environmental report is recommended to investigate any potential environmental issues and risks which could arise with the new proposal.

- 4.6 No environmental report has been provided by Network Rail, the Town Planning Statement (CD11) instead explaining why no Environmental Statement has been produced, which is a different document which would not apply here in any case.

Planning

- 4.7 Network Rail's guidance in CD34 states that:

2.5.1 Planning searches and consultations are recommended when siting access points. Due to the size of the access points planned, several issues could arise with the local authority such as new roads and housing developments...

- 4.8 The extent of the consultation process is discussed in Mr Connell's Proof of Evidence.

¹⁶ Network Rail Plan NR09

Social issues

4.9 Network Rail's guidance in CD34 states that:

2.8.1 The majority of rail possessions for maintenance and engineering works occur during the night and at weekends. Network Rail staff and contractors are to respect the privacy, sensitivity and property of residents.

2.8.2 Network Rail are advised to notify local authorities and other community representatives such as Members of Parliament and local councillors for engineering works at the relevant access point and surrounding area.

2.8.3 Design considerations should be considered such as positioning lighting and generators away from residential properties and using silenced equipment where practicable.

4.10 The extent of the consultation process is discussed in Mr Connell's Proof of Evidence, and suggestions relating to planning conditions to be attached to the deemed planning permission, that could seek to address social issues.

General Design Requirements

4.11 Network Rail's guidance in CD34 states that:

4.2 RRAP points should not be located [inter alia]:

- Where OLE is less than 4165mm and where non level road surface can bring any part of the on track plant within 600mm of OLE – as stated in the plant manual;

5.4.4 Unless a risk assessment demonstrates that it is safe to do so, RRAPs should not be located [inter alia]:

- Where infrastructure assets such as signalling equipment and lineside structures are located which could restrict vehicle manoeuvrability;

- Where road access is hazardous (e.g. access is directly from a dual-carriageway, busy roads and areas of limited road visibility).

5.4.8 RRAP locations shall take into account the delivery logistics regarding [inter alia]:

- Accessing through the boundary gate from public highways;

- Access routes through minor roads;

- Height, width and weight restrictions on public highways;

- Access rights and suitability of private roads;

- Delivery vehicle size and manoeuvrability;

- Condition of existing highway surface and verges; and

- Access through residential areas.

4.12 Against the above considerations, the proposals for the temporary RRAP on the Horn Lane site raise a number of concerns:

i) Drawing NR09 produced by Network Rail for the proposed temporary RRAP shows the eastern edge of the hardstanding across the rails fouling a critical part of the main line signalling system known as

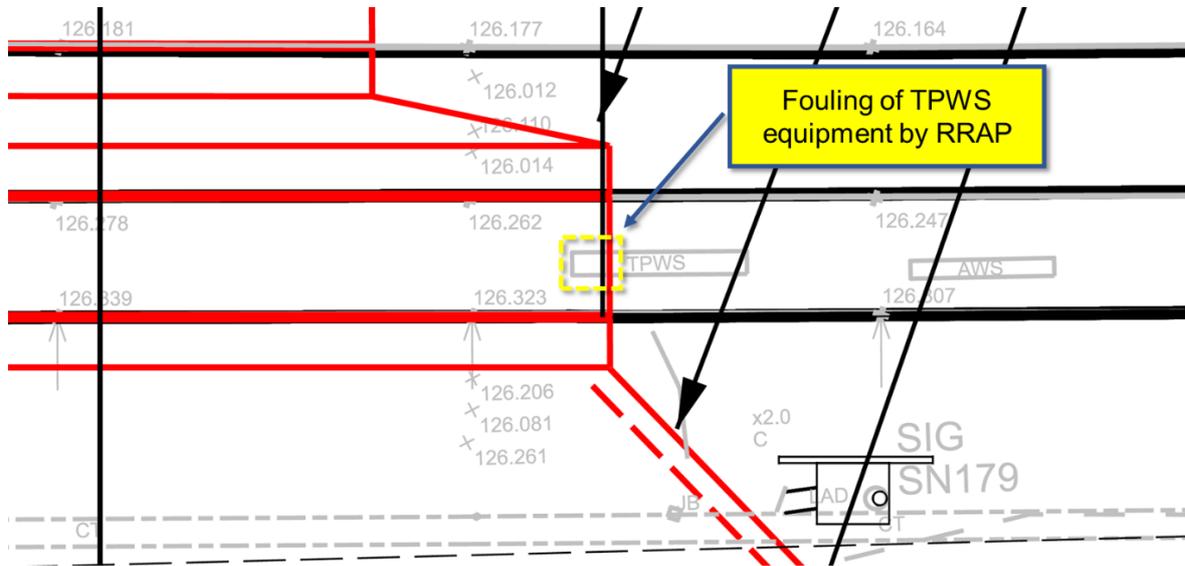
the Train Protection Warning System (TPWS) as shown in Figure 1 below. In a standard installation there are two pairs of loop antennae located between the running rails, colloquially referred to as "grids" or "toast racks". Both pairs consist of an 'arming' and a 'trigger' loop. If the signal is at danger the loops will be energised. If the signal is clear, the loops will de-energise. Given the importance of these loops, it is important to site these away from any other fixed structures that might interfere with their safe operation. Contrary to the guidance in CD34, it is therefore a concern that the drawing presented shows the RRAP fouling this equipment;

- ii) Drawing NR09 also shows the northern edge of the RRAP in close proximity to Acton Main Line station platform. The RRVs will have to come onto the RRAP with the rail undercarriage retracted before turning 90° to face the direction of travel on either of the Main Lines before deploying the rail wheels. A general arrangement drawing showing a section through the temporary RRAP has been produced and is attached at Appendix R, for a typical RRV which might be expected to use the facility (other RRV designs may be longer or shorter than this). If the RRV as shown attempted to centre itself on the GWML Up Main Line nearest the island platform at Acton Main Line station in order to perform the 90° manoeuvre, the RRV would collide with the edge of the platform. Contrary to the guidance in CD34, it is therefore a concern that the drawing presented could result in RRV fouling a lineside structure;
- iii) Cabling associated with main line signalling and high-voltage power supplies, which runs along the fenceline boundary between Network Rail and the Horn Lane site;
- iv) Highway access and drainage issues are considered further in Mr Gent's Proof of Evidence, the Arcadis report (Appendix L) noting that:

4.2.6.4 Access: Access from Horn Lane. There are likely to be some slight restrictions on access and potential traffic management required for larger vehicles due to the congested road and nearby businesses, such as Co-Op directly opposite.

- 4.13 Overall, the cost, time and complexities of relocating lineside equipment or amending the design (assuming this would be achievable) are not set out or quantified in the TWAO submission. It is therefore not clear whether the other sites dismissed by Network Rail were considered to a comparable level of detail, appraisal and costing.

Figure 1 Extract from NR09 showing RRAP and TPWS loop (extent of fouling highlighted)



Assessment of 3rd parties

4.14 Network Rail's guidance in CD34 states that:

5.4.6 An assessment shall be undertaken into the effect of a RRAP on lineside neighbours and, wherever possible, they should not be located next to or within [inter alia]: • Residential areas.

4.15 It is apparent that the site is surrounded by residential development, including single-storey and multi-storey dwellings. Network Rail sent consultation leaflets to 183 addresses in the local area.¹⁷ With an average household size in Ealing estimated at 2.52¹⁸ this would suggest around 461 residents facing the prospect of increased road traffic generation, as well as localised noise, light and other emissions, at night and/or weekends.

4.16 Network Rail's consultation report CD6 stated the following outcomes of the community consultation, but without any documentary evidence to support the assertions in paragraphs 5.2.1 and 5.2.3. The statement in 5.2.2 provides no assurances or guarantees that the issues of noise and light pollution would be properly assessed or mitigated. Mr Connell's Proof of Evidence notes that no assessment of these factors has been included with the deemed planning application as would be expected.

4.17 Taking account of the above assessment, the alternative approach would be to reach agreement to access the Triangle Site by road through the Horn Lane Site. The Triangle site could be made to work as a RRAP for limited levels of HGV and RRV operations, and having established with Colas Rail the ability to deliver materials here on a JIT basis, the Triangle Site could operate in conjunction with other larger storage locations which could be provided at Acton Yard, North Pole Depot or Willesden Euroterminal. Indeed, by breaking down incoming deliveries into smaller JIT consignments, the 18-tonne weight restriction on the A4000 Horn Lane would be less of a constraint.

5 The availability and suitability of alternative sites for permanent access to the GWML

¹⁷ CD6 paragraph 3.2.3

¹⁸ Ealing Borough Council website – spreadsheet file HH-SHLAA_DCLG_2015rdd.xls, worksheet tab Average Household Size, cell O10

5.1 Network Rail has stated in the context of the Horn Lane site that:

without this location retained as a permanent Network Rail access point for maintenance requirements and domestic infrastructure works, the Great Western Mainline will require extended periods of closure for maintenance and renewal works, having considerable cost and impact on the operational train service for multiple Train operators.¹⁹

- 5.2 There is no quantification of the term “considerable” relative to either the current baseline position or to the various site options identified (see next section referencing CD34). It is therefore not possible to undertake an assessment of the relative financial implications between the various sites identified.
- 5.3 The basis of the TWAO application and the preceding public consultation has been on the basis that the Horn Lane site is the only site available to Network Rail to achieve access to the GWML Main Lines. Yet the Network Rail report²⁰ indicates that a number of other alternative sites have been considered for a permanent RRAP.
- 5.4 In terms of space requirements for the permanent RRAP, the report states on page 2 of the document under Requirement ID RR-OOCS-89 that hard standing parking spaces for vehicles and the potential for material and equipment access and storage shall be provided “where practicable.” I have noted earlier in this Proof of Evidence that the space for materials storage is capable of being separated from the RRAP, as confirmed by Network Rail contractor Colas Rail.
- 5.5 The Requirement also states that “Note, NR currently has another project evaluating lineside access arrangements in the Paddington to Reading [P2R] area, which shall be included as an interlacing project.” It is not known whether this separate project has formed one of the considerations in site selection and/or the TWAO application.
- 5.6 The report states in Section 4.1 that if a new RRAP could be installed to the West of Ladbroke Grove (which sits between Paddington and Barlby Gardens) then access to the Main Lines would be significantly improved. Any access would require negotiation with the operators of North Pole Depot. This suggests that, as with the proposals for the temporary RRAP, Network Rail has not ruled out being able to achieve an agreement, but it is unclear whether one has been sought.
- 5.7 The assessment of sites for a permanent RRAP has not followed Network Rail guidance in CD34 in terms of the process and criteria applied. Taking account of sites already discussed earlier for the temporary RRAP, as well as the sites identified in the above Network Rail report, the following comments can be made using the same sequence as for the temporary RRAP, focussed in this case on sites to the south of the Main Lines in line with Network Rail’s aspirations:
1. **Barlby Gardens (existing RRAP)**. Scope to create a larger compound within existing railway land surrounding the RRAP. The Arcadis report notes on page 25 that it is close enough to reach the assets [requiring maintenance] and has a large logistics area (1,500m² noted earlier) associated with it. The report notes that as the site accesses the main line via North Pole depot (Line B), this would restrict access for engineering works, to mid-week possessions on an 8-week rotation, as well as regular access on Sundays as per the Engineering Access Strategy;
 2. **Jacob’s Ladder (existing RRAP)**. Limited scope to expand the existing compound to the west by

¹⁹ Appendix K page 4

²⁰ Appendix M

around 500m² within existing railway land. Landlocked on all other sides and further west from the target area of interest;

3. **Southall (existing RRAP)**. Significant scope to create a compound as large or larger than Barlby Gardens within railway lands, but further west from the target area of interest;
4. **Acton Main Line Station (former RRAP)**. This site is now too constrained by the redeveloped station to be capable of providing a RRAP;
5. **Westcott Park Community Garden**. Constrained by considerable level differences with the GWML and the residential nature of the highway access, even if space could be provided for a compound. This would require significant civil engineering works and create a similar level of neighbourhood impact (e.g. disruption and disturbance) to the Horn Lane site, and as such could not be regarded as a more feasible alternative to other sites identified in this list;
6. **Old Oak Common Lane, existing Hitachi Depot (western end compound)**. This has already been described earlier in the context of the temporary RRAP, and following completion of the OOC works would still provide a suitable location for a permanent RRAP for all the reasons already indicated. This could also be operated in combination with the Barlby Road logistics compound given the internal highway connectivity that already exists. The suggested concern in section 4.2.2 of the Arcadis report about “curvey” highway access fails to note the additional access possible from the east (which the Arcadis report considers to have “easy access links for large vehicles”). (I note that Mr Gent’s Proof of Evidence addresses the “curvey” access and considers it suitable for the types of vehicles proposed to use it). Comments in this section regarding the internal level crossing (4th bullet) are covered in the previous section on temporary access arrangements.
7. **Old Oak Common Lane, existing Hitachi Depot (west of Mitre Bridge)**. This has already been described earlier in the context of the temporary RRAP, and following completion of the OOC works would still provide a suitable location for a permanent RRAP for all the reasons already indicated. This could also be operated in combination with the existing Barlby Road RRAP logistics compound if required, given the two sites have an internal highway access link;
8. **Westway Estate**. The lack of space means that this site could not be regarded as a more feasible alternative to other sites identified in this list;
9. **Bloomsbury Close**: The level differences, constraints on highway access and proximity to residential development means that this site could not be regarded as a more feasible alternative to other sites identified in this list
10. **West of the Engine & Carriage Line (Old Oak Common Flyover) bridge**. There is a considerable difference in levels between the Main Lines (lower level) and the proposed site (higher level) where the railway overbridge spans the GWML. The site is landlocked by the GWML to the north and a yard of 6 stabling sidings within the North Pole Depot to the south, and as such could not be regarded as a more feasible alternative to other sites identified in this list.

5.8 In comparison with the three alternative sites identified within the North Pole Depot area, the **Horn Lane site**²¹ retains most of the constraints set out earlier for the temporary RRAP. The site is not owned by Network Rail or the Secretary of State, it is located within a concentration of residential development, and the rail access is constrained by existing lineside equipment and the Acton Main Line station island

²¹ NR09

platform. In order to create a “good” size of compound relative to the benchmark provided by Barlby Road (1,500m²), land would have to be acquired from a third party (with associated costs), and would face the risk of residents complaining about its use and consequent escalation to possible noise related enforcement action by the local planning authority.

6 Conclusions

- 6.1 Network Rail considers that, where practicable, additional access points should be achieved in support of temporary OOC construction and onward GWML maintenance. Network Rail's guidance acknowledges the challenges of securing new access points, as well as the assessment process and criteria that should be used.
- 6.2 The need for the temporary RRAP to be co-located with material storage / assembly compounds and office space has not been evidenced, beyond a general suggestion that this would be desirable in reducing the number and duration of main line possessions required. No evidence has been provided to support this from an operational or financial perspective. Network Rail's contractor Colas Rail has, by contrast, confirmed that materials can be moved from an off-site location on a Just In Time basis to a RRAP. Network Rail's advisers Arcadis have confirmed that office space could be provided on a hub-and-spoke basis across multiple sites, recommending that agreement should be sought with Hitachi for access to the North Pole Depot complex in the event that the Horn Lane (Jewson's) site cannot be procured.²²
- 6.3 in both the cases of the compounds and the RRAP, the starting point for identifying sites should be the availability and capability of land already owned by Network Rail and/or the Secretary of State. Here the railway is already well-provided in the immediate vicinity of the OOC worksite, namely Acton Goods Yard, Willesden Euroterminal and the North Pole Depot, along with a series of RRAPs in and around these areas of land. Each of these three sites has the proximity and accessibility by road and/or rail to support the receipt, laydown and pre-assembly of materials prior to onward delivery to the worksite on a JIT basis.
- 6.4 Willesden can provide a large area of land with rail and road access to the north, feeding materials to Acton Goods Yard for onward delivery to OOC to the north by road or by the GWML Relief Lines (with an existing RRAP within the OOC site at Noel Road), and/or North Pole for onward delivery to OOC from the south via the GWML Main Lines (with an existing RRAP to the east at Barlby Gardens, and scope for an additional RRAP further west within the North Pole Depot complex). Each of these existing or proposed RRAP is wholly contained within secure railway operational land, with highway access which already accommodates HGV traffic for railway-related track and rolling stock maintenance. . These sites are all superior to the Horn Lane site when the following are considered taken together : appropriateness of compound facilities, road / rail accessibility, and lack of social factors.
- 6.5 The other sites then identified within or outside of railway / Government ownership are constrained by various combinations of space, topography, accessibility and residential proximity. On the basis of the material supplied by Network Rail, none of these sites could be considered a superior alternative to those sites located closer to OOC within the North Pole Depot land holding.
- 6.6 Turning to the permanent RRAP, it is arguable that securing an additional access point on the GWML Main Lines between Barlby Gardens to the east and Jacobs Ladder to the west represents a windfall opportunity from the temporary facilities sought for OOC construction. It is unclear the extent to which, in the absence of the OOC works, Network Rail could demonstrate that maintenance of the GWML could not continue as at present from the existing RRAP (not all of which have substantial compounds attached), in combination with other emerging mobile techniques and technologies such as MPV, HOPS and MMT. Other more suitable locations for a permanent RAPP are available or could be made

²² Appendix L paragraphs 4.2.6.2 and 8.2.3.6

available to Network Rail.,

- 6.7 To better inform and justify the case for temporary possession of, and compulsory purchase of of rights over a third-party site, and the introduction of additional disruption to the local residential population, the following would be required:
- a) Evidence in operational and financial terms to determine why/whether compounds and RRAP should be co-located to ensure the delivery of the OOC works;
 - b) Evidence using Network Rail's own Best Practice guidance, to identify and compare to a similar level of detail a list of alternative sites, from which to use a weighted pointing system which identifies the preferred solution(s) with the lowest overall score;
 - c) Engagement with relevant stakeholders to determine which preferred solution(s) can be agreed upon and taken forward.

At this stage such evidence is not available. The evidence is that alternative are available which do not require the acquisition of private land at Horn Lane or at least the extent of land being sought., From procedural and practical perspectives, I therefore cannot conclude that the material supplied in support of the TWAO application provides a transparent, objective and compelling case to warrant the temporary possession of the Horn Lane site and compulsory purchase of new rights over the Horn Lane site, nor to warrant the introduction of additional traffic and night-time / weekend disturbance on the local community. The Secretary of State and the rail industry have the ability and the opportunity to fully exploit existing land within their collective control, to achieve the same objectives, and without the cost and disruption of seeking compulsory purchase powers over an inadequate site in an inappropriate location.

- 6.8 At best, it may be possible to reach commercial agreement between Network Rail and BPL to achieve vehicular access through the Horn Lane site for Network Rail to deliver a RRAP on a disused plot of land owned by The Crown. Crown Estate (the route already having been agreed as part of BPL's planning application). This would allow Network Rail to have periodic access to the GWML Main Lines by RRV, with material delivered on a JIT basis by road or rail. This would then limit the levels of neighbourhood disruption and disturbance, and enable BPL to continue to develop its own plan for its own site at Horn Lane. The balance of rail-related activities would then remain focussed on using the substantial amount of existing railway lands available in the vicinity of OOC.

Appendices

- A. Map of sites**
- B. Examples of RRVs**
- C. “Beaver” Tamper**
- D. Media articles on Network Rail engineering works**
- E. Multi-Purpose Vehicle**
- F. High Output Plant System**
- G. Mobile Maintenance Train**
- H. HS2 Phase One Information Paper D12: Track Possessions For HS2 Phase One Engineering Work v1.3 dated 23/02/17**
- I. Network Rail statement on engineering possessions**
- J. Examples of Network Rail main line possessions**
- K. Public Consultation: Old Oak Common Lineside Logistics Compound, Network Rail, October 2022**
- L. Old Oak Common Railway Systems Project, GRIP 4 Construction Methodology Report, Arcadis for Network Rail 2020**
- M. Access Points at Old Oak Common Station, Network Rail (undated)**
- N. North Pole Depot lease plan**
- O. Acton Yard lease plan**
- P. Willesden Euroterminal lease plan**
- Q. North Pole Depot RRAP general arrangement drawing**
- R. Horn Lane temporary RRAP general arrangement section drawing with RRV**
- S. Correspondence with DB Cargo UK regarding interest in Acton Yard and Willesden Euroterminal**