



Transport
for London

TRAFFIC TECHNOLOGY CONTRACT (TTC)

BETWEEN

(1) TRANSPORT FOR LONDON

(2) YUNEX LIMITED

LOT 4 (NORTH AND CENTRAL)

VOLUME 5 of 5

Initialed

.....
For and on behalf of Yunex Limited

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For and on behalf of Yunex Limited

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For and on behalf of Transport for London

Date

23 MARCH 2023



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 15

Authority Policies

SCHEDULE 15

TFL POLICIES

This **Schedule 15** sets out the Authority's policies which the Contractor is required to comply, as may be updated from time to time, pursuant to **Clause 23.1**. Copies of the policies set out below (as at the Contract Commencement Date) are included within **Schedule 27**.

Document Type	Document Reference	Description	Revision / Issue	Date
Policy	P020	TfL Asset Management Policy	A4	Apr-21
Policy	P021	Enterprise Risk Management	A2	Jan-19
Policy	P023	Privacy and Data Protection Policy	A2	Apr-10
Policy	P043	Policy on the Disclosure of Personal Data to the Police and Statutory Law Enforcement Agencies	2	Mar-15
Policy	P077	Procurement and Contracting Policy	A1	Jun-19
Policy	P079	TfL's Resilience Management Policy Framework	A1	Jan-19
Policy	P105	TfL Anti Fraud and Corruption	1	n/a
Policy	P106	Accessible communications policy	A1	Aug-14
Policy	P107	Surface Transport Resilience Management Policy	A1	May-19
Policy	P113	Information Access Policy	2	May-12
Policy	P114	Information and Records Management Policy	2	May-12
Policy	P115	Information Re-use Policy	2	May-12
Policy	P116	Information Security	A3	Jan-20
Policy	P118	Corporate Activities	A2	Jan-20
Policy	P133	TfL Safety, Health and Environment Policy	A7	Jul-20
Policy	P009	Operational Technology Cyber Security -Operations and Maintenance	A1	Dec 21
Policy	P008	Operational Technology Cyber Security -Projects and Upgrades	A1	Dec 21
Policy	P006	Operational Technology Cyber Security	A1	Dec 21
Policy	S1735	Information Technology Access Control	A3	Mar 22
Policy	S1736	Network Information Security	A3	Mar 22
Policy	S1740	Cryptography	A3	Mar 22

Policy	S1747	Physical and Environmental Security of Tfl's Information	A2	Mar 22
Policy	S1790	Information Security Asset Management	A1	Mar 22
Policy	S1791	Operational Information Security	A2	Aug 22
Policy	S1793	IT System Acquisition, Development and Maintenance	A1	Mar 22
Policy	S1794	Information Security Supplier Management	A1	Mar 22
Policy	S1795	Information Security Incident Management	A1	Mar 22
Policy	S1796	Information Security Aspects of Business Continuity Management	A2	Aug 22
Policy	S1797	Information Technology Compliance	A1	Mar 22
Policy	S1771	Operational Technology Cyber Security -Projects and Upgrades	A1	Dec 21
Policy	S1772	Operational Technology Cyber Security-Operations and Maintenance	A1	Dec 21



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 16

Permitting, Traffic Management and Lane Rental

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SCHEDULE 16

PERMITTING, TRAFFIC MANAGEMENT AND LANE RENTAL

1. Scope

- 1.1 This Schedule 16 (Permitting, Traffic Management and Lane Rental) outlines the Contractor's responsibilities in relation to Permitting, Traffic Management and Lane Rental and how the Contractor should comply with the requirements of the New Roads & Street Works Act 1991 and/or its replacement(s) or successor(s) from time to time ("NRSWA") and the Traffic Management Act 2004 and/or its replacement(s) or successor(s) from time to time ("TMA").
- 1.2 The Contractor will comply with all relevant statutory codes of practice.
- 1.3 The Contractor will comply with the documents set out in the table below and/or their successors or replacements from time to time and interact with the appropriate and applicable bodies as set out in the following documents:

Document	Location
TfL Temporary Traffic Management handbook (the "TM Handbook")	https://tfl.gov.uk/info-for/suppliers-and-contractors/traffic-management and the version which is in force as of the Contract Commencement Date is attached at Annex A of this Schedule 16 (Permitting, Traffic Management and Lane Rental)
TfL Lane Rental Scheme ("TLRS")	www.tfl.gov.uk/lanerental
London Permit Scheme ("LoPS")	https://tfl.gov.uk/info-for/urban-planning-and-construction/our-land-and-infrastructure/roadworks-and-street-faults?intcmp=3514
The Mayor's Code of Conduct for Road Works	http://www.tfl.gov.uk/assets/downloads/2012-13-mayor-code-of-conduct-roadworks.pdf and the version which is in force as of the Contract Commencement Date is attached at Annex B of this Schedule 16 (Permitting, Traffic Management and Lane Rental)

2. Contractor's Responsibilities

- 2.1 Subject to **paragraph 2.2**, the Civil Engineering Contractor will be responsible for Traffic Management and Permitting for the Capital Works as the Principal Contractor.
- 2.2 The Contractor will be responsible for Permitting, Traffic Management and Lane

Rental, for schemes on the TLRN (including roads managed under the A13 DBFO contract which means the section of the A13 and other adjoining routes East of Butcher Row (in the London Borough of Tower Hamlets) that is managed under contract by Road Management Services (RMS)), SRN and Borough Road Network and any other Street Authority's road when:

- (A) the Services are not covered by the Authority's Permits;
- (B) there is a delay between completion of Civil Engineering Works and Equipment Installation such that new Permits and Traffic Management arrangements are required; and/or
- (C) the Contractor is the Principal Contractor.

2.3 The Contractor will ensure that all traffic safety and management operations will be undertaken by a supplier registered to National Highway Sector Scheme 12 with a scope of registration that includes reference to one or more of National Highways Sector Schemes 12A/B, 12C or 12D as appropriate to the Works.

3. **Permitting**

3.1 Where required by **paragraph 2.2** above the Contractor will be responsible for obtaining all Permits, consents, licences, and agreements necessary in order to ensure that it can carry out and complete all Works so as to meet the Completion Date. In doing so, the Contractor will comply with the LoPS when applying for Permits, consents, licences and agreements. The Contractor will ensure that necessary applications for Permits, consents, licences, and agreements are submitted correctly, and all Permits, consents, licences, and agreements, where required, have been granted, before undertaking any opening of the highway or other Site Works.

3.2 The Contractor will use its best endeavours to minimise the impact on traffic flow when carrying out the Works and performing the Services. However, the Contractor will ensure that any planned activity that impacts on traffic flow on TLRN and SRN will be approved by the Authority in writing in advance with the appropriate forms being lodged and approved as required by the TMA and/or NRSWA.

3.3 Although the Authority's works are not subject to charges under Section 74 of the NRSWA, any other costs of arrangements for Works and Permitting will be borne by the Contractor. The Contractor will be responsible for, including where work times are directed by the Street Authority under section 56 of the NRSWA, re-submitting applications for all necessary Permits, consents, licences, and agreements which contain administrative failures (including submitting applications within the required timescales), or the Contractor has failed to include accurate information within such applications until the permit is granted.

3.4 The Contractor will complete all reinstatement works to the standards and for the prescribed periods as set out in the NRSWA. Any Street Authority inspection fees levied against the Authority for initial and subsequent failed inspections as a result of the Contractor's provision of the Services and the Works will be the sole responsibility of, and the Authority will be fully reimbursed by, the

Contractor.

- 3.5 The Contractor will ensure that all applications for Permits are submitted electronically, compatible with the DfT's "Street Manager" system and/or its successor or replacement from time to time.
- 3.6 The Contractor will comply with and be bound by the TLRs and the LoPS.
- 3.7 The Contractor will regularly access the electronic register of all current and planned road Works undertaken in London ("London Works") in order to help with its planning and coordination of the Services. London Works can be accessed at: **Error! Hyperlink reference not valid.** www.londonworks.gov.uk/.

4. **Traffic Safety and Management**

- 4.1 Where the Contractor is required to design and produce Traffic Management Drawing Plans as part of its obligations and responsibilities outlined in **paragraph 2.2** above, the Contractor will ensure that the Traffic Management Drawing Plans will:
 - (A) comply with all requirements of the TMA and NRSWA and associated regulations and statutory codes of practice, including the noticing requirements made under Part III of the NRSWA;
 - (B) conform to Chapter 8 of the Traffic Signs Manual published by Her Majesty's Stationery Office as may be amended, updated or replaced from time to time;
 - (C) follow the guidance set out in the TM Handbook which is set out in the table in **paragraph 1.3** above and attached at Annex A of this Schedule 16 (Permitting, Traffic Management and Lane Rental), as updated by the Authority from time to time;
 - (D) be submitted to and approved by the Street Authority responsible for issuing the associated Permit(s); and
 - (E) be submitted to, and approved by, the Project Manager unless specified in the Works Instruction.
- 4.2 Where Portable Signals are to be deployed by the Contractor when performing the Services and/or the Works, the layouts of such signals will comply with the Project Manager's requirements in line with the Authority's current guidance note for the deployment of portable traffic signals.
- 4.3 The Contractor will be responsible for organising any Traffic Management Meetings as are required to agree appropriate methods of working. The Contractor will invite the following representatives and any other relevant

bodies to the Traffic Management Meeting as appropriate:

- (A) Borough Representative;
- (B) London Ambulance Service;
- (C) London Fire Brigade;
- (D) Bus Representative;
- (E) London Tram Representative;
- (F) Police Liaison;
- (G) Authority Forward Planning Representative;
- (H) Project Manager;
- (I) Authority Clerk of Works;
- (J) Developer Representative;
- (K) Relevant Highway Authority;
- (L) any other relevant member of Contractor Personnel; and
- (M) any other relevant stakeholder required by the Authority and/or as agreed with the Authority.

- 4.4 The Contractor will promptly submit full details of each of the Contractor's proposed Traffic Management Drawing Plans electronically to the Authority.
- 4.5 The Contractor will wherever practicable seek to optimise the use of road-space, both by accommodating the work of others within the Contractor's Traffic Management and/or by seeking to programme the Works so that they are delivered in the same or similar way as Traffic Management installed by other contractors.
- 4.6 For any activity under **paragraph 2.2** above which requires the implementation of a Temporary Traffic Regulation Order ("TTRO") the Contractor will submit a request in writing to the relevant Traffic Authority and the Project Manager, in sufficient time to ensure that the Permitting dates as set out in the relevant Permits are met, providing full details of the activity and the TTRO requested by the Contractor.
- 4.7 The Contractor will submit the request for the TTRO in accordance with section 14(1) or 14(2) (as applicable) of the Road Traffic Regulation Act 1984 and the relevant Traffic Authority's procedures in relation to the type of TTRO

requested.

The following notice periods in respect of TTROs apply:

(A) Amending or making TTROs – 10 (ten) weeks

- 4.8 Unless a lesser amount is otherwise agreed between the Parties in writing, payment to the Contractor by the Authority for Major Traffic Management for Capital Works will be in line with the Prices set out in Schedule 6 (Capital Works Terms).
- 4.9 For any activity under **paragraph 2.2** above which requires the implementation of a TTRO the Contractor will be responsible for all costs incurred in connection with the TTRO.
- 4.10 Where a temporary speed limit at road Works has been imposed and/or the Works have been temporarily suspended by the Highway Authority, with the removal of traffic safety and management measures, the Contractor will ensure that the temporary speed limit signs are promptly covered or removed by it for the duration of the suspension of the Works. Where the temporary speed limit signs are covered by the Contractor, the Contractor will ensure that the covering material will prevent the sign being visible through the cover in natural light and/or under vehicle headlamp or street lamp illumination at night, be non-light reflective and securely fastened.
- 4.11 Where the Contract provides that the Contractor will not erect, maintain or reposition traffic signs, the Contractor will not change in any manner the permanent or temporary traffic signs without instruction from the Authority. All traffic safety and management measures necessitated by the Works will be fully operational before the Contractor commences any Work, which affects the public highway or the use of it.
- 4.12 Any area of highway which has been closed because of the Works will not be re-opened to traffic until all appropriate traffic safety and management measures have been completed by the Contractor and the highway is in a suitable condition for public use as determined by the Contractor (acting reasonably) as a competent supplier.
- 4.13 Where Work is carried out on, or adjacent to, a highway open to traffic the Contractor will ensure that vehicles and mobile plant under its control operating frequently or regularly on or adjacent to that highway in the execution of the Works will be conspicuous and comply with Section O5 General Vehicle Issues of Chapter 8, Part 2 Operations, of the Traffic Signs Manual referred to in **paragraph 4.1(B)** above.
- 4.14 Where Works are carried out on or adjacent to a highway open to traffic, the Contractor will ensure that the workforce and the Site supervisory staff at all times wear high visibility warning clothing complying with BS EN 471. Clothing complying with other specifications may be used where they offer equivalent levels of performance in so far as the specification given is not inconsistent with health and safety requirements set out in Annex 2 of the Personal Protective

Equipment Directive (2016/425).

- 4.15 The Contractor will ensure that signs erected over the footway will provide clear headroom of not less than 2.1 metres. The Contractor will ensure that signs erected above cycle lanes or cycle tracks will have clear headroom of not less than 2.3 metres. The Contractor will ensure that all signs will have a minimum of 450mm between the edge of the sign and the edge of the carriageway.
- 4.16 The Contractor will ensure that signs whose messages no longer apply will be covered or removed as soon as the hazard to which they refer no longer exists.
- 4.17 The Contractor will ensure that stocks of materials or equipment, temporary buildings, plant, and parked vehicles will on no account be permitted to obstruct sight lines.

5. **Detailed Temporary Traffic Management Requirements**

- 5.1 The Authority's detailed temporary Traffic Management requirements are set out in the TM Handbook referred to in the table in **paragraph 1.3** above, as updated by the Authority from time to time;
- 5.2 Notwithstanding the detail in section 2.4 of the TM Handbook, the Contractor will ensure that all temporary auxiliary ramps which enable disabled people and others to continue to use a service or route will be of a modular interlocking design with a minimum width of 1200mm and unlimited maximum panel width. The Contractor will ensure that end panels of interlocking modular design will provide side access and remove all potential trip hazards. The Contractor will ensure that the mechanical adjustment will suit all kerb heights from 100mm to 150mm (inclusive). The Contractor will ensure that all ramps will have a non-slip finish with a minimum PTV value of 64. The Contractor will ensure that all ramps will withstand 1000kg loading and weight. The Contractor will ensure that all modular ramps will weigh less than 20kg to facilitate manual handling requirements.

For the purposes of this Contract the illustration on page 24 of the Traffic

Management Handbook should be substituted with the following:



- 5.3 The Contractor will ensure that temporary routes for pedestrians through the Works will be clearly defined and free from hazards or obstructions, not obstructing pedestrian access to public transport service. The Contractor will ensure that the surfaces of such temporary routes of access will be firm, clean and even. The Contractor will ensure that such routes will also be of the shortest practicable length having regard to the circumstances and the unobstructed width will be appropriate to the volumes of pedestrians using it, but in no circumstances less than 1.2 metres. The Contractor will ensure that temporary changes of levels for pedestrians will be effected by ramps of a gradient preferably not steeper than 1 in 20 from the horizontal, but over very short distances may be 1 in 10 at the extreme. Refer to Traffic Management handbook in Annex A.

6. **Lane Rental**

- 6.1 The Contractor will comply with the TLRs.
- 6.2 Prior to any Services being instructed or carried out, the Contractor will inform the Authority if, in their opinion, the Services being developed or instructed are likely to incur Unavoidable Lane Rental Charges.

- 6.3 The Contractor will not include any sums for lane rental charges within any estimates, prices or quotations for Services instructed by or carried out for the Authority.
- 6.4 The Contractor will pay all Avoidable Lane Rental Charges as determined by the Authority at the rate stated in the TLRS for each Lane Rental Road Segment or Pinchpoint which it occupies during lane rental times.
- 6.5 The Authority will send to the Contractor a summary of any lane rental charges incurred by the Contractor during the course of performing the Services. The Contractor within fourteen days of being sent the summary will either accept liability for the charges or submit a challenge explaining why, in their opinion, they are not liable for all or some of the charges.
- 6.6 The Authority will investigate the challenge submitted by the Contractor and make a determination of liability. Those lane rental charges that the Authority determines were Unavoidable Lane Rental Charges by the Contractor will become the liability of the Authority. Those lane rental charges that the Authority determines to be Avoidable Lane Rental Charges will become the liability of the Contractor. The Authority will notify the Contractor of the outcome of the investigation.
- 6.7 If the Contractor has not replied within fourteen days of the date of notification of the lane rental charge summary, the Authority shall send a reminder. If the Contractor has not responded within fourteen days of the date of the reminder of the summary of lane rental charges, the Contractor is deemed to have accepted liability for all of the charges referred to within that summary.
- 6.8 Those lane rental charges that are determined to be the liability of the Contractor will be recovered from payments made to the Contractor.

7. Similar scheme to Lane Rental

- 7.1 Without prejudice to the Contractor's obligations under this Contract and as set out in this Schedule 16 (Permitting, Traffic Management and Lane Rental) in respect of Lane Rental, if one or more London Boroughs introduce a new Lane Rental scheme, which is similar to the TLRS, after the Contract Commencement Date, to the extent that the introduction of such a scheme or schemes materially adversely impacts the Contractor's performance of this Contract in terms of cost, then the effect of the same will be dealt with through the Change Control Procedure, provided that the Contractor undertakes to comply with similar obligations in respect of such scheme(s) as set out in this Schedule 16 (Permitting, Traffic Management and Lane Rental) in respect of Lane Rental.

8. Congestion Charging, LEZ and ULEZ

- 8.1 Subject always to **paragraph 1.1.4** of Schedule 3, Part 1 (General Requirements) and **paragraph 8.2**, if there is a change (whether an expansion or a reduction) to the geographical scope (as at the Contract Commencement Date) of the congestion charging, Low Emission or Ultra Low Emission scheme

operated by the Authority, to the extent that such change:

- (A) materially adversely impacts the Contractor's performance of this Contract in terms of cost; and/or
- (B) has a positive impact on the Contractor's performance of the Contract in terms of reducing cost, then the effect of the change will be dealt with through the Change Control Procedure.

No other changes to the congestion charging, Low Emission or Ultra Low Emission scheme will be subject to the Change Control Procedure.

- 8.2 For the avoidance of doubt, the Contractor is responsible for any charges incurred by the Contractor in relation to the congestion charging and low emission zone schemes and any change to the daily, weekly, annual or other charge payable under such scheme will not be subject to the Change Control Procedure.

9. **Parking Bay, Loading Bay, and Bus Stop Suspensions**

- 9.1 The Contractor will at all times during the Term seek to avoid impact for planned activities requiring the suspension of parking bays, loading bays, disabled parking bays, and bus stops.
- 9.2 The Contractor will be responsible for applying for and paying suspension charges levied in connection with the suspension of the facilities set out in **paragraph 8.1** at the rate charged by the Highway Authority.

ANNEX A – Traffic Management Handbook

Refer to the Temporary Traffic Management Handbook in the following link:
<https://content.tfl.gov.uk/temporary-traffic-management-handbook.pdf>

ANNEX B – The Mayor's Code of Conduct for Road Works

Refer to the Mayor's Code of Conduct 2012 in the following link:

<http://www.tfl.gov.uk/assets/downloads/2012-13-mayor-code-of-conduct-roadworks.pdf>



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH AND CENTRAL

Schedule 17

Deed of Novation

SCHEDULE 17
DEED OF NOVATION

THIS DEED is made the [] day of []

BETWEEN:

- (1) **[Transport for London]** a statutory corporation whose principal office is at [insert] (the **"Authority"**), for and on behalf of the Authority and the Service Recipients;
- (2) [], a company registered in England and Wales (Company Registration Number []) whose registered office is at [] (the **"Contractor"**); and
- (3) [] a company registered in England and Wales (Company Registration Number []) whose registered office is at [] (the **"New Company"**).

WHEREAS:

- (A) The Authority has a contract dated [] Contract Reference Number [] with the Contractor for automated traffic signals equipment maintenance, capital works and related services (the **"Contract"**).
- (B) The Authority wishes to transfer its benefit and burden (or part of it) under the Contract to the New Company.
- (C) The Contractor and the New Company have agreed to such transfer upon the terms and conditions of this Deed.

IT IS AGREED AS FOLLOWS:

- 1. In this Deed:
 - 1.1 **"Transfer Date"** means [];
 - 1.2 **"Transferred Part"** means all that part of the undertaking of the Authority that consists of [*describe part of undertaking that the New Company will be taking responsibility for*].
- 2. **CONSIDERATION**

This Deed is made in consideration of the payment of one pound (£1.00) by the New Company to the Authority receipt of which the Authority acknowledges.

3. SUBSTITUTION OF NEW COMPANY AND DISCHARGE OF CLIENT

3.1 With effect on and from the Transfer Date (and only in so far as the Contract relates to the Transferred Part):

3.1.1 the New Company undertakes to perform the obligations of the Authority under the Contract and be bound by its terms in every way as if the New Company is and had been named at all times as a party to the Contract in lieu of the Authority;

3.1.2 the Contractor releases and discharges the Authority from all demands and claims whatsoever in respect of the Contract and accepts the liability of the New Company in relation to the Contract in lieu of the liability of the Authority and agrees to be bound by the terms of the Contract in every way as if the New Company were and had been party to the Contract at all times in lieu of the Authority;

3.1.3 for the avoidance of doubt, it is expressly agreed that:

3.1.3.1 any and all rights, claims, counter-claims, demands and other remedies of the Contractor against the Authority accrued under or in connection with the Contract prior to the date of this Deed are exercisable and enforceable by the Contractor against the New Company; and

3.1.3.2 any and all rights, claims, counter-claims, demands and other remedies of the Authority against the Contractor accrued under or in connection with the Contract prior to the date of this Deed are exercisable by the New Company against the Contractor.

3.2 The Authority transfers its rights and obligations under the Contract to the New Company.

4. CONTRACTOR'S WARRANTIES

4.1 The Contractor acknowledges and warrants to the New Company that it has observed and performed and will continue to observe and perform all the terms and obligations on the part of the Contractor under the Contract.

- 4.2 The Contractor acknowledges that the New Company has relied upon, and will rely upon, the Contractor's performance of such terms and obligations prior to, on, and following the date of this Deed. It is agreed that the Contractor shall be liable for all loss or damage suffered or incurred by the New Company as a result of any breaches of such terms or obligations, irrespective of whether such losses were also suffered or incurred by the Authority (whether solely, or jointly with the New Company, or otherwise) and irrespective of whether such loss or damage was suffered or incurred prior to the date of this Deed.

5. **THIRD PARTY RIGHTS**

- 5.1 Save that any member of the TfL Group (as defined in the Contract) has the right to enforce the terms of this Contract, the parties to this Deed do not intend that any of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.
- 5.2 Notwithstanding clause 5.1, the parties to this Deed are entitled to vary or rescind this Deed without the consent of any or all members of the TfL Group.

6. **GOVERNING LAW AND JURISDICTION**

- 6.1 This Deed and any non-contractual obligations arising out of or in connection with it will be governed by the law of England and Wales.
- 6.2 The courts of England and Wales have exclusive jurisdiction to determine any dispute arising out of or in connection with this Deed (including in relation to any non-contractual obligations). Each party waives any objection to, and agrees to submit to, the jurisdiction of the courts of England and Wales.

IN WITNESS whereof this Deed has been executed as a deed and delivered on the day and year first above written.

Signed as a deed)
for and on behalf of)
[CONTRACTOR])
acting by)

Signature (Director)

Print name and position

Date:

Signature (Director/Company Secretary)

Print name and position

Date:

Signed as a deed)
for and on behalf of)
[NEW COMPANY])
acting by)

Signature (Director)

Print name and position

Date:

Signature (Director/Company Secretary)

Print name and position

Date:

Signed as a deed)
for and on behalf of)
[TRANSPORT FOR LONDON])
acting by)

Signature (Director)

Print name and position

Date:

Signature (Director/Company Secretary)

Print name and position

Date:

TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH AND CENTRAL

Schedule 18

Form of Parent Company Guarantee

SCHEDULE 18

FORM OF PARENT COMPANY GUARANTEE

(Letterhead of Parent Company)

To: [insert name and address of the Authority]

Date:

Dear Sir/Madam

We, [insert name of Guarantor] ("**the Guarantor**"), understand that you have agreed to enter into Contract No [insert] ("**the Contract**") dated [insert date] with [insert name of contractor] (the "**Contractor**") for automated traffic signals equipment maintenance, capital works and related services (the "**Services**") on the condition that the obligations of the Contractor under the Contract be guaranteed by a Guarantor.

We are [the ultimate parent company of the Contractor], and we warrant to you that this description of our relationship with/to the Contractor is true and accurate in all material respects.

Terms defined in the Contract have the same meanings in this Guarantee unless otherwise defined in this Guarantee.

WE HEREBY AGREE AND UNDERTAKE with you as follows:-

- (a) We unconditionally guarantee to you on demand:
 - (i) the proper, complete and punctual performance by the Contractor of any and all its obligations, undertakings and responsibilities under the Contract and we will forthwith make good any default thereunder on the part of the Contractor; and
 - (ii) the due and punctual payment by the Contractor of all sums, liabilities, awards, losses, damages, costs, charges and expenses that may be or become due and payable under or arising out of the Contract in accordance with its terms or otherwise by reason or in consequence of any such default on the part of the Contractor,

when and as the same will become due for performance or payment (as the case may be).

- (b) As a separate and primary obligation we unconditionally guarantee to you that in the case of default by the Contractor in making any of the payments or in performing any of the obligations, undertakings and responsibilities set out in **paragraph (a)** above, we will on demand pay all sums and observe and perform any or all of such obligations, undertakings and responsibilities as if we instead of the Contractor were the primary obligor. Any payment under this Guarantee will be made by us in pounds sterling or in any currency which may from time to time replace pounds sterling.

- (c) This Guarantee will be a continuing security and will remain in full force and effect until all obligations to be performed or observed by the Contractor under or arising out of the Contract have been duly and completely performed and observed and the Contractor will have ceased to be under any actual or contingent liability to you thereunder.
- (d) Any demand or other notice made by you under this Guarantee will be duly made if sent by first class recorded delivery post to us.
- (e)
- (f) If any sum due or purportedly due under this Guarantee is not or would not be recoverable under a guarantee for any reason whatsoever, whether or not known to you, such sum will still be recoverable from us as a sole principal debtor upon the terms of this Guarantee.
- (g) Without prejudice to anything set out in this **Schedule 18**, if the Parties agree a Change that materially impacts the Contractor's obligations under this Contract, or there is a Re-allocation or Partial Termination, the Guarantor shall, where requested by the Client, provide either:
 - (i) written confirmation to the Client that, notwithstanding the Change, Re-allocation or Partial Termination (as applicable), this guarantee remains valid and fully enforceable in accordance with its terms; or
 - (ii) a replacement guarantee in the form contained in this **Schedule 18**, as the Client requires.

PROVIDED THAT:

1. We will be under no greater obligation or greater liability under this Guarantee than we would have been under the Contract if we had been named as the Contractor in the Contract and we will be entitled to take advantage of the remedies and limitations which would have otherwise been available to the Contractor under the Contract in any proceedings brought by you under the Contract.
2. Our obligations hereunder are those of primary obligor and will remain in full force and effect and shall not be terminated, reduced, discharged or otherwise affected by:
 - (a) any alteration or variation to the terms of the Contract made by agreement between you and the Contractor (including, without limitation, any increase in the Contractor's obligations under the Contract or any alteration in the extent or nature or sequence or method or timing of the Services to be carried out under the Contract) or any novation of the Contract (in whole or in part); or
 - (b) any time being given to the Contractor or any other indulgence, waiver, concession, forbearance or forgiveness to the Contractor (whether

express or by conduct) or any other thing done, omitted or neglected to be done under the Contract; or

- (c) any other bond, security or guarantee now or hereafter given for all or any part of the obligations of the Contractor under the Contract; or
- (d) the release or waiver of any such bond, security or guarantee referred to in **paragraph 2(c)** above; or
- (e) any amalgamation, reconstruction or dissolution including, without limitation, winding-up of the Contractor; or
- (f) the winding-up, bankruptcy, administration, receivership or insolvency of the Contractor; or
- (g) any legal limitation, disability or incapacity relating to the Contractor or discharge by operation of law or any change in the constitution, name or style of the Contractor or any other person (whether or not known to you); or
- (h) any total or partial invalidity in, irregularity affecting or unenforceability of any of the obligations of the Contractor under the Contract; or
- (i) the termination or partial termination of the Contract or the cessation of any Services for any reason or the making of any variation to the Services in accordance with the Contract; or
- (j) any claim or enforcement of payment from the Contractor or any other person; or
- (k) any act or omission which would not have discharged or affected the liability of a sole principal debtor instead of a guarantor or any act or omission, matter or thing which, but for this provision, might operate to exonerate, discharge, reduce or extinguish our liability under this Guarantee.

3. The Guarantor's liability pursuant to this Guarantee shall be conditional on the beneficiary first having made a demand in writing in respect of the same on the Contractor. Any such demand will specify in reasonable detail (a) the nature of the claim; and (b) the amount of the claim. Except as set out below, the Contractor will be entitled to a remedy period of up to 14 days to comply with the obligations under the Contract, commencing on the date the written demand is issued to the Contractor. Such remedy period shall not apply in the event an administrator, liquidator or receiver is appointed to the whole or any part of the Contractor's business or assets, in which case the beneficiary may immediately make a demand under this Guarantee without providing any remedy period to the Contractor.

4. So long as we remain under any actual or contingent liability under this Guarantee, we will not exercise any right of subrogation or any other right or

remedy which we may have against the Contractor in respect of any payment made by or sum recovered from us pursuant to or in connection with this Guarantee or prove in any liquidation of the Contractor in competition with you for any sums or liabilities owing or incurred to us by the Contractor in respect of any such payment by or recovery from us or take or hold any security from the Contractor in respect of any liability of ours hereunder. We will hold any monies recovered or security taken or held in breach of this provision in trust for you.

5. Except where prevented from doing so by law, we waive and agree not to enforce or claim the benefit of any and all rights we have or may from time to time have as guarantor under any applicable law which is or may be inconsistent with any of the provisions of this Guarantee.
6. This Guarantee is irrevocable.
7. The Parties do not intend that any of the terms of this Guarantee are enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.
8.
 - (a) This Guarantee, executed and delivered as a deed, is governed by and shall be construed in accordance with the law of England and Wales. The courts of England shall have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Guarantee.
 - (b) You and we may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.
 - (c) Subject to paragraph (b) above, you and we waive any objection to, and submit to, the jurisdiction of the courts of England and Wales. You and we agree that a judgment or order of any such court is binding upon the relevant Party and may be enforced against it in the courts of any other jurisdiction.

[For non-UK resident Guarantors only:

8. For the purposes of this Guarantee we hereby appoint of (to be a London address) to accept service of process on our behalf, and service on the said at the said address will be deemed to be good service on us; and we hereby irrevocably agree not to revoke or terminate such appointment.]
8. You will be entitled to assign the benefit of this Guarantee in whole or in part but we may not assign the benefit and/or delegate the burden of this Guarantee in whole or in part or enter into any transaction which would result in any of those benefits and/or burdens passing to another person.
9. If any provision (in whole or in part) of this Guarantee is found by any court, tribunal, administrative body or authority of competent jurisdiction to be wholly or partly illegal, invalid or unenforceable then that provision will, to the extent required, be severed from this Guarantee and will be ineffective, without, so

far as is possible, modifying any other provision of this Guarantee and this will not affect any other provisions of this Guarantee which will remain in full force and effect.

Executed as a Deed and delivered the day and year written above.

Executed as a Deed by) _____
[**parent company**]) Director
acting by a Director and the) _____
Secretary or by two Directors) _____
Director/Secretary

OR

The common seal of) _____
[**parent company**]) Director
was affixed in the presence of:) _____
Director/Secretary

Appendix A - Form of Legal Opinion for use with Guarantee

To: [insert name and address of Authority]

Date:

Dear Sir/Madam

I am counsel to and I am giving this legal opinion in connection with the making by of the Guarantee (as defined below) in your favour.

1. I have examined the Deed of Guarantee (the "**Guarantee**") dated made between [insert] (the "**Guarantor**") and [insert] ("**the Authority**"). Terms defined in or for the purpose of the Guarantee have the same meanings in this opinion.
2. Having considered the Guarantee and examined any other document, resolution or certificate I deemed necessary to enable me to give the opinion contained herein and having regard to all applicable laws of..... I am pleased to advise that in my opinion:
 - (a) the Guarantor was incorporated onas a [company with limited liability] and validly exists under the laws of as a separate legal entity possessing the capacity to sue or be sued in its own name. To the best of my knowledge having carried out [DESCRIBE APPLICABLE SEARCHES] today, no steps have been, or are being, taken to appoint a receiver or liquidator (or similar encumbrancer or officer) over, or to wind up, the Guarantor;
 - (b) the Guarantor has the necessary power and authority, and all necessary corporate and other action (including, without limitation, approvals and consents of members, stockholders, debenture holders or governmental or other regulatory authorities) has been taken to enable the Guarantor to enter into the Guarantee and to perform the obligations of the Guarantor and the transactions contemplated thereby; and
 - (c) the entry into and performance of the Guarantee and the transactions contemplated thereby will not cause:
 - (i) any limit on the Guarantor or its directors (whether imposed by the documents constituting the Guarantor, statute, regulation, agreement or otherwise) to be exceeded;
 - (ii) any law or order or constitutional document in respect of the Guarantor to be contravened; and
 - (iii) any default under, or give rise to an obligation to create or impose any security interest of any nature whatsoever pursuant to, any agreement or other instrument or any judgment or other requirement known to us after due enquiry

to which the Guarantor is a party or by which it or any of its assets is bound. Further, no event has occurred that, with the giving of notice, lapse of time, determination of materiality or other conditions might constitute a default under or in respect of such agreement, instrument or judgment.

- (d) the Guarantee has been properly signed and delivered on behalf of the Guarantor and the obligations on the part of the Guarantor contained in the Guarantee, assuming them to be valid and binding according to English law by which they are expressed to be governed, are valid, legally binding on and enforceable against the Guarantor under the laws of and in the courts of
- (e) the signature, delivery and performance of the Guarantee by the Guarantor constitute private and commercial acts by it rather than public or governmental acts;
- (f) all authorisations, approvals, consents, licences, exemptions, filings, registrations, notarisations and other requirements of governmental, judicial and public bodies and authorities of or in [COUNTRY] required or advisable in connection with the entry into, performance, validity and enforceability of the Guarantee and the transactions contemplated thereby have been obtained or effected and are in full force and effect;
- (g) the obligations of the Guarantor under the Guarantee rank at least equally and rateably (pari passu) in point of priority and security with any and all other unsecured obligations of the Guarantor;
- (h) all amounts payable by the Guarantor under the Guarantee may be made free and clear of, and without deduction for, or on account of, any taxes imposed, assessed or levied by [COUNTRY] or any authority of or in [COUNTRY];
- (i) there are no registration, stamp or other taxes or duties of any kind payable in in connection with the Guarantor including its signature, performance or enforcement by legal proceedings;
- (j) The Authority will not violate any law or regulation in nor become liable to tax in by reason of entering into the Guarantee or performing its obligations thereunder. It is not necessary to establish a place of business in in order to enforce any provisions of the Guarantee;
- (k) the choice of English law to govern the Guarantee will be upheld as a valid choice of law in any action in respect of the Guarantee in the Courts;
- (l) the consent to the jurisdiction by the Guarantor contained in the Guarantee is valid and binding on the Guarantor and not subject to revocation;

- (m) any judgment obtained in the courts of England against the Guarantor would be recognised and accepted by the courts without re-trial or re-examination of the merits of the case;
- (n) neither the Guarantor nor any of its assets enjoys any right or immunity from set-off, suit or execution in respect of its obligations under the Guarantee; and
- (o) so far as I am aware after due enquiry, no litigation, arbitration or administrative proceedings are at present current, pending or threatened that might, if adversely determined, have a material effect on the business, assets or financial condition of the Guarantor.

3. I do not purport to be expert on and do not purport to be generally familiar with or qualified to express legal opinions based on any law other than the laws of and accordingly express no legal opinion herein based upon any law other than the laws of

Signed

Schedule 19

Not used



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 20

Special Conditions

Contents

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SCHEDULE 20

Special Conditions

Examination of Sites, Special Requirements and Protection of Public and Private Services

1. Statutory Undertakers and Protection of Public and Private Services

- 1.1 The Contractor will obtain and be conversant with the latest editions of the Special Requirements of the statutory undertakers. The Contractor will comply at all times with such Special Requirements. Compliance with such Special Requirements will not relieve the Contractor of any of its obligations and liabilities under the Contract but nor will the Contractor's fulfilment of its obligations and liabilities relieve it of its responsibility to comply with the Special Requirements.
- 1.2 The position of the statutory undertakers' mains and services and public authorities' drains and sewers shown on any drawings that may be issued under the Contract will be regarded as being approximate only. The Project Manager does not guarantee either the accuracy of the information or that the location of such apparatus is as shown on these drawings and no warranty will be implied as to the position, depth, size or gradient thereof. The Contractor will make its own enquiries of the statutory undertakers and/or public authorities and will satisfy itself as to the exact position of any such apparatus and the depths, sizes and gradients thereof. The Contractor will be responsible for any and all damage whatsoever and howsoever caused by the Contractor, the Contractor's staff, agents and subcontractors to any such apparatus.
- 1.3 The Contractor will be obligated to and will be deemed to have taken into account:
 - 1.3.1 the inherent variability of conditions and circumstances to be found within existing highways and drainage systems]; and
 - 1.3.2 the fact that public and private utilities' information will not be issued by the Engineer for the generality of Instructed Capital Works,

and the Contractor will ensure that the presence of such services must be anticipated and established by the Contractor.
- 1.4 The Contractor will co-operate with and co-ordinate its performance or provision of the Instructed Capital Works and other obligations hereunder with the performance or provision of works or services provided by Third Party Contractors and, without prejudice to the generality of the forgoing, with the other maintenance contractors and installation contractors and with all

relevant public authorities, local authorities, the Police, statutory undertakers and the relevant Highway Authority. The Contractor will maintain a contacts register detailing its contacts with Third Parties which it shall make available to the Authority on request.

2. **Road Instructed Capital Works and Signing**

The Contractor will provide for the efficient protection of the public and in order to prevent mishaps and accidents whilst carrying out its duties and the Services and Works, will guard and protect its plant, tools and materials and provide all necessary signs, lights and barriers.

3. **Electricity/Communications and Other Services**

The Contractor will be entitled to use for the purposes of the Services such supplies of electricity, communications and other services as may be available on the Sites and pay to the Authority or its agent for such use such sums as may be reasonable in the circumstances, and will at its own expense provide any apparatus necessary for such use.

4. **Construction Industry Scheme**

4.1 Where the Construction Industry Scheme applies to any payment made in relation to this Contract, the Contractor warrants to the Authority and will ensure that:

4.1.1 it is registered under the Construction Industry Scheme with gross payment status; and

4.1.2 within ten (10) Business Days of receipt of written notification from HM Revenue & Customs (or, if later, of receipt of a decision of the First-tier Tribunal) revoking its gross payment status, it will notify the Authority in writing of the date upon which its gross payment status ceased or will cease.

4.2 Where the Construction Industry Scheme applies to any payment to be made by the Authority to the Contractor under this Contract, the obligations of the Authority to make such payment will be subject to the provisions of the Construction Industry Scheme. Unless and until HM Revenue and Customs confirms to the Authority that the Authority can make any payment to the Contractor without any tax deduction, the Authority shall deduct any tax from payments due to the Contractor under this Contract at the rate specified by HM Revenue and Customs pursuant to the Construction Industry Scheme before paying the balance to the Contractor. The Authority shall account to HM Revenue and Customs for any tax so deducted.

4.3 For the purpose of this **section 4**, the "**Construction Industry Scheme**" means the tax deduction scheme for the construction industry operated by HM Revenue and Customs under Chapter 3 of Part 3 of the Finance Act 2004 and The Income Tax (Construction Industry Scheme) Regulations 2005.

5. **New Roads and Street Works Act 1991, Traffic Management Act 2004 and Civil Contingencies Act 2004**

5.1 The Contractor will be aware of, and, so far as it affects any Services under this Contract, comply with the requirements of the New Roads and Street Works Act 1991. Without prejudice to the generality of the foregoing, the Contractor will, before undertaking any Services involving any opening in any Highway, forward the appropriate notifications to the Authority for onward transmission to the relevant Highway Authority.

5.2 The Contractor will be aware of, and so far as it affects any Services under this Contract comply with, the requirements of the Traffic Management Act 2004 and the Civil Contingencies Act 2004 (including any permitting requirements).

5.3 Where the Contractor carries out Civil Engineering Works the Contractor will be entirely responsible for any Site investigation necessary to carry out these Works, and will make all necessary inquiries of the relevant statutory undertakers in accordance with **section 1**.

6. **Work Related Road Risk**

6.1 For the purposes of this **section 6**, unless the context indicates otherwise, the following expressions will have the following meanings:

"Approved Driver Training" the Safe Urban Driving course as accredited by the Joint Approvals Unit for Periodic Training details of which can be found at:

www.fors-online.org.uk

"Car-derived Vans" a goods vehicle which is constructed or adapted as a derivative of a passenger vehicle and which has a maximum laden weight not exceeding 2 tonnes

"Class VI Mirror" a mirror that allows the driver to see what is immediately in front of the vehicle and that complies with Directive 2003/97/EC

"Close Proximity Sensor" a device consisting of a sensor system that detects objects in a vehicle's blind spot and alerts the driver via in-cab visual and/or audio stimuli and which alerts other road users to the planned movement of the vehicle when the vehicle's indicators are engaged

"CLOCS Standard"	means the Construction Logistics and Community Safety standard, which aims to eliminate risk of a collision between heavy goods vehicles servicing the construction sector and vulnerable road users by ensuring effective practice in the management of operations, vehicles, drivers and construction sites; further information can be found at: www.clocs.org.uk
"Collision Report"	a report detailing all collisions during the previous 12 months involving damage to vehicles and/or injuries to persons or fatalities;
"Driver"	any employee of the Contractor (including an agency driver), who operates Freight Vehicles on behalf of the Contractor while delivering the Services
"DVLA"	Driver and Vehicle Licensing Agency
"FORS"	the Fleet Operator Recognition Scheme, which is an accreditation scheme for businesses operating van and lorry fleets. It is free to join and offers impartial, independent advice and guidance to motivate companies to improve their compliance with relevant laws and their environmental, social and economic performance
"FORS Standard"	the standard setting out the accreditation requirements for the Fleet Operator Recognition Scheme, a copy of which can be found at: www.fors-online.org.uk
"Freight Vehicle"	a Lorry, a Van or a Car-derived Van;
"Fresnel Lens"	a clear thin plastic lens that is press fitted to a lorry window on the passenger side and that allows the driver to see that which is in the vehicle's blind spot
"Gold Accreditation"	the highest level of accreditation within the FORS Standard, the requirements of which are more particularly described at: www.fors-online.org.uk
"Lorry"	a vehicle with an MAM exceeding 3,500 kilograms

"MAM"	the maximum authorised mass of a vehicle or trailer including the maximum load that can be carried safely while used on the road
"Side Guards"	guards that are fitted between the front and rear axles of a Lorry and that comply with EC Directive 89/297/EEC and the Road Vehicles (Construction and Use) Regulations 1986
"Silver Accreditation"	the intermediate level of accreditation within the FORS Standard, the requirements of which are more particularly described at: www.fors-online.org.uk
"Van"	a vehicle with a MAM not exceeding 3,500 kilograms.

- 6.2 The Contractor will ensure that each goods vehicle used by the Contractor or its Sub-Contractors in connection with this Contract shall display the vehicle licence disc relevant to the goods operator's licence under which the vehicle is operated or, in the absence of an operator's licence disc, the vehicle will carry documentation giving the operator's licence number, name and address.
- 6.3 Where the Contractor operates Freight Vehicles, it will within 90 days of the Contract Commencement Date:
- 6.3.1 (unless already registered) register for FORS or a scheme, which in the reasonable opinion of the Authority, is an acceptable substitute to FORS (the **"Alternative Scheme"**); and
- 6.3.2 (unless already accredited) have attained the standard of Silver Accreditation (or higher) or the equivalent within the Alternative Scheme.
- 6.4 The Contractor will maintain the standard of Silver Accreditation (or equivalent standard within the Alternative Scheme) by way of an annual independent assessment in accordance with the FORS Standard or take such steps as may be required to maintain the equivalent standard within the Alternative Scheme. Alternatively, where the Contractor has attained Gold Accreditation, the maintenance requirements will be undertaken in accordance with the periods set out in the FORS Standard.
- 6.5 The Contractor will ensure that those of its Sub-Contractors who operate Freight Vehicles will comply with **paragraphs 6.3 and 6.4** (inclusive) as if they applied directly to the Sub-Contractor.

Safety Equipment on Vehicles

- 6.6 The Contractor will ensure that every Lorry, which it uses to provide the Services, will:

- 6.6.1 have Side Guards, unless the Contractor can demonstrate to the reasonable satisfaction of the Authority that the vehicle will not perform the function for which it was built if Side Guards are fitted;
- 6.6.2 have a close proximity warning system fitted comprising:
 - 6.6.2.1 a front-mounted, rear-facing CCTV camera with in-cab live feed from the said camera or a Fresnel Lens where the Fresnel Lens provides a reliable alternative to the CCTV camera and where the Contractor has obtained the Authority's written approval to use the Fresnel Lens, which approval the Authority may withhold in its unfettered discretion;
 - 6.6.2.2 a Close Proximity Sensor;
 - 6.6.2.3 a Class VI Mirror; and
 - 6.6.2.4 prominent signage on the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
- 6.7 The Contractor will ensure that every Van, which it uses to provide the Services, shall bear prominent signage on the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.

Driver Licence Checks

- 6.8 The Contractor will ensure that each of its Drivers has a driving licence check with the DVLA before that Driver commences delivery of the Services and that the driving licence check with the DVLA is repeated in accordance with either the following risk scale, or the Contractor's risk scale, provided that the Contractor's risk scale has been approved in writing by the Authority within the last 12 months:
 - 6.8.1 0 – 3 points on the driving licence – annual checks;
 - 6.8.2 4 – 8 points on the driving licence – six monthly checks;
 - 6.8.3 9 – 11 points on the driving licence – quarterly checks; or
 - 6.8.4 12 or more points on the driving licence – monthly checks.

Driver Training

- 6.9 The Contractor will ensure that each of its Drivers who has not undertaken:
 - 6.9.1 Approved Driver Training (or training, which in the reasonable opinion of the Authority, is an acceptable substitute) in the last three years, undertakes Approved Driver Training or the said substitute training within 60 days of the Contract Commencement Date; and

- 6.9.2 a FORS e-learning safety module in the last 12 months, undertakes a FORS e-learning safety module (or e-learning, which in the reasonable opinion of the Authority, is an acceptable substitute).

Collision Reporting

- 6.10 Within 15 (fifteen) days of the Contract Commencement Date, the Contractor will provide to the Authority a Collision Report. The Contractor will provide to the Authority an updated Collision Report on a quarterly basis and at any other time within 5 (five) Business Days of a written request from the Authority.

FORS Reports

- 6.11 Within 30 days of achieving Silver Accreditation or equivalent within the Alternative Scheme, the Contractor will make a written report to the Authority at fors@tfl.gov.uk detailing its compliance with **paragraphs 6.6, 6.7, 6.8 and 6.9** (inclusive) of this Schedule 20 (which will be known as the "**Safety, Licensing and Training Report**"). The Contractor will provide updates of the Safety, Licensing and Training Report to the Authority at fors@tfl.gov.uk on each three month anniversary of its submission of the initial Safety, Licensing and Training Report.

Obligations of the Contractor Regarding Sub-Contractors

- 6.12 The Contractor will ensure that each of its Sub-Contractors that operates the following vehicles will comply with the corresponding provisions of this Contract as if those Sub-Contractors were a party to this Contract:

6.12.1 For Lorries – paragraphs **6.6, 6.8, 6.9 and 6.10** (inclusive) of this Schedule 20; and

6.12.2 For Vans – **paragraphs 6.7, 6.8, 6.9 and 6.10** (inclusive) of this Schedule 20.

Failure to Comply with Freight-related Obligations

- 6.13 Without limiting the effect of any other clause of the Contract, relating to termination if the Contractor fails to comply with any of **paragraphs 6.2 to 6.12** (inclusive) of this Schedule 20 in whole or part:

6.13.1 the Contractor will have committed a material breach of this Contract; and

6.13.2 the Authority may refuse the Contractor, its employees, agents and Freight Vehicles entry onto any property that is owned, occupied or managed by the Authority for any purpose (including but not limited to deliveries).

Construction & Logistics and Community Safety (CLOCS)

- 6.14 Where applicable, for works contracts exceeding a value of £1m

- 6.14.1 the Service Provider shall comply with the CLOCS Standard
- 6.14.2 the Service Provider shall ensure that the conditions at all sites and locations where:
 - 6.14.2.1 the Services are being delivered, or
 - 6.14.2.2 in connection with the performance of the Services, any waste is being disposed of or supplies are being delivered to or from, are appropriate for each Category N3 HGV being used in the provision of the Services

7. **Nuisance**

- 7.1 The Contractor will at all times prevent any public or private nuisance (including any such nuisance caused by noxious fumes, noisy working operations or the deposit of any material or debris on the public highway) or other interference with the rights of any adjoining or neighbouring landowner, tenant or occupier or any statutory undertaker arising out of or in connection with the carrying out of the Services and will assist the Authority in defending any action or proceedings which may be instituted in relation to the same. The Contractor will be responsible for and indemnify, keep indemnified and hold the Authority harmless from and against any and all expenses, liabilities, losses, claims and proceedings whatsoever resulting from any such nuisance or interference, except only where such nuisance or interference is the direct consequence of an instruction of the Authority.
- 7.2 Without prejudice to the Contractor's obligations under **paragraph 7.1**, the Contractor will ensure that there is no trespass on or over any adjoining or neighbouring property arising out of or in connection with the Services. If the carrying out of the Services is likely to necessitate any interference (including the oversailing of tower crane jibs) with the rights of adjoining or neighbouring owners or occupiers, then the Contractor will, at no cost to the Authority, obtain the prior written agreement of such owners and/or occupiers to the relevant work, and such agreement will be subject to the written approval of the Authority before execution. The Contractor will comply in every respect with any conditions in any such agreement.



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 20 Part B

Special Conditions – Data Protection

Part B

Part B Data Protection

Unless otherwise defined in this **Schedule 20, Part B**, terms and expressions defined expressly elsewhere in the Contract will have the meanings as set out therein.

1. Each Party will comply at all times with its obligations under the Data Protection Laws.
2. The Contractor acknowledges the Client is the Data Controller of the Client Personal Data and it is solely responsible for determining the purposes and manner in which Personal Data is to be Processed. The Contractor as Data Processor will comply with paragraph 4 of this **Schedule 20, Part B**.
3. Details of the Client Personal Data to be Processed by the Contractor and the purposes of such Processing are as set out in the Processing Statement.
4. The Contractor will:
 - (i) Process the Client Personal Data only in accordance with documented instructions from the Client and only to the extent necessary to provide the Services and then only in accordance with this Contract;
 - (ii) use its reasonable endeavours to assist the Client in complying with its obligations under the Data Protection Laws and does not perform its obligations under this Contract in such a way as to cause the Client to breach any of its obligations under the Data Protection Laws to the extent the Contractor is aware, or ought reasonably to have been aware, that the same would be a breach of such obligations;
 - (iii) notify the Client immediately if it determines or is notified that an instruction to Process Personal Data issued to it by the Client is incompatible with any obligations under the Data Protection Laws to the extent the Contractor is aware, or ought reasonably to have been aware, that the same would be a breach of such obligations;
 - (iv) maintain and make available to the Client on its request, documentation which describes the Processing operations for which it is responsible under this Contract including:
 - the purposes for which Client Personal Data is Processed;
 - the types of Personal Data and categories of Data Subject involved;
 - the source(s) of the Personal Data;
 - any recipients of the Personal Data;
 - the location(s) of any overseas Processing of Client Personal Data;
 - retention periods for different types of Client Personal Data; and
 - where possible, a general description of the security measures in place to protect Client Personal Data;
 - (v) where requested to do so by the Client, or where Processing Client Personal Data presents a specific risk to the rights and freedoms of Data Subjects, assist the Client to carry out a Data Protection Impact Assessment in accordance with guidance issued from time to time by the Information Commissioner's Office as well as any relevant requirements detailed in Data Protection Laws);

- (vi) without prejudice to any cyber security standard obligations in this Contract, take appropriate technical and organisational security measures in accordance with Good Industry Practice and/or that are satisfactory to the Client from time to time, against unauthorised or unlawful Processing of Client Personal Data and against accidental loss, destruction of, or damage to such Client Personal Data;
- (vii) without prejudice to any cyber security obligations in this Contract, provide the Client with such information as the Client may from time to time require to satisfy itself of compliance by the Contractor (including any Sub-Contractor) with paragraphs 4(f) and 4(h) of this **Schedule 20, Part B**, including protocols, procedures, guidance, training and manuals. For the avoidance of doubt, this will include provision by the Contractor to Client of a full report recording the results of any privacy or security audit carried out at the request of the Contractor itself or the Client;
- (viii) notify the Client promptly and without undue delay and in any event within 24 hours by written notice with all relevant details reasonably available of any actual or suspected incident of unauthorised or accidental disclosure of or access to the Client Personal Data or other breach of this **Schedule 20, Part B** made by any of the Contractor Personnel or any other identified or unidentified third party (a "**Security Breach**"), including the unauthorised or unlawful Processing of Client Personal Data, or its accidental loss, destruction or damage and the Contractor will keep copies of all information relating to the same which it will make available to the Client promptly and without undue delay upon request;
- (ix) having notified the Client of a breach in accordance with **paragraph 4(h)** of this **Schedule 20, Part B**, keep the Client properly and regularly informed in writing until the breach has been resolved to the satisfaction of the Client;
- (x) promptly and without undue delay provide the Client with all information in the Contractor's or the Contractor Personnel's possession concerning any Security Breach and not make any announcement or publish or otherwise authorise any broadcast or any notice or information about a Security Breach;
- (xi) fully cooperate as the Client requires with any investigation and/or audit in relation to Client Personal Data and/or its Processing including allowing access to premises, computers and other information systems, records, documents and agreements as may be reasonably necessary (whether in relation to Processing pursuant to this Contract, in relation to compliance with Data Protection Laws or in relation to any actual or suspected breach), whether by the Client (or any agent acting on its behalf), any relevant regulatory body, including the Information Commissioner's Office, the police and any other statutory law enforcement agency, and will do so both during the Contract and after its termination or expiry (and for so long as the Contractor retains and/or Processes Client Personal Data);
- (xii) notify the Client within two (2) Business Days if the Contractor (including any Sub-Contractor), receives:
 - from a Data Subject (or Third Party on their behalf):
 - a Subject Access Request (or purported Subject Access Request);
 - a request to rectify, block or erase any Client Personal Data; or
 - any other request, complaint or communication relating to the Client's obligations under the Data Protection Laws;
 - any communication from the Information Commissioner or any other regulatory authority in connection with Client Personal Data; or

- a request from any Third Party for disclosure of Client Personal Data where compliance with such request is required or purported to be required by Applicable Law;
- (xiii) provide the Client with full cooperation and assistance (within the timescales reasonably required by the Client) in relation to any complaint, communication or request made as referred to in paragraph 4(k) of this **Schedule 20, Part B**, including by promptly providing:
- the Client with full details and copies of the complaint, communication or request and provide the Client with all assistance required in respect thereof;
 - where applicable, such assistance as is reasonably requested by the Client to enable it to comply with the Subject Access Request within the relevant timescales set out in the Data Protection Laws; and
 - where applicable, such assistance as is reasonably required by the Client to enable it to comply with a request from a Data Subject to rectify, block or erase any Client Personal Data;
- (xiv) when notified in writing by the Client, supply a copy of, or information about, any Client Personal Data. The Contractor supplies such information or data to the Client within such time and in such form as specified in the request (such time to be reasonable) or if no period of time is specified in the request, then within two (2) Business Days from the date of the request;
- (xv) prepare and securely maintain a record of all categories of Processing activities carried out on behalf of the Client in relation to the Client Personal Data, as a minimum: (i) its name and contact details and details of a Data Protection Officer (if appointed) or other person with responsibility for data protection compliance; (ii) the categories of Processing it carries out on behalf of the Client; (iii) transfers to Restricted Countries; (iv) a general description of the technical and organisational security measures referred to in this **Schedule 20, Part B**; and (v) the same information in relation to any Sub-Contractor, together with its name and contact details (together the "Data Record") and when notified in writing by the Client, complies with any agreement between the Client and any Data Subject in relation to any Processing which causes or is likely to cause substantial and unwarranted damage or distress to such Data Subject, or any court order requiring the rectification, blocking, erasure or destruction of any Client Personal Data;
- (xvi) if required to do so by the Data Protection Laws, appoint a designated Data Protection Officer;
- (xvii) provide all Connected Persons (and any other worker and/or visitor who may enter the Site on behalf of the Contractor) with a copy of or directions on how to access the Fair Processing Notice provided by the Client prior to any Connected Person (or any other worker and/or visitor) entering the Site, and the Contractor acknowledges that, if a Connected Person (or any other worker and/or visitor of the Contractor) refuses or withdraws consent to use of any security system in place at the Site without proper and reasonable circumstance, they may be denied access at the Client's discretion;
- (xviii) make available to the Client all information necessary to demonstrate compliance with the obligations set out in this **Schedule 20, Part B**;
- (xix) promptly comply with any change of instructions from the Client relating to the Client Personal Data and/or the Contractor's role as Data Processor;
- (xx) not by any act or omission place the Client, any Service Recipient or any Third Party in breach of the Data Protection Laws;

- (xxi) ensure that the Client Personal Data is kept separate from Contractor Personal Data and from Personal Data belonging to other customers of the Contractor and that the Client Personal Data is readily identifiable;
 - (xxii) not make any copies of the Client Personal Data (whether in electronic or paper form) unless strictly necessary for the Services;
 - (xxiii) not modify, amend or alter the contents of the Client Personal Data or disclose or permit the disclosure of any of the Client Personal Data to any Third Party unless expressly required to do so as part of the Services or specifically authorised in writing to do so by the Client;
 - (xxiv) at any time at the Client's request, submit to the Client all required materials and/or technical documentation to demonstrate its compliance with this **Schedule 20, Part B**; and
 - (xxv) when the Contractor receives a written request from the Client for information about, and/or a copy of, Client Personal Data, supply such information or data to the Client within such time and in such form as specified in the request or if no period of time is specified in the request, then within 2 (two) Business Days from the date of the request.
5. The Contractor will not share Client Personal Data with any Sub-Contractor without prior written consent from the Client and only where there is a written contract in place between the Contractor and the Sub-Contractor which requires the Sub-Contractor to:
- 5.1. only Process Client Personal Data in accordance with the Client's documented instructions to the Contractor; and
 - 5.2. comply with the same obligations which the Contractor is required to comply with under this **Schedule 20, Part B** and **clauses 40 (Confidentiality) and 46 (Records, Audit and Inspection)** of the Contract.
6. The Contractor will remain responsible and liable to the Client for all acts and omissions of any Sub-Contractor as if they were its own.
7. The Contractor will ensure that it and procure that any and all Sub-Contractors:
- (i) only Process Client Personal Data in accordance with the Client's documented instructions to the Contractor and as reasonably necessary to perform this Contract in accordance with its terms;
 - (ii) do not Process Client Personal Data for any other purposes (in whole or part) and will not reproduce or refer to Client Personal Data in training materials, training courses, commercial discussions and negotiations with third parties or in relation to proposals or tenders with the Client;
 - (iii) do not Process Client Personal Data in such a way as to:
 - place the Client in breach of Data Protection Laws;
 - expose the Client to the risk of actual or potential liability to the Information Commissioner or Data Subjects;
 - expose the Client to reputational damage including adverse publicity;
 - (iv) do not allow its personnel to access Client Personal Data unless such access is necessary to Provide the Services;

- (v) will take all reasonable steps to ensure the reliability and integrity of all Connected Persons who can access Client Personal Data;
 - (vi) ensure that all Connected Persons who can access Client Personal Data:
 - are informed of its confidential nature;
 - are made subject to an explicit duty of confidence;
 - understand and agree to comply with any relevant obligations created by either this Contract and/or Data Protection Laws; and
 - receive adequate training in relation to the use, care, protection and handling of Personal Data on a regular and at least an annual basis;
 - (vii) do not disclose or transfer Client Personal Data to any Third Party without the Contractor having obtained the prior written consent of the Client (save where such disclosure or transfer is specifically authorised under this Contract);
 - (viii) without prejudice to paragraph 4 of this **Schedule 20, Part B**, wherever the Contractor uses any mobile or portable device for the transmission or storage of Client Personal Data, ensure that each such device encrypts Client Personal Data; and
 - (ix) comply during the course of this Contract with any written retention and/or deletion policy or schedule provided by the Client to the Contractor from time to time.
8. The Contractor will not, and will procure that any and all Sub-Contractors do not, Process or otherwise transfer any Client Personal Data in or to any Restricted Countries without prior written consent from the Client (which consent may be subject to additional conditions imposed by the Client).
9. If, after the Contract Commencement Date, the Contractor or any Sub-Contractor wishes to and/or requests to Process and/or transfer any Client Personal Data in or to any Restricted Countries, the following provisions will apply:
- (x) the Contractor will submit a written request to the Client setting out details of the following:
 - the Client Personal Data which will be transferred to and/or Processed in any Restricted Countries;
 - the Restricted Countries which the Client Personal Data will be transferred to and/or Processed in;
 - any Sub-Contractor or other Third Parties who will be Processing and/or receiving Client Personal Data in Restricted Countries;
 - details as to how the Contractor ensures an adequate level of protection and adequate safeguards in respect of the Client Personal Data that will be Processed in and/or transferred to Restricted Countries so as to ensure the Client's compliance with the Data Protection Laws;
 - (xi) in preparing and evaluating such a request, the Contractor agrees to comply with all Applicable Laws including the Data Protection Laws as well as applicable policies, procedures, guidance and codes of practice produced by the Client and/or the Information Commissioner in connection with the Processing of Personal Data in (and/or transfer of Personal Data to) any Restricted Countries;

- (xii) the Contractor will comply with any and all instructions and carry out such actions as the Client may notify to it in writing when providing its consent to such Processing or transfers, including:
- incorporating standard and/or model clauses (which are approved by the European Commission as offering adequate safeguards under the Data Protection Laws) into this Contract or a separate data processing agreement between the Parties; and/or
 - procuring that any Sub-Contractor or other Third Party who will be Processing and/or receiving or accessing the Client Personal Data in any Restricted Countries enters into a data processing agreement with the Contractor on terms which are equivalent to those agreed between the Client and the Contractor in connection with the Processing of Client Personal Data in (and/or transfer of Client Personal Data to) any Restricted Countries, and which may include the incorporation of the clauses referred to in the bullet point above.

10. The Contractor and any Sub-Contractor, acknowledges:

- (xiii) the importance to Data Subjects and the Client of it safeguarding Client Personal Data and Processing it only in accordance with the Client's instructions and this Contract;
- (xiv) the loss and damage the Client and Data Subjects is or are likely to suffer in the event of a breach of this Contract or negligence in relation to Client Personal Data;
- (xv) that any breach of any obligation in relation to Client Personal Data and/or negligence in relation to performance or non-performance of such obligation is deemed a material breach of this Contract and a substantial failure by the Contractor to comply with his obligations; and
- (xvi) without limiting **Clause 32 (Termination)** of the Contract, if the Contractor has committed a material breach under paragraph 10(c) of this **Schedule 20, Part B** on two or more separate occasions, the Client may at its option withdraw authorisation for Processing by a specific Sub-Contractor immediately by immediate written notice.

11. Compliance by the Contractor with this **Schedule 20, Part B** is without additional charge to the Client and is not a compensation event.

12. Following termination or expiry of this Contract or termination or expiry of the Contractor's obligation to provide the Services, in each case howsoever arising, the Contractor:

- (xvii) may Process the Client Personal Data only for so long and to the extent as is necessary to properly comply with its non-contractual obligations arising under law (and will then comply with paragraph 12(b) of this **Schedule 20, Part B** and only in accordance with the Data Protection Laws;
- (xviii) subject to paragraph 12(a) of this **Schedule 20, Part B**:
- on written instructions from the Client either securely destroy or securely and promptly return to the Client or a recipient nominated by the Client (in such usable format as and to the extent the Client may reasonably require) the Client Personal Data; or
 - in the absence of instructions from the Client after 12 months from the expiry or termination of this Contract or termination of the Contractor's obligation to Provide the Works securely destroy the Client Personal Data.

13. The Contractor acknowledges and agrees that it will not Process Client Personal Data following termination or expiry of this Contract or termination of the Contractor's obligation to provide the Services save as permitted by paragraph 12 of this **Schedule 20, Part B**.

14. For the avoidance of doubt, and without prejudice to paragraph 12 of this **Schedule 20, Part B**, the obligations in this **Schedule 20, Part B** apply following termination or expiry of this Contract or termination of the Contractor's obligation to provide the Services.

15. The Contractor will take all necessary precautions in accordance with Good Industry Practice to preserve the integrity of the Client Data and to prevent any corruption or loss of the Client Data.

16. The Contractor agrees that it will follow and will comply with the 10 Steps to Cyber Security issued by the National Cyber Security Centre.

17. The Contractor agrees that it will be responsible for and indemnifies the Client from and against any and all fines, court awards, settlements, legal costs, expenses, liabilities, losses, claims and proceedings whatsoever resulting from any breach by the Contractor or any Sub-Contractor of the Data Protection Laws or paragraphs 1 to 16 (inclusive) of this **Schedule 20, Part B**. The Contractor's liability in respect of any breach of this **Schedule 20, Part B** insofar as they relate to fines, court awards, settlements and legal costs is unlimited.

ANNEX

Client Personal Data

1. The Client Personal Data to be Processed by the Contractor (if any) concerns the following categories of Data Subject:

TfL to confirm list of the relevant categories of Data Subject, e.g. staff, customers, members of the public prior to Works Commencement Date.

2. The Client Personal Data to be Processed includes the following types of Personal Data and/or Sensitive Personal Data:

TfL to confirm list of the relevant types of Personal Data, e.g. names, email or postal addresses, telephone numbers, images, other unique identifiers prior to the works commencement date.

3. The Client Personal Data is to be Processed for the following purpose(s):

TfL to confirm list and summarise the relevant purpose(s) prior to the works commencement date.

4. The Client Personal Data is to be Processed in the following Restricted Countries:

The Contractor to confirm prior to works commencement date.



TRAFFIC TECHNOLOGY CONTRACT (TTC) LOT 4 (FOUR) – NORTH AND CENTRAL

Schedule 21

Reserved Information

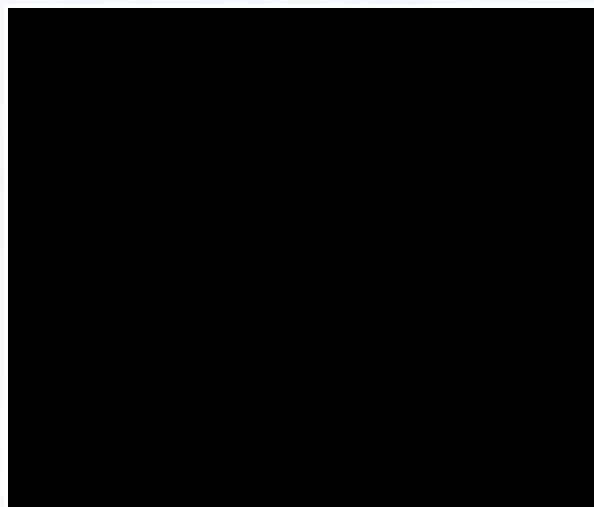
SCHEDULE 21

Reserved Information

This **Schedule 21** is subject to (and without prejudice to) **Clause 40** of this Contract. The information set out or referred to below is only an indication of those areas of the Contract which the Contractor would like the Authority to consider for redaction if the Authority proposes to publish the Contract Information pursuant to the Transparency Commitment.

The Contractor's Confidential Information will be:

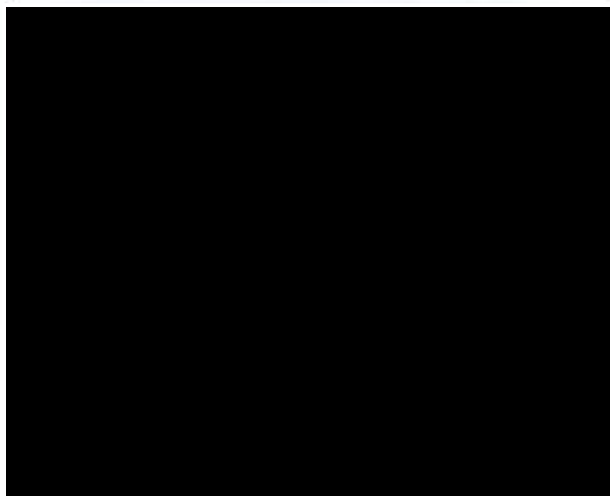
1. **Details of the information the Contractor wishes to exempt from disclosure**



2. **The specific exemption(s) under Freedom of Information Act 2000 or exception(s) under the Environmental Information Regulations 2004 that applies**

1. Commercially Sensitive Information
2. Commercially Sensitive Information
3. Personal data
4. Confidential Information

3. **The reasons why the Contractor considers the information to be exempt***





4. **The time period (if any) the Contractor consider the information should be exempt for**
1. Contract Term or minimum 3 years (whichever is greater)
 2. Contract Term or minimum 3 years (whichever is greater)
 3. Perpetual
 4. Perpetual

*For example, if the Contractor considers that disclosure would prejudice their commercial interests, then the reasons why this would be likely to occur must be specified.



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 22

Innovation

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1 Introduction

- 1.1 This **Schedule 22** sets out the procedures by which the **Authority** and the **Contractor** will collaborate to enable the delivery of innovative business change with benefits. Those benefits will be delivered through the completion of **Innovation Project(s)**.
- 1.2 Benefits may include cost savings, increased revenue, improved performance, and other benefits as defined and agreed within an Innovation Project Plan document.
- 1.3 An **Innovation Project** as defined in an **Innovation Project Plan** will be recorded in the **Innovation Strategic Plan** document, **Annex 5**.
- 1.4 The **Innovation Strategic Plan** will record **Approved Projects** and **Proposed Projects** recorded in **Annex 5**.
- 1.5 The **Innovation Strategic Plan** in **Annex 5** will be updated to include:
 - 1.5.1 additional **Proposed Projects** documented during the **Term** of the contract;
 - 1.5.2 additional **Approved Projects** approved during the **Term** of the contract.
- 1.6 Where an existing item of **Approved Equipment** undergoes incremental changes to any of hardware, software and firmware the Contractor will follow the processes for **Equipment Approval** detailed in **section 3.4 of Part 3, Schedule 3**, unless agreed with the **Authority** that the change should follow this **Schedule 22**.
- 1.7 The **Parties** will work together in a collaborative manner to identify and implement innovation during the Term in accordance with the terms set out in this **Schedule 22**

2. Scope

- 2.1 The **Schedule 22** applies to **Innovation Projects**, the **Works and Services**.
- 2.2 Innovation which requires a change to any works and/or services outside the scope of the **Works and/or Services** will not form part of this **Contract** and this **Schedule 22** will not apply to any such works and/or services.
- 2.3 Innovation Projects delivered to plans developed in line with this **Schedule 22** will be delivered in line with the applicable requirements of **Schedule 3 (Statement of Requirements)**, including, but not limited to requests to add new items to the **Authority's Approved Equipment List, Documentation, Installation, Testing, Commissioning and Handover**.

3. **Funding**

- 3.1 Funds made available by the **Contractor** and the **Authority** will be agreed by the Parties and detailed within the relevant **Innovation Project Plan(s)**.

4. **Roles and Responsibilities**

- 4.1 The **Parties** will attend and engage in the **Innovation Working Group** and **Innovation Project Design Process** as described in **section 7** of this Schedule 22, in addition to the meetings set out in Schedule 8 (Contract Management and Reporting), as a minimum. Additional meetings and/or collaboration may be agreed between the **Parties** from time to time.
- 4.2 The Contractor will provide the resources and meet obligations defined in the **Innovation Project Plan(s)** detailed in the **Innovation Strategic Plan** in **Appendix 5** or agreed within the scope of **Schedule 22** throughout the **Term**.
- 4.3 The **Innovation Champion**, appointed by the **Authority**, will be responsible for the effective management of the **Innovation Project Design Process** and **Innovation Working Group** as set out in **Schedule 22** throughout the **Term**.
- 4.4 The **Authority** will ensure that an **Innovation Champion** is appointed before the **Works Commencement Date**.
- 4.5 The **Innovation Champion** will be responsible for:
- 4.5.1 two-way communication of **Authority** strategy;
 - 4.5.2 identification of potential **Innovation Projects**;
 - 4.5.3 management of the **Innovation Project Design Process**;
 - 4.5.4 communication and discussion of commercialisation models;
 - 4.5.5 internal communication with the **Innovation Working Group**, organisation of, and attendance at **Innovation Working Group** meetings;
 - 4.5.6 communication and advocacy;
 - 4.5.7 additional tasks necessary to the efficient administration of the **Innovation Project Design Process**.

5. **Innovation Working Group**

- 5.1 The **Innovation Working Group** is accountable for the successful application of the **Innovation Process Design** up to and including the point at which **Innovation Projects** are approved, such as it intersects with the Works and Services of the Contract as set out in this **Schedule 22** throughout the **Term**. The **Innovation Working Group** will be established by the **Authority** and it

represents the interests of the **Authority** as well as **Contractor(s)**.

5.2 Membership includes:

- 5.2.1 the **Executive**: Innovation Working Group chair, representing TfL innovation
- 5.2.2 the **Authority Asset Lead**: representing TfL surface asset operations
- 5.2.3 the **Authority Engineering Lead**: representing TfL engineering
- 5.2.4 the **Finance Lead**: representing TfL finance
- 5.2.5 the **Contractor Lead(s)**: relevant to project/agenda item

5.3 The **Contractor** will nominate a representative, the **Contractor Lead** to represent the interests of the **Contractor** as a member of the **Innovation Working Group** prior to the **Works Commencement Date**.

5.4 The **Innovation Working Group** may include others by agreement with the **Executive**, as a regular member of the group or on an ad-hoc basis depending on the agenda items which are to be discussed at **Innovation Working Group** meetings.

5.5 An **Innovation Working Group** is quorate and able to meet if the **Executive**, the **Authority Asset Lead** and **Authority Engineering Lead** are in attendance, or if these members nominate an attendee to deputise in their absence.

5.6 The **Innovation Working Group** cannot approve an **Innovation Project** without being quorate and without the attendance of the **Finance Lead** and the **Contractor Lead** representing the **Contractor** who is identified as responsible for supporting the **Innovation Project** in the **Innovation Project Plan**.

5.7 The **Innovation Working Group** meeting will allow attendance using remote access technology. The **Authority** will provide the relevant remote access information as part of the agenda or electronic calendar invitation.

5.8 The **Innovation Champion** will schedule **Innovation Working Group** meetings 6-12 months ahead of the meeting date.

5.9 The **Innovation Working Group** meeting attendees will be supplied with supporting material for the agenda items to be discussed at the meeting by the **Innovation Champion** no later than one (1) week prior to the date on which the meeting is scheduled to take place.

5.10 **Innovation Working Group** meetings will comprise:

- 5.10.1 4 quarterly meetings lasting a maximum of 2 hours.
- 5.10.2 1 annual strategic innovation review meeting at which **Contractor(s)** will be invited to present ideas and opportunities for innovative change in support of longer-term planning. This meeting will last a maximum of 4 hours.

- 5.11 Additional ad-hoc meetings may be called with at least one weeks' notice by agreement between the **Executive** and any **Contractor Lead(s)** who may be required to attend.
- 5.12 The **Contractor Lead** is required to be available to attend all **Innovation Working Group** meetings including ad-hoc meetings. Additional ad-hoc meetings will require a maximum time commitment of 2 hours per calendar month. Attendance may only be required for agenda items specific to **Contractor Lead(s)**.
- 5.13 Whilst **Framework Contractors** will not participate as frequently, they are required nominate a **Contractor Lead** to attend **Innovation Working Group** meetings for any reason at the discretion of the **Innovation Champion**.
- 5.14 The following items will be addressed at **Innovation Working Group** meetings and additional items for discussion will be invited from attendees prior to the meeting:
- 5.14.1 **Innovation Project Plan(s)**: approvals, revisions, or updates to previously approved **Innovation Project Plans** submitted by the **Innovation Champion**. Approvals, revisions or updates will require the unanimous agreement of:
- 5.14.1.1 the **Executive**
- 5.14.1.2 the **Authority Asset Lead**
- 5.14.1.3 the **Authority Engineering Lead**
- 5.14.1.4 the **Finance Lead**
- 5.14.1.5 the **Contractor Lead(s)** representing any **Contractor** which is incurring obligations and a requirement to support the **Innovation Project**.
- 5.14.2 Review of progress preparing **Innovation Project Plan(s)** prior to formal approval requests being submitted.
- 5.14.3 Any other business proposed for discussion by the meeting attendees.
- 5.15 The **Authority** will organise the **Innovation Working Group**, including the communication, recording of meetings (minutes and actions), and technical set up to enable attendance consistent with the standards described in this **Schedule 22**.
- 5.16 The **Authority** will record all **Innovation Project Plan** approvals, revisions or updates to **Innovation Strategic Plan** document and maintain a version-controlled library of the latest versions of approved **Innovation Project Plans** within the **Innovation Strategic Plan**. Access to the latest version of approved **Innovation Project Plans** specific to a **Contractor** will be shared with that **Contractor** when approved or updated.
- 5.17 The **Contractor** will fulfil its role within the **Innovation Working Group** according to the requirements described in this **Schedule 22** including timely

attendance and response to agreed actions and constructive engagement.

6. **Innovation Project Design Process**

6.1 Upon identification of a potential **Innovation Project** in line with the requirements set out in this **Schedule 22**, the **Innovation Champion** will review a draft summary of the potential **Innovation Project** which will meet the standards of the **Innovation Proposal Brief** as further detailed in **paragraph 6.5.2** of this **Schedule 22**. Identification of a potential **Innovation Project** may originate from:

6.1.1 the **Contractor**;

6.1.2 the **Authority**;

6.1.3 a combination of discussion between both **Parties**.

6.2 Proposals for **Innovation Project(s)** which are outside the scope of this **Contract** will be reviewed by the **Innovation Champion** and may, at the **Authority's** discretion be progressed through an alternative **Authority** contract, framework or procurement process.

6.3 Upon identification of potential innovation in line with the requirements set out in this **Schedule 22**, the originator will prepare an **Innovation Proposal Brief** (as further detailed in **section 6.5.2** of this **Schedule 22**).

6.4 The first draft and review of the **Innovation Proposal Brief** is the start of the **Innovation Project Design Process** which comprises 2 or 3 stages:

6.4.1 **Triage**

6.4.2 **Review** (optional at the discretion of the **Innovation Champion**)

6.4.3 **Planning**

6.5 **Triage**

6.5.1 The **Triage** stage comprises a review of the **Innovation Proposal Brief** by the **Innovation Champion** to ensure the **Innovation Proposal Brief**.

6.5.1.1 is accurate;

6.5.1.2 is realistic in its objectives;

6.5.1.3 is consistent with the **Authority's** business strategy, and values;

6.5.1.4 is within the scope of the **Contract**

6.5.2 **Innovation Proposal Brief**

6.5.2.1 The **Innovation Proposal Brief** will be delivered to the **Innovation Champion** by the originator and as a minimum will include:

- (1) Problem statement or goal of project;
- (2) Solution and outcome required;
- (3) Estimated Capital Expenditure (CapEx);
- (4) Source of CapEx;
- (5) Estimated impact on Operational Expenditure (OpEx) / savings;
- (6) Anticipated impact on and/or change requirements for the Authority's Systems;
- (7) Indicative timescales: project start date, implementation date;
- (8) Benefits of project;
- (9) Provisional classification as per Annex 1 of this Schedule;
- (10) Provisional resource plan;
- (11) Provisional benefits sharing profile;
- (12) Provisional commercialisation strategy.

6.5.2.2 If the **Innovation Proposal Brief** meets the criteria at paragraph 6.5.1 of this Schedule 22 but does not form part of the **Works and Services** (and is therefore outside the scope of this **Contract**, the Innovation Champion may seek to progress the **Innovation Proposal Brief** through a procurement process and/or alternative contract with the **Authority**. In this case the **Innovation Champion** will draft a high-level action plan setting out the further steps to be undertaken in connection with the **Innovation Proposal Brief** and agree this with the **Contractor**. The action plan will be presented to the **Innovation Working Group** for review outside of the scope of this **Contract**.

6.5.2.3 The **Innovation Champion** will decide, at their own discretion, whether to:

- (1) Discard the **Innovation Proposal Brief** and notify the originator of their decision;
- (2) Proceed to the **Review** process if a more detailed review is required.
- (3) Proceed to the **Planning** process if a more detailed review is not required.

6.5.2.4 If the **Innovation Champion** decides that the **Innovation Proposal Brief** should proceed to **Review** or **Planning** stage, it becomes a **Proposed Project** and the **Innovation Strategic Plan** is updated with the **Innovation Proposal Brief**.

6.6 **Review**

- 6.6.1 During the review stage the **Innovation Champion** will identify a panel of subject matter experts to support the carrying out of a detailed assessment of the **Innovation Proposal Brief** of a detailed assessment of the **Innovation Proposal Brief**. Subject matter experts will comprise either **Authority** staff or **Contractor** staff, or both. Expert advice may also be sought, external to either **Party**. The **Innovation Champion** will agree any commitment of time and cost with the **Authority** and/or **Contractor** as necessary.
- 6.6.2 The **Innovation Champion** will manage the Review process and decide when complete.
- 6.6.3 The **Innovation Champion** will decide whether to:
 - 6.6.3.1 Discard the **Innovation Proposal Brief** and notify the originator of their decision;
 - 6.6.3.2 Proceed to the **Planning** stage.

6.7 **Planning**

- 6.7.1 The **Planning** stage allows the **Contractor** and the **Authority** to conduct any additional work to the **Innovation Proposal Brief** so that the **Parties** can then complete the draft **Innovation Project Plan**.
- 6.7.2 The draft **Innovation Project Plan** will be submitted to the **Innovation Working Group** for review. The **Innovation Working Group** will review and either:
 - 6.7.2.1 Approve: at this stage the **Innovation Project** becomes an **Approved Project** and progresses to implementation (subject to any internal Client approvals), as defined within the **Innovation Project Plan**, or;
 - 6.7.2.2 Provide feedback: a request to revise the **Innovation Project Plan** and re-submit;
 - 6.7.2.3 Refuse approval: the **Innovation Project** does not proceed to implementation.
- 6.7.3 If the **Innovation Working Group** decides that the **Innovation Project Plan** is approved it becomes an **Approved Project** and the **Innovation Strategic Plan** is updated with the **Innovation Project Plan**.
- 6.7.4 The implementation of any **Approved Projects** and inclusion with the **Innovation Strategic Plan** shall be subject to any required internal client governance.

7. **Innovation Project Plan**

7.1 The ***Innovation Project Plan*** will include the following elements as a minimum, and any other detail required, as agreed by the ***Parties***, or requested by the ***Innovation Working Group***:

- 7.1.1 Project definition and approach: a description of what the ***Innovation Project*** needs to achieve and the choice of solution;
- 7.1.2 Business case: the costs shown in the business case will reflect a whole life cost analysis and identify financial investment required and costs borne by the ***Contractor*** and ***Authority***. The costs savings detailed in the business case will map to the ***Benefits Sharing Model***.
- 7.1.3 Project team structure and roles.
- 7.1.4 Quality management: approach, change control approach, risk management approach, communication approach, project plan, and controls.
- 7.1.5 Benefits.
- 7.1.6 Innovation classification (***Annex 1***)
- 7.1.7 ***Risk Investment Matrix*** analysis (***Annex 2***)
- 7.1.8 ***Benefits Sharing Model*** (***Annex 3***)
- 7.1.9 Commercialisation strategy, if relevant.
- 7.1.10 Approach to the allocation of Intellectual Property Rights

Annex 1: Innovation Classification

- 1.1 All ***Innovation Projects*** will be classified as Category A, B, or C with this classification included in the ***Innovation Project Plan***.
- 1.2 Classification will be agreed based on the definitions and examples contained in Table 1 below

Table 1: Classification

	Category A	Category B	Category C
Definition	Small enhancement, incremental change, or upgrade.	Significant enhancement or change.	Radical change or replacement of legacy technology.
Engineering Description	An upgrade / new release of equipment that is of a kind already approved and in use on the TfL estate with minor differences not affecting core functionality. It is considered "off-the shelf" and will already have the required external approvals in place.	A new technology used to achieve existing functionality of current traffic infrastructure systems or a significant update to an existing product with major changes to core functionality. It may be "off-the shelf" and may already have the required approvals in place, or be in the process of seeking such approvals, but it may not already be in wide use nationally.	This equipment will introduce a radical change to current functionality by providing new methods to achieve required / new outcomes. This equipment may deliver new outcomes through new or existing technology. It may be "off-the shelf" but is likely to require some level of specification refinement. It may be required to refine the functionality.
Examples			
Traffic Signal Aspect	A new off the shelf lamp is implemented with a slightly lower wattage.	Halogen lamps are replaced with LED bulbs requiring equipment modification and coordinated project management.	A new signalling technology is implemented which replaces the requirement for lamps.
Traffic Signal Controller	A revision of the traffic signal controller cabinet with a new door.	A new traffic signal controller, housed in existing controller cabinets and wired into existing signal heads and detectors.	Devolved traffic signal controller, where signal heads contain the control equipment.
CCTV Outstation	New camera with lower power requirements.	A camera that uses a new CODEC.	A camera with built-in analytics that can detect accidents.
VMS	Latest VMS equipment.	A VMS sign with a different resolution.	In vehicle VMS.
Over-height Vehicle Detectors	Latest approved/model OVD equipment upgrade.	Equipment change to enable image records of over height vehicles.	Equipment replaced with detector beam with video analytics.
Detectors	Combined radar and infra-red detectors equipment upgrade.	Equipment change to enable video analytics for vehicle classification.	Equipment replaced to provide real-time vehicle tracking across junctions.

Annex 2 – Risk Investment Matrix

- 1.1 The ***Innovation Project Plan*** will include a ***Risk Investment Matrix*** analysis which identifies the relative levels of ***Contractor*** investment, ***Authority*** investment, and risk borne by the ***Contractor***.
- 1.2 The level of risk will be informed, by the innovation classification agreed, as indicated in Table 2 below.
- 1.3 The ***Risk Investment Matrix*** will inform agreement on the location of the ***Innovation Project*** in the ***Risk Investment Matrix***.

Table 2: Risk Investment Matrix

Contractor Investment Level V Authority Investment Level	High	Default Benefit Share Profile	Default Benefit Share Profile adjusted in favour of Contractor	Default Benefit Share Profile adjusted heavily in favour of Contractor
	Balanced	Default Benefit Share Profile adjusted in favour of Authority	Default Benefit Share Profile	Default Benefit Share Profile adjusted in favour of Contractor
	Low	Category A: Authority retain all benefits. Category B: Default Benefit Share Profile adjusted heavily in favour of Authority.	Default Benefit Share Profile adjusted in favour of Authority	Default Benefit Share Profile
		Low	<u>Contractor Risk</u> Medium	High
		<u>Innovation Categorisation</u>		
		A	B	C

Annex 3: Benefits Sharing Model

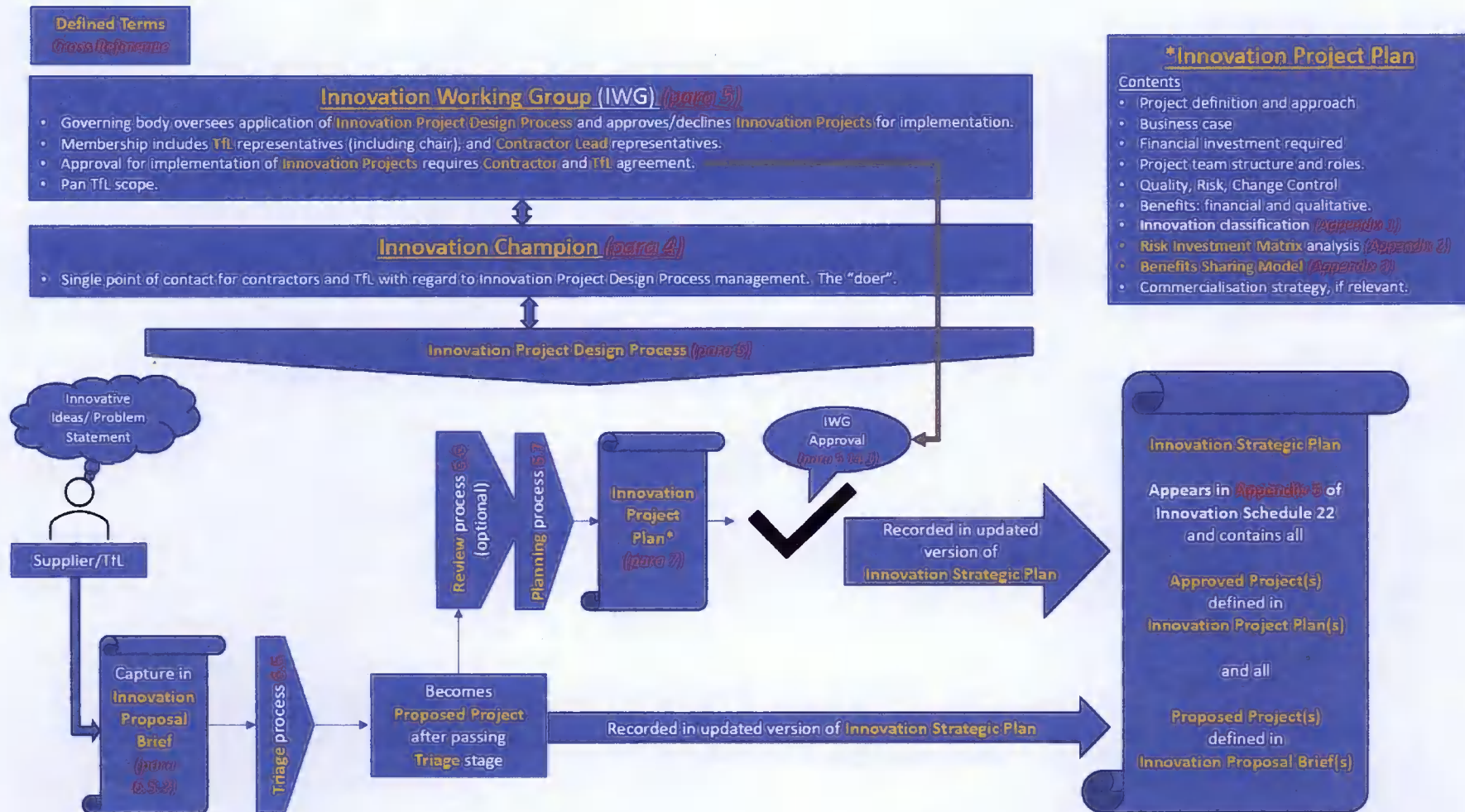
- 1.1 The ***Benefits Sharing Model*** will define how cost reduction benefits or other financial benefits which result from the implementation of an ***Innovation Project*** will be shared between the ***Authority*** and the ***Contractor***.
- 1.2 The ***Benefit Sharing Model*** will be agreed as an element of the ***Innovation Project Plan*** and does not have a fixed format.
- 1.3 Table 3 provides a default ***Benefits Sharing Model***, for illustration. Following agreement on the location of the ***Innovation Project*** on the ***Investment Risk Matrix***, the default ***Benefits Sharing Model*** shown in **Table 3 below** may be modified by mutual agreement of the ***Parties*** before inclusion in the ***Innovation Project Plan***
- 1.4 Unless otherwise agreed, benefits will be reflected in payments by way of an Adjustment as detailed in **Schedule 5**.

Table 3 - Illustration of Benefit Sharing Model Calculations

Innovation Benefit Sharing Models: default examples

Benefits Term			Option 1: Unit Based Cost Reduction			Option 2: Project Based Cost Reduction	
24 4 week periods							

Annex 4 Innovation Schedule Governance and Process Graphic



Annex 5 – Innovation Strategic Plan

TO BE INSERTED FROM TENDER and updated when required

REDACTED



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 23

Security

Cyber Security Management Schedule
Standard
Version 1.0



Document Information

Document name:	Cyber Security Management Schedule – Standard
Brief description:	This Schedule defines the cyber security requirements for TfL Supplier managed environments
Document Author:	
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1. Security Standards

- 1.1. This Schedule uses the definitions set out on ANNEX 2.
- 1.2. Where the Supplier is processing or storing TfL Data on a regular basis, there will be a requirement for the Supplier to be:
 - 1.2.1. Independently certified to ISO/IEC 27001:2013 or latest version, with a scope which covers TfL's Data.
 - 1.2.1.1. Independently tested to verify that the systems used to process TfL Data meet the requirements of the UK government promoted Cyber Essentials Scheme and/or Network & Information Systems (NIS) Directive.

2. Security Principles

- 2.1. The Supplier acknowledges that security, data protection and confidentiality are of fundamental importance in relation to its performance of this Agreement and TfL's ability to retain public confidence. The Supplier shall always comply with the security principles set out in this paragraph in the performance of this Agreement.
- 2.2. In recognition of the importance that TfL places on security, data protection and confidentiality, the Supplier shall ensure that a director or relevant individual of the Service Provider, as agreed by TfL, is made aware of the risks set out in the Security Management Plan and is assigned overall responsibility for ensuring that:
 - 2.2.1. appropriate members of the Supplier Personnel and the Supplier's management team take responsibility for managing the different levels of security risk and promoting a risk management culture.
 - 2.2.2. a Security Risk Register is produced and maintained throughout the Term and that all Security Risks are documented in an appropriate manner and are included in any contract risk register for this Agreement if one is in place. The Security Risk Register must be available for audit when reasonably required by TfL.
 - 2.2.3. a Service Asset Register is produced and maintained throughout the Term and that all Service Assets are documented in an appropriate manner in the service asset register and shall identify the criticality of the relevant supplier assets in the delivery of this Agreement. The Service Providers



service asset register must be available for audit when reasonably required by TfL.

2.2.4. supporting policies are implemented (where relevant) and communicated with Supplier Personnel.

2.3. The Supplier shall, and its sub-contractors shall, at all times ensure that:

2.3.1. security threats to TfL Data, the Supplier's IT environment, and the Services are minimised and mitigated.

2.3.2. the Services fully comply at all times with:

2.3.2.1. the Security Requirements set out in Annex 1 and 3 of this Schedule, or otherwise agreed in the Security Management Plan

2.3.2.2. the Security Management Plan.

2.3.2.3. Good Industry Practice.

2.4. The Supplier shall not (and shall ensure that the sub-contractors shall not) use any Cloud Services for, or in connection with, the performance of this Agreement (including in relation to any TfL Data) without TfL's prior written approval and, if so provided, the Supplier shall ensure that any such Cloud Services complies with this Schedule.

3. Security Management Plan

3.1. Within the timescales identified in ANNEX 1 (Security Reporting) the Supplier shall submit to TfL for Approval (and thereafter maintain) a Security Management Plan which as a minimum shall:

3.1.1. set out the security measures to be implemented and maintained by the Supplier in relation to all aspects of the Services and all processes associated with the delivery of the Services and shall at all times comply with and specify security measures and procedures which are sufficient to ensure the Services comply with this Schedule.

3.1.2. state any other cyber security industry standards over and above those set out in this Schedule which are applicable to the Services.

3.1.3. state all applicable Law which relates to the security of the Services; and

3.1.4. state how the Supplier shall comply with any other security requirements TfL may



- 3.1.5. reasonably request from time to time.
- 3.2. The Supplier shall review and update the Security Management Plan at least annually and as required in response to:
 - 3.2.1. changes to the Cyber Security Standards
 - 3.2.2. emerging changes in Good Industry Practice
 - 3.2.3. any relevant Contract Change and/or associated processes
 - 3.2.4. any new perceived or changed security threats and
 - 3.2.5. any reasonable request by TfL.
- 3.3. The Supplier shall submit any amendments to the Security Management Plan for Approval by TfL.



ANNEX 1 – Security Requirements

1. Risk Management

1.1. The Supplier shall:

- 1.1.1. implement a Risk Management process for the purpose of identifying, assessing, mitigating, monitoring, and reporting upon cyber security risks.
- 1.1.2. organise and manage a risk management forum where risks identified will be discussed and addressed (*Security Reporting- Security Risks within the Risk Register*).
- 1.1.3. conduct threat and risk assessments on any part of the Services that are new or have been materially changed since the last threat and risk assessment was conducted (*Security Reporting- Security Risk Treatment Plan*).
- 1.1.4. risks identified will be discussed with the relevant member of TfL.

2. Engagement and Training

2.1. The Supplier shall:

- 2.1.1. screen all Service Provider Personnel prior to the Supplier authorizing access to the Services the Supplier is performing on TfL's behalf. (*Security Reporting - Joiners, Movers & Leavers Notification*)
- 2.1.2. conduct criminal record checks on all Supplier Personnel who have access to any Services the Supplier operating on behalf of or TfL. The level of checks should be consistent with British Standard 7858 (BS7858-
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/417085/BS7858.pdf)
- 2.1.3. ensure all Supplier Personnel have been vetted in accordance with HMG Guidance for overseas individuals –
<https://www.gov.uk/government/publications/criminal-records-checks-for-overseas-applicants>
- 2.1.4. make a reasonable determination of whether the individual constitutes an unreasonable security risk taking into consideration the duties of the



individual, the type and sensitivity of information to which the individual may be exposed, and all applicable laws.

- 2.1.5. require all Supplier Personnel to proactively disclose criminal offences to the Supplier unless prohibited by applicable law.
- 2.1.6. ensure that all persons employed or retained to perform the Services receive security awareness training annually and supervision at a level and in substance that is appropriate to that individual's position and the Supplier's obligations under this Agreement.
- 2.1.7. not permit any person the Supplier hires or uses to access or obtain any TfL Data unless that person is contractually bound to the Supplier in writing to keep TfL Data confidential on terms no less protective than the terms applicable to the Supplier under this Agreement.

3. Asset Management

- 3.1. The Supplier shall implement controls to manage Service Assets throughout its lifecycle. These controls will include processes for acquiring, using, maintaining, and disposing Service Assets.
- 3.2. Service Assets used to access or manage TfL Data and Services must be under the authority of the Supplier or TfL and have a standard set of security controls deployed upon them. These Assets must be placed into a 'known good' state prior to being provisioned into the environment of the Supplier. Unless otherwise agreed with the TfL in writing, all Supplier assets are expected to meet the set of security requirements set out within Annex 1.
- 3.3. The Supplier shall:
 - 3.3.1. maintain an inventory of all Service Assets.
 - 3.3.2. use secure methods when disposing of Service Assets.
 - 3.3.3. maintain records of the disposal of Service Assets.
 - 3.3.4. through the operation of the Supplier's Change Management process, manage changes to any Service Asset.

4. Architecture and Configuration



- 4.1. The Supplier shall implement and maintain security assets such as industry standard firewalls that protect the perimeter and internal components of the Services environment.
- 4.2. The Supplier shall follow industry standards for Asset Hardening and Secure Configuration.
- 4.3. The Supplier shall remove or disable unnecessary utilities from operating systems, configurations and restrict access rights to least privilege.
- 4.4. The Supplier will ensure that any preconfigured passwords delivered with any Service Assets are changed prior to their implementation for use in the Services environment.
- 4.5. Where the Supplier manages user authentication controls for the Service Provider Personnel to access the Services, the Supplier must:
 - 4.5.1. enforce minimum password complexity, such as requiring passwords to be case sensitive, or requiring passwords to contain a minimum of twelve characters and a combination of upper-case letters, lower-case letters, numbers, and/or special characters.
 - 4.5.2. require regular change of passwords at predetermined intervals, and which limit reuse.
 - 4.5.3. require multi-factor authentication for privileged access.
- 4.6. The Supplier will establish a software development lifecycle for the purpose of defining, acquiring, developing, enhancing, modifying, testing, or implementing information systems.
- 4.7. The Supplier shall ensure that web-based and mobile applications used to store, receive, send, control or access TfL Data are monitored, controlled and secure.
- 4.8. The Supplier shall implement and manage a Change Management process to manage changes that occur within the Services environment.

5. Vulnerability Management

- 5.1. The Supplier will implement and maintain a Vulnerability Management programme, which will include the following elements:
- 5.2. security patches will be applied to Service Assets as soon as possible in line with vendor recommendations in accordance with the Change Management Process.



- 5.3. a process to test rogue wireless access points. (*Security Reporting - Wireless Access Point Scan Reports*)
- 5.4. Internal and external network vulnerability tests that are carried out at least quarterly. An external, qualified party should be resourced to carry out the external network vulnerability tests. (*Security Reporting - Penetration Test Report*)
- 5.5. External and internal penetration tests using the Supplier's penetration testing methodology that is based on industry-accepted penetration testing approaches that cover the all-relevant systems and include application-layer as well as network-layer tests. All test results are kept on record and any findings are remediated in a timely manner.
 - 5.5.1. The Supplier will ensure that all penetration tests conducted upon the Services it provides are performed by approximately industry accredited organisations.
- 5.6. The Supplier shall implement an Intrusion Detection System (IDS) and/or an Intrusion Prevention Solution (IPS) technique to detect / prevent and alert on intrusions into the network.
- 5.7. The Supplier shall maintain industry standard processes for defending against malware / Trojans / virus infections. The Supplier shall maintain a programme of anti-malware/anti-virus updates to keep provisioned Assets free of infection.

6. Supply Chain Security

- 6.1. The Supplier must maintain an inventory of all suppliers / sub-contractors it utilises. This should be in the form of a supplier matrix with roles and responsibilities defined.
- 6.2. The Supplier must ensure that its suppliers and sub-contractors involved in the provision of Services meet or exceed the standards set forth in this Schedule.
- 6.3. The Supplier must conduct security assessments upon its supply chain to ensure all suppliers of Services to its present a low or no risk to the Service it is providing to TfL.

7. Incident Management



- 7.1. The Supplier will implement and maintain an Incident Management Plan which will be used to respond on breaches to the Service. The Incident Management Plan will include the following:
 - 7.1.1. Definition of roles, responsibilities, and communication and contact strategies in the event of a compromise, including notification of customers.
 - 7.1.2. Specific incident response procedures.
 - 7.1.3. Analysis of legal requirements for reporting compromises.
 - 7.1.4. Coverage of all critical system components.
 - 7.1.5. Regular review and testing of the Incident Management Plan.
 - 7.1.6. Incident management Support Personnel that are available to support the Services.
 - 7.1.7. Training of Supplier Personnel.
 - 7.1.8. Inclusion of alerts from all security monitoring systems.
 - 7.1.9. Modification and evolution of the Incident Management Plan according to lessons learned and to incorporate industry developments.

8. Logging and Monitoring

- 8.1. The Supplier shall implement and maintain a solution which enables all access to network resources and Data to be tracked and monitored using a centralized logging mechanism that allows thorough tracking, alerting, and analysis on a regular basis (at least daily) as well as when an abnormality/incident occurs.
- 8.2. The Supplier shall deploy and maintain a File-Integrity Monitoring solution to alert Supplier Personnel via its centralized solution to unauthorized modification of critical systems.
- 8.3. The Supplier shall ensure that all systems shall be provided with correct and consistent time and audit trails that are secure and protected, including File-Integrity Monitoring for Data classified as Confidential to prevent changes of existing Log Files and/or generate system alerts.



- 8.4. The Supplier shall ensure that audit trails for critical systems are kept for a period in-line with industry standards.

9. Data Security

- 9.1. The Supplier shall:

- 9.1.1. implement and maintain a Key Management Solution in-line with industry standards.
 - 9.1.2. implement and maintain encryption of TfL Data while it is at rest.
 - 9.1.3. implement and maintain encryption of TfL Data while it is in transit.
 - 9.1.4. not provide encryption keys used to secure TfL Data to a third party or the ability to break such encryption.
 - 9.1.5. implement and maintain the logical separation of TfL Data, even in the case of equipment or technology failure.
 - 9.1.6. implement, where supported by available technology, the logical separation of audit records related to TfL Data and activities, even in the case of equipment or technology failure, segregate tenancy traffic from management network traffic.
 - 9.1.7. not use TfL Data for test or development purposes without the written approval of TfL.
- 9.2. The Supplier shall segment the environment to ensure specific classified types of Data are not accessible to unauthorized individuals.
- 9.3. The Supplier shall ensure that all Service Assets have appropriate tools or applications installed to protect against malicious software.

10. Identity and Access Management

- 10.1. Where the Supplier's Personnel are accessing any part of the Supplier's Systems that may contain TfL Data, the Supplier must:
- 10.1.1. implement access control policies and procedures that address onboarding, off-boarding, transition between roles, regular access reviews, limitations and usage control of administrator privileges, and inactivity timeouts.



- 10.1.2. identify and segregate conflicting duties and areas of responsibility, such as separation of duties.
- 10.1.3. maintain a current and accurate inventory of computer accounts.
- 10.1.4. review the inventory of computer accounts on a regular basis to identify dormant, fictitious, or unused accounts.
- 10.1.5. enforce principles of "least privilege" and "need to know".
- 10.1.6. review user access rights on a regular basis to identify excessive privileges.
- 10.1.7. enforce a limit of logon attempts and concurrent sessions.
- 10.1.8. ensure that all users of the Services are allocated a single unique ID for accessing the Services environment.
- 10.1.9. ensure any system administration functionality is strictly controlled and restricted to those Supplier Personnel who need to have access to such functionality and that the ability of Supplier Personnel to change the configuration of the Service Assets is appropriately limited and fully auditable.
- 10.1.10. ensure that Supplier Personnel are informed of what constitutes acceptable access of operational or IT technology, Data and networks and the consequences of non-compliance.
- 10.2. For physical access the Supplier shall:
 - 10.2.1. Implement and maintain a CCTV system to monitor the external building elevations, the main reception area, any other personnel entrance points, the goods delivery point(s), the external fire exit doors from the building and the entry / exit point into the area(s) processing the TfL Data. The System shall maintain a minimum of 30 days recording.
 - 10.2.2. ensure external lighting for the building shall support any external elements of the CCTV system and give sufficient lighting for natural observation. Where this is not possible the CCTV system shall include infra-red lighting.
 - 10.2.3. ensure that physical access to the areas used to process or store TfL Data shall be physically controlled (e.g. electronic access control system).
 - 10.2.4. ensure that access to the areas processing or storing TfL Data should be restricted to those people working on the Services or those who have an operational requirement to access the area.



10.2.5. implement an electronic access control system to control and manage access into the building and internal areas used to process and store TfL Data. The System should log all activities, alarms and events and hold data for a minimum of 90 days.

10.2.6. define and document procedures to manage visitor and temporary access into the building and internal areas used to process and manage TfL Data.

11. Compliance

11.1. The Supplier shall have a documented compliance plan and conduct regular reviews (at least annually) to ensure that the security of TfL Data cannot be compromised.

11.2. TfL may require the Supplier to assist with TfL's Cyber Security assessment process. This may result in a full physical and logical information security review at all relevant locations in accordance with the Right to Audit section of the Agreement

11.3. Unless otherwise stated, the Supplier must respond to any requests for information or Data to be provided to TfL in relation to the Supplier Services within 30 days of notice.

12. Business Continuity

12.1. The Supplier shall provide a Business Continuity Plan that demonstrates how they will maintain the contracted service level in the event of an emergency. The Business Continuity Policy and Business Continuity Plan must align with the best practice detailed in the standard ISO/IEC 22301 Business Continuity Management.

12.2. The Supplier's Business Continuity Policy and Business Continuity Plan will be subject to an annual review by the Supplier and the updated documents will be shared with TfL no more than 12 months following the previous submission. TfL, acting reasonably, reserve the right to request further information relating to the Supplier's Business Continuity arrangements, including but not limited to exercise schedules and reports, and the Supplier will make all efforts to respond promptly to such information requests.



13. Security Reporting

The Supplier shall provide communicating metrics about security, risk, and the performance of security controls to TfL.

Supplier Reporting	Timeframe for submission to TfL
Security Management Plan	Within 20 days of the Contract Commencement Date.
Security Risk Assessment Methodology	Within 20 days of the Contract commencement date, and when significant changes to this document occurs.
Joiners, Movers & Leavers Notification	Every 3 months the Supplier will provide TfL a report on all Supplier Personnel who have joined or left the delivery of the Services provided to TfL.
Security Risks within the Risk Register	Within 3 months] of the Contract commencement date, and then at least 5 Business Days before each management meeting.
Security Risk Treatment Plan	Within 3 months of the Contract commencement date, and then at least 5 Business Days before each management meeting.
Security Risk Status Reports	Monthly from the Service commencement date and throughout the remainder of the Term of the Contract.
Penetration Test Report	At least annually following the Service commencement date, or within [two (2) months] following each significant change to the System or Assets (whichever is the sooner).
Wireless Access Point Scan Reports	Within 3 months] of the Contract commencement date, and then every three 3 months.
Review of actions following each Security Incident	Within 1 month] after each Security Incident and each Information Security Event (following the Service commencement date)



Security Improvement Plan	At least annually following the Service commencement date or within [one (1) month] following the identification of significant new vulnerabilities or threats (whichever is the sooner).
Review of Security Controls	At least annually following the Service Commencement Date.
Review of the corrective and preventive actions	At least annually following the Service commencement date.



ANNEX 2 – Definitions

Security Management Plan	means the Service Provider's security plan developed and revised pursuant to Paragraph 3.
Cyber Essentials Scheme	means the UK government scheme encouraging organisations to adopt good practice in information security, focussing mainly on technical controls rather than governance, risk, and policy.
Vulnerability Management	Vulnerability management is the various processes, tools, and strategies of identifying, evaluating, treating, and reporting on security vulnerabilities and misconfigurations within an organisation's software and systems.
Network & Information Systems (NIS) Directive	Network & Information Systems (NIS) is intended to establish a common level of security for network and information systems.
Business Continuity Plan	A Business Continuity Plan helps a company survive and continue running after a major disruption or disaster. It highlights the step-by-step process of what should be done to prevent risks that can lead to a business having to close.
Intrusion Detection System (IDS)	An Intrusion Detection System (IDS) is a monitoring system that detects suspicious activities and generates alerts when they are detected.
Intrusion Prevention Solution (IPS)	An intrusion prevention system (IPS) is a network security tool (which can be a hardware device or software) that continuously monitors a network for malicious activity and takes action to prevent it.
Asset Hardening and Secure Configuration	Asset Hardening and Secure is the process of reducing the attack surface of an Service Asset.
Cloud Services	Cloud Computing Services is the delivery of computing services including servers, storage, databases,



	networking, software, analytics, and intelligence over the Internet
Incident Management Plan	An Incident management Plan is a series of steps taken to identify, analyse, and resolve critical incidents, which could lead to issues in an organisation if not restored.
TfL Data	means data created, generated or collected, during the performance of the Services (or any part thereof), including Personal Data and data supplied to TfL and members of the TfL Group in connection with the Services or this Agreement.
Good Industry Practice	means the exercise of that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced service provider engaged in the same type of undertaking under the same or similar circumstances.
File-Integrity Monitoring	File Integrity Monitoring is used to monitor and alert changes to Data files.
Service Asset Register	means a register of all Information Assets relating to the Services connected to this Schedule.
ISO/IEC 22301	means the proposed standard that specifies security requirements for disaster recovery preparedness and Business Continuity Management Systems (BCMS).
ISO/IEC 27001	means the information security standard specification for an Information Security Management System (ISMS), with an emphasis on measuring and evaluating how well an organisation's ISMS is performing.
Security Incident	means a potential or actual event or attempted breach of security affecting the confidentiality, integrity or availability of the Service which processes or holds TfL Data.
Security Policy	means any TfL security policies as amended by TfL from time to time.
Security Risk	meaning all risks associated with the security of the Services which may have a negative impact upon the agreed security posture, including information security



	and any risks identified pursuant to the Security Management Schedule.
Security Risk Register	means a register of Security Risks produced and maintained as detailed in paragraph Security Principles 2.2.2.
Service Assets	means all assets and rights including all physical assets, Software, IPR, as well as spares and components whether in storage, repair or on sites, used by the Service Provider to provide the Services in accordance with this Agreement;
Log File	A log file is a computer-generated data file that contains information about usage patterns, activities, and operations within an operating system and/or , application.
Service Provider Personnel	means all employees, agents, consultants and contractors of the Service Provider or of any Sub-Contractor
Service Provider Premises	means any land or building where the Service Provider carries out any part of this contract
Key Management	the activities involving the handling of cryptographic keys and other related security parameters (e.g., passwords) during the entire life cycle of the keys, including their generation, storage, establishment, entry and output, and destruction.
Risk Management	the process of identifying, monitoring and managing potential risks in order to minimize the negative impact they may have on an organisation.



ANNEX 3 – List of relevant Policies and Standards

TO BE PROVIDED BY TFL UPON REQUEST

P116 Information Technology Security Policy

- This policy defines TfL's requirements for managing Information Security.

P009 Operational Technology Cyber Security -Operations and Maintenance

- This policy defines TfL's requirements for Operations and Maintenance.

P008 Operational Technology Cyber Security -Projects and Upgrades

- This policy defines TfL's requirements for Projects and Upgrades.

P006 Operational Technology Cyber Security

- This policy defines TfL's requirements for Cyber Security in Operational Technology.

S1735 Information Technology Access Control

- This standard provides guidance on how employee access should be limited to different types of data.

S1736 Network Information Security

- This standard covers the security of all transmissions within an organisation's network.

S1740 Cryptography

- This standard covers best practices in encryption.

S1747 Physical and Environmental Security of TfL's Information Technology

- This standard describes the processes for securing buildings and internal equipment.

S1790 Information Security Asset Management

- This standard describes the processes involved in managing data assets and how they should be protected and secured.

S1791 Operational Information Security

- This standard provides guidance on how to collect and store data securely, a process that has taken on new urgency thanks to the passage of the General Data Protection Regulation (GDPR) in 2018.

S1793 IT System Acquisition, Development and Maintenance



- This standard detail the processes for managing systems in a secure environment.

S1794 Information Security Supplier Management

- This standard covers how an organisation should interact with third parties while ensuring security.

S1795 Information Security Incident Management

- This standard covers how an organisation should manage information security incidents.

S1796 Information Security Aspects of Business Continuity Management

- This standard covers how business disruptions and major changes should be handled.

S1797 Information Technology Compliance

- This Standard identifies what government or industry regulations are relevant to the organisation, such as ITAR.

S1771 Operational Technology Cyber Security -Projects and Upgrades

- This standard covers how Projects and Upgrades should be managed.

S1772 Operational Technology Cyber Security-Operations and Maintenance

- This standard covers how Cyber Security should be managed in Operations and when performing maintenance activities.





TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 24

Health and Safety

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1 General

- 1.1. The Authority's vision for health and safety is of world class delivery with zero harm. The Authority's strategy for delivering this is to implement effective health and safety management Systems and behaviours to get **"Everyone home safe and healthy every day"**.
- 1.2. The Contractor will comply with the Authority's Health, Safety and Environment Policy and any statutory requirements.
- 1.3. The Contractor and all Sub-Contractors will identify and implement measures to mitigate and manage risks to as low as reasonably practicable (ALARP) through:
 - a) robust design risk management;
 - b) effective processes for assessing risk and developing safe systems of Work;
 - c) Construction Phase Plans and Emergency Preparedness Plans;
 - d) behavioural safety programme with full participation by all;
 - e) high levels of leadership commitment and supervision and engagement in monitoring and managing the Contract, rectifying deficiencies and continuously improving;
 - f) personal competency, development and innovation;
 - g) exemplary standards of health and safety performance and management whether in design, construction or procurement to ensure that the Authority's vision is delivered and compliance achieved with health and safety legislation;
 - h) comprehensive occupational health management scheme;
 - i) regular meetings to discuss health and safety performance;
 - j) Through, among other things, inductions, toolbox talks and briefings, Contractor Personnel understand the Works and how to complete them safely.;
 - k) "One Team" culture, honesty, openness and engagement; and
 - l) rewarding good performance and challenging poor performance.
- 1.4. The Contractor will respond within 24 hours if the Authority requests a meeting with a senior representative from the Contractor (typically a Director) to discuss any reportable event, adverse trends or other evidence of a serious non-conformity with the legislation or health and safety requirements.
- 1.5. The Contractor will take all necessary precautions to prevent danger, nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public generally.

- 1.6. The Contractor will inform the Authority as soon as becoming aware of any visits from Enforcing Authorities (for example but not limited to, Health and Safety Executive (HSE), Office of Rail and Road (ORR) or Local Authority Environmental Health (EH) Department), prosecution or pending or likely prosecution of the Contractor for any offence pertaining to the health and safety of Contractor Personnel or of other persons, or of any conviction on such prosecution, and will provide the Authority with such further information and documents as the Authority may require.
- 1.7. The Contractor will ensure that all Contractor Personnel and Sub-Contractors and suppliers of any tier are made aware of their responsibility for their own safety and the safety of Third Parties and for ensuring that the activities they undertake are safe and do not place Third Parties at risk.
- 1.8. The Contractor will ensure that all Contractor Personnel will participate in the health and safety initiatives that the Contractor and Authority use to review and improve health and safety performance collectively with their supply chains. This includes the requirement to attend routine health and safety meetings, briefings and Sub-Contractor forums.
- 1.9. The Contractor will produce, cascade, communicate and circulate health and safety alerts and communications to all levels of the workforce and shares these with the Authority. The Contractor will retain records of these being briefed.

2 Contractor's Health and Safety Management Arrangements

- 2.1 The Contractor will have in place a health and safety management system that, as a minimum, meets the requirements contained in ISO 45001.
- 2.2 The Contractor will produce and implement an annual Health and Safety Action Plan at the start of each financial year. The will shall:
 - a) list and support a set of Health and Safety objectives;
 - b) have realistic target dates assigned and be challenging but achievable;
 - c) be presented to, and agreed by, the Authority during the Mobilisation Period to commence delivery on the Works Commencement Date, then in subsequent years be presented to, and agreed by, the Authority during March to commence delivery on 1 April each year;
 - d) be completed, evidenced and approved by the Authority before the end of the financial year; and
 - e) consist of at least one action per financial year relating to collaborative working to deliver a pan-London health and safety benefit or initiative.

3 Health and Safety Advice

- 3.1. The Contractor will ensure at all times that it has in place suitably competent health and safety resources to oversee and direct a sufficiently sized and competent team of health and safety professionals, to fully implement all the applicable health and safety requirements.
- 3.2. The Authority will be informed if the resources available to fulfil this change, and the measures that shall be taken to ensure health and safety are not compromised.

4 Procurement and Supply Chain Management

- 4.1. During the Term, the Contractor is responsible for ensuring that Sub-Contractors are aware of and understand the health and safety requirements stated within the Contract. The Contractor will coordinate and manage the interface between the Sub-Contractors to ensure compliance with the health and safety requirements and monitors and reports health and safety performance periodically to the Authority.

5 Health and Safety Training

- 5.1. The Contractor will provide health and safety training for all persons (including Sub-Contractors and suppliers of any tier) engaged in the Works and Services. In particular, training will cover how health and safety initiatives can be incorporated in to the Works activities to maximise performance and assist with mitigating any associated impacts. The Contractor will provide training to Contractor Personnel to ensure that they are aware of the required mitigation measures detailed in the risk assessments and method statements. The Contractor will meet all training, assessment and associated costs.
- 5.2. The Contractor will ensure that all Contractors Personnel, visitors, Sub-Contractors, suppliers and Third Parties working on Site attend an induction and any other training appropriate to the Works taking place before being permitted to start Work on the Site.
- 5.3. The Contractor will put in place systems to implement all inductions/training effectively. The persons providing inductions will receive adequate training to do so. The Contractor will ensure that such inductions and training are carried out in a suitable place with appropriate visual aids.
- 5.4. The Contractor will have a procedure in place that assists those personnel with learning, reading and language difficulties.
- 5.5. The Contractor will maintain a written record of attendance for inductions and safety briefings. This record will be available to the Authority on request.

6 Construction Skills Certification Scheme (CSCS)

- 6.1. The Contractor will ensure that all Contractors Personnel, Sub-Contractors and suppliers and other Contractors entering the Sites or carrying out Works or Services under this Contract are in possession of a valid CSCS card. The Contractor will ensure that the CSCS card held by any individual is appropriate to their specific job task(s).
- 6.2. An exception to this requirement is granted where the individual holds a valid card from a CSCS affiliated or amalgamated scheme or other accepted scheme which has been assessed as meeting similar standards. Special dispensation will be given by the Contractor to provide access to visitors when on an accompanied Site visit.

7 Management of Site Hazards

- 7.1. The Contractor will takes appropriate action with regards to the Hazards in association with the Works contained in any pre construction Information. The Contractor will also consider the Hazards identified in the development of their detailed design using the Design Risk Management process of the Construction (Design and Management) Regulations 2015 (CDM Regulations). The Contractor will ensure that it properly communicate the Hazards on drawings or through risk registers, and controls the residual risks via risk assessments, method statements and activity plans as part of their safe system of Work so that they are understood by the workforce. Any pre construction Information provided is treated as a live document, held and updated on the Authority System with any new Site health and safety critical information.
- 7.2. The Contractor will also consider the Hazards that are normally associated with working on the Sites and on the public highway. These include, but are not limited to, confined spaces, working at heights, asbestos containing materials, buried services, overhead utilities, hazardous materials, contaminated land, uneven surfaces, high and low voltage cables, moving machinery, moving vehicles and pedestrians. The Contractor undertakes his own Site Hazard survey prior to starting Works to verify and identify any other risks that may affect the Works.

8 The Construction (Design and Management) Regulations 2015

- 8.1. The Authority is the Client for the purposes of the Construction (Design and Management) Regulations 2015 (the CDM regulations).
- 8.2. To the extent that the CDM Regulations apply to this Contract, the Authority appoints the Contractor to act as Principal Designer and Principal Contractor pursuant to Regulation 5 (1) of the CDM regulations, but reserves the right to appoint alternative suppliers to fulfil these roles.

- 8.3. The Contractor will accept any such appointment made under **paragraph 8.2** above and agree to carry out all associated obligations imposed by the CDM Regulations. The Contractor and Authority will provide each other with all the necessary assistance which they may reasonably require in order to fulfil their respective obligations under the CDM regulations.
- 8.4. The Contractor warrants to the Authority that it:
- (a) is competent to perform such of the duties allocated to it under **paragraph 8.3** above; and
 - (b) will allocate adequate resources to enable it to comply with its obligations under the CDM regulations.
- 8.5. The information contained within this and other supporting documentation for the Contract will be considered as generic pre construction Information applicable across all Works, and will be supplemented with additional Site specific PCI where available.
- 8.6. The Contractor will develop and implement a Construction Phase Plan (CPP) and for providing information as is necessary to maintain and develop the Health and Safety File in accordance with the CDM regulations. (The Contractor shall provide a contract level Construction Phase Plan (CPP) in regards to construction works and projects, and construction activities in respect to emergency, planned and preventative maintenance for this contract.)
- 8.7. The Contractor will be provided with access to, and user rights to enable the use and amendment of all information required for the Authority Health & Safety File Management System.
- 8.8. The Contractor will be responsible for coordination of health and safety on Site and all Works, including those by other Contractors working under direct orders from the Authority, under other statutory powers, or where no contractual agreement exists with the Contractor.
- 8.9. Where the Services require design input by the Contractor, the Contractor shall undertake the duties and responsibilities of the Designer under the Construction Design & Management (CDM) Regulations for that design function for which the Contractor is responsible. The Contractor, in exercising this role, shall liaise as necessary with other designers involved in the project and where appointed the Principal Designer provide such information as is necessary to maintain and develop the Health and Safety File.
- 8.10. Where applicable, the Authority will submit the F10 Notification informing the Health & Safety Executive (HSE)/Office of the Rail and Road (ORR) of planned construction Works in accordance with the Regulations. The Authority requests that the Contractor displays the F10 Notification on Site or in its Site office in accordance with Regulation 6(3)(b) of the Construction Design &

Management (CDM) Regulations 2015.

- 8.11. As either or both the appointed Principal Designer (PD) & Principal Contractor (PC) the Contractor will meet the requirements of regulation 12 of the Construction Design & Management (CDM) Regulations 2015 by submitting Health and Safety Information by means as agreed by Authority directly onto the Authority Systems that are used for managing Health and Safety Information within 28 days of completion of Works.

9 Incident Reporting, Investigation, Performance Monitoring

- 9.1. The Contractor will ensure that appropriate measures are taken to protect Contractor Personnel, road users, Authority's staff and Third Parties from the risks that are associated with the Site and activities undertaken thereupon. If, in the opinion of a member of the Authority staff, possessing the necessary identification, the Contractor is causing danger to the public, that officer has the authority to require immediate remedial action. Upon compliance with the instruction, the Contractor will then contact the Authority to report the instructions given and the actions taken.
- 9.2. The Contractor will report all health, safety and environment incidents, accidents and near miss events which occur during the Term via the System.
- 9.3. Where fatal or serious accidents occur – Major injuries and Dangerous Occurrence (as defined in the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations - RIDDOR) - these will be reported by the Contractor to the Authority immediately (by phone), entered on to the Authority's agreed electronic reporting system within 24 hours, and are subject to a thorough formal investigation.
- 9.4. The Contractor will also provide the Authority with a written electronic summary of all fatal and serious accidents every 3 months from Contract Commencement Date
- 9.5. An injury is defined as fatal when death occurs in less than 30 days as a result of the accident. 'Fatal' does not include death from natural causes or suicide. A serious Injury is defined as an injury for which a person is detained in hospital as an in-patient, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts, severe general shock requiring hospital treatment, injuries causing death 30 or more days after the accident.
- 9.6. The Contractor will provide the Authority with copies of RIDDOR returns and full details of all fatal and serious accidents. Such details will include number of people involved, severity of injuries, date and time of the accident, precise location, nature of the accident (e.g. road traffic collision, failure of temporary

Works, fall from height), contributory factors, and weather conditions.

- 9.7. For incidents reportable under RIDDOR, Lost Time Injuries and Utility Strikes, the Contractor, within fourteen (14) days uploads a final written report (investigation) to the Authority's electronic reporting system detailing as a minimum the following:
- a) description of the incident;
 - b) immediate actions taken;
 - c) immediate causes;
 - d) root causes;
 - e) actions taken to prevent a recurrence;
 - f) skills, knowledge and experience of those involved – supervisors and operatives; and
 - g) details of plant/equipment used including calibration and Maintenance
 - h) for utility strikes - eastings/northings and depth of affected service
- 9.8. For all other incidents, the Contractor, within fourteen (14) days submits an initial written report (investigation) and after twenty-eight (28) days a final report detailing, as a minimum the same items listed above and uploads to the Authority electronic reporting system.
- 9.9. With the agreement of the Authority a longer timescale to complete the final report may be agreed.
- 9.10. All investigation reports will be completed to establish root causes and to a level of detail acceptable at the time to the Authority. Any comments provided by the Authority will be addressed by the Contractor and an updated report submitted if required by the Authority.
- 9.11. Nothing in this Schedule supersedes the Contractor's responsibility for statutory reporting of incidents/accidents.
- 9.12. To support the analysis of health and safety performance, the Contractor will provide the Authority with the details of the number of hours worked by the Contractor and Sub-Contractors during the last Reporting Period and a corresponding list of personnel working during the period. This data is to be submitted within the periodic report using the agreed format, and includes all the Contractor's staff and personnel employed to provide the Works since the last report. The Contractor will also report the cumulative number of hours worked since the Contract Commencement Date, categorised into management, Site level supervision and operatives.

10 Non English Speaking Workers

10.1. The Contractor will set out within the Construction Phase Plan arrangements to ensure that health and safety information is effectively communicated and understood by all non- fluent English speaking staff and Sub-Contractors. This information includes but is not limited to:

- a) Site emergency procedures;
- b) First aid arrangements; and
- c) Risk assessments/method statements.

11 Personal Protective Equipment (PPE)

11.1. The Contractor will assess and provide appropriate personal protective equipment ("PPE") for use by the Contractor Personnel and Sub-Contractors as follows:

- a) Adopt control measures to mitigate risks and reduce the need for protective equipment/clothing other than where such equipment/clothing is stipulated by legislation or other authoritative guidance;
- b) PPE will be provided free of charge to all Contractor Personnel, as required and appropriate, for the task; and
- c) PPE will fit the individual and is cleaned, maintained and/or replaced to ensure that it remains effective at all time

11.2. The Contractor will ensure that all Contractor Personnel wear PPE appropriate to the risks of each task and demonstrate that risk control systems are in place. The Contractor will ensure that protective clothing is properly worn.

11.3. The Authority's minimum requirements, but not limited to, in relation to PPE are:

- a) hard hat;
- b) eye protection (safety glasses or other suitable eye protection);
- c) hand protection (gloves) (subject to a task specific risk assessment agreed by the Contractor, gloves may be omitted);
- d) safety boots with ankle protection/support; and
- e) high visibility jacket (Class 3 – EN 471) and trousers with reflective strips for all Works undertaken on the highway or in tunnels with company branding.

11.4. Depending on the task function and Site conditions, Contractor Personnel will also be provided with:

- a) respiratory protection equipment;
- b) hearing protection; and
- c) hot, wet or inclement weather protection.

12 First Aid, Occupational Health, Drugs and Alcohol

- 12.1. The Contractor will make suitable and sufficient arrangements for first aid based on the:
 - a) nature and size of the Works;
 - b) size and distribution of the workforce;
 - c) needs of traveling, remote and lone workers;
 - d) hours of work; and
 - e) multi-occupied work Sites.
- 12.2. The Contractor will ensure access is available to an occupational health services provider at all times. The occupational health service will be active at all times when Work is being undertaken.
- 12.3. The Contractor will use and consult specialist providers, where necessary, to promote health surveillance, health awareness and general occupational health arrangements.
- 12.4. The Contractor will operate a drugs and alcohol policy and implement suitable arrangements to verify compliance with that policy including undertaking the necessary alcohol and drug testing. In addition the Contractor will co-operate with the Authority regarding the execution of random testing and/or for cause alcohol and drug tests where required. The Contractor will provide records of testing if requested by the Authority
- 12.5. The following occupational health services will be available for each individual engaged by the Contractor (including the employees of Site-based Sub-Contractors and suppliers of any tier including labour only supply):
 - a) testing for drugs and alcohol in individuals in accordance with the Contractor's policy;
 - b) providing pre-employment medicals;
 - c) providing health questionnaires on commencement for all individuals including Site and office-based staff;
 - d) providing specific health appraisals for those referred following evaluation of questionnaires;
 - e) providing specific health surveillance for those requiring it where identified under regulations and/or risk assessment;
 - f) providing occupational hygiene services to support and assess ill health prevention management;
 - g) contributing to the effectiveness of attendance management, rehabilitation and return- to-work programmes and support for ill health incidence

investigation where necessary; and

- h) providing health promotion programmes applicable to Works operatives' workplace, lifestyle and wellbeing.

12.6. The Contractor will implement occupational health protocols for the following health surveillance:

- a) Hand Arm Vibration syndrome surveillance;
- b) Fatigue management;
- c) Stress management; and
- d) Respiratory health.

13 Welfare Arrangements

13.1. The Contractor will provide welfare facilities to support the overall occupational health programme. Welfare facilities must be established and maintained in working order. All toilet, washing, changing, personal storage and rest areas must be easily accessible and have adequate heating, lighting and ventilation. Facilities may need to be provided at more than one location to ensure workers have easy access.

13.2. The Contractor will ensure good hygiene standards are provided throughout the welfare and office facilities. As a minimum the Contractor will ensure that Site welfare facilities fulfil the requirements set out in Schedule 2 of the CDM regulations and HSE requirements 'Provision of welfare facilities during construction Work – cis59.

13.3. The Contractor will provide an outline of their arrangements regarding provisions for transient Work, including reactive and planned short term Works and also include this in their Construction Phase Plan.

14 Equipment, Materials or Substances Hazardous to Health

14.1. The Contractor will ensure that the Authority is notified of any substances hazardous to health which may be used in connection with this Contract. Full information, including manufacturers' hazard data sheets and the Contractor's own Control of Substances Hazardous to Health (COSHH) assessment, will be provided by the Contractor to the Authority for approval 28 calendar days prior to the use of any substance hazardous to health under the COSHH Regulations 2002.

14.2. The Contractor will take all necessary steps to avoid creating a dust nuisance, and will ensure the Works are carried out in accordance with the GLA and London Councils publication "The Control of Dust and Emissions during Construction and Demolition – Supplementary Planning Guidance"; (2014)

and any revisions. If, in the opinion of the Authority, the Contractor is not dealing adequately with the control of dust, the Authority may instruct the Contractor to carry out such additional measures as the Authority considers are necessary, at the Contractor's expense.

- 14.3. Live carriageways and footways will be protected from dust or spray arising from any Works which might otherwise reduce visibility. The Contractor will take measures to prevent debris, dust, spray or other materials from affecting any live carriageway or footway.
- 14.4. The Contractor will ensure that the protective measures stated in Highways Agency Advice Note SA 8/94 'Use of Substances Hazardous to Health in Highway Construction', incorporating subsequent amendments are enforced at all times.
- 14.5. Storage of hazardous materials, including compressed gas cylinders, may be contained within commercial, retail, residential or public buildings adjacent to/or on the road networks that are not under the control of/or known to the Authority. The Contractor will remove all hazardous materials it is responsible for at the end of each working day and will ensure that any hazardous materials used in conjunction with Works are stored and secured appropriately when in use.

15 Asbestos

- 15.1. The Authority supplies all information in its possession in respect of the presence of asbestos containing materials within the Site/structure. The information is included in the Pre- Construction Information/asbestos register. Based on this information, the Contractor will liaise with the Authority to determine where additional surveys are required and the type of survey to be undertaken.
- 15.2. Where no surveys exist the Contractor will consult the Authority on the requirement for, number and type of any asbestos survey before the start of the Works.
- 15.3. The Contractor will have in place a procedure for ensuring that, if asbestos is encountered or suspected, the 'Control of Asbestos Regulations (2012)' and all other Applicable Laws are complied with. If asbestos is encountered or suspected, the Contractor will immediately stop all Works in the immediate vicinity of the suspect material and isolate the area.
- 15.4. In the event of identifying asbestos the Contractor will remain on Site and await instructions from the Authority.
- 15.5. The Contractor will notify the Project Manager immediately upon asbestos

- being encountered or suspected, who will instruct the appropriate action to be taken. Such action may include testing of the suspect material (using a UKAS accredited laboratory) and arrangements for the removal of the material, if necessary, using a licensed Asbestos removal contractor.
- 15.6. The Contractor will prepare a report of the incident and provides it to the Authority in accordance with the requirements described under **section 9.0 (Incident Reporting, Performance Monitoring)**, and arrange for the location and condition of the asbestos containing material and all relevant information to be included in the Health and Safety File.
- 15.7. The Contractor will liaise with the Authority ensuring that all relevant information on the asbestos containing material, location, condition, type, remedial action, etc. is provided in order for the Authority asbestos register to be updated.
- 15.7. All Contractor Personnel will be provided with asbestos awareness training by the Contractor.

16 Emergency Plan and Fire Safety

- 16.1. The Contractor's Emergency Preparedness Plan (EPP) will be submitted to the Authority for review prior to the Works Commencement Dates. In addition to describing the emergency arrangements for the Works and activities on Site i.e. entry to confined spaces, striking utilities during excavations, the plan will consider potential impacts beyond the boundaries of the Site, especially where there are interfaces with the road network, operational assets and neighbours etc. Any existing Site specific EPPs will be provided as part of the Pre-Construction Information, and incorporated in to the Contractor's EPP as appropriate. The emergency arrangements for the Works may be included in the Construction Phase Plan if preferred by the Contractor.
- 16.2. The Contractor will provide fire prevention and fire precautions training to all Contractor Personnel, particularly fire wardens/marshals and training for key emergency management personnel as required for the effective implementation of the procedures.
- 16.3. The Contractor in consultation with the Authority will arrange simulated emergency exercises at an agreed frequency following the Contract Commencement Date, and as appropriate for Site and office locations.
- 16.4. Following an emergency or following a simulated emergency exercise, the Contractor will review the actions taken against the requirements set out in the EPP and revises the EPP accordingly. The output of these reviews will be

provided to the Authority.

- 16.5. The Contractor's EPP will include emergency pollution control measures compliant with Environment Agency (EA) guidelines including emergency phone numbers and the method of notifying local authorities and statutory authorities.
- 16.6. The Contractor will ensure that all Works are compliant with all Applicable Laws, standards and guidance on fire safety.
- 16.7. The Contractor will ensure that no combustible materials are inappropriately stored beneath or within any structure.
- 16.8. In the event of a fire emergency the Contractor will comply with the requirements of the EPP in order to ensure a timely evacuation of the Site and will account for all personnel.
- 16.9. The Contractor will comply with the requirements of any relevant fire authority for the provision of the Site access points and be suitable access for ambulances.

17 Behavioural Safety

- 17.1. The Contractor will implement a behavioural based safety programme aiming to:
 - a) lead by example;
 - b) increase awareness of behaviours;
 - c) develop a no name/no blame culture with the workforce;
 - d) recognise safe behaviour, challenge and manage unsafe behaviour;
 - e) identify and remove Hazards;
 - f) provide positive observations and feedback;
 - g) reduce at risk behaviours/conditions; and
 - h) increase immediate corrective action.
- 17.2. The Contractor will appoint behavioural safety leaders from within their workforce. The behavioural safety leaders are required to:
 - a) attend behavioural safety briefings;
 - b) manage behavioural safety logs;
 - c) lead by example and embody the values of behavioural safety;
 - d) walk the Site and raise all safety concerns;
 - e) raise awareness and brief teams on behavioural safety and encourage all Contractor Personnel to raise safety concerns, remove Hazards as they find them and record and report them as required;

- f) liaise with the Authority and escalate any issues that may need resolving; and
 - g) attend behavioural safety leader meetings at the request of the Authority.
- 17.3. The Contractor will undertake a safety culture survey programme of the workforce and staff which will include the Authority. The survey will be based on an industry recognised survey tool. The Contractor will report on the progress towards a world class safety culture based upon the findings of the survey at appropriate forums.

18 Health and Safety Innovation, Best Practice and Campaigns

- 18.1. The Contractor will identify, trial and implement health and safety innovations in consultation with the Authority.
- 18.2. During the Term it is anticipated that a number of industry best practices will be developed and rolled out. Where identified and agreed with the Authority, the Contractor will adopt such industry best practice to improve health and safety performance. Such industry best practice may comprise of health and safety standards and behavioural techniques and processes along with general Site safety 'best practices' adopted from specific contractors.

19 Site Mobilisation and Start of Works

- 19.1. The Contractor will not start construction Works until he has fulfilled all of his obligations under the CDM Regulations and the Contractor has received formal notification from the Authority to proceed with the Works.
- 19.2. A pre-commencement readiness assessment is undertaken by the Authority to ensure that the Contractor has in place the documentation, consents, processes and controls to allow Works to proceed. The Contractor will supply all necessary information and/or access to information that the Authority requires to support this process as a minimum 14 days before Works commence or any shorter duration agreed by the Authority.
- 19.3. Due to the nature of the Works under the Contract, the Contractor will be required, where necessary, to engage with other specialist and/or Authority Contractor's i.e. Utility Companies. The Contractor will ensure that Site boundaries are established to ensure construction Sites between Third Party Suppliers do not clash.
- 19.4. At times Works may be undertaken close to or affecting, including but not limited to, London Underground, London Rail, London Trams, Docklands Light Rail, London Buses or Network Rail Sites, the river Thames and other watercourses, schools, care homes, other public buildings, commercial and residential areas. Where such Works take place, the Contractor will liaise with the appropriate authorities ensuring that any specific Works requirements are

met.

20 Information

20.1 The Contractor will ensure that:

- a) health and safety records relevant to the Works, including induction, training and equipment inspection and testing records, are available to the Authority for inspection on request;
- b) copies of all relevant health and safety information to particular Site activities are held by the team carrying out the Work including method statements, risk assessments, written briefings, permits to Work and safety alerts/bulletins;
- c) safety briefings are provided to all persons carrying out Work tasks subject to method statement, risk assessments and permit controls and written records maintained of briefings signed by all persons carrying out the tasks (these briefings are completed when the task or condition changes);
- d) the Works are suitably supervised and that operatives are aware of the person supervising their Work activities and their whereabouts at all times; and
- e) supervisors receive induction on the health and safety requirements and of their specific responsibilities for health and safety aspects.

21 Site Supervision

- 21.1 The Contractor will ensure that competent persons supervise and manage the Works and that there are arrangements in place to specifically address the supervision of new personnel and any Third Parties at particular risk. The arrangements will also include those for addressing foreseeable emergencies. The supervisory arrangements will be reviewed by the Contractor for adequacy and suitability in connection with any lone or isolated Work.
- 21.2 Before commencement of Works, the Contractor will provide the Authority with a written procedure setting out their monitoring arrangements, identifying the person(s) with responsibility for undertaking the monitoring. This may be incorporated or appended to the Construction Phase Plan (CPP).
- 21.3 The Contractor will ensure that persons appointed to supervisory and management positions have the necessary skills, knowledge and experience for the role, and are regularly assessed. Training and induction includes demonstration by example of good practice and the impact of poor practice.

22 Confined Spaces

- 22.1 The Contractor will evaluate the Site to determine which spaces (if any) are confined spaces and will develop a written risk assessment and method statement identifying the controls required for the safe operation of a safe system of Work where confined spaces are identified, in accordance with the Confined Spaces Regulations 1997 and INDG258: Safe Work in Confined Spaces. The risk assessment and method statement must include the confined space entry permit and the control systems required for working in confined spaces including communication, evacuation and rescue.
- 22.2 The Contractor will eliminate the need to enter confined spaces wherever possible. Where entry to a confined space is necessary the Contractor will ensure that a safe system of Work is identified that documents all Hazards, safety precautions and safe working practices associated with all confined space activities performed by Contractor Personnel.
- 22.3 The Contractor will ensure its safe system of Work includes:
- a) checks that Contractor Personnel have the necessary skills, knowledge and experience to enter a confined space, are appropriately healthy (e.g. lung function for use of breathing apparatus) and have received adequate training;
 - b) an adequate communication system to enable clear communication between those inside and outside of the confined space;
 - c) testing and monitoring of the atmosphere within a confined space for hazardous gas, fume or vapour and checks on the concentration of oxygen prior to entry; and
 - d) a requirement for emergency arrangements to be in place before any person enters or works in a confined space and contingency plans appropriate to the nature of the confined space, the risks identified and consequently the likely nature of an emergency rescue.

23 Working at Height

- 23.1 The Contractor will comply with the Work at Height Regulations 2005 when working at heights and will seek to eliminate the need to work at height wherever possible. Where working at height is necessary the Contractor will ensure that a safe system of Work is identified that documents all Hazards, safety precautions and safe working practices associated with all working at height activities performed by Contractor Personnel.
- 23.2 The Contractor will ensure that Works are properly planned, appropriately supervised and that Contractor Personnel have the skills, knowledge and experience to Work at height. The Contractor will ensure that collective measures take precedence over personal protective measures i.e. fall

prevention equipment.

- 23.3 The Contractor will implement an inspection and testing regime for all equipment identified as assisting in any working at height operation to ensure that it is compliant with Applicable Laws, maintaining records of all inspections and tests.

24 Lifting Operations

- 24.1 The Contractor will comply with the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), and will produce a risk assessment and lifting plan identifying the nature and level of risks associated with a proposed lifting operation. The Contractor will provide details of the content of the risk assessment and lifting plan to all Contractor Personnel involved in lifting operations and ensure they have a good understanding of the same.
- 24.2 The Contractor will ensure that all Contractor Personnel involved in lifting operations have the required skills, knowledge and experience to carry out such operations.
- 24.3 The Contractor will implements or source adequate training for Contractor Personnel who operate or test/examine lifting equipment. Training records will be kept by the Contractor and where lifting operations are planned, copies of these records are to be made available to the Authority
- 24.4 The Contractor will ensure that any persons who operate lifting equipment or conduct inspections, examinations or tests have the required skills, knowledge and experience to ensure that the safe system of Work is compliant with all Applicable Laws and the approved code of practice for safe use of lifting equipment published by the Health and Safety Executive and current at the time.
- 24.5 The Contractor will ensure that there are adequate competent persons to approve all lift plans on the Site in accordance with Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). No lifts are to be carried out without this prior approval.

25 Excavation

- 25.1 The Contractor will ensure that all necessary excavations are planned before construction Works commence, taking reasonable steps to obtain and review up to date survey drawings, as- built drawings, utility records and ground penetrating radar and other appropriate survey information when planning Works.
- 25.2 In conjunction with suitable detection methods, sufficient trial holes will be undertaken by the Contractor to confirm the location of all buried utilities. The

Contractor will employ a permit to dig process and ensure that all Contractor Personnel undertaking excavations have the necessary skills, knowledge and experience to carry out such Works.

- 25.3 The Contractor will ensure that in carrying out such excavation works, consideration is given to the Health and Safety Executives Guidance Note HSG 47 'Avoiding Danger from Underground Services' and to PAS128, the specification for underground utility detection, verification & location.
- 25.4 Some Sites maybe located close to a range of public transport infrastructures i.e. Underground, Train and Bus stations and may encounter properties with basements or cellars that may have an impact on any excavations required. The Contractor will make all necessary preparations prior to commencing Work including but not limited to, liaison with the Local Authority, the Highway Authority and infrastructure owners.
- 25.5 All excavations, Works, materials and Equipment in the highway will be adequately guarded, signed and lit so as to create the minimum inconvenience to pedestrians, especially mobility impaired persons and those with impaired vision. All water pumped from trenches or other excavations will be confined to proper channels and will not be permitted to flow across roads or footways.
- 25.6 Consideration must be given to maintaining access to priority areas such as hospitals, fire stations, schools, care homes, commercial premises, residential properties etc. It is unlikely that 'Site hoarding' will be required for Maintenance Works on the highway. However, if required, its use will be identified to the Contractor by the Authority through the project specific Pre-Construction Information.

26 Underground Services

- 26.1 The Contractor shall become familiar with and follow the guidance contained in the HSE publication "Avoiding danger from underground services" Guidance Note HSG47 and PAS128, the British Standards Institution (BSI) specification for dealing with underground utility detection, verification & location.
- 26.2 The Contractor shall prepare a suitable and sufficient risk assessment before any Works that entail excavations and trial holes as a minimum, particularly where the use of plant/equipment is required to perform the Works.

27 Overhead Power Lines

- 27.1 The Contractor will become familiar with and follow the guidance contained in the HSE publication "Avoiding danger from overhead power lines" Guidance Note GS6.

- 27.2 The Contractor will prepare a suitable and sufficient risk assessment before any Works below overhead power lines are undertaken, particularly where the use of plant/equipment is required to perform the Works.

28 Electricity

- 28.1 The Contractor will ensure only suitably competent workers, who have the necessary skills, knowledge and experience to carry out such Works, work with any electrical assets including new connections, disconnections and Maintenance Works and have been trained / assessed for the National Highways Sector Scheme 8 (NHSS 8).
- 28.2 The Contractor will prepare a suitable and sufficient risk assessment before any Works that entail working with live electrical assets or disconnection/ removal or connection of such items.

29 Hot Works

- 29.1 All hot Works (welding, soldering, flame cutting, disc cutting of metal, etc.) will require a written risk assessment, method statement and permit to Work system. The Contractor will maintain suitable first aid and fire fighting equipment on Site whilst hot Works are taking place and all Contractor Personnel will be trained in its use. Members of the public will be protected at all times from all hot Works operations and from UV rays generated from welding operations.
- 29.2 On transient Sites, as a minimum a fire extinguisher of the suitable type will be available on vehicles used to transport staff/materials. On fixed Sites, arrangements for fire protection must be detailed in the Construction Phase Plan (CPP) and will include arrangements for protecting facilities on and adjacent to the Site.
- 29.3 All compressed gas cylinders used during hot Works must be adequately secured and all regulators/hoses shall be subject to regular inspection. The Contractor will maintain records of inspection and make these available to the Authority upon request.

30 Construction Plant and Equipment

- 30.1 The Contractor will ensure that all plant and equipment operators have the skills, knowledge and experience for the plant/equipment they are required to operate and that they have been assessed as competent.
- 30.2 The Contractor will ensure that all plant and equipment, including hired plant/equipment, is maintained, inspected and tested in accordance with manufacturers instruction and/or requirements within Applicable Laws. The

Contractor will ensure that all plant/equipment is only maintained (including changing cutting blades) by personnel qualified to do so and that the results from all Maintenance, inspection and testing are recorded.

31 Traffic Management and Pedestrian Segregation

- 31.1 The Contractor ensures that they follow the guidance set out in Transport for London's Temporary Traffic Management Handbook when working on the TLRN, and that adequate provision is made for traffic management to either the Safety at Street Works and Road Works Code of Practice or Chapter 8 of the Traffic Signs Manual, whichever is the most appropriate for the risks and type of Works. All Traffic Management are only installed and maintained by Contractor Personnel with the necessary skills, knowledge and experience and hold an appropriate valid competence scheme card and as a minimum have a recognised Chapter 8 accreditation for the design of TM and installing TM on Site
- 31.2 The Contractor provides all traffic management plans to the Authority for agreement prior to the start of the Works as part of the Traffic Management Act Notification (TMAN).
- 31.3 The Contractor ensures that adequate pedestrian management/segregation is included within traffic management arrangements and consults with the Authority before implementation.
- 31.4 Subject to the degree of risk and location, the Contractor implements such arrangements as are necessary up to and including permanent Traffic Management Contractor Personnel to inspect and maintain traffic management and pedestrian segregation arrangements.
- 31.5 A banksman/signaller is used for all loading, unloading and lifting operations, for all vehicle movements across the public footway notwithstanding the presence of a dropped kerb and for all vehicle movements where the vehicle is reversing or the driver's view is restricted. All vehicle entry and exit movements to Site are managed using a banksman. The Contractor ensures that Contractor Personnel do not enter any areas where they are putting themselves or Third Parties at risk in doing so.
- 31.6 Vehicle movements on and around Site shall be planned and managed by the Contractor as specified in Series 0100. The arrangements agreed at scheme Traffic Management meetings shall form part of the Contractor's Construction Phase Plan submission.
- 31.7 It is anticipated that variation to parking controls may be required at some Sites to allow the safe execution of Works. The Contractor shall take particular care to ensure that the Works do not interfere with access to facilities provided

for vulnerable sections of the community, such as hospitals, clinics, surgeries, care homes and schools, etc.

32 Site Inspections and Assurance

- 32.1 Before Works Commencement Date, the Contractor will agree with the Authority a programme of active assurance activities including Site inspection and audits, and takes account of the nature of the Work, previous results and any other relevant factors. The Contractor will provide copies of the completed audit/inspection reports to the Authority no later than five (5) business days after the audit inspection.
- 32.2 The Contractor will accommodate the gathering of assurance and monitoring of health, safety and environmental performance by the Authority using the Supplier HSE Assessment Tool. The default frequency for assessment against the criteria is quarterly, though this may be varied by the Authority in light of the level of activity or performance. The Contractor will participate in the assessment through the provision of information and evidence requested by the Authority in respect of the criteria. The results of the assessment will be discussed with the Contractor upon completion. If required, the Contractor will be asked to prepare an Action Plan in response to the assessment, progress against which is monitored as part of subsequent assessments. The full assessment criteria in place at the time will be shared with the Contractor ahead of the assessment.
- 32.3 Inspections and audits will be undertaken by the Contractor's health and safety support, supervisors and other management staff. Sub-Contractors must carry out regular health and safety inspections of their own workforce and provide information to the Contractor.
- 32.4 The inspections will be performed in coordination with the Authority own inspection schedule to avoid duplication and to maximise the use of resources and effectiveness of the inspection system.
- 32.5 The Contractor will address all actions and recommendations arising from inspections within the agreed timescales, regardless of who has undertaken the inspection.
- 32.6 The Contractor will hold a regular Health and Safety Supplier Meeting. The Contractor, Sub-Contractors and members of the workforce must attend the meetings. The Authority will be invited to attend and the Contractor will provide the Authority, via the Systems, with meeting records / minutes of meetings.
- 32.7 The Contractor will, where suitable, participate in the Authority Site recognition scheme. The Site recognition initiative is about establishing a guiding light on what Sites should look and feel like from a health, safety and environmental

perspective. To achieve the expected standard, a Site team must go beyond basic compliance with health, safety and environmental requirements and achieve industry recognised best practice. More detail about the Site recognition scheme process and assessment is available in Schedule 27 (Documentation), refer to G1365 'Beacon Site/team – achieving best practice guidance' and checklist F5389. Where suitable, the Contractor will undertake a joint assessment with the Authority and be formally assessed with the aim to achieve 'Beacon' status (team or Site award) within an agreed timescale with the Authority

33 Senior Management Tours

- 33.1 Senior managers from the Contractor and the Authority will complete health, safety and environment (HSE) tours. The frequency of HSE tours is agreed with the Authority but will be at least quarterly. The Contractor's senior managers and those of his Sub-Contractors will contribute actively in these tours as part of the joint commitment to deliver health and safety excellence.
- 33.2 Representatives from the workforce must be engaged in tours to build relationships between management and the workforce in the drive to world class health and safety performance.
- 33.3 The basis of any tour is to engage with the workforce, address the criteria listed below, provide an opportunity for Contractor Personnel and the Contractor to raise any health, safety or environment concerns, and to seek assurance that health, safety and environment systems across the project are understood and followed.
- 33.4 The Contractor will ensure that senior management tours focus on:
 - a) acknowledgement/engagement of all persons involved in an activity;
 - b) management of any particular issues, problems or risks;
 - c) identification and addressing of the health, safety and environment concerns found during the tour;
 - d) seeking assurance that health, safety and environment systems are understood and being followed by ensuring that standards and expectations for best practice are realised in all Work areas and practices;
 - e) culture (safety culture and behaviours);
 - f) health, safety and environment performance data;
 - g) changes, either organisational or activity;
 - h) project activity;
 - i) incident or accident data; and

- j) review of methods of Work, quality of briefings, Site documentation.

34 Works in the Vicinity of the Tidal

Thames General

- 34.1 When Work has to be carried out on or in the vicinity of water several additional Hazards are introduced and must be carefully evaluated and controlled.
- 34.2 Consequently all aspects of the Work will need to be considered by the Contractor during the risk assessment process, including the Hazards presented by working on or near water.
- 34.3 The Construction (Design and Management) Regulations 2015 require Principal Contractor's engaged in construction Work to take all reasonably practical measures to prevent persons falling into water; to minimise the risk of drowning in the event of a fall into water; and to provide suitable rescue equipment (rescue boat) and training in the use of it. Also, the transportation by water to or from Sites shall be done safely; and any vessels used shall be suitable, properly maintained, under the control of a competent person and not overcrowded or overloaded.
- 34.4 The Contractor will comply with all Applicable Laws when working near to or in the vicinity of water.

35 Hazards when working on or near water

- 35.1 When working on or near water the Contractor will establish safe systems of work based on a thorough risk assessment and ensure staff are properly trained and instructed.
- 35.2 When working on or near water consideration will also be given to the health implications of falls into the water. The water may be polluted, for example when working near sewage discharge points, and there is the ever-present risk of contracting leptospirosis (or Weil's disease) from water contaminated by rat urine.

36 Causes of Entry into water

- 36.1 These include:
 - a) Falls from height
 - b) Trips, slips, stumbles from low level
 - c) Persons being knocked over by moving objects (e.g. crane loads, vehicles, etc.)

- d) Loss of balance (e.g. by high winds, sudden boat movements, etc.)
- e) Failure or absence of edge barriers
- f) Failure or absence of fall prevention equipment, ropes, lines.
- g) Floating platforms or vessels sinking.
- h) Tide action, waves or swell from passing waterborne traffic.

37 Hazards of Falling into Water

- 37.1 The most immediate danger is of drowning. Factors that can contribute to this are:
- a) Shock from sudden immersion in cold water
 - b) Weight of waterlogged clothing
 - c) Life jacket not being worn (or not inflating)
 - d) Incapacity following injury – caused by striking an object during a fall, or whilst in the water.
 - e) Fatigue or hypothermia where rescue is not immediate.

38 Precautions for working on or near water

- 38.1 Whenever reasonably practicable, the Contractor will provide fixed edge protection will be provided to prevent people falling into water.
- 38.2 Where edge barriers are not reasonably practicable at exposed edges, e.g. quay edges, appropriate warning signs and/or edge markings shall be displayed to highlight the danger.

39 Work Outside Of Edge Barriers

- 39.1 Safety boats are required at all times when working outside of edge barriers. Safety Nets and full body harnesses attached by lanyard to a suitable anchorage point or proprietary should also be used as additional protection where required. Such equipment must be selected by a competent person to ensure it is suitable for the task, checked and maintained to ensure it is kept in good order and the users instructed and trained in its use. Emergency rescue arrangements also need to be put in place by the Contractor. These will include the provision of a safety boat as a safe means of recovering persons being lowered down after being suspended from a fall

40 Work from Mobile Elevating Work Platforms

- 40.1 Safety Boat are required when working on elevated platforms next to water.

When working next to water, a harness should not be worn due to the risk of drowning if the work-platform falls into the water. Life jackets shall be worn.

41 Workplace Tidiness

- 41.1 Tools, equipment, ropes and other materials not in use must be stored away when working near water. Waste must be cleared up promptly, and materials stacked or positioned with care.
- 41.2 Slippery surfaces increase the risk of people falling into water and must be properly treated to ensure good grip. Water weed, slime, bird droppings etc. will be promptly cleaned off. Oily or greasy surfaces must have absorbent granules or grit spread on them, and icy or frosty surfaces shall be treated with salt or grit.

42 Weather Conditions

- 42.1 The prevailing conditions and local weather forecast must be taken into account by the Contractor at the beginning of each shift. Rain, rising winds, fog, mist, etc. are all potential dangers.

43 Protective Clothing and Equipment

- 43.1 As per **section 11** (Personal Protective Equipment)] hard hats are part of the Authority's minimum requirement, including when working near water. Footwear with good, non-slip soles must also be worn when working on or near water. Rubber boots will not be worn as, once filled, they act as a weight and could drag the wearer under water.

44 Life Jacket

- 44.1 Life jackets will be worn at all times whilst working on boats and where there is a foreseeable risk of drowning when working near to water. Those using life jackets need to be trained and instructed in their proper use and storage, and the equipment regularly inspected and maintained.

45 Rescue Equipment and Procedures

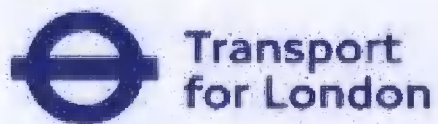
- 45.1 Planning of Works will include the requirement for rescue equipment, such as Maritime and Coastguard Agency (MCA) coded Standby rescue boat including SOLAS (Safety of life at sea) safety equipment. MCA approved lifebuoys or rescue lines will be positioned at intervals along the work-area. Daily checks will be made by the Contractor to ensure that lifebuoys and lines are in their proper place.
- 45.2 It is important that:
 - a) Lone working is avoided to ensure there is always someone to raise the alarm.

- b) Each person is trained in what to do in the event of an emergency.
- c) An emergency rescue plan is in place for the ~Work activity. As a minimum, the elements of a rescue procedure consists of:
 - i. A routine for raising the alarm.
 - ii. A drill to provide the rescue boat facilities.
 - iii. A routine for getting the rescued person(s) appropriate medical assistance. i.e. all rescue boat skippers to hold HSE first aid at Work.

45.3 Rescue procedures must be practised at regular intervals involving all persons who would be required to participate in a rescue.

46 Work Boats and Vessels

46.1 All work boats and vessel must comply with all Applicable Laws in terms of their construction, use, equipment, (including safety, communication and rescue equipment) and the competence of the operator. In most circumstances it will be necessary to provide a rescue boat standing by during Work activities on or near water.



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 25

Environment

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ENVIRONMENTAL REQUIREMENTS

1. Corporate and Mayoral Requirements

- 1.1 The Contractor will familiarise themselves with the content of the following documents and, wherever feasible, assist TfL with the delivery of the environmental commitments that are relevant to the scope of the Works:
- a) TfL's Corporate Environment Plan (see Appendix A)
 - b) Mayor's Transport Strategy
 - c) London Environment Strategy
 - d) GLA Group Responsible Procurement Policy
- 1.2 In particular, the Contractor will, wherever feasible, demonstrably assist TfL with the delivery of the aspirations and targets set out in TfL's Corporate Environment Plan under the following five themes:
- 1. Climate Emergency
 - 2. Air Quality
 - 3. Sustainable Resources
 - 4. Green Infrastructure
 - 5. Best Environmental Practice

2. Environmental Management System/Environmental Advisor

- 2.2 Throughout the Term, the Contractor will operate an environmental management system (the "Environmental Management System") that is independently accredited to BS EN ISO 14001:2015.
- 2.3 The Contractor will set out its approach to environmental management within an Environmental Management Plan (EMP).
- 2.4 The EMP must:
- a) fulfil the requirements of BS EN ISO 14001 standard, although it may be suitably scaled to the project's level of environmental risk;
 - b) cover all stages of the Works and Services, including but not limited to any design work, where applicable; and
 - c) clearly set out identified environmental aspects and the mitigation measures the Contractor will employ to mitigate adverse environmental impacts (threats) or enhance beneficial environmental impacts (opportunities).
- 2.5 The Contractor will submit the EMP to the Project Manager for acceptance within the timescales agreed within the Mobilisation Plan. Works and Services will not

start on Site until, among other things, the Project Manager has accepted the Contractor's EMP. The Contractor will comply with the accepted EMP. at all times.

- 2.6 As a minimum, the Contractor will ensure a suitably competent and experienced person is appointed as Environmental and Sustainability Lead to ensure the full implementation of the EMP and all the requirements contained herein. The person must be able to demonstrate the attainment of suitable environmental qualifications (e.g. as a minimum, completion of the IEMA Foundation in Environmental Management, or a similar course).
- 2.7 As necessary, based on the scope and the level of environmental risk associated with the Services, the Contractor will engage suitably qualified and experienced environmental specialists to assist with more complex issues which may arise. The environmental specialists will include personnel with expertise in noise/vibration, air quality, ecology, contaminated land as required.
- 2.8 The Contractor will obtain the Project Manager's prior written consent before the proposed Environmental and Sustainability Lead takes up their position, and prior to implementing any changes to the person undertaking this role.

3. Environmental Action Plan

- 3.1 The Contractor will deliver an annual environmental action plan (the "**Environmental Action Plan**") on each anniversary of the Contract Commencement Date. The actions contained within the Environmental Action Plan will, as a minimum:
 - a) support the Environmental Objectives; and
 - b) have challenging but achievable target dates assigned.
- 3.2 In year 1 of the Contract, the Environmental Action Plan will be presented to and agreed by the Authority during the Mobilisation Period. The Contractor will commence delivery of the Environmental Action Plan from the Works Commencement Date. In subsequent years of the Contract the Environmental Action Plan will be presented to the Authority on or before the 1st March for Authority review and approval, before the Contractor commences delivery of the Environmental Action Plan 1st April.
- 3.3 The Contractor will provide regular updates at contract review meetings on the progress being made towards the agreed actions and thereby demonstrate that they are on course to complete the actions by the agreed dates.
- 3.4 The Contractor submits an evidenced Annual Environmental Action Plan to the Authority before the end of each financial year (31 March) to demonstrate completion of the agreed actions.

4. Mitigation and Recording of Environmental Impacts, Risks and Opportunities

- 4.1 In line with the requirements set under BS EN ISO 14001:2015, the Contractor will systematically identify and manage the environmental impacts, risks and opportunities associated with the Services. The Contractor will include their approach to identifying environmental impacts, risks and opportunities within the EMP together with the output specific to the Services.
- 4.2 Wherever practicable, the Contractor's management of the identified risks will result in negative impacts being removed, designed out or avoided and positive impacts / opportunities being maximised.
- 4.3 The Contractor will ensure that emergency procedures for each Site and work type are developed as detailed within **section 9** of this Schedule.

5. Environmental Targets

- 5.1 TfL's environmental ambitions and targets are set out within the TfL Corporate Environment Plan (CEP). The Contractor familiarises themselves with the content of the CEP and, wherever feasible, assists TfL in achieving the environmental ambitions and targets that are relevant to the scope of the Works.
- 5.2 As a minimum, the Contractor will achieve the following targets throughout the full term of the Services:

Description	Target
Environmental enforcement/regulatory notices	0
Major environmental incidents	0
Percentage of non-hazardous construction and demolition waste diverted from landfill (i.e. reused, recycled and/or recovered)	Refer to yearly targets in table below
Percentage of non-hazardous construction and demolition waste recycled	≥70%
Amount of non-hazardous excavated materials put to beneficial reuse (i.e. recycled / reused / diverted from landfill)	100%

- 5.3 The Authority has a target to divert (i.e. reuse, recycle and/or recover) 100% of non-hazardous waste from landfill by 2030. To assist meeting this target, the Contractor will meet the following targets for diverting non-hazardous construction and demolition waste from landfill by the years indicated.

Year	2021-23	2024-26	2027-29	2030
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Percentage of non-hazardous construction and demolition waste diverted from landfill	≥97%	≥98%	≥99%	100%
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5.3 The Contractor may propose additional environmental targets to either take account of the identified significant environmental aspects or compliance obligations, or to support the attainment of the Authority's Environmental Objectives, or their own corporate goals.

5.4 In addition to the periodic environmental reporting set out below, the Contractor will report on progress against all environmental targets within its evidenced Annual Environmental Action Plan which is submitted to the Authority before the end of each Contract Year (31 March). Where targets have not been met, justification and / or proposals for achieving the existing or a revised target will be included in the evidenced Environmental Action Plan, and, as necessary, carried forward into the following year's plan.

6. Environmental Reporting

6.1 The Contractor will report the following information in each Reporting Period via the Authority's System (when available).

a) The Environmental Data set out in Annex A

7. Environmental Inspections and Audits

7.1 The Contractor will implement a programme of environmental inspections and audits to ensure compliance with all Applicable Laws and Contract requirements.

7.2 To ensure the Authority has the appropriate representation available for any inspection or audit, the Contractor will keep the Project Manager apprised of the timing of the same.

8. Competency and Training

8.1 The Contractor will determine the environmental competency and training requirements for all Contractor Personnel undertaking Works and/or Services and will maintain documentation to demonstrate delivery of the planned training. The Authority reserves the right to review this documentation from time to time.

8.2 As a minimum, the Contractor will ensure that all Contractor Personnel receive environmental awareness training on the specific project risks and the content of the EMP.

9. Emergency Preparedness and Response

- 9.1 The Contractor will set out its approach to managing environmental incidents within either their EMP or an Emergency Plan.
- 9.2 The Contractor will inform the Project Manager of all environmental incidents and 'near misses' as soon as practicable after they occur. In particular, the Contractor will ensure that any incidents which could result in significant damage to the environment, a breach of any Applicable Laws, or reputational damage are reported to the Project Manager immediately.
- 9.3 All environmental incidents and/or near misses are reported via the Authority System (or any replacement system) within 24 hours of the event occurring.
- 9.4 In order to fully identify root causes and prevent recurrence, all environmental incidents and near misses will be fully investigated by the Contractor. The Contractor will produce a report of its investigation and submits this to the Project Manager within 14 Business Days of the incident.
- 9.5 The Contractor will monitor the implementation of any actions / recommendations resulting from the investigation of the environmental incident and ensure that they are completed by the scheduled completion dates.

10. Advanced Notifications

- 10.1 The Contractor will takes a pro-active approach to notifying residents, businesses and regulators (e.g. the Local Authority) about forthcoming Works and Services on the TLRN that may impact upon them – including any 'noisy' or 'out-of-hours' Works, or the removal of vegetation. The notifications, which are made using a format agreed with the Authority, are, as far as possible, issued two weeks prior to the Works taking place.
- 10.2 As a minimum, the notifications will include:
 - a) Details of the Works and Services to be undertaken
 - b) The dates / hours of working
 - c) Brief details of the potential impacts and how these are to be mitigated
 - d) Contact details that can be used to seek further information or make a complaint
- 10.3 The Authority operates a 24 hours hotline (0343 222 2424) which customers can use to make complaints. Alternatively, customers can email contactus@tfl.gov.uk

11. Environmental Correspondence

- 11.1 The Contractor will provide the Project Manager with a copy of all environmentally related correspondence with Third Parties (e.g. the Local Authority or Environment Agency) on the date of issue.

12. Reduction of whole life carbon and cost

- 12.1 Where the Contractor is responsible for the design, the Contractor will strive to lower the Contract's whole life carbon and whole life cost by investigating, and where practicable implementing, innovative sustainable design and construction solutions.
- 12.2 For example, the Contractor will:
- a) Use principles that consider the longer-term design life of assets and that will offer solutions that remain state of the art.
 - b) Design systems and install Equipment that will reduce energy use and the asset's operational cost.
 - c) When replacing assets, ensure that more energy efficient Equipment is used, wherever practicable. The Contractor will notify the Project Manager where this is not technically feasible.
- 12.3 The Contractor will measure and report on capital and operational carbon emissions and develop plans to reduce the amount of energy and carbon used in the delivery of the Services.
- 12.4 Specifically, during Year 1, the Contractor is required to determine their carbon baseline (or 'carbon footprint'). The Contractor will submit details of their proposed scope and methodology for determining their carbon baseline to the Project Manager for acceptance within 3 months of the Contract Commencement Date. Once the scope and methodology is accepted by the Project Manager, the Contractor will determine their carbon baseline for Year 1 and submit a Carbon Baseline Report to the Project Manager at the beginning of March the following year. The Report will highlight the key elements of the Services that contribute to the carbon baseline – highlighting specifically the contributions resulting from capital and operational carbon. It will also highlight the targets and improvement actions that will be implemented the following year to reduce carbon emissions. Once accepted by the Project Manager, the actions from the Carbon Baseline Report will be carried forward into the Annual Environmental Action Plan and their implementation commenced by the Contractor from 1 April (see section 3).
- 12.5 The Contractor will reduce the carbon emissions associated with the delivery of the Services each Contract Year. The percentage reduction in carbon each Contract Year will be proposed by the Contractor for acceptance by the Project Manager. The targeted amount will be science-based and set at a challenging and meaningful percentage that demonstrably shows progress towards achieving the Environmental Objectives. .
- 12.6 On the first Monday of March for each subsequent Contract Year of the Services, the Contractor will submit a Carbon Report to the Project Manager to detail the success of the measures implemented to reduce carbon and to propose updated targets and improvement actions for the following financial year. Once the report

has been accepted the actions will be carried forward into the Annual Environmental Action Plan and implementation accordingly.

13. Noise and Vibration

- 13.1 Where the Contractor is responsible for developing designs that could give rise to noise or vibration impacts from Authority owned operational assets or Equipment, the Contractor will ensure that the assets or systems are designed to meet the noise and / or vibration criteria in the Authority's Asset Design Guidance (G1323) (included within Schedule 27).
- 13.2 The Contractor will use best practicable means to reduce noise and vibration at all times, and will comply with the provisions of the BS5228 - Code of Practice for Noise and Vibration Control on Construction and Demolition Sites.

14. Dust and Air Quality

- 14.1 The Contractor will ensure that air quality impacts (including dust) from demolition, construction-related activities and construction traffic are controlled by using best practicable means during the planning and management of the Works.
- 14.2 The Contractor will ensure compliance with the Mayor of London's Supplementary Planning Guidance (SPG) on The Control of Dust and Emissions During Construction and Demolition. This can be accessed at the following location:
https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Dust%20and%20Emissions%20SPG%208%20July%202014.pdf
- 14.3 Requirements related to the emissions from vehicles and Non-Road Mobile Machinery (NRMM) are included within Schedule 3 Part 1.

15. Ecology and Protection of the Green Estate

- 15.1 When developing and implementing the Services, the Contractor will ensure that due consideration is given to ecology and biodiversity in line with Applicable Laws and applicable strategies and plans. In particular and without limitation, the Contractor will be mindful at all times of the potential to encounter protected species and ensure all necessary measures are taken to prevent them being harmed. This may include obtaining and complying with protected species licences at its own cost.
- 15.2 Whilst carrying out the Services, the Contractor will ensure the protection of all green estate assets, including but not limited to trees, shrubs, hedges and grass by following industry guidance, including National Joint Utility Guidance 4

regarding working around trees. The Contractor notify Authority, via the system, so that approval can be sought for any essential Services that are likely to impact on the green estate.

- 15.3 Damage to green estate assets without approval of the Authority may result in requiring the Contractor to reimburse the Authority of the full replacement cost of the current asset(s) which in the case of trees will be in accordance with the valuation system called the 'Capital Asset Valuation for Amenity Trees' (CAVAT).

16. Trees

- 16.1 The Contractor will take all reasonably practicable measures to minimise the loss of trees in the provision of the Works and Services, acting in accordance with Applicable Laws at all times.

- 16.2 Should remedial or protective Works to trees on, or adjacent to, the Site be required, the Contractor employs a suitably trained and qualified arboriculturalist to advise and/or carry out the Works in accordance with the latest version of:

- a) BS 5387 "Guide for trees in relation to construction" and
- b) BS 3998 "Tree work – recommendations"
- c) NJUG vol 4 "NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees"

- 16.3 Prior to undertaking any Works and Services which may affect a tree, the Contractor will confirm, with the local authority, whether it is protected by a Tree Protection Order (TPO), or is within a conservation area. If a TPO is in place, or the tree is protected by virtue of being in a conservation area, the Contractor will ensure that consent is obtained from the Local Planning Authority prior to undertaking any Services that may affect the tree.

17. Nesting Birds

- 17.1 The Contractor will implement the following control measures:

- a) Where possible, any clearance of scrubs and/or trees is undertaken outside of the peak nesting bird season (typically March to August inclusive).
- b) If clearance of scrubs and/or trees or other Services affecting structures with the potential for nesting birds is required during the breeding season, the Contractor will engage a suitably qualified ecologist to undertake checks prior to these Services to ensure nesting birds are not affected. If nesting birds are found, the area will be left until the birds have fledged, as is required by Applicable Laws.

18. Invasive Species

- 18.1 If any invasive weeds may be affected by the Works and/or Services, the Contractor will develop and, once agreed with the Project Manager, implement proposals for controlling these plants and ensuring they are not spread by the Works.

19. Protection of Water Resources

- 19.1 The Contractor will undertake the Works and Services in a manner which protects the water environment – including any change to water quality, flow volume or levels.
- 19.2 To achieve this, the Contractor, as a minimum will:
- a) Identify any water sensitive receptors (such as ponds, watercourses, drains or groundwater) which may potentially be affected by the Works or Services, and assesses the risk to them;
 - b) Identify and implement any necessary mitigation measures to minimise the risk to these water sensitive receptors – including any necessary pollution prevention measures;
 - c) Obtain and comply with any necessary abstraction, discharge and other water environment consents; and
 - d) Undertake any water quality monitoring programmes agreed with the Project Manager.
- 19.3 The output of the Contractor's risk assessment and the identification of mitigation measures will be clearly documented – e.g. within the Contractor's EMP.

20. Circular Economy

- 20.1 The Contractor adopts 'circular economy' principles for the Services. These principles aims to keep resources in use for as long as possible – preventing them from being disposed of immediately after use. This replaces the traditional approach where products have been produced using a linear approach of: make, use, dispose. This linear approach is both wasteful and unsustainable, and therefore not in alignment with TfL' environmental objectives.
- 20.2 Consideration and adoption of these principles will apply across the Services whole lifecycle, from design, through construction, operation / Maintenance and ultimately to the asset's end of life (demolition / decommissioning).
- 20.3 In delivery of the Services the Contractor will endeavour to::

- a) identify, prioritise and select options to design out waste, set targets for waste reduction, and increase re-used (including reclaimed and redeployed material) and recycled content on this project, where technically viable, including through innovative solutions in conjunction with key stakeholders
 - b) maximise the reuse of redundant assets, demolition, in situ and excavation materials
 - c) identify the most significant and cost-effective product or closed loop remanufacturing opportunities associated with the Services.
- 20.4 Throughout the Term, the Contractor will work with their supply chain to deliver the Services in a way that conserves resources and minimises waste and pollution. Materials will be selected and sized in order to allow for future upgrading and repurposing during the foreseeable life of the asset as well as maximising the value of the waste generated by eventual decommissioning.
- 20.5 The Contractor implements circular economy business models over traditional systems, as far as reasonably practicable and where this aligns with the other provisions in this Contract. These include, but are not limited to:
- a) Ordering products/procuring services on demand rather than just in case
 - b) Standardised and/or modular design
 - c) Refurbish, repair, remanufacture and recondition
 - d) Incentivised return
 - e) Products as services
 - f) Sharing economy or sharing platforms/resources
- 20.6 The Contractor will demonstrate how they will apply cost effective industry leading circular economy principles within the Resource and Waste Management Plan (RWMP) as set out below in **section 24**.
- 21. Waste Management and Resource Use**
- 21.1 The Contractor will proactively manage the delivery of the Works and Services to reduce materials use and minimise both the production of waste and the volume of waste disposed of in landfill.
- 21.2 All wastes will be managed in accordance with the waste hierarchy set out below. For each waste type, the Contractor will adopt and implement the highest option for managing waste from the list below:
- a) prevent
 - b) reduce
 - c) re-use within the scope of the Contract

- d) re-use at other Sites
- e) recycle
- f) recover, e.g. energy from incineration
- g) dispose

21.3 The material and waste targets and reporting requirements that the Contractor is required to comply with are contained in **section 55** of this Schedule.

22. Material efficiency and selection

22.1 The Contractor will ensure that sustainable resource use and waste management are an integral part of the planning and design of the Works and Services.

22.2 The Contractor will implement material efficiency principles wherever practicable by, for example:

- a) using less materials
- b) adopting low-waste processes
- c) using recycled materials or by-products from other industries in preference to virgin materials
- d) using durable materials to extend the asset's serviceable life

22.3 The Contractor will document how they have met the above requirements within the Resource and Waste Management Plan (RWMP) – see **section 23** below.

22.4 The Contractor will consider the properties and potential environmental impacts of materials and will select and use materials which have a low or reduced environmental impact – e.g. materials that are:

- a) non-hazardous (environmentally inert),
- b) low VOC,
- c) reused or recycled,
- d) recyclable,
- e) low(er) in embodied energy and/or water.

22.5 When selecting materials, the Contractor will make reference to available guidance, such as the Building Research Establishment's (BRE) Green Guide to Specification, and will use these resources to aid the selection of better rated products, and materials which have lower environmental impact.

22.6 The Contractor will endeavour to procure products and materials responsibly. This will be achieved by adhering to the principles in GLA's Responsible Procurement Policy, and by purchasing products or materials which are certified under BRE's Responsible Sourcing Standard, BES6001.

23. Resource and Waste Management Plan

- 23.1 Within 2 months of the Contract Commencement date, the Contractor will develop a Resource and Waste Management Plan (RWMP) that can be used to record the decisions made to design out waste, improve material efficiency and implement circular economy principles.
- 23.2 The Contractor will maintain the RWMP throughout the Term and periodically provides the Project Manager with information or data extracted from the RWMP to demonstrate that they are on course to meet the preceding requirements (and any associated targets) related to waste, materials and the circular economy.
- 23.3 The Contractor shall compile information from the RWMP into the evidenced Annual Environmental Action Plan (which will be submitted to the Authority before the end of each financial year (31 March)) to confirm how the above requirements have been met, and to outline areas of potential future improvement that may be carried forward into the subsequent year's Environmental Action Plan.

24. Site Waste Management Plan

- 24.1 The Contractor will develop and implement a Site Waste Management Plan (SWMP) that, as far as practicable, ensures:
- a) full delivery of the actions and decisions detailed in the RWMP
 - b) fulfilment of all compliance obligations relating to resources, materials and waste
 - c) compliance with the waste duty of care
 - d) achievement of project targets and expectations relating to resources, materials and waste
- 24.2 The Contractor will develop the SWMP prior to commencing the Works on Site.
- 24.3 The Contractor will not commence Works until the Project Manager has issued written acceptance of the SWMP.
- 24.4 The Contractor will regularly review and as necessary, update the SWMP to take account of changing circumstances. Such reviews are to be undertaken by the Contractor at least every six months (unless otherwise agreed with the Project Manager). The updated SWMP must be submitted to the Project Manager for acceptance.
- 24.5 The Contractor will make Site waste management records available to the Project Manager on request.

- 24.6 The Contractor shall compile information from the SWMP into the evidenced Annual Environmental Action Plan (which will be submitted to the Authority before the end of each financial year (31 March)) to confirm how the above requirements have been met, and to outline areas of potential future improvement that may be carried forward into the subsequent year's Environmental Action Plan.
- 24.7 The Contractor is encouraged to use the Electronic Duty of Care (EDOC) system.
- 24.8 The Contractor will implement such measures as appropriate to minimise the use of single use plastics.
- 24.9 The Contractor reuses or recycles non-contaminated PPE and hard hats after they have been use.

25. Timber

- 25.1 Where it is necessary to use timber, the Contractor ensures that only timber from recycled, reclaimed or sustainable sources (i.e. timber sourced in accordance with the UK Government's Timber Procurement Policy or accredited to the Forest Stewardship Council (FSC) or and equivalent scheme) is incorporated into the temporary and permanent works.
- 25.2 Where it is necessary to use timber, the Contractor ensures that only timber from recycled, reclaimed or sustainable sources (i.e. timber sourced in accordance with the UK Government's Timber Procurement Policy or accredited to the Forest Stewardship Council (FSC) or and equivalent scheme) is incorporated into the temporary and permanent works.
- 25.3 The Contractor maintains records of all timber deliveries in order to verify compliance with the above requirements.
- 25.4 All untreated timber or material imports should be appropriately quarantined before being temporally or permanently installed on TfL land.

26. Contaminated Land

- 25.1 The Contractor will comply with all Applicable Laws and Good Industry Practice in relation to contaminated land.

- 25.2 Prior to commencing the Works, the Contractor will identify any areas of potential contaminated land that may be affected by the delivery of the Services. Unless the Contractor can demonstrate that there is sufficient information available to understand the risks posed by the identified contaminated land, the Contractor will undertake a programme of Site investigations to enable the risks to human health and the environment to be quantified, and any necessary mitigation measures or remediation proposals to be developed. Such proposals will be submitted to the Authority for acceptance. Landfill shall only be used if other remediation options (e.g. on-Site treatment, off site treatment) are not reasonably practicable.
- 25.3 The Contractor will plan and undertake the Services in a manner which minimises the disturbance of any contaminated land and avoids the creation of pollution pathways. This will include, but not be limited to, the use of excavation and piling techniques which minimise the potential for vertical contamination pathways to be created.
- 25.4 The Contractor will undertake all necessary and appropriate health, safety and environmental monitoring to ensure the adherence to, and the continuing suitability of the mitigation measures or remediation proposals developed for working on, or adjacent to, contaminated land. As necessary, the Contractor will also undertake monitoring to verify the effectiveness of the measures implemented – e.g. to demonstrate that the remediation proposals have been effective.
- 25.5 The Contractor will notify the Authority within 24 hours if any contaminated land or water has been discovered.

27. Unexpected Contamination

- 26.1 The Contractor will monitor excavation activities to check for unexpected or unusual materials with a contaminative potential. The unusual material may consist of, but not be limited to, buried drums, tanks or containers, soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination.
- 26.2 In the event of discovery of unexpected contaminated land the Contractor will inform the Authority as soon as practicable. The Contractor will implement all reasonably practicable measures to ensure the unexpected contaminated land does not give rise to risks to human health and the environment. The Contractor will develop and implement measures to deal with the unexpected contaminated land after obtaining the Authority's acceptance of the proposals.

28. Historic Environment

- 27.1 Where there is the potential for the Works and/or Services to affect heritage assets or archaeology, the Contractor will ensure that suitable procedures are developed and implemented for mitigating and managing the potential effects. The procedures, which may be within the EMP or a stand-alone document, are agreed with the Project Manager.

29. Sustainable Travel

- 28.1 The Contractor will implement measures to encourage Contractor Personnel to avoid using private cars to access the Site, and to encourage them to use alternatives such as public transport, cycling, walking etc (i.e. sustainable travel modes').
- 28.2 The Contractor includes actions within their annual environmental action plan for achieving the above.

30. Lighting

- 29.1 The Contractor will take all reasonable steps to minimise the potential for artificial light to adversely affect or intrude upon local sensitive receptors. This includes, but is not limited to:
- a) Avoiding or minimising the use of lighting
 - b) Using the appropriate lux levels to minimise disturbance
 - c) Using directional lighting or shielding to avoid intrusion

ANNEX A - Environmental Data

This information is required to track performance and facilitate TfL's corporate environmental reporting.

Environmental Aspect	Data Required	Units
Enforcement & Noise complaints	Number of Environmental enforcement / regulatory notices	number
	Noise complaints	number
Energy consumption, by type	Electricity consumption (normal grid mix)	kWh
	Natural gas consumption	kWh
	Renewable energy	kWh
	Petrol consumption	litres
	Diesel consumption	litres
	Heavy fuel oil consumption	litres
Fleet	Cars	number
	Vans equal to or less than 1205 kg kerb weight	number
	Vans between 1205 and 1660 kg kerb weight	number
	Vans greater than 1660 kg kerb weight	number
	Heavy duty vehicles greater than 3500 kg kerb weight	number
	Number of Euro 6/VI vehicles	number
	Number Ultra Low Emission Vehicles	number
	Mileage	kms
Resources Used	Total amount of steel used	tonnes
	Amount of steel used with recycled content	tonnes
	Total amount of concrete materials used	m ³
	Amount of concrete material used with a non-CEM I cement mix	m ³
	Total amount of timber used	tonnes
	Amount of timber used from certified sustainable sources	tonnes
Waste produced and proportion recycled	Total amount of non-hazardous construction and demolition (C&D) waste produced	tonnes
	Amount of non-hazardous construction and demolition waste diverted from landfill	tonnes
	Amount of non-hazardous construction and demolition waste recycled	tonnes
	Total Amount of non-hazardous excavation waste produced (Tonnes)	tonnes
	Amount of non-hazardous excavated materials put to beneficial reuse	tonnes
	Total Amount of Hazardous Waste generated	tonnes
	Amount of Hazardous Waste recycled	tonnes
Water consumption	Mains water consumed	m ³

	Non-mains water consumed	m ³
Basis for normalising performance	Spend per period	£100k
Commentary	Commentary on performance, trends or other relevant information	free text



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 26

Systems and Integration

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SCHEDULE 26

SYSTEMS AND INTEGRATION

1. Statement of Requirements

This Schedule sets out the Authority's requirements in relation to the Systems that the Authority will provide and/or that the Contractor has obligations under this Contract to provide.

This Schedule details each System that will be required to operate and deliver the Statements of Requirements together with the obligations under this Contract that the Contractor must comply with regarding each System utilized to deliver the Services.

This Schedule should be read in conjunction with this Contract and the Statements of Requirements as these play an integral part in understanding the requirements set out in this Schedule.

Should the Contractor require Systems not listed within this Schedule, or set out elsewhere in this Contract or the Statements of Requirements, the Contractor will allow for the delivery and use of these other Systems within the Contractor's prices.

Definitions of terms used in this Schedule are contained in Schedule 2 (Definitions).

The structure and layout of this document is ordered into sections. Each section has a heading with an introductory statement (if required). This is followed by sub-headings containing requirements. Each requirement has two rows containing the following information (see example of layout of Statement of Requirements):

- requirement number;
- requirement description; and
- "Mandatory" or "For Information Only".

Example of Layout of Requirements

1.1.1		Mandatory
Individual requirements are located from here onwards.		

The requirement number indicates the number of the individual requirement and is made up of three (3) numbers. The first number relates to the section number, the second number relates to the sub-section and the third number relates to the requirement number within that sub-section.

"Mandatory", "Desirable" or "For Information Only" denotes the type of requirement. The Contractor will ensure that it meets each "Mandatory" requirement. Requirements marked "For Your Information" are intended to inform the Contractor about a particular process but do not contain obligations with which the Contractor must comply. Requirements marked "Desirable" describe the Authority's requirements that the Contractor must meet which are not considered to be high priority.

2. Programme / project control requirements

The section covers all areas of the Systems within the programme and planning element of the Contract.

2.1 Authority's Project Control System

All references to "Authority's Project Control System" (or "APCS") will mean the appropriate System engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the Works and Services.

It is noted that the Authority currently uses a system called Workflow, however the Authority reserves the right to change this System during the Contract Term at any time.

License	The Authority will provide and pay for a maximum of 25 (twenty-five) APCS licences for the Contractor. Should the Contractor require additional licences, the Contractor will notify the Authority. Additional licences will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per licence per year.	Mandatory
Hardware	The Contractor will be responsible for providing all necessary hardware for APCS for Contractor Personnel	Mandatory
Training	The Authority will provide training to a maximum of 25 (twenty-five) Contractor Personnel. Should the Contractor require additional training, the Contractor will notify the Authority and detail its requirements, and the Authority may provide additional training at its discretion. Any additional training will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per person.	Mandatory

Authority Conditions	<p>The Contractor will nominate an ACPS super-user for the Project Managers approval. The nominated ACPS super user must be a Contractor Personnel who, in the opinion of the Project Manager, has suitable experience and/or qualifications.</p> <p>The Contractor will ensure ACPS is only accessed via password protected and encrypted hardware.</p> <p>The security and integrity of any Authority System is of paramount importance to the Authority. Any Contractor Personnel found to be in breach of any Requirements in this regard will have their allocated licence removed.</p>	Mandatory
Required Number of persons	The Contractor will be responsible for ensuring the number of trained Contractor Personnel for APCS is sufficient to meet the Statements of Requirements and deliver the Works and Services.	Mandatory
2.2 Planning and Scheduling Software		
The Contractor and Authority will use Microsoft Project for all planning and scheduling requirements to deliver the Works and Services.		
License	The Contractor will be responsible for, and will provide all Contractor Personnel with, all licences necessary to deliver the Works and Services.	Mandatory
Hardware	The Contractor will be responsible for, and will provide all Contractor Personnel with, all hardware necessary to deliver the Works and Services.	Mandatory
Training	The Contractor will be responsible for, and will provide all Contractor Personnel with, all training necessary to deliver the Works and Services.	Mandatory
Authority Conditions	The Contractor will ensure Microsoft Project is only accessed via password protected and encrypted hardware.	Mandatory
Required Number of persons	The Contractor will be responsible for ensuring the number of trained Contractor Personnel for Microsoft Project is sufficient enough to meet the Statements of Requirements and deliver the Works and Services.	Mandatory

2.3 Authority Document Control System

All references to "Authority Document Control System" ("ADCS") will mean the appropriate System engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the Works and Services.

It is noted the Authority currently use the 'ASITE' system, however the Authority reserves the right to change this System during the Term.

License	The Authority will provide and pay for a maximum of 15 (fifteen) ADCS licences to the Contractor. Should the Contractor require additional licences, the Contractor will notify the Authority. Additional licences will be charged by the Authority to the Contractor at £1,250.00 (one thousand, two hundred and fifty pounds) per licence per year.	Mandatory
Hardware	The Contractor will be responsible for providing all necessary hardware for ADCS for Contractors Staff.	Mandatory
Training	The Authority will provide training to a maximum of 15 (fifteen) Contractor Personnel. Should the Contractor require additional training, the Contractor will notify the Authority and detail its requirements, and the Authority may provide additional training at its discretion. Any additional training will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per person.	Mandatory
Authority Conditions	<p>The Contractor will nominate an ADCS super-user for the Project Managers approval. Such ADCS super-user will be a Contractor Personnel who, in the opinion of the Project Manager, has suitable experience and/or qualifications.</p> <p>The Contractor will ensure ADCS is only accessed via password protected and encrypted hardware.</p> <p>The security and integrity of any System is of paramount importance to the Authority. Any Contractor Personnel found to be in breach of any requirements in this regard will have their allocated licence removed.</p>	Mandatory

Required Number of persons	The Contractor will be responsible for ensuring the number of trained Contractor Personnel for ADCS is enough to meet the Statements of Requirements and deliver the Works and Services in accordance with this Contract.	Mandatory
2.4 Authority Archiving System		
<p>All references to "Archiving System (AS)" will mean the appropriate System(s) engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the Works and Services.</p> <p>It is noted the Authority currently use the 'DORIS' system, however the Authority reserves the right to change this System during the Term.</p>		
License	The Authority will provide and pay for a maximum of 15 (fifteen) AS licences to the Contractor. Should the Contractor require additional licences, the Contractor will notify the Authority. Additional licences will be charged by the Authority to the Contractor at £1,250.00 (one thousand, two hundred and fifty pounds) per licence per year.	Mandatory
Hardware	The Contractor will be responsible for, and will provide, all necessary Hardware for AS for Contractor Personnel.	Mandatory
Training	The Authority will provide training to a maximum of 15 (fifteen) Contractor Personnel. Should the Contractor require additional training, the Contractor will notify the Authority and detail its requirements, and the Authority may provide additional training at its discretion. Any additional training will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per person.	Mandatory

Authority Conditions	<p>The Contractor will nominate an AS super-user for the Project Managers approval. Such AS super-user will be a Contractor Personnel who, in the opinion of the Project Manager, has suitable experience and/or qualifications.</p> <p>The Contractor will ensure AS is only accessed via password protected and encrypted hardware.</p> <p>The security and integrity of any System is of paramount importance to the Authority. Any Contractor Personnel found to be in breach of any requirements in this regard will have their allocated licence removed.</p>	Mandatory
Required Number of persons	<p>The Contractor will be responsible for ensuring the number of trained Contractor Personnel for AS is enough to meet the Statements of Requirements and deliver the Works and Services in accordance with this Contract.</p>	Mandatory

3. Asset Management

The section covers all areas of the System within the Asset Management element of the Contract.

3.1 Asset Management Information System

All references to "Authorities Asset Management Information System" ("AMIS") will mean the appropriate System(s) engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the Works and Services.

It is noted the Authority will be using the IBM 'Maximo Surface' system with the online only tool IBM 'Maximo Everyplace' for mobile capability, however the Authority reserves the right to change this System during the Term.

Access to the AMIS will be provided as controlled levels of direct access. Upon completion of the integration period the Authority may investigate the potential of providing a two-way exchange of specified data between AMIS and identified Contractors System.

License	<p>The Authority will provide and pay for the following maximum number of Users to the Contractor:</p> <ul style="list-style-type: none">• 55 (fifty-five) Users <p>Should the Contractor require additional licences, the Contractor will notify the Authority. Additional licences will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per User per year.</p>	Mandatory
Hardware	<p>The Contractor will provide, all necessary Hardware for AMIS for Contractor Personnel.</p>	Mandatory
Training	<p>The Authority will provide training to a maximum of 10 (ten) Personnel from a single Contractor who will be considered Training Partners. It is expected that these Training Partners would provide further training to other Contractor Personnel during Mobilisation, integration and continue to provide this function and train new Training Partners if necessary, post integration.</p> <p>Should the Contractor require additional training, the Contractor will notify the Authority and detail its requirements, and the Authority may provide additional training at its discretion. Any additional training will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per person.</p>	Mandatory

<p>Authority Conditions</p>	<p>The Contractor will nominate an AMIS champion and deputy for the Authority's approval. Such nominated AMIS champion and deputy will be a Contractor Personnel who, in the opinion of the Authority, has suitable experience and/or qualifications.</p> <p>The responsibilities of the AMIS champion and deputy shall include but not be limited to:</p> <ul style="list-style-type: none"> • Ensuring that AMIS is used in accordance with the AMIS Operating Guide within Contractor; • Promoting best practice in the use of AMIS within their organisation; • Act as a single point of contact between their organisation and the Authority or the Authority's service provider; • Representing Contractor users at monthly AMIS user group meetings including raising any issues; • Providing internal communication to other Contractor users on the efficient use of AMIS and on any planned changes; and • Resolve issues and provide ongoing training to other Contractor users in the use of AMIS. • Where needed, act as a point of contact for any data inventory activity <p>Any changes to the roles of AMIS champion, or deputy, will be agreed in advance with the Contractor and Authority who will not unreasonably withhold agreement.</p> <p>The Contractor will ensure AMIS is only accessed via password protected and encrypted hardware.</p> <p>The TfL SAIMS solution will include core capabilities required by the Authority including, cyclic works, reactive works, mobile capability, inventory management. Note to bidders: The solution is not currently designed to provide capabilities that may be considered supply chain requirements such as and including but not limited to fleet management, gang management, materials management, skills & capabilities management, etc. Please clearly state any capabilities assumed to be provided</p>	<p>Mandatory</p>
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	<p>by the authority within your tender to be reviewed and confirmed by the Authority. The Authority does not take any accountability for any assumed functionality or responsibility for providing this capability or reimbursing the contractor for any development at your cost required to provide capabilities to run the service that are outside of the limitations of the solution</p> <p>The security and integrity of any System is of paramount importance to the Authority. Any Contractor Personnel found to be in breach of any requirements or obligations in this regard will have their allocated licence removed permanently.</p>	
Required Number of persons	The Contractor will be responsible for ensuring the number of trained Contractor Personnel for AMIS is enough to meet the Statements of Requirements and deliver the Works and Services in accordance with this Contract.	Mandatory
3.2 Authority Incident Reporting System		
<p>All references to "Incident Reporting System (IRS)" will mean the appropriate System(s) engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the Works and Services.</p> <p>It is noted the Authority currently use the 'Info Exchange' system, however the Authority reserves the right to change this System during the Term.</p>		
License	The Authority will provide and pay for a maximum of 25 (twenty-five) IRS licences to the Contractor. Should the Contractor require additional licences, the Contractor will notify the Authority. Additional licences will be charged by the Authority to the Contractor at £1,250.00 (one thousand, two hundred and fifty pounds) per licence per year.	Mandatory
Hardware	The Contractor will be responsible for, and will provide, all necessary Hardware for IRS for Contractor Personnel.	Mandatory

Training	<p>The Authority will provide training to a maximum of 25 (twenty-five) Contractor Personnel. Should the Contractor require additional training, the Contractor will notify the Authority and detail its requirements, and the Authority may provide additional training at its discretion. Any additional training will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per person.</p>	Mandatory
Authority Conditions	<p>The Contractor will nominate an IRS super-user for the Project Managers approval. Such IRS super-user will be a Contractor Personnel who, in the opinion of the Project Manager, has suitable experience and/or qualifications.</p> <p>The Contractor will ensure IRS is only accessed via password protected and encrypted hardware.</p> <p>The security and integrity of any System is of paramount importance to the Authority. Any Contractor Personnel found to be in breach of any requirements in this regard will have their allocated licence removed.</p>	Mandatory
Required Number of persons	<p>The Contractor will be responsible for ensuring the number of trained Contractor Personnel for IRS is enough to meet the Statements of Requirements and deliver the Works and Services in accordance with this Contract.</p>	Mandatory

4. Design and Drawing Systems

The Section of the Statement of Requirements covers all areas of the Services requiring the production of drawn information contained in the Contractor's Detailed Design and Handover Information and updated as needed following Maintenance Works and Services.

4.1 Software for Drawn Information

The Contractor will use AutoCAD for the production of all drawn information required for submission to the Authority to deliver the Works and Services.

License	The Contractor will be responsible for, and provide all Contractor Staff with, all licences necessary to deliver the Works and Services.	Mandatory
Hardware	The Contractor will be responsible for, and provide all Contractor Staff with, all hardware necessary to deliver the Works and Services.	Mandatory
Training	The Contractor will be responsible for, and provide all Contractor Staff with, all training necessary to deliver the Works and Services.	Mandatory
Authority Conditions	The Contractor will ensure AutoCAD is only accessed via password protected and encrypted hardware.	Mandatory
Required Number of persons	The Contractor will be responsible for ensuring the number of AutoCAD trained Staff is sufficient to meet the Statements of Requirements and deliver the Services.	Mandatory

4.2 CAD Information Exchange Management System

All references to "CAD Information Exchange Management System" ("CIEMS") will mean the appropriate System engaged and utilised on this Contract by the Authority and used by the Authority and the Contractor for the exchange of CAD information required for the Works and Services under BIM processes set out in section 1.8 of Part 1 of Schedule 3.

It is noted the Authority currently use the ProjectWise, however the Authority reserves the right to change this System during the Term.

License	The Contractor will be responsible for, and will provide each of the necessary Contractor Personnel with a "Bentley ProjectWise 365 Visa" subscription to deliver the Works and Services.	Mandatory
---------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------

	<p>The Authority will enable 8 (eight) ProjectWise 365 subscribers to access ProjectWise as the CIEMS.</p> <p>Should the Contractor require additional subscriber access, the Contractor will notify the Authority. Additional access will be charged by the Authority to the Contractor at £1,000.00 (one thousand pounds) per subscriber per year.</p>	
Hardware	The Contractor will be responsible for, and will provide all Contractor Personnel with, all hardware necessary to deliver the Works and Services.	Mandatory
Training	The Contractor will be responsible for, and will provide all Contractor Personnel with, all training necessary to deliver the Works and Services.	Mandatory
Authority Conditions	The Contractor will ensure the CIEMS is only accessed via password protected and encrypted hardware.	Mandatory
Required Number of persons	The Contractor will be responsible for ensuring the number of CIEMS trained Contractor Personnel is sufficient to meet the Statements of Requirements and deliver the Services.	Mandatory

4.3 Contractor's Information Production Management Systems

All references to "Contractor's Information Production Management Systems" ("CIPMS") will mean the appropriate systems engaged and utilised on this Contract by the Contractor for the authoring of Detailed Designs and Handover Information for the Works and Services under BIM processes set out in section 1.8 of Part 1 of Schedule 3.

License	The Contractor will be responsible for, and provide all Contractor Staff with, all CIPMS licences necessary to deliver the Works and Services.	Mandatory
Hardware	The Contractor will be responsible for, and provide all Contractor Staff with, all hardware necessary to deliver the Works and Services.	Mandatory
Training	The Contractor will be responsible for, and provide all Contractor Staff with, all CIPMS training necessary to deliver the Works and Services.	Mandatory

Authority Conditions	The Contractor will ensure the CIPMS is only accessed via password protected and encrypted hardware.	Mandatory
Required Number of persons	The Contractor will be responsible for ensuring the number of CIPMS trained Staff is sufficient to meet the Statements of Requirements and deliver the Services.	Mandatory

5. System Integration Plan		
5.1.1	Within 1 (one) month of the Contract Commencement Date, the Contractor shall submit a System Integration Plan for Authority acceptance.	Mandatory
5.1.2	<p>The System Integration Plan will outline the Contractor's plan for, among other things:</p> <ul style="list-style-type: none"> Any Systems in addition to those detailed within this Schedule 26 to be employed by the Contractor in the execution of the Works and Services; How the Contractor Personnel will integrate work flows and/or processes with each System; How the Contractor will manage and/or allocate access to Authority systems; Schedule Contractor Personnel who have been allocated Authority licences; How the Contractor, with the use of password protections and encryption, will protect and keep the Authority Systems secure; and Detail what hardware the Contractor intends to provide for use by Contractor Personnel. 	Mandatory
5.1.3	The Contractor will submit updates to the System Integration Plan to the Authority for acceptance as and when required, but not exceeding 6 (six) month intervals from Authority's acceptance of the first plan.	Mandatory



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH & CENTRAL

Schedule 27

Documentation

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SCHEDULE 27

DOCUMENTATION

1. Overview

1.1. Schedule 27 sets out Documentation, not in the public domain, that apply to the Services and which the Contractor will comply with pursuant to Clause 23.1.1, unless and to the extent that such provisions are contrary to the Contractor's obligations under this Contract.

1.2. In this Schedule 27, Documentation is categorised within Annexes as follows:

1.2.1. **Annex 27.A 'Guide and reference document to support the Site Information and Warranted Site Information'**, including, but not limited to, the following Asset Data:

- a. Site Layout Drawings;
- b. Timing Sheet;
- c. Takeover Certificates;
- d. Residual Site Hazards;
- e. Wiring Schematics and Tagging;
- f. Equipment List;
- g. Fault history;
- h. Periodic Inspections question and responses;
- i. Site locations.

1.2.2. **Annex 27.B 'Authority Standards, Guidance and Reference and Policy Documents'**, including Policies as listed in Schedule 15.

1.2.3. **Annex 27.C 'Procurement Documents'**

Schedule 27: Documentation

Annex 27.A: Guide and reference document to support the Site Information and Warranted Site Information

1. Purpose

- 1.1. This document is to provide a Glossary of Terms and reference to support the Site Information and Warranted Authority Asset Inventory in Schedule 27 of the Contract Documentation. All documentation required to support tender submissions has been listed out, all these files can be found in the Authority's ***SharePoint Site Data Room***.

2. Introduction

- 2.1. Asset information is stored in the Authority's Asset Management Information System.
- 2.2. For ATS, OVD, VMS and CCTV (inclusive of Operator Interfaces (OIFs)) assets, the information for each Lot is stored in borough folders and either Site specific Documents (e.g. SLDs) or else grouped as part of a Documents that contains information for all assets of that System type within the borough e.g. Fault history.
- 2.3. Site specific access constraints and residual hazards are recorded by exception and the absence of this information for a particular site should be interpreted as there being no Site-specific constraints or hazards recorded.

3. Warranted Information vs Non-Warranted Information

- 3.1. The following are all warranted data which has been provided by TfL to potential bidders as part of the TTC Contract. All other information provided is considered as non-warranted information:

- Site Locations;
- Site Layout Drawings (SLD's);
- Periodic Inspections (PI's) Up to 1 year old; and

Residual Site Hazards and Site Specific Information. The full list of Warranted Site Information for each individual location can be found in the data room master document. Further information on Warranted Site Information is contained in the Contract and also in Schedule 3 or Appendix 3.

3.1.1. Site Locations

Source: Site Fault Management (SFM)

This is a list of all Sites to be maintained within each Lot and the location details; correct as of 09:00 GMT 01/06/2021. This is provided as an excel file for each Lot.

Table 1 describes the headings for this list.

Table 1: Site List Headings

Column Heading	Description
"Site"	the Site number (See paragraph 9.1)
"Location"	the address of the Site using USRN street names
"Avail System"	is the ST System the Site belongs to i.e. ATS, OVD, VMS, CCTV OS or CCTV OI
"E. Code Description"	is the description of the Controller for the Site
"Easting"	is the latitude coordinate of the Site
"Northing"	is the longitude coordinate of the Site
"Install Date"	is the date that the Equipment was taken into Maintenance. This is taken to be the same date the Controller was Installed so is not necessarily an accurate Installation date for the individual unit.
"Postcode"	is the Site postcode (where available)

3.1.2. Site Layout Drawing (SLD) - Drawing Symbols




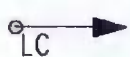








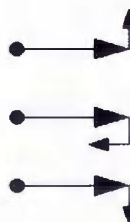
Source: SQA-0451 TfL Engineering Traffic Signals Drawing Standard Issue 2.0


Within the Authority, SLDs are owned by 'TfL Surface Transport Network Management Asset Operations'. They provide both current and historical records of ATS, OVD, VMS and CCTV Outstation Sites and form a part of Authority records of its asset base.


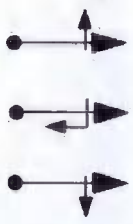

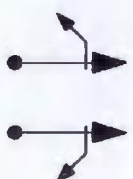

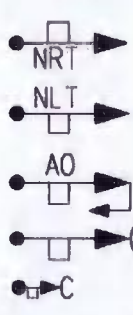
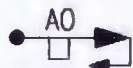
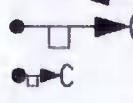
Each main Site has a unique SLD. Sites which are 'streams' of a main Site are included in the main Site SLD.


Each SLD shows the Equipment installed (see drawing symbols below), the highway layout including white lining and tactile paving, indicative ducting layout, the method of control, cable schematic diagram, and drawing notes.


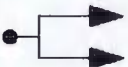
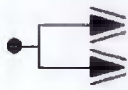






These records are provided for each Site as a single PDF named '[xyyyyyyy].pdf', stored by borough folder for each contract Lot.


- | | | |
|----|-------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. |  | 3 ASPECT SIGNAL ON POLE |
| 2 |  | 3 ASPECT SIGNAL ON POLE IN BARREL |
| 3 |  | 3 ASPECT SIGNAL ON ORNAMENTAL POLE |
| 4 |  | 3 ASPECT SIGNAL ON LIGHTING COLUMN |
| 5 |  | 3 ASPECT SIGNAL WITH SECONDARY HOODS |
| 6 |  | 3 ASPECT SIGNAL WITH LONG CUT AWAY SECONDARY HOODS |
| 7 |  | 3 ASPECT SIGNAL WITH TUNNEL HOODS |
| 8 |  | 3 ASPECT SIGNAL WITH CYCLE LOGO |
| 8a |  | 3 ASPECT SIGNAL WITH CYCLE LOGO (LOW LEVEL CYCLE SIGNAL) |
| 9 |  | CYCLE FILTER L OR R |
| 10 |  | SIGNAL FOR TRAMS WITH/OUT 3-ASPECT FILTER |
| 11 |  | 3 ASPECT SIGNAL FITTED WITH PLATES
EG "PART-TIME SIGNALS" |
| 12 |  | 3 ASPECT SIGNAL WITH GREEN ARROW LENS IN PLACE OF
PLAIN GREEN |

N	FEB 18	DOCUMENT REVIEWED: NEW SYMBOL 8a ADDED TITLE BLOCK UPDATED					
Transport for London Surface Transport		scale NTS	A4				date OCT 90
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SWH 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 1 OF 11					
		NO SIG/GEN/S/1526/N 08/02/2018 11:02:23  gms1526N Standard Symbols					
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- 13  3 ASPECT SIGNAL WITH GREEN ARROW LENS IN PLACE OF PLAIN GREEN, ROTATED BY 45° L OR R WITHIN UNIT
- 14  3 ASPECT SIGNAL WITH GREEN ARROW UNIT - FILTER SIGNAL
- 15  3 ASPECT SIGNAL WITH GREEN ARROW LENS IN PLACE OF PLAIN GREEN AND GREEN ARROW UNIT - FILTER SIGNAL
- 16  3 ASPECT SIGNAL WITH GREEN ARROW UNIT ROTATED BY 45° L OR R WITHIN UNIT - FILTER SIGNAL
- 17  2 No 3 ASPECT SIGNALS MOUNTED AT DIFFERENT HEIGHTS
- 18  3 ASPECT SIGNAL WITH BOX SIGN
S/S DENOTES SECRET SIGN
-  CYCLE SIGNAL WITH BOX SIGN
-  LOW LEVEL CYCLE SIGNAL WITH BOX SIGN
(BOX SIGN TO BE SCALED DOWN BY 0.5)

N FEB 18		DOCUMENT REVIEWED: NEW CYCLE SYMBOLS ADDED TO No.18		[REDACTED]	
TITLE BLOCK UPDATED					
Transport for London Surface Transport		scale NTS	A4 OCT 90	date	[REDACTED]
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 2 OF 11			
		NO SIG/GEN/S/1526/N			
		08/02/2018 11:02:23 [REDACTED] gns1526N Standard Symbols			
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- 19  3 ASPECT SIGNAL SIDE MOUNTED
- 20  DOUBLE 3 ASPECT SIGNAL
- 21  DOUBLE 3 ASPECT SIGNAL WITH SECONDARY HOODS
- 22  WIGWAG SIGNAL ASPECT - LEVEL CROSSINGS
- 23  3 ASPECT SIGNAL ON MAST ARM
- 24  2 ASPECT PEDESTRIAN SIGNAL FRONT-MOUNTED
- 25  2 ASPECT PEDESTRIAN SIGNAL SIDE-MOUNTED
- 26  2 ASPECT PEDESTRIAN SIGNAL ON "D" BRACKET
- 27  2 ASPECT PEDESTRIAN SIGNAL ON "D" BRACKET
WITH 3 ASPECT SIGNALS & PUSHBUTTON AT 45°

N	FEB 18	DOCUMENT REVIEWED: TITLE BLOCK UPDATED						
Transport for London Surface Transport		scale	A4	date				
		NTS		OCT 90	drn	eng	chk	
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 3 OF 11						
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- | | | |
|----|--|-------------------------------------------------------------------------------------------------------------------|
| 28 | | PEDESTRIAN PUSHBUTTON |
| 29 | | PUFFIN DEMAND UNIT |
| 30 | | PUFFIN DEMAND UNIT WITH REPEATER |
| 31 | | NEARSIDE TOUCAN DEMAND UNIT |
| 32 | | NEARSIDE TOUCAN DEMAND UNIT WITH REPEATER |
| 33 | | 2 ASPECT COMBINED PEDESTRIAN/CYCLE SIGNAL
WITH GREEN MAN & CYCLE SYMBOLS
FOR USE ON TOUCAN CROSSING LAYOUTS |
| 34 | | BLIND SPOT SAFETY MIRROR |
| 35 | | PEDESTRIAN COUNTDOWN UNIT |
| 36 | | MICROWAVE DETECTOR ((PHASE)MVD(POLE)) |
| 37 | | MICROWAVE DETECTOR
(NARROW BEAM) ((PHASE)NMVD(POLE)) |
| 38 | | MICROWAVE DETECTOR
(SLOW MOVING VEHICLE) ((PHASE)SMVD(POLE)) |
| 39 | | MICROWAVE DETECTOR
PUFFIN PEDESTRIAN ON-CROSSING DETECTOR (PCD(POLE)) |

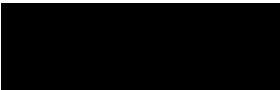


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- 40 INFRA-RED DETECTOR
(VEHICLE PRESENCE) ((PHASE)PIRD(POLE))
- 41 INFRA-RED DETECTOR
(VEHICLE DYNAMIC) ((PHASE)IRD(POLE))
- 42 INFRA-RED DETECTOR
PUFFIN PEDESTRIAN KERB DETECTOR (PKD(POLE))
- 43 PHOTO-ELECTRIC CELL
- 44 WIRELESS JOURNEY TIME & POLLUTION MONITORING CAMERA
- 45 ACCESS POINT
- 46 REPEATER
- 47 REPEATER ON POLE
- 48 RED LIGHT/SPEED CAMERA
- 49 CLOSED CIRCUIT TELEVISION CAMERA
- 50 DIGITAL CAMERA
- 51 AUTOMATIC NUMBER PLATE RECOGNITION CAMERA

N	FEB 18	DOCUMENT REVIEWED: TITLE BLOCK UPDATED					
Transport for London Surface Transport		scale	A4	date			
		NTS		OCT 90	drn	eng	chk
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 5 OF 11					
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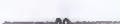











- | | | |
|----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 52 |  | ELECTRICITY SUPPLY PILLAR |
| 53 |  | POST JOINTING LARGE/SMALL |
| 54 |  | CONTROLLER |
| 55 |  | POLE BOX |
| 56 |  | FORMED POLE |
| 57 |  | STUB POLE |
| 58 |  | VARIABLE MESSAGE SIGN (VMS)
WITH CENTRE POST MOUNTING |
| 59 |  | VARIABLE MESSAGE SIGN (VMS)
WITH LEFT HAND POST MOUNTING |
| 60 |  | VARIABLE MESSAGE SIGN (VMS)
RIGHT HAND POST MOUNTING |
| 61 |  | OVERHEIGHT VEHICLE DETECTOR SIGN (OVD)
WITH CENTRE POST MOUNTING |
| 62 |  | OVERHEIGHT VEHICLE DETECTOR SIGN (OVD)
WITH LEFT HAND POST MOUNTING |
| 63 |  | OVERHEIGHT VEHICLE DETECTOR SIGN (OVD)
WITH RIGHT HAND POST MOUNTING |




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Transport for London Surface Transport		scale NTS	A4			
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 6 OF 11				
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64		SYNCHRONISATION UNIT WITH RUGBY
65		BUS ADVANCE INFORMATION TRANSCEIVER
66		BUS ADVANCE INFORMATION TRANSMITTER
67	 iSB0	iBUS GEOGRAPHIC LOCATION
68		iBUS AERIAL
69		PEDESTRIAN BARRIER
70		BRITISH TELECOM
71		EXISTING DRAWPIT
72		PROPOSED DRAWPIT
73		DEMOLISH DRAWPIT
74		NAL SOCKET
75		1No EXISTING CABLE DUCT RUN
75a		2No EXISTING CABLE DUCT RUN
75b		4No EXISTING CABLE DUCT RUN (4 OR MORE DUCTS)

N FEB 18		DOCUMENT REVIEWED: TITLE BLOCK UPDATED				
Transport for London Surface Transport		scale	A4	date		
		NTS		OCT 90	drn	eng
					chk	
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 7 OF 11				
		NO SIG/GEN/S/1526/N 08/02/2018 11:02:23 gns1526N Standard Symbols				
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76		1No PROPOSED 50mmø CABLE DUCT RUN
76a		2No PROPOSED 50mmø CABLE DUCT RUN
76b		4No PROPOSED 50mmø CABLE DUCT RUN (4 OR MORE DUCTS)
77		1No PROPOSED 100mmø CABLE DUCT RUN
77a		2No PROPOSED 100mmø CABLE DUCT RUN
77b		4No PROPOSED 100mmø CABLE DUCT RUN (4 OR MORE DUCTS)
78		DUCT BLOCKED
79		LOCATION OF DUCT BLOCKAGE
80		PRESENCE, SDE, SA & SCOOT LOOP DETECTOR
81		SCOOT INFRA-RED DETECTOR FOOTPRINT
82		MAGNETOMETER
83		ASPECTS BAGGED OVER
84		SIGNAL POLE NUMBER


N FEB 18		DOCUMENT REVIEWED: TITLE BLOCK UPDATED				
Transport for London Surface Transport		scale A4	date			
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		NTS	OCT 90	drn	eng	chk
		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 8 OF 11				
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85 ● STREET LIGHTING COLUMN

86 ○ BARREL

87 NON-STANDARD LAYOUTS

87a  1 ASPECT SIGNAL WITH GREEN ARROW

87b  POLE MOUNTED BOX SIGN


NRT

AO

NLT

S/S

S/S DENOTES SECRET SIGN

N FEB 18		DOCUMENT REVIEWED; TITLE BLOCK UPDATED					
Transport for London Surface Transport		scale NTS	A4 OCT 90	date	drn	eng	chk
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 9 OF 11					
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88 OBSOLETE SYMBOLS

88a		EXISTING 3 ASPECT SIGNAL ON EXISTING POLE
88b		EXISTING 3 ASPECT SIGNAL ON NEW POLE
88c		3 ASPECT SIGNAL WITH DOUBLE-SIDED BOX SIGNS (NOT HI)
88d		PEDESTRIAN PUSHBUTTON (DOUBLE)
88e		EXISTING 2 ASPECT PEDESTRIAN SIGNAL
88f		NEW 2 ASPECT PEDESTRIAN SIGNAL ON MODIFICATION DRAWING
88g		KNOWN DETECTOR DUCT RUN IN FOOTWAY
88h		ASSUMED DETECTOR DUCT RUN IN FOOTWAY
88i		ASSUMED CABLE DUCT RUN
88j		EXISTING CABLE DUCT RUN
88k		DUAL CONTROLLER
88l		CONTROLLER ON POLE

N FEB 18		DOCUMENT REVIEWED: TITLE BLOCK UPDATED			
Transport for London Surface Transport		scale	A4	date	
		NTS		OCT 90	
		drn	eng	chk	
 TfL Engineering Windsor House 42-50 Victoria Street LONDON SW1H 0TL Telephone 020 7222 5600		scheme STANDARD CONVENTIONAL SYMBOLS SHEET 10 OF 11			
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88n



DETECTOR HOUSING

88o



BUS PRIORITY LOOP

OBSOLETE

N	FEB 18	DOCUMENT REVIEWED: TITLE BLOCK UPDATED
M	SEP13	DOCUMENT REVIEWED: NEW SYMBOLS 34,35,44,45,46,47,73,74,78,79,82 & 86 ADDED
L	MAY 09	DOCUMENT REVIEWED
K	NOV 03	PUFFIN REPEATER SYMBOL ADDED
J	MAR 03	PUFFIN PER DETS CLARIFIED: TITLE BLOCK CHANGED: POLE N° STREET LIGHT, DOUBLE HEAD SECONDARY & SHEET 9 ADDED
I	DEC 00	CCTV CAMERA ADDED: SYMBOL FOR ASPECTS ON LC CHANGE: NOTE 19 AMENDED: DUCTING ANNOTATION ADDED
H	AUG 00	TITLE BLOCK CHANGED TO TFL: BUS ADVANCE INFORMATION DETECTORS ADDED

Transport for London
Surface Transport



**TfL
Engineering**

Windsor House
42-50 Victoria Street
LONDON SW1H 0TL
Telephone 020 7222 5600

Scale A4 | date

NTS

OCT 90

arn

eng

chk

scheme

STANDARD CONVENTIONAL SYMBOLS

SHEET 11 OF 11

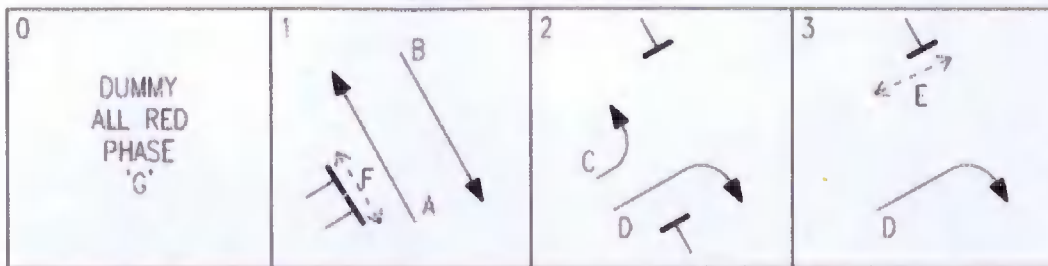
NO SIG/GEN/S/1526/N

08/02/2018 11:02:23

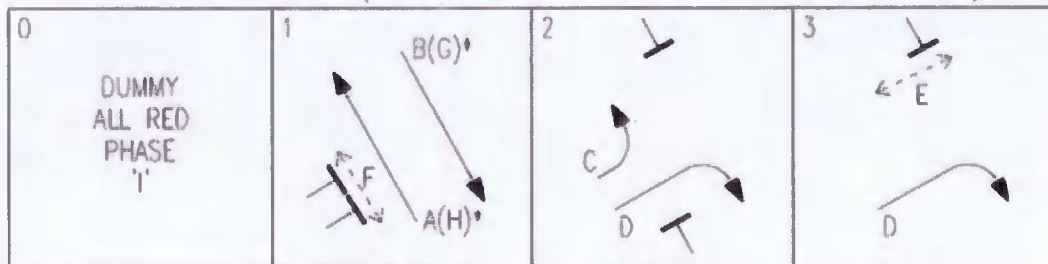
gns1526N Standard Symbols

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METHOD OF CONTROL

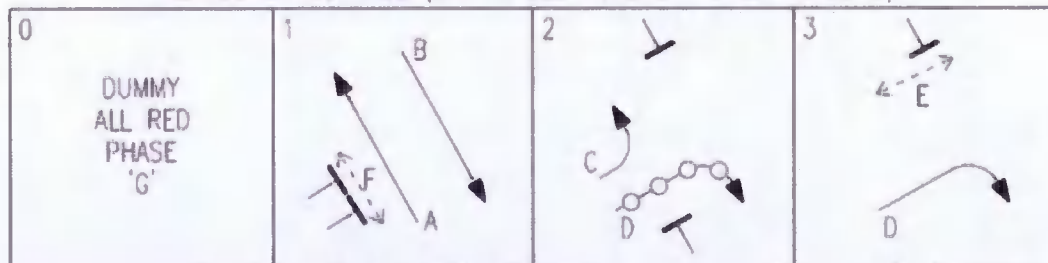


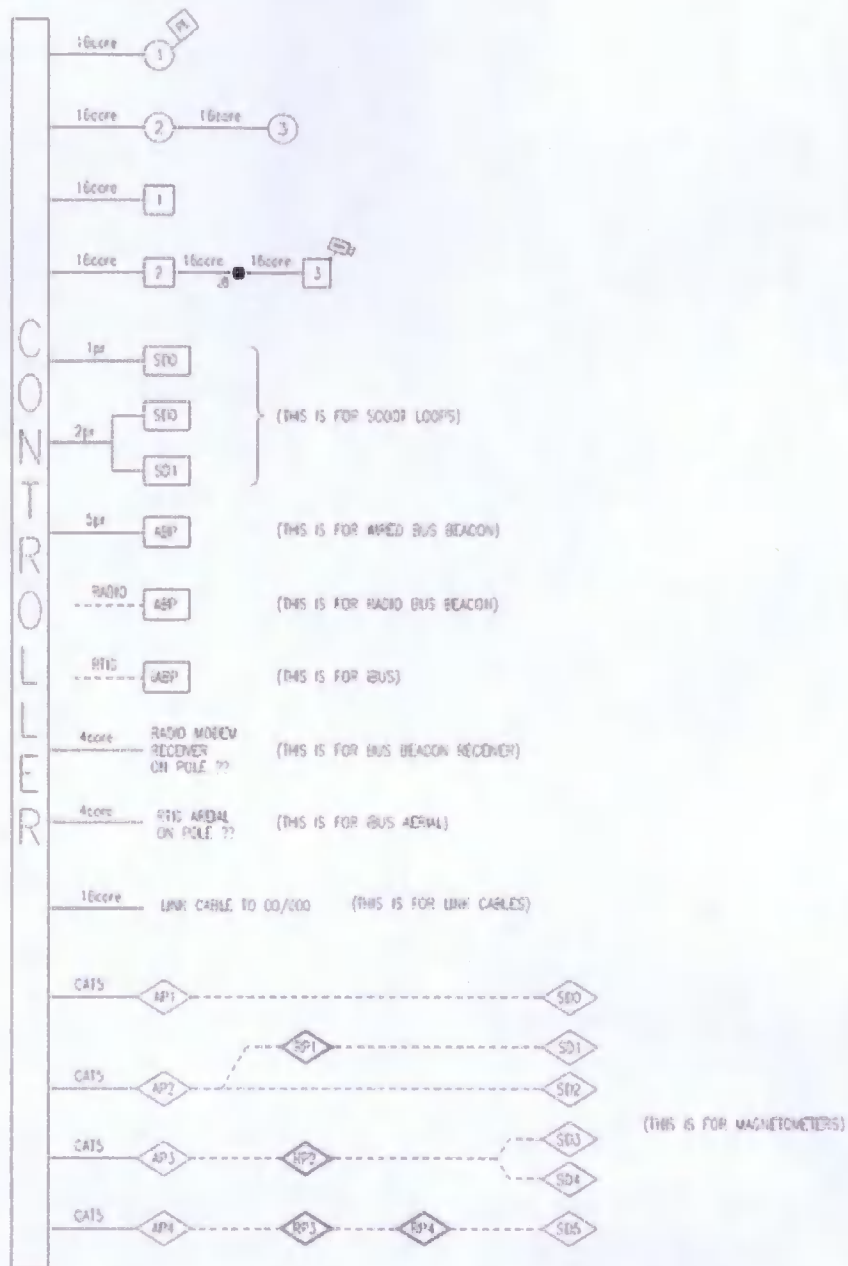
METHOD OF CONTROL (WITH LOW LEVEL CYCLE SIGNALS—PHASES G AND H)



(?)* INDICATES LOW LEVEL CYCLE SIGNALS

METHOD OF CONTROL (WITH CYCLE MOVEMENT ONLY PHASE D)






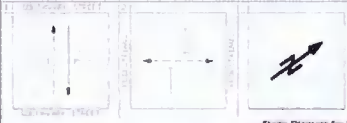
EXAMPLE OF HOW SYMBOLS ARE SHOWN ON CABLE SCHEMATIC DIAGRAM

3.1.3. Timing Sheet

Source: Site Fault Management (SFM)

The Timing Sheet is a summary of the operation of an ATS Site. Each Site has a unique timing sheet. The Timing Sheet is self-explanatory to a Traffic Control Engineer and an example is below. VMS, OVD and CCTV Sites do not have Timing Sheets.

 **Timing Sheets**

London Borough Of		Grid Reference	UTC Call	BT Line No	Issue	Date Implemented	Initials	Site Number																																																																	
SOUTHWARK		512110185198	ENTER	SEE 08/330	1	15-JAN-2020	CUBIC	08000333U																																																																	
Address ALDOO SOUTHWARK STREET BY GREAT GUYFORD STREET																																																																									
Controller Installed Date		Engineer Responsible		Linking																																																																					
15-SEP-2009		WRATTENA		08000333U																																																																					
Controller Takeover Date		Control	Control	Control	Control	Control	Control	Control																																																																	
15-SEP-2009		R	BT	08000333U	70000000	16000000	16000000	16000000																																																																	
 <p style="text-align: center;">Stage Diagram for Stage No 1</p>																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Testings</th> <th>Traffic</th> <th>Date</th> <th>Unit</th> <th>Function</th> <th>Stage</th> </tr> </thead> <tbody> <tr> <td>Pedestrians</td> <td>Green (UTCA, Local)</td> <td>A</td> <td>1:00</td> <td>PKD1</td> <td>CAN 2</td> </tr> <tr> <td>Red Man</td> <td>Amber</td> <td>A 13 B</td> <td>3</td> <td>PKD2</td> <td>CAN 2</td> </tr> <tr> <td>Red Man</td> <td>Red (Main/Out)</td> <td>UG</td> <td>2/2</td> <td>PKD3</td> <td>CAN 2</td> </tr> <tr> <td>Green Man</td> <td>Red</td> <td>B</td> <td>1</td> <td>PK P1</td> <td>CAL 2</td> </tr> <tr> <td>Blackout</td> <td>Red</td> <td>5</td> <td></td> <td>PK P2</td> <td>CAL 2</td> </tr> <tr> <td>Extended Blackout</td> <td>Red</td> <td>B to A</td> <td></td> <td>PK P3</td> <td>CAL 2</td> </tr> <tr> <td>Max Blackout Ext</td> <td>Red</td> <td>UG</td> <td></td> <td>SDO</td> <td>ECT 1</td> </tr> <tr> <td>Red Man</td> <td>Red</td> <td>4</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Red Man</td> <td>Red + Amber</td> <td>2</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									Testings	Traffic	Date	Unit	Function	Stage	Pedestrians	Green (UTCA, Local)	A	1:00	PKD1	CAN 2	Red Man	Amber	A 13 B	3	PKD2	CAN 2	Red Man	Red (Main/Out)	UG	2/2	PKD3	CAN 2	Green Man	Red	B	1	PK P1	CAL 2	Blackout	Red	5		PK P2	CAL 2	Extended Blackout	Red	B to A		PK P3	CAL 2	Max Blackout Ext	Red	UG		SDO	ECT 1	Red Man	Red	4				Red Man	Red + Amber	2								
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Timing Sheet
Rev: 1.00 1/1/2009

Page 1 of 2

10-Sep-2020 11:48:10



Timing Sheets

Remarks	
Linking	LINKED TO 08/330
Comments	AUDIBLES TIMESWITCHED OFF BETWEEN 22:00 AND 07:00.
Detection	PKDs - PUSH BUTTONS / TACTILES & AUDIBLES - VEHICLE SCOOT
Amendment	TACTILE REPLACED ON POLE 2. 15-JAN-2020 CUBIC

3.1.4. Takeover Certificates

Takeover Certificates are used at Site Commissioning to confirm the Installed Equipment being taken into maintenance as Supported Equipment. There are both TfL (Client) copies and Company (Contractor) copies, identified in the top right-hand corner of the document. At a commissioning of completed Capital Works the Contractor retains the completed Company Copy and TfL retain the TfL Copy for records.

In addition to information about the Supported Equipment (which may include number of units, manufacturer details, serial number, and condition) there may also be (for ATS, VMS and OVD Sites):

- Whether the Takeover Certificate is 'Interim' i.e. Capital Works are not complete or 'Final' i.e. Capital Works are fully complete;
- the works description in brief or reason for amendment is described in 'Amendment Details' and dated;
- linking type to other Sites and the Site Number of the linked site;
- dimming voltage or 'No' if Site aspects not dimmed;
- what type of detection strategy is used at the Site;
- Name and signature of 'Attending Engineers' from TfL and/or the Contractor who have carried out the Commissioning;
- whether an SLD amendment is required as a result of the works completed/amendment to Takeover Certificate, and which party is responsible for carrying out the amendment;
- whether the Contractor who has carried out the Capital Works is the same as the Maintaining Contractor and the identity of the Contractor;
- which Availability Categories apply to the Site following the works;
- Outstanding work or snagging to be completed by either the Contractor or a Third Party (which may be the Client TfL)

Further to the above, Takeover Certificates for CCTV Sites contain:

- Commissioning date
- CCTV Test Type (FAT, SAT or LAT) and date of Test;
- Site Test Status (Pass, Pass (with snags), Fail);
- Site Equipment Version comments;
- Site Details including but not limited to TVNP Node, Primary User Group, Site Layout Drawing Number, Design Specification, and Data Circuit;
- Special Status Flags e.g. TLRN is on the TLRN;
- Failure Points and Description;
- LAT SAT, As Built and Electrical Test Certificate and whether they have been supplied following completion of the Capital Works.

3.1.5. Residual Site Hazards and Site Specific Information

Residual Site Hazards and Site Specific Information are Site specific hazards that are recorded on SFM on the Site Hazard Register. If the Hazard Register for a Site is blank there are no Residual Site Hazards present that TfL are aware of. The records provided identify the category of Hazard and then the specifics e.g. 'Sub-Surface' as the category of a Hazard such as 'Mains voltage cable in footpath between poles 1 and 2, depth approx. 1.2m'. Also included are details of when the Hazard was recorded, by whom, and any amendments. Only current Hazards are provided.

Site Prompts are additional information recorded specific to sites, correct as of 1 June 2021, but are provided for information only. Many will expire before start of contract as they relate to ongoing works memos.

3.1.6. Wiring Schematic / Tagging

Source: SQA-0451 TfL Engineering Traffic Signals Drawing Standard Issue 2.0

The cable schematic diagram is part of the SLD and shows the ATS installation cables and includes any Loop, Magnetometers, iBus, Bus Beacon and link cable information.

The wiring schematic / tagging is held in excel format and details the core allocation of the cable schematic. The SLDs include a schematic of the cabling that provides some information in the form of a diagram.

VMS, OVD and CCTV Outstation sites do not have cable schematics diagrams or wiring schematics / tagging information.

The information is provided as excel files for every Site where we have records, stored by borough folder for each contract Lot.

To be read in conjunction with
Drawing No: SLD/??/??????/??

SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
	1
	2
	3
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SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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LV TAGGING	
FUNCTION	CORE NO
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	16

SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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	16

SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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SIGNAL CABLE SCHEDULE LOW VOLTAGE CABLE CONT TO P	
FUNCTION	CORE NO
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	16

To be read in conjunction with
Drawing No: SLD/??/??????/??

SIGNAL CABLE SCHEDULE EXTRA LOW VOLTAGE CABLE CONT TO P	
Function	Core No
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SIGNAL CABLE SCHEDULE EXTRA LOW VOLTAGE CABLE CONT TO P	
Function	Core No
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	16

SIGNAL CABLE SCHEDULE EXTRA LOW VOLTAGE CABLE CONT TO P	
Function	Core No
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	3
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	14
	15
	16

ELV TAGGING	
Function	Core No
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3.1.7. Equipment List

Source: Site Fault Management (SFM)

The Equipment list is supplied per asset type, per borough, in excel format.

The Site Equipment list is correct as of 01/06/2021.

Table 2 describes the headings for this list.

Table 2: Equipment List Headings

Column Heading	Description
"Site"	the Site number (See paragraph 9.1)
"Location"	the address of the Site using USRN street names
"Avail System"	the ST System type for the Equipment. Permitted entries are be 'ATS', 'VMS', 'OVD', or 'CCTV Out Station'
"Eq Code"	a code identifier for the item of Equipment.
"E. Code Description"	description of the Equipment item in English, includes type of Equipment and manufacturer, where available
"Units"	number of units of that Equipment item at the Site
"Install Date"	date that the Equipment was taken into Maintenance. This is taken to be the same date the Controller was Installed so is not necessarily an accurate Installation date for the individual unit.
"Controller Inst. Date"	date that the Controller was installed.
"UnitLocation"	is the location of the Unit of Equipment on the Site
"UnitLocationNumber"	is the pole number that the Unit is located, if located on a pole (refer to SLD for Site details). If UnitLocation is "Controller", "Remote", "Other" or "In-Road Detector" then UnitLocationNumber will be "1" or "-".
"EMC Description"	Description of the Equipment Maintenance Category (EMC) for the Equipment item, which are priced as part of the Fixed Unit Rate. Items that do not have an EMC are entered as 'ZERO UNIT RATE'.

3.1.8. Fault History

Source: Site Fault Management (SFM)

See also Annex 2 Fault Code Definitions and Annex 3 Repair Code Definitions.

The fault history log includes all faults over a 5 years period ending 31/12/2020.

Table 3 describes the headings for this list.

Table 3: Fault History Log Headings

"Borough"	the number of the Borough (See paragraph 9.1)
"Site"	the Site number (See paragraph 9.1)
"Co. Name"	company name of who is responsible for investigating the fault. May be "CUB", "SIE", or "TEL"
"Fault No."	The unique reference number for the fault. Should be in the form of AAAnnnnnnn where AAA is the same as "Co. Name" and nnnnnnn is numeric
"Fault Description"	short form text to describe the fault (See Annex B)
"ReportedBy"	where the report originated
"DatetimeReported"	time and date fault was received by or entered on the system.
"ConfirmedBy"	operator who confirmed the fault. Should not be blank
"DatetimeSent"	when the fault was confirmed on the system – should not be blank or before the reported time.
"ReportSource"	where the report originated (short form), which may be a system or a person/company. Should not be blank. Permitted entries are: "ANL", "ARD", "ATM", "BDF", "BOR", "BUS", "CCD", "CCT", "CLP", "CUB", "DDF", "DTM", "EML", "FCC", "IMU", "LTC", "MCM", "MOP", "MSC", "OMU", "POL", "RMU", "RNC", "RTE", "SDF", "SIG", "STC", "SVD", "SYS", "TEL", "TFL", "TOP", "TTS", "TWT", and "UTC",
"ReportSource Text"	additional information about the report source. Free text field and can be blank.

"Fault Status"	status of fault, which is either "Outstanding Fault (Live)" or "Full Clear (Closed)"
"All OutFault"	whether the fault results in a site being all out (0% availability). Can only be "Y" or "N"

3.1.9. Periodic Inspection Questions and Responses

Source: Site Fault Management (SFM)

Periodic Inspections (PI) of Sites are carried out at set intervals by the Maintenance Contractor as described in Schedule or Appendix 3 for every Site that is in service. ATS, VMS and OVD Sites are checked annually; CCTV Outstation sites have an annual PI and a 6 monthly PI that omits some checks.

The most recent (as of 31/05/2021) Site PI report is included as a PDF file complete with engineer comments. This file is named

All PIs carried out on an ATS and CCTV Site between 01/01/2016 and 15/06/2021 are included in an excel file as a download from the SFM System. the file is named '[nn][Borough name]Periodic Inspections.xlsx' and is stored in each borough folder in the Lot.

The PI questionnaire for VMS and OVD Sites was amended in 2017 and PIs prior to 01/04/2017 are provided but omit data on asset condition.

There are several reasons why a Site may not have a PI as scheduled, including but not limited to:

- A Site that is newly installed will have the first PI approximately 12 months after being brought into service;
- A Site permanently taken out of service during this period of time will not have a PI once taken out of service; and
- A Site temporarily out of service may not have an annual PI if the scheduled PI coincides with the out of service period.

Contractor responses are included in columns heads EQ [x.x] and Authority responses in columns headed AQ [x.x]. Audits are only carried out on a sample of all PIs so the absence of AQ records indicates a PI was not audited.

Table 4 describes the headings in this list.

Table 4: Period Inspections Headings

"Maintenance Date"	date PI was conducted in format dd-mmm-yy. Cannot be blank.
"Audit Date"	Date Audit of PI was conducted. Can be blank.

"Site"	the Site number (See paragraph 9.1)
"Borough"	the number of the Borough (See paragraph 9.1)
"Status"	status of the PI. Can be "Complete", "Audit_In_Progress" or "Audit_Complete"
"Cont."	contractor completing the PI. Can be "CUB", "STC", or "TEL"
"Engineer Name"	name of contractor personnel conducting the PI. Cannot be blank.
"Audit Name"	name of Authority personnel conducting audit of the PI. Will be blank if PI has not be audited.

Please refer to the following documents for additional information:

- SQA-1731 ATS PI Guidance
- SQA-1732 OVD PI Guidance
- SQA-1733 VMS PI Guidance

The questions and column headings are set out in the Tables below for interpretation of the Excel file:

- Table 5: ATS PI Questionnaire
- Table 6: VMS PI Questionnaire
- Table 7: OVD PI Questionnaire
- **Error! Reference source not found.**

Table 5: ATS PI Questionnaire

Column Heading	Question	Response
EQ 1.1	Are all aspects working and clearly visible?	Yes/No*/n/a
EQ 1.2	Are all aspects correctly aligned?	Yes/No*/n/a
EQ1.3	Are the Cut-away hoods in good condition and aligned correctly?	Yes/No*/n/a
EQ 1.4	Are the Tunnel hoods in good condition and aligned correctly?	Yes/No*/n/a

EQ 1.5	Are the Louvred hoods in good condition and aligned correctly?	Yes/No*/n/a
EQ 1.6	Is the site free from see through problems?	Yes/No*/n/a
EQ 1.7	Are all Reg Signs (including Secret Signs) Present, secure and working correctly?	Yes/No*/n/a
EQ 1.8	Are Blind Spot Safety Mirrors fitted, aligned correctly and in good condition?	Yes/No*/n/a
EQ 1.9	Is the site free from foliage obstructing traffic signal visibility and/or detector operation?	Yes/No*/n/a
EQ 1.10	Are Audio/Tactiles fitted and working correctly?	Yes/No*/n/a
EQ 1.11	Are all PBU's present and secure?	Yes/No*/n/a
EQ 1.12	Is all Traffic Control Equipment Clean?	Yes/No*/n/a
EQ 1.13	Are all post caps present and secure?	Yes/No*/n/a
EQ 1.14	Is the site free from non contractual equipment (if no identify type in comments)?	Yes/No*/n/a
EQ 1.14.1	Comments related to 1.14 if response is "No"	Free text
EQ 1.15	Is the non contractual equipment fitted in safe condition?	Yes/No*/n/a
EQ 1.16	Is the site free from graffiti?	Yes/No*/n/a
EQ 1.17	Is the site free from any cosmetic damage?	Yes/No*/n/a
EQ 1.18	Is the controller, PJL and ESP wiring tagged?	Yes/No*/n/a
EQ 1.19	Are the controller, PJL and ESP sealed and free from corrosion (including ducts and door seals) and equipment seated correctly?	Yes/No*/n/a
EQ 1.20	Is the controller, PJL and ESP free from vermin infestation?	Yes/No*/n/a

EQ 1.21	Ensure the controller, PJL and ESP are clean and free from debris.	Yes/No*/n/a
EQ 1.22	Ensure all locks, including bolts are present and working correctly.	Yes/No*/n/a
EQ 1.23	Is all Above Ground Detection aligned correctly and secured?	Yes/No*/n/a
EQ 1.24	Is Video Detection fitted, clean and secure?	Yes/No*/n/a
EQ 1.25	Are all covers, pit lids and access panels free from defects and secure?	Yes/No*/n/a
EQ 1.26	Is the site equipment free from any Health and Safety risk?	Yes/No*/n/a
EQ 1.27	Confirm the operation of PE Cell (site dimming)?	Yes/No*/n/a
EQ 1.28	Are all road markings clearly visible?	Yes/No*/n/a
EQ 2.1	Is log book present (provide a new one if log book is not present or current one is nearly full)	Yes/No*/n/a
EQ 2.2	Is the documentation wallet present (provide a new one if the current one is defective or missing)?	Yes/No*/n/a
EQ 2.3	Is Timing Sheet present on site correct to SFM records?	Yes/No*/n/a
EQ 2.3.1	Issue No	Number
EQ 2.4	Is current SLD present?	Yes/No*/n/a
EQ 2.5	Is the site layout in accordance with the SLD?	Yes/No*/n/a
EQ 2.6	Are all road markings as shown on SLD?	Yes/No*/n/a
EQ 2.7	Is TfL Spec present (applies only to junctions)?	Yes/No*/n/a
EQ 2.7.1	Issue number of TfL Specification	Number

EQ 2.8	Is the Manufacturer's Controller Spec present?	Yes/No*/n/a
EQ 2.8.1	Configuration number of Spec	Alphanumeric string
EQ 2.8.2	Issue number	Number
EQ 2.9	Is a RAM sheet present (provide one if none present)?	Yes/No*/n/a
EQ 2.10	Is the Loop Identification card present and correct?	Yes/No*/n/a
EQ 2.11	Is the Magnetometer Identification card present and correct?	Yes/No*/n/a
EQ 2.12	Remove old issue paperwork and tidy remainder into document wallet.	Yes/No*/n/a
EQ 3.1	Check all detection / inputs insert the correct demands?	Yes/No*/n/a
EQ 3.2	Is all detection set to normal operation?	Yes/No*/n/a
EQ 3.3	Is the input sense correct for each detector (e.g. Inverted for on crossing detection)?	Yes/No*/n/a
EQ 3.4	Ensure Scoot detection is setup and working correctly.	Yes/No*/n/a
EQ 3.5	Ensure the Speed Measurement Detection is working correctly.	Yes/No*/n/a
EQ 3.6	Is the timetable for Audibles as per the specification/Ram Sheet?	Yes/No*/n/a
EQ 3.7	Ensure all RAM data is correct to the latest specification / RAM sheet.	Yes/No*/n/a
EQ 3.8	Ensure all timings are as per the latest timing sheet.	Yes/No*/n/a
EQ 3.9	Ensure all timetable entries are as per the latest timing sheet.	Yes/No*/n/a
EQ 3.10	Ensure Controller clock settings and date are correct.	Yes/No*/n/a

EQ 3.11	Ensure controller mode of operation is correct.	Yes/No*/n/a
EQ 3.11.1	Mode of operation	UTC/CLF/VAF/T/ MOVA
EQ 3.12	Does the manufacturers spec. match the configuration running in the controller?	Yes/No*/n/a
EQ 3.12.1	Note the configuration running	Number
EQ 3.13	Are the controller fault log/s clear?	Yes/No*/n/a
EQ 3.14	For standalone pedestrian crossings (only) confirm the operation and correct wiring of the controller Red Lamp Monitoring.	Yes/No*/n/a
EQ 3.15	Is the ancillary equipment operating correctly (e.g. OMU, IMU)?	Yes/No*/n/a
EQ 3.16	Are all changeable batteries less than 5.5 years old (i.e. if they are more than 5.5 years old they require replacement)?	Yes/No*/n/a
EQ 3.17	Ensure all replaceable batteries are labelled with an install date. (Use the site controller installed date if labels not present)	Yes/No*/n/a
EQ 4.1	Take the meter reading (for sites fitted with electricity meters)	Number / n/a
EQ 4.2	Check all wiring within feeder pillar particularly for conductor condition, integrity of insulation and security of all anchorages, barriers, termination/connections and components	Yes/No*/n/a
EQ 4.3	Check all earth connections within the controller, ESP and PJL (where fitted) are present and tightly secured	Yes/No*/n/a
EQ 4.4	Check all warning labels/circuit identification labels are not missing, damaged, or illegible	Yes/No*/n/a
EQ 4.5	Confirm the Earth Fault Loop Impedance at the maintenance socket within tolerance (≤ 1.47 Ohms)	Yes/No*/n/a

EQ 4.5.1	Impedance(Ohms)	Number
EQ 4.6	Confirm the Operation of the maintenance socket RCD - a) 0.5 x no trip	Yes/No*/n/a
EQ 4.7	Confirm the Operation of the maintenance socket RCD - b) 1 x ($\leq 200\text{ms}$)	Yes/No*/n/a
EQ 4.7.1	Positive Cycle	Number
EQ 4.7.2	Negative Cycle	Number
EQ 4.8	Confirm the Operation of the maintenance socket RCD - c) 5 x ($\leq 40\text{ms}$)	Yes/No*/n/a
EQ 4.8.1	Positive Cycle	Number
EQ 4.8.2	Negative Cycle	Number
EQ 4.9	Confirm the Operation of the maintenance socket RCD - d) RCD trips by pushing the button	Yes/No*/n/a
EQ 4.10	Confirm the Earth Fault Loop Impedance at all LV push button front covers is within tolerance. (detail any failures) - (action on failure) Pole number / Reading / Fault Button	Yes/No*/n/a
EQ 5.1	Rate the condition of the controller and associated equipment	Yes/No*/n/a
EQ 5.1.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.2	Rate the condition of the lanterns and optical equipment	Yes/No*/n/a
EQ 5.2.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.3	Rate the condition of the poles and infrastructure equipment	Yes/No*/n/a
EQ 5.3.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.4	Rate the condition of the detection	Yes/No*/n/a

EQ 5.4.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.5	Rate the condition of the Ancillary Equipment (e.g. RM/UTC)	Yes/No*/n/a
EQ 5.5.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 6.1	Are all assets in accordance with the following list? (NB, assets found onsite that are in addition to the equipment list must be added by selecting the 'No' option.)	Yes/No*/n/a
EQ 6.6.1	Comments	Free Text

Table 6: VMS PI Questionnaire

Column Heading	Question	Response
EQ 1.1	Are all LEDs working and clearly visible?	Yes/No*/n/a
EQ 1.2	Is the site free from foliage obstructing sign visibility?	Yes/No*/n/a
EQ1.3	Is all sign equipment clean?	Yes/No*/n/a
EQ 1.3.1	Is the site free from non contractual equipment (if no identify type in comments)?	Yes/No*/n/a
EQ 1.4.1	Identify equipment type	Free text
EQ 1.5	Is the non-contractual equipment fitted in a safe condition?	Yes/No*/n/a
EQ 1.6	Is the site free from graffiti?	Yes/No*/n/a
EQ 1.7	Is the site free from any cosmetic damage?	Yes/No*/n/a
EQ 1.8	Is the controller, PJL and ESP wiring tagged?	Yes/No*/n/a

EQ 1.10	Is the ESP sealed and free from corrosion (including ducts and door seals)?	Yes/No*/n/a
EQ 1.11	Are the engineers access and ESP free from vermin infestation?	Yes/No*/n/a
EQ 1.12	Are the engineers access and ESP clean and free from debris?	Yes/No*/n/a
EQ 1.13	Ensure all locks, including bolts are present and working correctly	Yes/No*/n/a
EQ 1.14	Are all covers, pit lids and access panels free from defects and secure?	Yes/No*/n/a
EQ 1.15	Is the site equipment free from any Health and Safety risk?	Free text
EQ 1.16	Confirm the operation of PE Cell (site dimming)?	Yes/No*/n/a
EQ 2.1	Is log book present (provide a new one if log book is not present or current one is nearly full)	Yes/No*/n/a
EQ 2.2	Is the documentation wallet present (provide a new one if the current one is defective or missing)?	Yes/No*/n/a
EQ 2.3	Is current SLD present?	Yes/No*/n/a
EQ 2.4	Is the Manufacturer's Configuration Sheet present?	Number
EQ 2.5	Is the Takeover Certificate present?	Yes/No*/n/a
EQ 2.6	Remove old issue paperwork and tidy remainder into document wallet.	Yes/No*/n/a
EQ 3.1	Are the controller clock settings and date correct?	Yes/No*/n/a
EQ 3.2	Are the controller fault logs clear?	Yes/No*/n/a
EQ 3.3	Are all replaceable batteries labelled with an install date (use the site controller install date if labels are not present)?	Yes/No*/n/a
EQ 3.4	Are all changeable batteries less than 5.5 years old (i.e. if they are more than 5.5 years old they require replacement)?	Yes/No*/n/a

EQ 3.5	Has the wash over test been completed?	Yes/No*/n/a
EQ 3.6	Has the Paknet direct check been carried out?	Yes/No*/n/a
EQ 3.7	Does the ESN match the Takeover Cert?	Yes/No*/n/a
EQ 3.7.1	ESN	Number
EQ 3.8	Does the NUA match the Takeover Cert?	Yes/No*/n/a
EQ 3.8.1	NUA	Number
EQ 3.11	Record Base Station Address	Yes/No*/n/a
EQ 3.11.1	Address	Number
EQ 3.12	Record forward and reverse signal strengths	Yes/No*/n/a
EQ 3.12.1	Forward	Number
EQ 3.12.2	Reverse	Number
EQ 3.14	Confirm a remote test message has been sent and seen as okay	Yes/No*/n/a
EQ 3.15	Record the software running	Yes/No*/n/a
EQ 3.16	Version	Number
EQ 4.1	Take the meter reading (for sites fitted with electricity meters)	Number / n/a
EQ 4.2	Check all wiring within feeder pillar particularly for conductor condition, integrity of insulation and security of all anchorages, barriers, termination/connections and components	Yes/No*/n/a

EQ 4.3	Check all earth connections within the controller, ESP and PjL (where fitted) are present and tightly secured	Yes/No*/n/a
EQ 4.4	Check all warning labels/circuit identification labels are not missing, damaged, or illegible	Yes/No*/n/a
EQ 4.5	Confirm the Earth Fault Loop Impedance at the maintenance socket within tolerance (≤ 1.47 Ohms)	Yes/No*/n/a
EQ 4.5.1	Impedance (Ohms)	Number
EQ 4.6	Confirm the Operation of the maintenance socket RCD - a) 0.5 x no trip	Yes/No*/n/a
EQ 4.7	Confirm the Operation of the maintenance socket RCD - b) 1 x ($\leq 200\text{ms}$)	Yes/No*/n/a
EQ 4.7.1	Positive Cycle	Number
EQ 4.7.2	Negative Cycle	Number
EQ 4.8	Confirm the Operation of the maintenance socket RCD - c) 5 x ($\leq 40\text{ms}$)	Yes/No*/n/a
EQ 4.8.1	Positive Cycle	Number
EQ 4.8.2	Negative Cycle	Number
EQ 4.9	Confirm the Operation of the maintenance socket RCD - d) RCD trips by pushing the button	Yes/No*/n/a
EQ 5.1	Rate the condition of the controller and associated equipment	Yes/No*/n/a
EQ 5.1.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.2	Rate the condition of the optical equipment	Yes/No*/n/a
EQ 5.2.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.3	Rate the condition of the poles and infrastructure equipment	Yes/No*/n/a

EQ 5.3.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 6.1	Are all assets in accordance with the following list? (NB, assets found onsite that are in addition to the equipment list must be added by selecting the 'No' option.)	Yes/No*/n/a
EQ 6.1.1	Comments	Free Text

Table 7: OVD PI Questionnaire

Column Heading	Question	Response
EQ 1.1	Are all LEDs and flashing ambers working and clearly visible?	Yes/No*/n/a
EQ 1.2	Is the sign correctly aligned?	Yes/No*/n/a
EQ1.3	Is the site free from foliage obstructing signal visibility and/or detector operation?	Yes/No*/n/a
EQ 1.4	Is all sign equipment and detection equipment clean?	Yes/No*/n/a
EQ 1.5	Is the site free from non-contractual equipment fitted (if no identify type in comments)?	Yes/No*/n/a
EQ 1.6	Is the non-contractual equipment fitted in safe condition?	Yes/No*/n/a
EQ 1.7	Is the site free from graffiti?	Yes/No*/n/a
EQ 1.8	Is the site free from any cosmetic damage?	Yes/No*/n/a
EQ 1.10	Is the controller, PJL and ESP wiring tagged?	Yes/No*/n/a
EQ 1.11	Are the controller, PJL and ESP sealed and free from corrosion (including ducts and door seals)?	Yes/No*/n/a
EQ 1.12	Is the equipment seated correctly?	Yes/No*/n/a
EQ 1.13	Is the controller, PJL and ESP free from vermin infestation?	Yes/No*/n/a

EQ 1.14	Ensure the controller, P JL and ESP are clean and free from debris.	Yes/No*/n/a
EQ 1.15	Ensure all locks, including bolts are present and working correctly	Free text
EQ 1.16	Are all OVD Detection Beams aligned correctly and secured?	Yes/No*/n/a
EQ 1.17	Are all covers, pit lids and access panels free from defects and secure?	
EQ 1.18	Confirm the operation of PE Cell (site dimming)?	Yes/No*/n/a
EQ 2.1	Is log book present (provide a new one if log book is not present or current one is nearly full)	Yes/No*/n/a
EQ 2.2	Is the documentation wallet present (provide a new one if the current one is defective or missing)?	Yes/No*/n/a
EQ 2.3	Is current SLD present?	Yes/No*/n/a
EQ 2.3.1	SLD Issue Number may be provided as the full drawing name <i>SLD/xx/yyyyyy/nn</i> or just the issue number <i>n</i> or <i>nn</i>	Number
EQ 2.4	Are all road markings as shown on SLD?	Yes/No*/n/a
EQ 2.5	Are all road markings clearly visible?	Yes/No*/n/a
EQ 2.6	Is the max clearance sign present and visible?	Yes/No*/n/a
EQ 2.7	Remove old issue paperwork and tidy remainder into document wallet.	Yes/No*/n/a
EQ 3.1	Check all detection / inputs on controller LED'S	
EQ 3.2	Is the controller fault LED clear?	Yes/No*/n/a
EQ 3.3	Is the ancillary equipment operating correctly (e.g. OMU, IMU)?	Yes/No*/n/a

EQ 3.4	Has an operational test been carried out?	Yes/No*/n/a
EQ 3.5	Does the safety warning state operate correctly?	Yes/No*/n/a
EQ 3.6	Is the site monitored?	Yes/No*/n/a
EQ 3.7	Has a monitoring check been done successfully?	Yes/No*/n/a
EQ 3.8	Are all changeable batteries less than 5.5 years old (i.e. if they are more than 5.5 years old they require replacement)?	Yes/No*/n/a
EQ 3.9	Ensure all replaceable batteries are labelled with an install date. (Use the site controller installed date if labels not present)	Yes/No*/n/a
EQ 3.10	Is the orientation of travel correct?	Yes/No*/n/a
EQ 4.1	Take the meter reading (for sites fitted with electricity meters)	Yes/No*/n/a
EQ 4.2	Check all wiring within feeder pillar particularly for conductor condition, integrity of insulation and security of all anchorages, barriers, termination/connections and components	Yes/No*/n/a
EQ 4.3	Check all earth connections within the controller, ESP and PJL (where fitted) are present and tightly secured	Yes/No*/n/a
EQ 4.4	Check all warning labels/circuit identification labels are not missing, damaged, or illegible	Yes/No*/n/a
EQ 4.5	Confirm the Earth Fault Loop Impedance at the maintenance socket within tolerance (≤ 1.47 Ohms)	Yes/No*/n/a
EQ 4.5.1	Impedance (Ohms)	Yes/No*/n/a
EQ 4.6	Confirm the Operation of the maintenance socket RCD - a) 0.5 x no trip	Yes/No*/n/a
EQ 4.7	Confirm the Operation of the maintenance socket RCD - b) 1 x ($\leq 200\text{ms}$)	Yes/No*/n/a

EQ 4.7.1	Positive Cycle	Number
EQ 4.7.2	Negative Cycle	Number
EQ 4.8	Confirm the Operation of the maintenance socket RCD - c) 5 x ($\leq 40\text{mS}$)	Yes/No*/n/a
EQ 4.8.1	Positive Cycle	Number
EQ 4.8.2	Negative Cycle	Number
EQ 4.9	Confirm the Operation of the maintenance socket RCD - d) RCD trips by pushing the button	Yes/No*/n/a
EQ 5.1	Rate the condition of the controller and associated equipment	Yes/No*/n/a
EQ 5.1.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.2	Rate the condition of the optical equipment	Yes/No*/n/a
EQ 5.2.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.3	Rate the condition of the poles and infrastructure equipment	Yes/No*/n/a
EQ 5.3.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.4	Rate the condition of the detection	Yes/No*/n/a
EQ 5.4.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 5.5	Rate the condition of any Ancillary Equipment (e.g. RM/UTC)	Yes/No*/n/a
EQ 5.5.1	(1-Very Bad, 2-Poor, 3-Acceptable, 4-Good, 5-Excellent)	Number
EQ 6.1	Are all assets in accordance with the following list? (NB, assets found onsite that are in addition to the equipment list must be added by selecting the 'No' option.)	Yes/No*/n/a

EQ 6.1.1	Comments	Free Text
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*All responses 'No' can then have comments added as free text to describe the issue

3.1.10. Site Numbers

3.1.10.1. ATS, VMS, and OVD Site numbers

The Site number is a unique code to identify a Site in the format of xx/yyyyyy/z where 'xx' is a numerical code for the borough it is in and 'yyyyyy' is an identifying number of the Site. For example, 00/000001 would be a Site in City of London (00).

'z' is a suffix to aid identification of certain attributes e.g. M means it is monitored on our old PSTN system. N means monitored on our New monitoring system. U means under UTC control. Note – not all sites have a suffix.

A main Site may control Streams, which will also have a Site Number assigned.

Borough Code	Borough Name
00	City of London
01	Westminster
02	Camden
03	Islington
04	Hackney
05	Tower Hamlets
06	Greenwich
07	Lewisham
08	Southwark
09	Lambeth
10	Wandsworth
11	Hammersmith & Fulham
12	Kensington & Chelsea
13	Waltham Forest
14	Redbridge

15	Havering
16	Barking & Dagenham
17	Newham
18	Bexley
19	Bromley
20	Croydon
21	Sutton
22	Merton
23	Kingston
24	Richmond
25	Hounslow
26	Hillingdon
27	Ealing
28	Brent
29	Harrow
30	Barnet
31	Haringey
32	Enfield

Schedule 27: Documentation

Annex 27.B: Authority Standards, Guidance, Reference and Policy Documents

1. Authority Standards, Guidance, References and Policy documents

Table 8 provided below provides a breakdown of all Authority Standards, Guidance, References and Policy documents which can be found throughout the contract and which is stored within the TfL Data Room.

Table 8: Authority Standards, Guidance, References and Policy documents

Document Type	Document Reference	Description	Revision / Issue	Date
Code	N/A	Code of Connections (CoCo) v1.5	A3	Mar-19
Design Standards, Guidance and Information	TES-200	Electrical Standard (Design) for Traffic Control Assets	2	Apr-21
Design Standards, Guidance and Information	TES-201	Electrical Standard (Inspection and Testing) for Traffic Control Assets	2	Apr-21
Design Standards, Guidance and Information	TES-202	Electrical Standard (Decommissioning) for Traffic Control Assets	2	Apr-21
Design Standards, Guidance and Information	TES-203	TfL Controller Specification Guidance for Traffic Signals	1	Apr-21
Design Standards, Guidance and Information	TES-204	Service Duct and Chamber Survey for Traffic Control Assets	2	Apr-21
Design Standards, Guidance and Information	TES-205	Cable Survey for Traffic Control Assets	2	Apr-21
Design Standards, Guidance and Information	TES-206	Poles in Temporary Foundations for Traffic Signals	3	Apr-21
Design Standards, Guidance and Information	TES-207	iBUS Equipment and Interface for Traffic Signals	2	Apr-21
Design Standards, Guidance and Information	TES-300	List of Traffic Control Equipment Requiring a Factory Acceptance Test	2	Apr-21
Design Standards, Guidance and Information	TES-301	Local Acceptance Testing for OVD Assets Checklist	1	Apr-21

Design Standards, Guidance and Information	TES-302	Factory Acceptance Testing for Traffic Signal Asset Configurations Checklist	1	Apr-21
Design Standards, Guidance and Information	TES-303	Guidance Document for Local Acceptance Testing for Traffic Signal Assets	1	Apr-21
Design Standards, Guidance and Information	TES-304	Local Acceptance Testing for Traffic Signal Assets Checklist	1	Apr-21
Design Standards, Guidance and Information	TES-305	Guidance Document for Local Acceptance Testing for CCTV Out-Station Assets	2	Apr-21
Design Standards, Guidance and Information	TES-306	Local Acceptance Testing for CCTV Out-Station Assets Checklist	2	Apr-21
Design Standards, Guidance and Information	TES-307	Guidance Document for Local Acceptance Testing for VMS Assets	2	Apr-21
Design Standards, Guidance and Information	TES-308	Local Acceptance Testing for VMS Assets Checklist	2	Apr-21
Document Type	Document Reference	Description	Revision / Issue	Date
Design Standards, Guidance and Information	TES-309	Guidance Document for Local Acceptance Testing for OVD Assets	2	Apr-21
Design Standards, Guidance and Information	TES-310	Local Acceptance Testing for OVD Assets Checklist	2	Apr-21
Design Standards, Guidance and Information	TES-401	Traffic Signal Drawing Standard	3	Jun-21
Design Standards, Guidance and Information	TES-402	OVD Drawing Standard	1	May-21
Design Standards, Guidance and Information	TES-403	VMS Drawing Standard	1	May-21
Design Standards,	TES-404	Streets CCTV Drawing Standard	1	May-21

Guidance and Information				
Equipment Specification	TES-100	Requirements Pertaining to All Equipment	2	Apr-21
Equipment Specification	TES-101	Traffic Signal Controller for Traffic Signals	2	Apr-21
Equipment Specification	TES-102	Pole Mounted Signs for Traffic Signals	3	Apr-21
Equipment Specification	TES-103	Push Buttons for Traffic Signals	2	Apr-21
Equipment Specification	TES-104	Audible Unit for Traffic Signals	2	Apr-21
Equipment Specification	TES-105	Contact-Closure Detectors for Traffic Signals	2	Apr-21
Equipment Specification	TES-106	Cycle Safety Mirror for Traffic Signals	2	Apr-21
Equipment Specification	TES-107	Tactile Unit for Traffic Signals	2	Apr-21
Equipment Specification	TES-108	Adaptive Dynamic Control System for Traffic Signals	2	Apr-21
Equipment Specification	TES-109	Poles for Traffic Signals	2	Apr-21
Equipment Specification	TES-110	IPOTU for Traffic Control Assets	2	Apr-21
Equipment Specification	TES-111	Pedestrian Quantity Detector for Traffic Control Assets	2	Apr-21
Equipment Specification	TES-112	Unmanaged Network Switch for Traffic Control Assets	2	Apr-21
Equipment Specification	TES-113	NGRM for Traffic Control Assets	2	Apr-21
Equipment Specification	TES-114	PJL for Traffic Control Assets	2	Apr-21
Equipment Specification	TES-115	Ethernet Extenders for Traffic Control Assets	1	May-21
Equipment Specification	TES-130	Variable Message Sign System	2	Apr-21
Equipment Specification	TES-140	Overheight Vehicle Detection System	2	Apr-21
Equipment Specification	TES-141	Columns for Overheight Vehicle Detection Systems	2	Apr-21
Document Type	Document Reference	Description	Revision / Issue	Date
Equipment Specification	TES-150	Cabinet and Cabinet Equipment for CCTV	2	Apr-21
Equipment Specification	TES-151	Camera System for CCTV	2	Apr-21
Equipment Specification	TES-152	Column for CCTV	2	Apr-21
Equipment Specification	TES-153	Flexible Deployment Camera for CCTV	1	Apr-21
Equipment Specification	TES-154	Operator Interface for CCTV	1	Apr-21

Equipment Specification	TES-155	Dome camera for CCTV	1	Apr-21
Equipment Specification	TES-160	Wig Wag Signal Control Equipment	2	Apr-21
Guidance	G2178	Equality and Inclusion good practice	A1	May-14
Guidance	G2180	TfL Resilience Exercise Guidance	2.3	Apr-15
Guidance	G1323	Noise and Vibration asset design	A3	Jan-18
Guidance	G1365	Beacon Site Team 'Achieving Best Practise' Guidance	A4	Jun-16
Reference	R0001	TfL Governance Framework	A4	Feb-21
Reference	R2927	Cyber security framework	A2	Feb-18
Specification	SQA-2025	Technical Approval of Highways Structures and Tunnel Schemes	4	Dec-20
Standard	S1037	Computer Aided Design (CAD) Data	A4	Feb-20
Standard	S1760	Common Data Environment	A3	Mar-20
Standard	S1735	System access control	A2	Mar-18
Standard	S1736	Network cyber security	A2	Mar-18
Standard	S1737	Secure builds and configurations	A2	Mar-18
Standard	S1738	Security logging, monitoring and audit	A2	Mar-18
Standard	S1739	Security patching	A2	Mar-18
Standard	S1740	Cryptography	A2	Mar-18
Standard	S1741	Cloud cyber security	A2	Mar-18
Standard	S1744	Operational Technology Cyber Security	A1	Apr-17
Standard	S1745	Cyber security vulnerability management	A1	Mar-18
Standard	S1746	Cyber security testing	A1	Mar-18
Standard	S1747	Physical security of IT equipment	A1	Mar-18
Standard	S1748	Wireless network and communications security	A1	Mar-18
Guidance	N/A	The Mayor's Code of Charter for Road Works	N/A	May-12
Guidance	N/A	Temporary Traffic Management Handbook	N/A	N/A
Document Type	Document Reference	Description	Revision / Issue	Date
Standard	S1749	Secure Software, application and web development	A1	Mar-18
Standard	S1782	TfL Standard - Information Security Classification	A2	Apr-20
Testing	TES-300	List of Traffic Control Equipment requiring a Factory Acceptance Test	1	Aug-20
SQA	SQA-0251	Switching Off Traffic Signals for Routine Purposes	2	Feb-19
SQA	SQA-0251	Switching Off Traffic Signals for Routine Purposes Flow Chart	2	Feb-19
SQA	SQA-0321	Controller Replacement Under Maintenance	4	Jan-20
SQA	SQA-0321	Controller Replacement Under Maintenance Flow Chart	4	Jan-20
SQA	SQA – 0454	Sub Surface Detection Procedure	3	Mar-20

SQA	SQA – 0454	Sub Surface Detection Procedure Flow Chart	3	Mar-20
SQA	SQA – 0625	Design, Installation, Commissioning and De-Commissioning of Portable Light Signals at Permanent Traffic Signal Sites	1	Apr-20
SQA	SQA – 0699	Requesting UTC Commissioning at Temporary Signals?	0.3	Jun-20
SQA	SQA – 1731	Traffic Signals Full and Partial Periodic Inspection Guidance	2	Nov-20
SQA	SQA-1732	Periodic Inspection Guidance Notes - OVD	2	Nov-20
SQA	SQA-1733	Periodic Inspection Guidance - VMS	2	Nov-20
SQA	SQA – 2137	SQA-2137 Fault Management Process	2	Feb-21
SQA	SQA – 2137	SQA-2137 Fault Management Process Flow Chart	2	Feb-21
Annex	N/A	TCMS2 Annex M3 Periodic Inspections	1	TBC
Annex	N/A	Schedule 3 Annex C10 Naming of Controller Configurations	1	TBC
Annex	N/A	Schedule 3 Annex C19 Portable Signals Acceptance Certificate	1	TBC
Technical Specification	tfl_scp__001746d – Parts 1,2 and 3	Technical Specification (Surface Transport Infrastructure Construction Framework) Ref: tfl_scp__001746d – Parts 1,2 and 3	1.4	Jul-20
Annex to Schedule 3, Part 2	Annex C1	Build Brief Form - ATS	N/A	N/A
Annex to Schedule 3, Part 2	Annex C1	Build Brief Form - CCTV	N/A	N/A
Annex to Schedule 3, Part 2	Annex C2	Technical Instruction TI36 - The Supply, installation and Commissioning of Portable Traffic Signals (PTS)	2	Jul-13
Annex to Schedule 3, Part 2	Annex C3	Portable Signals Acceptance Certificate	N/A	N/A
Annex to Schedule 3, Part 3	Annex E2	Authority Approved Equipment List - ATS	N/A	N/A
Annex to Schedule 3, Part 3	Annex E2	Authority Approved Equipment List - CCTV	N/A	N/A
Annex to Schedule 3, Part 4	Annex M1	CCTV Fault Management Process	N/A	N/A
Annex to Schedule 3, Part 4	Annex M3	Periodic Inspection Schedule	N/A	N/A
Annex to Schedule 3, Part 4	Annex M7	CCTV Maintenance Out-station Exception Examples	N/A	N/A

Annex to Schedule 3, Part 4	Annex M8	CCTV Maintenance Sample Take-Over Certificate	N/A	N/A
Annex to Schedule 3, Part 4	Annex M9	CCTV Operator Interface Quick Start Guide	N/A	N/A
Annex to Schedule 3, Part 4	Annex M10	OIF and RVC Decoder PC Warranties	N/A	N/A
Annex to Schedule 3, Part 4	Annex M11	Example fault codes	N/A	N/A
Annex to Schedule 3, Part 4	Annex M12a	Process Chart – CCTV Contract Interfaces – Installation & Commissioning	N/A	N/A
Annex to Schedule 3, Part 4	Annex M12b	CCTV Contract Interfaces – Corrective Maintenance Related Faults	N/A	N/A
Annex to Schedule 3, Part 4	Annex M14	CCTV Site Data	N/A	N/A
Annex to Schedule 3, Part 4	Annex M15	CCTV Site Equipment	N/A	N/A
Annex to Schedule 3, Part 4	Annex M16	CCTV Site Structure (Failure Points)	N/A	N/A
Policy	P020	TfL Asset Management Policy	A4	Apr-21
Policy	P021	Enterprise Risk Management	A2	Jan-19
Policy	P023	Privacy and Data Protection Policy	A2	Apr-10
Policy	P043	Policy on the Disclosure of Personal Data to the Police and Statutory Law Enforcement Agencies	2	Mar-15
Policy	P077	Procurement and Contracting Policy	A1	Jun-19
Policy	P079	TfL's Resilience Management Policy Framework	A1	Jan-19
Policy	P105	TfL Anti-Fraud and Corruption		
Policy	P106	Accessible communications policy	A1	Aug-14
Policy	P107	Surface Transport Resilience Management Policy	A1	May-19
Policy	P113	Information Access Policy	2	May-12
Policy	P114	Information and Records Management Policy	2	May-12
Policy	P115	Information Re-use Policy	2	May-12
Policy	P116	Information Security	A3	Jan-20
Policy	P118	Corporate Activities	A2	Jan-20
Policy	P123	Cyber Security Risk Management	A1	Mar-18
Policy	P124	Secure builds and configurations	A2	Feb-18
Policy	P125	Network cyber security	A2	Feb-18
Policy	P126	System access control	A2	Feb-18
Policy	P127	Cyber Security Incident Management	A2	Feb-18

Policy	P128	Malware prevention	A2	Feb-18
Policy	P129	Security logging, monitoring and audit	A2	Feb-18
Policy	P130	Removable media controls	A2	Mar-18
Policy	P131	Home and mobile working	A2	Mar-18
Policy	P132	Third Party cyber security	A2	Mar-18
Policy	P133	TfL Safety, Health and Environment Policy	A7	Jul-20
Code	N/A	Code of Connections (CoCo) v1.5	A3	Mar-19

Schedule 27: Documentation
Annex 27.C: Procurement Documents

1. Procurement Documents

1.1. Contract Structure

1.1.1. Lots 1-6 will follow the contractual structure as listed in Table 99.

Table 9: Lots 1 to 6

00 - Main Contract
Schedule No 01 - Key Contract Information
Schedule No 02 - Definitions
Schedule No 03 - Statement of Requirements
Schedule No 04 - Service Level Agreement
Schedule No 05 - Price and Payment
Schedule No 06 - Capital Works Terms & Prices
Schedule No 06 Part A - Capital Work terms
Schedule No 06 Part B - Capital Works Prices and Rates
Schedule No 07 - Change Control Procedure
Schedule No 08 - Contract Management and Reporting
Schedule No 09 - Employees and Key Personnel
Schedule No 10 - Exit Plan
Schedule No 11 - Permitted Sub-Contractors
Schedule No 12 - Responsible Procurement
Schedule No 13 - Business Continuity
Schedule No 14 - Contractor Solution
Schedule No 15 - TfL Policies
Schedule No 16 - Permitting, Traffic Management and Lane Rental
Schedule No 17 - Deed of Novation
Schedule No 18 - Form of Parent Company Guarantee
Schedule No 19 - Form of Performance Bond (Not Used)
Schedule No 20 - Special Conditions
Schedule No 20B - Special Conditions – Data Protection
Schedule No 21 - Reserved Information
Schedule No 22 - Innovation and Improvement
Schedule No 23 – Security
Schedule No 24 - Health and Safety
Schedule No 25 – Environment
Schedule No 26 - Systems and Integration
Schedule No 27 – Documentation
Schedule No 33 – Vesting Agreement

1.2. Works Information

1.2.1. Table 10 outlines the minimum level of information forming the basis of any Works Instruction issued by the Authority for Capital Works.

Table 8: Works Instruction Information

Site Layout Drawing (SLD)	What the site looks like now (if existing)
ELV/ LV Cable Schematic	NOT APPLICABLE TO OVD SITES
Proposed Drawing for asset	What the site needs to look like post installation
Proposed Drawing for civils	What the site needs to look like post installation
Works Information	Pertinent information on what the TfL PPD project manager requires. For the purposes of this Bid, the Bidder will disregard any reference made to the Build Brief within the Works Information. All information necessary to price each TP is included in the Works Information provided, documents listed in this table and the Statements of Requirements.
Risk Assessment (SQA – 8701)	Carried out by the TfL engineer
Hazard Register (SQA – 8700)	Carried out by the TfL engineer
Local Acceptance Test (LAT) form (SQA – 8695)	Specifies who needs to be on site from TfL at commissioning
Controller Specification/ Crossing timing sheet	Details what the TfL engineer requires (Not required for CCTV sites)
Supplementary Information (SQA – 8702)	Pertinent information on what the TfL engineer deems is needed

Annex 1 – Folder Hierarchy (Excel)

Transport for London have provided the Folder Hierarchy for potential bidders. This is in excel format and shows the folder structure TfL have used. See below, this has also been provided within the data room itself on SharePoint.



Annex 1 Folder
Structure.xlsx

Annex 2 – Fault Codes (Excel)

All Fault Codes have been provided for informative purposes. This has been provided in excel format. See below, this has also been provided within the data room itself on SharePoint.



Annex 2 Fault Code
Definitions.xlsx

Annex 3 – Repair Codes (Excel)

All Repair Codes have been provided for informative purposes. This has been provided in excel format. See below, this has also been provided within the data room itself on SharePoint.



Annex 3 Repair
Code Definitions.xls

Annex 4 – Asset Photo Book (PDF)

See below both PDF and Excel versions of the Asset Photo Book, this has also been provided within the data room itself on SharePoint.



Annex 4 Asset
Photo book.pdf



Annex 4 Asset
Photo book.xlsx

The full list of warranted Site Information can be found in the data room master document where each individual piece of warranted information has been listed.

Site Locations, Periodic Inspections (PI's) Up to 1 year old, Site Layout Drawings (SLD's) and Hazard Site Information are all warranted data which has been provided by TfL to potential bidders as part of the TTC. The full list of warranted Site

Information can be found in the data room master document where each individual piece of warranted information has been listed.

Schedule 28

Not used

Schedule 29

Not used



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH AND CENTRAL

SCHEDULE 30

FORM OF COLLATERAL WARRANTY

PART A

(Form of Warranty from *Contractor* to Financier or other Beneficiary)

Contractor Warranty

between

[CONTRACTOR]

and

[BENEFICIARY]

and

[CLIENT]

relating to [PROJECT]

THIS DEED is made on

20[]

BETWEEN:

- (1) [CONTRACTOR] [(registered number [no.]) whose registered office is] [of] [Address] ("the Contractor");
- (2) [BENEFICIARY] [(registered number [no.]) whose registered office is] [of] [Address] ("the Beneficiary" which expression includes its permitted successors in title and assigns); and
- (3) [CLIENT] [(registered number [no.]) whose registered office is] [of] [Address] ("the Client").

BACKGROUND:

- (A) The Client has entered into a contract with the Contractor dated [date] in respect of traffic control signals and related equipment and services under which the Client may, from time to time, issue works instructions for capital works and/or ordered maintenance ("the Contract").
- (B) By a works instruction dated [date] issued pursuant to the Contract ("the Works Instruction") the Client has appointed the Contractor for the provision of *works* as defined in the Works Instruction ("the Works").
- (C) [The Beneficiary is [the/a] [purchaser][tenant] of [*description of part of the site*] [provider of finance in connection with [*insert description*]] [member of the TfL Group (as defined in the Works Instruction)] [developer] [or [*describe beneficiary's interest as appropriate*]]¹.
- (D) The Contractor is obliged under the Works Instruction to give a warranty in this form in favour of the Beneficiary.

OPERATIVE PROVISIONS

1. DEFINITIONS

The words defined in the Works Instruction will have the same meaning in this Deed unless the context otherwise requires.

1A CONSIDERATION

¹

Amend as appropriate.

This Deed is made in consideration of the payment of one pound (£1.00) by the Beneficiary to the Contractor receipt of which the Contractor acknowledges.

2. **CONTRACTOR'S WARRANTIES**

2.1 The Contractor warrants to the Beneficiary that it has carried out and will continue to carry out and complete its obligations under the Works Instruction in accordance with the Works Instruction.

2.2 The Contractor further warrants that it has exercised and will continue to exercise all reasonable skill, care and diligence (save where the Works Instruction imposes a higher standard in which case such higher standard will apply) in relation to the following (so far as the Contractor is responsible for them):

2.2.1 the design of the Works;

2.2.2 the selection of goods, materials, equipment or plant for the Works; and

2.2.3 the satisfaction of any performance requirement or specification of or for the Works.

3. **INTELLECTUAL PROPERTY RIGHTS**

3.1 Subject to the following provisions of this Deed, the IPR in all documents, drawings, materials, reports, computer software, any other material or works prepared or developed by or performed by or on behalf of the Contractor ("the Documents") in the course of performing its obligations under the Works Instruction (the "**Contractor IPR**") will remain vested in the Contractor.

3.2 In respect of the Contract IPR and the Contractor IPR the Contractor grants (or, if such a grant cannot legally take place until a later date, agrees to grant) to the Beneficiary, with effect from the date of this Deed or in the case of any of the intellectual property not yet in existence with effect from the creation of such intellectual property, an irrevocable, perpetual, royalty-free, non-exclusive licence (such licence to carry the right to grant sub-licences and be transferable to third parties):

3.2.1 to use the Contract IPR and Contractor IPR for the purposes of understanding the Works; and

3.2.2 to use the Contract IPR and Contractor IPR for the purposes of completing, operating, maintaining, repairing, modifying, altering, enhancing, re-configuring, correcting and/or replacing the Works.

3.3 The Client will not be liable for any use the Beneficiary may make of the Contract IPR or the Contractor IPR or the Documents.

4. **PROFESSIONAL INDEMNITY INSURANCE**

4.1 The Contractor by this Deed covenants with the Beneficiary that it has at its own cost taken out and will maintain professional indemnity insurance with reputable insurers authorised to carry on business in the United Kingdom with a limit of indemnity of not less than £[figures] ([words] million pounds) for any one occurrence or series of occurrences arising out of any one event, in relation to the Works provided always that:

4.1.1 such insurance shall be in place from the date of commencement of the Works until no less than 12 years after the completion of the Works; and

4.1.2 if such insurance is not available to the Contractor (and/or design and build contractors engaged in works of a similar, size nature and complexity as the Works) at commercially reasonable rates and terms (excluding any increase in premiums attributable to the actions, omissions, errors or defaults of the Contractor), the Contractor and the Beneficiary will meet and the Contractor will outline the steps he intends to take to manage such risks. If the steps proposed by the Contractor are not reasonably acceptable to the Beneficiary, the parties shall agree an alternative method of managing such risk.

4.2 The Contractor will provide the Beneficiary with reasonable evidence that the policies referred to in this clause 4 are in full force and effect together with a summary of the policy terms and conditions.

5. **NOTICES**

Any notice to be given by either party under this Deed will be sufficiently served if sent by hand, by facsimile transmission or by post to the registered office or if there is none the last known address of the party to be served. Any notice sent by hand will be deemed to be served on the date of delivery and any notice sent by facsimile transmission will be deemed to be served in full at the time

recorded on the facsimile report sheet provided that if any notice sent by hand or facsimile is sent after 4.45p.m. on any day it will be deemed to be served on the next working day. Any notice sent by post will be deemed to have been duly served at the expiration of 48 hours after the time of posting if the end of that period falls before 4.45p.m. on a working day and otherwise on the next working day.

6. ASSIGNMENT

The benefit of and the rights on the part of the Beneficiary under this Deed may be assigned without the consent of the Contractor on two occasions only. The Beneficiary will give the Contractor written notice following any such assignment specifying the name and address of the assignee and the date of the assignment. The Contractor will not contend that any such assignee is precluded from recovering any loss resulting from any breach of this Deed (whatever the date of such breach) by reason only that that person is an assignee and not the original beneficiary under this Deed or by reason that the original beneficiary or any intermediate beneficiary escaped any loss resulting from such breach by reason of the disposal of any interest in the site or that the original beneficiary or any intermediate beneficiary has not suffered any or as much loss.

7. OTHER RIGHTS AND REMEDIES

The rights and benefits conferred upon the Beneficiary by this Deed are in addition to any other rights and remedies it may have against the Contractor including, without limitation, any remedies in negligence.

8. NO APPROVAL

The Contractor's liabilities under this Deed will not be in any way reduced or extinguished by reason of any inspection or approval of the Documents or attendance at site meetings or other enquiry or inspection which the Beneficiary may make or procure to be made for the Beneficiary's benefit or on its behalf.

9. NOT USED

10. LIMITATION

10.1 The Contractor has no liability under this Deed which is greater or of longer duration than it would have had if in lieu of this Deed the

Beneficiary had been a party to the Contract (including the Works Instruction) as joint client provided that the Contractor shall not be entitled to set-off or deduct from any sums payable to the Beneficiary under this Deed any sums due or claimed as due by the Contractor from the Client.

- 10.2 The Contractor shall be entitled in any action or proceedings brought by the Beneficiary under this Deed to rely on any limitation in the Contract (including the Works Instruction) and to raise equivalent rights in defence of liability (but excluding set-offs and counterclaims) as it would have against the Beneficiary if, in lieu of this Deed, the Beneficiary had been a party to the Contract (including the Works Instruction) as joint client.
- 10.3 The parties agree that no action or proceedings may be brought or commenced under this Deed at any time after the date being twelve years after the date of completion of the Works.
- 10.4 The Contractor shall not by reason of this Deed have any liability to the Beneficiary for delay in completion of the Works or any part of them.

11. GOVERNING LAW AND JURISDICTION

- 11.1 This Deed is governed by and construed in accordance with the law of England. Subject to clause 11.2, the courts of England have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Deed.
- 11.2 Any party may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.
- 11.3 Subject to clause 11.2, each party waives any objection to, and submits to, the jurisdiction of the courts of England and Wales. Each party agrees that a judgment or order of any such court is binding upon it and may be enforced against it in the courts of any other jurisdiction.

12. THIRD PARTY RIGHTS

- 12.1 [Save that any member of the TfL Group has the right to enforce the terms of this Deed, the] [The]² parties to this Deed do not intend that any

²

Delete the wording in the first set of square brackets where the Beneficiary is not a member of the TfL Group.

of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.

- 12.2 [Notwithstanding clause 12.1, the parties to this Deed are entitled to vary or rescind this Deed without the consent of any or all members of the TfL Group.]³

THIS DOCUMENT is executed as a deed and delivered on the date stated at the beginning of this Deed.

[EXECUTION CLAUSES TO BE ADDED HERE. ALL PARTIES TO EXECUTE AS A DEED]

³

Delete the wording in square brackets where the Beneficiary is not a member of the TfL Group.

PART B

(Form of Warranty from *Contractor* to Client upon novation)

Novated Contractor Warranty

between

[CONTRACTOR]

and

[ORIGINAL CLIENT]

and

[REPLACEMENT CLIENT]

relating to [PROJECT]

THIS DEED is made on

20[]

BETWEEN:

- (1) [CONTRACTOR] [(registered number [no.]) whose registered office is] [of] [Address] ("the Contractor");
- (2) [ORIGINAL CLIENT] of [Address] ("the Beneficiary" which expression includes its permitted successors in title and assigns); and
- (3) [REPLACEMENT CLIENT] [(registered number [no.]) whose registered office is] [of] [Address] ("the Replacement Client").

BACKGROUND:

- (A) The Beneficiary has entered into a contract with the Contractor dated [date] in respect of traffic control signals and related equipment and services under which the Beneficiary may, from time to time, issue works instructions for capital works and/or ordered maintenance ("the Contract").
- (B) By a works instruction dated [date] issued pursuant to the Contract ("the Works Instruction") the Beneficiary appointed the Contractor for the provision of *works* as defined in the Works Instruction ("the Works").
- (C) By an agreement dated [date] ("the Novation Agreement") and made between the Contractor, the Beneficiary and the Replacement Client, the Works Instruction was novated to the Replacement Client.
- (D) The Contractor is obliged under the Works Instruction to give a warranty in this form in favour of the Beneficiary.

OPERATIVE PROVISIONS

1. DEFINITIONS

The words defined in the Works Instruction will have the same meaning in this Deed unless the context otherwise requires.

1A CONSIDERATION

This Deed is made in consideration of the payment of one pound (£1.00) by the Beneficiary to the Contractor receipt of which the Contractor acknowledges.

2. **CONTRACTOR'S WARRANTIES**

- 2.1 The Contractor warrants to the Beneficiary that it has carried out and will continue to carry out and complete its obligations under the Works Instruction in accordance with the Works Instruction.
- 2.2 The Contractor further warrants that it has exercised and will continue to exercise all reasonable skill, care and diligence (save where the Works Instruction imposes a higher standard in which case such higher standard will apply) in relation to the following (so far as the Contractor is responsible for them):
 - 2.2.1 the design of the Works;
 - 2.2.2 the selection of goods, materials, equipment or plant for the Works; and
 - 2.2.3 the satisfaction of any performance requirement or specification of or for the Works.

3. **INTELLECTUAL PROPERTY RIGHTS**

- 3.1 Subject to the following provisions of this Deed, the IPR in all documents, drawings, materials, reports, computer software, any other material or works prepared or developed by or performed by or on behalf of the Contractor ("the Documents") in the course of performing its obligations under the Works Instruction (the "**Contractor IPR**") will remain vested in the Contractor.
- 3.2 In respect of the Contract IPR and the Contractor IPR the Contractor grants (or, if such a grant cannot legally take place until a later date, agrees to grant) to the Beneficiary, with effect from the date of this Deed or in the case of any of the intellectual property not yet in existence with effect from the creation of such intellectual property, an irrevocable, perpetual, royalty-free, non-exclusive licence (such licence to carry the right to grant sub-licences and be transferable to third parties):
 - 3.2.1 to use the Contract IPR and Contractor IPR for the purposes of the Beneficiary and its agents receiving their rights under this Deed and/or being able to use, support, adapt and/or maintain the Installed Equipment (including any software) both during and after

the term of the Works Instruction as envisaged by the Works Instruction (which includes being able to ensure the continuity of the Installed Equipment / traffic estate, as added to after Completion), including the requirement and right for them to use, maintain and adapt and connect to and interface with and audit and run diagnostics on and to the Equipment after Completion;

3.2.2 to use the Contract IPR and Contractor IPR for the purposes of understanding the Works;

3.2.3 to use the Contract IPR and Contractor IPR for the purposes of completing, operating, maintaining, repairing, modifying, altering, enhancing, re-configuring, correcting and/or replacing the Works;

3.2.4 to use the Contract IPR and Contractor IPR for the purposes of extending, interfacing with, integrating with, connection into and adjusting the Works, and/or the works of others and connecting and/or interfacing with the Beneficiary's and Third Party Supplier's infrastructure and systems and software in relation to the Works Instruction during and/or, where it relates to Installed Equipment, after Completion;

3.2.5 to use, adapt, maintain and/or alter all Contract IPR and/or Contractor IPR which has been provided by the Contractor or received by the Beneficiary and/or Replacement Client under or in connection with the Works Instruction, including:

(a) all reports, drawings, technical diagrams, proposals (but not including confidential pricing information of the Contractor), and/or other tangible materials produced for the purposes of the Works Instruction; and/or

(b) any and all Contractor IPR which has been used in making changes to and/or is embedded into or otherwise relevant to the use of the Beneficiary's IPR and/or to the Equipment and/or related software,

provided that such use, adaptation, maintenance and/or alteration shall be for the Beneficiary's normal administration of its duties in relation to the provision of the continuity of the Installed Equipment

/ traffic estate (as such estate may be added to after the end of the term of the Works Instruction) including outsourcing of capital works and maintenance after Completion.

- 3.3 The Replacement Client will not be liable for any use the Beneficiary may make of the Contract IPR or the Contractor IPR or the Documents.

4. **PROFESSIONAL INDEMNITY INSURANCE**

- 4.1 The Contractor by this Deed covenants with the Beneficiary that it has at its own cost taken out and will maintain professional indemnity insurance with reputable insurers authorised to carry on business in the United Kingdom with a limit of indemnity of not less than £[figures] ([words] million pounds) for any one occurrence or series of occurrences arising out of any one event, in relation to the Works provided always that:

4.1.3 such insurance shall be in place from the date of commencement of the Works until no less than 12 years after the completion of the Works; and

4.1.4 if such insurance is not available to the Contractor (and/or design and build contractors engaged in works of a similar, size nature and complexity as the Works) at commercially reasonable rates and terms (excluding any increase in premiums attributable to the actions, omissions, errors or defaults of the Contractor), the Contractor and the Beneficiary will meet and the Contractor will outline the steps he intends to take to manage such risks. If the steps proposed by the Contractor are not reasonably acceptable to the Beneficiary, the parties shall agree an alternative method of managing such risk.

- 4.2 The Contractor will provide the Beneficiary with reasonable evidence that the policies referred to in this clause 4 are in full force and effect together with a summary of the policy terms and conditions.

5. **NOTICES**

Any notice to be given by either party under this Deed will be sufficiently served if sent by hand, by facsimile transmission or by post to the registered office or if there is none the last known address of the party to be served. Any notice sent by hand will be deemed to be served on the date of delivery and any notice sent

by facsimile transmission will be deemed to be served in full at the time recorded on the facsimile report sheet provided that if any notice sent by hand or facsimile is sent after 4.45p.m. on any day it will be deemed to be served on the next working day. Any notice sent by post will be deemed to have been duly served at the expiration of 48 hours after the time of posting if the end of that period falls before 4.45p.m. on a working day and otherwise on the next working day.

6. ASSIGNMENT

Without prejudice to the provisions of clause 9, the benefit of and the rights on the part of the Beneficiary under this Deed may be assigned without the consent of the Contractor on two occasions only. The Beneficiary will give the Contractor written notice following any such assignment specifying the name and address of the assignee and the date of the assignment. The Contractor will not contend that any such assignee is precluded from recovering any loss resulting from any breach of this Deed (whatever the date of such breach) by reason only that that person is an assignee and not the original beneficiary under this Deed or by reason that the original beneficiary or any intermediate beneficiary escaped any loss resulting from such breach by reason of the disposal of any interest in the Site or that the original beneficiary or any intermediate beneficiary has not suffered any or as much loss.

7. OTHER RIGHTS AND REMEDIES

The rights and benefits conferred upon the Beneficiary by this Deed are in addition to any other rights and remedies it may have against the Contractor including, without limitation, any remedies in negligence.

8. NO APPROVAL

The Contractor's liabilities under this Deed will not be in any way reduced or extinguished by reason of any inspection or approval of the Documents or attendance at site meetings or other enquiry or inspection which the Beneficiary may make or procure to be made for the Beneficiary's benefit or on its behalf.

9. STEP-IN RIGHTS

9.1 Subject to clause 9.7, the Contractor will not exercise or seek to exercise any right which may be or become available to it to terminate or treat as terminated or repudiated the Contractor's obligation to Provide the Works under the Works Instruction or its employment under it or discontinue or suspend the performance of any duties or obligations under the Works Instruction, without first giving to the Beneficiary not less than twenty-eight days' prior written notice specifying the Contractor's grounds for terminating or treating as terminated or repudiated the Contractor's obligation to Provide the Works under the Works Instruction or its

employment under it or discontinuing or suspending its performance of the Works Instruction and stating the amount (if any) of monies outstanding under the Works Instruction. Within such period of notice:

9.1.1 the Beneficiary may give written notice to the Contractor expressly confirming its intention to comply with clause 9.1.3 and that the Beneficiary shall become the client under the Works Instruction to the exclusion of the Replacement Client and, upon giving such notice, that will be the case and the Works Instruction will be and remain in full force and effect notwithstanding any of the grounds in the Contractor's notice under clause 9.1; and

9.1.2 if the Beneficiary has given notice under clause 9.1.1 or under clause 9.3, the Beneficiary will then as soon as practicable remedy any outstanding breach by the Replacement Client; and

9.1.3 if:

9.1.3.1 the Beneficiary has given such notice under clause 9.1.1 then from the date of the Contractor's notice; or

9.1.3.2 the Beneficiary has given notice under clause 9.3 then from the date of the Beneficiary's notice

the Beneficiary will, by clause 9.1.1, become responsible for all sums properly payable to the Contractor under the Works Instruction and for the observance and performance of all of the other duties and obligations on the part of the client to be observed and performed under the Works Instruction accruing due after the service of such Contractor's notice or Beneficiary's notice (as applicable) but the Beneficiary will in paying such sums be entitled to the same rights of set-off and deduction as would have applied to the Replacement Client under the Works Instruction.

9.2 Notwithstanding anything contained in this Deed and notwithstanding any payments which may be made by the Beneficiary to the Contractor the Beneficiary will not be under any obligation to the Contractor nor will the Contractor have any claim or cause of action against the Beneficiary unless and until the Beneficiary has given written notice to the Contractor under either clause 9.1.1 or clause 9.3.

- 9.3 The Contractor further covenants with the Beneficiary that if requested by the Beneficiary by written notice expressly confirming the Beneficiary's intention to comply with clause 9.1.3 and subject to clause 9.1.2 and clause 9.1.3, it will accept the instructions of the Beneficiary to the exclusion of the Replacement Client in respect of the Works upon the terms and conditions of the Works Instruction. The Beneficiary shall then become the client under the Works Instruction to the exclusion of the Replacement Client and the Contractor will, if so requested, enter into a novation agreement in order to substitute the Beneficiary for the Replacement Client under the Works Instruction.
- 9.4 [Where the Contractor has given rights in relation to the Works Instruction similar to those contained in this clause 9 to any other person then if both the Beneficiary and any such other person serve notice under clause 9.1.1 or clause 9.3 or its equivalent the notice served by the Beneficiary shall [prevail] [not prevail] [not prevail over any notice served by [Name] but prevail over any notice served by any other person]].
- 9.5 The Replacement Client acknowledges that the Contractor will be entitled to rely on a notice given to the Contractor by the Beneficiary under clause 9.3 as conclusive evidence that the Beneficiary is entitled to serve such notice.
- 9.6 The Beneficiary may by written notice to the Contractor appoint another person to exercise its rights under this clause 9 subject to the Beneficiary remaining liable to the Contractor as guarantor for its appointee in respect of its obligations under this Deed.
- 9.7 Notwithstanding the other provisions of this clause 9, if the Contractor's obligation to Provide the Works under the Works Instruction has for any reason been terminated prior to receipt by the Contractor of a notice from the Beneficiary served under clause 9.1.1 or clause 9.1.3, the Contractor shall on receipt of any such notice from the Beneficiary enter into a new contract with the Beneficiary on the same terms as the Works Instruction to continue the Works in all respects as if the Works Instruction had been transferred to the Beneficiary in accordance with the provisions of this clause 9.

10. LIMITATION

- 10.1 The Contractor has no liability under this Deed which is greater or of longer duration than it would have had if in lieu of this Deed the Beneficiary had been a party to the Works Instruction as joint client provided that the Contractor shall not be entitled to set-off or deduct from any sums payable to the Beneficiary under this Deed any sums due or claimed as due by the Contractor from the Replacement Client.
- 10.2 The Contractor shall be entitled in any action or proceedings brought by the Beneficiary under this Deed to rely on any limitation in the Works Instruction and to raise equivalent rights in defence of liability (but excluding set-offs and counterclaims) as it would have against the Beneficiary if, in lieu of this Deed, the Beneficiary had been a party to the Works Instruction as joint client.
- 10.3 The parties agree that no action or proceedings may be brought or commenced under this Deed at any time after the date being twelve years after the date of completion of the Works.
- 10.4 The Contractor shall not by reason of this Deed have any liability to the Beneficiary for delay in completion of the Works or any part of them.

11. GOVERNING LAW AND JURISDICTION

- 11.1 This Deed is governed by and construed in accordance with the law of England. Subject to clause 11.2, the courts of England have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Deed.
- 11.2 Any party may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.
- 11.3 Subject to clause 11.2, each party waives any objection to, and submits to, the jurisdiction of the courts of England and Wales. Each party agrees that a judgment or order of any such court is binding upon it and may be enforced against it in the courts of any other jurisdiction.

12. THIRD PARTY RIGHTS

- 12.1 Save that any member of the TfL Group has the right to enforce the terms of this Deed, the parties to this Deed do not intend that any of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.
- 12.2 Notwithstanding clause 12.1, the parties to this Deed are entitled to vary or rescind this Deed without the consent of any or all members of the TfL Group.

THIS DOCUMENT is executed as a deed and delivered on the date stated at the beginning of this Deed.

[EXECUTION CLAUSES TO BE ADDED HERE. ALL PARTIES TO EXECUTE AS A DEED]

PART C

(Form of Warranty from a sub-contractor to Client or other beneficiary)

Sub-Contractor Warranty

between

[SUB-CONTRACTOR]

and

[CLIENT/FINANCIER OR OTHER BENEFICIARY]

and

[CONTRACTOR]

relating to [PROJECT]

BETWEEN:

- (1) [SUB-CONTRACTOR] [(registered number [no.]) whose registered office is] [of] [Address] ("the Sub-Contractor");
- (2) [BENEFICIARY] [(registered number [no.]) whose registered office is] [of] [Address] ("the Beneficiary" which expression includes its permitted successors in title and assigns);
- (3) [CONTRACTOR] [(registered number [no.]) whose registered office is] [of] [Address] ("the Contractor");⁴ and
- (4) [CLIENT] [(registered number [no.]) whose registered office is] [of] [Address]⁵ ("the Client").

BACKGROUND:

- (A) [The Client] [The Beneficiary]⁶ has entered into a contract with the [the Contractor] [[NAME] ("the Contractor")]⁷ dated [date] ("the Contract") in respect of traffic control signals and related equipment and services and under which the Client may, from time to time, issue works instructions for capital works and/or ordered maintenance (the "Main Works").
- (B) The Sub-Contractor has been appointed by the Contractor under a sub-contract dated [date] ("the Sub-Contract") to carry out and complete the part of the Main Works specified in the Sub-Contract ("the Sub-Contract Works").
- (C) [The Beneficiary is [the/a] [purchaser][tenant] of [description of part of the site]] [provider of finance in connection with [insert description]] [member of the TfL Group (as defined in the Contract)] [developer] [or [describe beneficiary's interest as appropriate]]⁸.

⁴ Only required where step-in rights are given under this warranty. Otherwise, this paragraph (3) should be deleted.

⁵ The Client should be a party to this deed for the purposes of clause 3 (Intellectual Property Rights) but if the Client is the Beneficiary under this warranty then this paragraph (4) should be deleted.

⁶ Amend as appropriate. Where Transport for London is the Beneficiary under this warranty, use the term "the Beneficiary".

⁷ Insert the name of the Contractor where the Contractor is not a party to this warranty (i.e. paragraph (4) has been deleted and step-in rights are not required).

⁸ Amend as appropriate.

- (D) The Sub-Contractor is obliged under the Sub-Contract to give a warranty in this form in favour of the Beneficiary.

OPERATIVE PROVISIONS

1. DEFINITIONS

The words defined in the Contract will have the same meaning in this Deed unless the context otherwise requires.

1A CONSIDERATION

This Deed is made in consideration of the payment of one pound (£1.00) by the Beneficiary to the Sub-Contractor receipt of which the Sub-Contractor acknowledges.

2. SUB-CONTRACTOR'S WARRANTIES

2.1 The Sub-Contractor warrants to the Beneficiary that it has carried out and will continue to carry out and complete its obligations under the Sub-Contract in accordance with the Sub-Contract.

[2.2 The Sub-Contractor further warrants that it has exercised and will continue to exercise all reasonable skill, care and diligence (save where the Sub-Contract imposes a higher standard in which case such higher standard will apply) in relation to the following (so far as the Sub-Contractor is responsible for them):

2.2.1 the design of the Sub-Contract Works;

2.2.2 the selection of goods, materials, equipment or plant for the Sub-Contract Works; and

2.2.3 the satisfaction of any performance requirement or specification of or for the Sub-Contract Works.]⁹

[2.2 The Sub-Contractor further warrants that it has exercised and will continue to exercise all reasonable skill, care and diligence normally used by professionals providing services similar to the Sub-Contract Works, including in respect of design all reasonable skill, care and diligence as may be expected of a properly qualified, competent professional designer of the appropriate discipline(s) for such design, experienced in carrying

⁹

Use this clause 2.2 where the Sub-Contractor is only undertaking Works (not Services).

out design of a similar scope, nature, timescale and complexity and relating to a similar site or at a similar location to the Main Works.]]¹⁰

3. INTELLECTUAL PROPERTY RIGHTS

3.1 The parties acknowledge that the IPR in all documents, drawings, materials, reports, computer software, any other material or works prepared or developed by or performed by or on behalf of the Sub-Contractor ("the Documents") in the course of performing its obligations under the Sub-Contract (the "**Sub-Contractor IPR**") will remain vested in the Sub-Contractor.

3.2 In respect of the Contract IPR and the Sub-Contractor IPR the Sub-Contractor grants (or, if such a grant cannot legally take place until a later date, agrees to grant) to the Beneficiary, with effect from the date of this Deed or in the case of any of the intellectual property not yet in existence with effect from the creation of such intellectual property, an irrevocable, perpetual, royalty-free, non-exclusive licence (such licence to carry the right to grant sub-licences and be transferable to Third Parties):

3.2.1 [to use the Contract IPR and Sub-Contractor IPR for the purposes of the Beneficiary and its agents receiving their rights under this Deed and/or being able to use, support, adapt and/or maintain the Installed Equipment (including any software) both during and after the Term of the Contract as envisaged by the Contract (which includes being able to ensure the continuity of the Installed Equipment / traffic estate, as added to or changed after the end of the Term of the Contract), including the requirement and right for them to use, maintain and adapt and connect to and interface with and audit and run diagnostics on and to the Equipment after the Term;]]¹¹

3.2.2 to use the Contract IPR and Sub-Contractor IPR for the purposes of understanding the Main Works including (but not limited to) the Sub-Contract Works;

3.2.3 to use the Contract IPR and Sub-Contractor IPR for the purposes of completing, operating, maintaining, repairing, modifying,

¹⁰ Use this clause 2.2 where the Sub-Contractor is only undertaking Services (not Works).

¹¹ Include this sub-clause if TFL is the Beneficiary.

altering, enhancing, re-configuring, correcting and/or replacing the Main Works including (but not limited to) the Sub-Contract Works;

3.2.4 [to use the Contract IPR and Sub-Contractor IPR for the purposes of extending, interfacing with, integrating with, connection into and adjusting the Main Works including (but not limited to) the Sub-Contract Works, and/or the works of others and connecting and/or interfacing with the Beneficiary's and Third Party Supplier's infrastructure and systems and software in relation to the Contract during and/or, where it relates to Installed Equipment, after the Term;]¹²

3.2.5 [to use, adapt, maintain and/or alter all Contract IPR and/or Sub-Contractor IPR which has been provided by the Contractor and/or the Sub-Contractor and/or received by the Beneficiary under or in connection with the Contract, including:

- (a) all reports, drawings, technical diagrams, proposals (but not including confidential pricing information of the Sub-Contractor), and/or other tangible materials produced for the purposes of the Sub-Contract; and/or
- (b) any and all Contractor IPR which has been used in making changes to and/or is embedded into or otherwise relevant to the use of the Beneficiary's IPR and/or to the Equipment and/or related software,

provided that such use, adaptation, maintenance and/or alteration shall be for the Beneficiary's normal administration of its duties in relation to the provision of the continuity of the Installed Equipment / traffic estate (as such estate may be added to or changed after the end of the Term of the Contract) including outsourcing of capital works and maintenance after the Term.]¹³

¹² Include this sub-clause if TfL is the Beneficiary.

¹³ Include this sub-clause if TfL is the Beneficiary.

- 3.3 [The Client will not be liable for any use the Beneficiary may make of the Contract IPR, the Sub-Contractor IPR or the Documents.]¹⁴

4. **INSURANCE**

4.1 The Sub-Contractor by this Deed covenants with the Beneficiary that it has effected [professional indemnity] insurance with reputable insurers authorised to carry on business in the United Kingdom with a limit of indemnity of not less than £[figures] ([words] million pounds) for any one occurrence or series of occurrences arising out of any one event, in relation to the Sub-Contract Works provided always that:

4.1.1 such insurance shall be in place from the date of commencement of the Sub-Contract Works until no less than 12 years after completion of the Main Works; and

4.1.2 if such insurance is not available to the Sub-Contractor (and/or sub-contractors specialising in the fields in which the Sub-Contractor specialises) at commercially reasonable rates and terms (excluding any increase in premiums attributable to the actions, omissions, errors or defaults of the Sub-Contractor), the Sub-Contractor and the Beneficiary will meet and the Sub-Contractor will outline the steps he intends to take to manage such risks. If the steps proposed by the Sub-Contractor are not reasonably acceptable to the Beneficiary, the parties shall agree an alternative method of managing such risk.

4.2 The Sub-Contractor will provide the Beneficiary with reasonable evidence that the policies referred to in this clause 4 are in full force and effect together with a summary of the policy terms and conditions.

5. **NOTICES**

Any notice to be given by either party under this Deed will be sufficiently served if sent by hand, by facsimile transmission or by post to the registered office or if there is none the last known address of the party to be served. Any notice sent by hand will be deemed to be served on the date of delivery and any notice sent by facsimile transmission will be deemed to be served in full at the time recorded on the facsimile report sheet provided that if any notice sent by hand or facsimile is sent after 4.45p.m. on any day it will be deemed to be served on the next working day. Any notice sent by post will be deemed to have been duly served

¹⁴

Delete the wording in square brackets where the Client is the Beneficiary under this warranty.

at the expiration of 48 hours after the time of posting if the end of that period falls before 4.45p.m. on a working day and otherwise on the next working day.

6. ASSIGNMENT

[Without prejudice to the provisions of clause 9, the] [The]¹⁵ benefit of and the rights on the part of the Beneficiary under this Deed may be assigned without the consent of the Sub-Contractor on two occasions only. The Beneficiary will give the Sub-Contractor written notice following any such assignment specifying the name and address of the assignee and the date of the assignment. The Sub-Contractor will not contend that any such assignee is precluded from recovering any loss resulting from any breach of this Deed (whatever the date of such breach) by reason only that that person is an assignee and not the original beneficiary under this Deed or by reason that the original beneficiary or any intermediate beneficiary escaped any loss resulting from such breach by reason of the disposal of any interest in the Site or that the original beneficiary or any intermediate beneficiary has not suffered any or as much loss.

7. OTHER RIGHTS AND REMEDIES

The rights and benefits conferred upon the Beneficiary by this Deed are in addition to any other rights and remedies it may have against the Sub-Contractor including, without limitation, any remedies in negligence.

8. NO APPROVAL

The Sub-Contractor's liabilities under this Deed will not be in any way reduced or extinguished by reason of any inspection or approval of the Documents or attendance at site meetings or other enquiry or inspection which the Beneficiary may make or procure to be made for the Beneficiary's benefit or on its behalf.

CLAUSE 9 TO BE USED IN CLIENT/FINANCIER WARRANTY ONLY

9. STEP-IN RIGHTS

9.1 Subject to clause 9.7, the Sub-Contractor will not exercise or seek to exercise any right which may be or become available to it to terminate or treat as terminated or repudiated the Sub-Contract or its employment under it or discontinue or suspend the performance of any duties or obligations under the Sub-Contract, without first giving to the Beneficiary not less than twenty-eight days' prior written notice specifying the Sub-Contractor's grounds for terminating or treating as terminated or repudiated the Sub-Contract or its employment under it or discontinuing or suspending its performance of the Sub-Contract and stating the

¹⁵ Delete the wording in the first set of square brackets where step-in rights are not provided (i.e. where the warranty is not in favour of the Client or a financier).

amount (if any) of monies outstanding under the Sub-Contract. Within such period of notice:

9.1.1 the Beneficiary may give written notice to the Sub-Contractor expressly confirming its intention to comply with clause 9.1.3 and that the Beneficiary shall become the employer under the Sub-Contract to the exclusion of the Contractor and, upon giving such notice, that will be the case and the Sub-Contract will be and remain in full force and effect notwithstanding any of the grounds in the Sub-Contractor's notice under clause 9.1; and

9.1.2 if the Beneficiary has given notice under clause 9.1.1 or under clause 9.3, the Beneficiary will then as soon as practicable remedy any outstanding breach by the Contractor; and

9.1.3 if:

9.1.3.1 the Beneficiary has given such notice under clause 9.1.1 then from the date of the Sub-Contractor's notice; or

9.1.3.2 the Beneficiary has given notice under clause 9.3 then from the date of the Beneficiary's notice,

the Beneficiary will, by clause 9.1.1, become responsible for all sums properly payable to the Sub-Contractor under the Sub-Contract and for the observance and performance of all of the other duties and obligations on the part of the Contractor to be observed and performed under the Sub-Contract accruing due after the service of such Sub-Contractor's notice or Beneficiary's notice (as applicable) but the Beneficiary will in paying such sums be entitled to the same rights of set-off and deduction as would have applied to the Contractor under the Sub-Contract.

9.2 Notwithstanding anything contained in this Deed and notwithstanding any payments which may be made by the Beneficiary to the Sub-Contractor the Beneficiary will not be under any obligation to the Sub-Contractor nor will the Sub-Contractor have any claim or cause of action against the Beneficiary unless and until the Beneficiary has given written notice to the Sub-Contractor under either clause 9.1.1 or clause 9.3.

- 9.3 The Sub-Contractor further covenants with the Beneficiary that if requested by the Beneficiary by written notice expressly confirming the Beneficiary's intention to comply with clause 9.1.3 and subject to clause 9.1.2 and clause 9.1.3, it will accept the instructions of the Beneficiary to the exclusion of the Contractor in respect of the Sub-Contract Works upon the terms and conditions of the Sub-Contract. The Beneficiary shall then become the employer under the Sub-Contract to the exclusion of the Contractor; and the Sub-Contractor will, if so requested, enter into a novation agreement in order to substitute the Beneficiary for the Contractor under the Sub-Contract.
- 9.4 [Where the Sub-Contractor has given rights in relation to the Sub-Contract similar to those contained in this clause 9 to any other person then if both the Beneficiary and any such other person serve notice under clause 9.1 or clause 9.3 or its equivalent the notice served by the Beneficiary shall [prevail][not prevail] [not prevail over any notice served by [Name] but prevail over any notice served by any other person]].
- 9.5 The Contractor acknowledges that the Sub-Contractor will be entitled to rely on a notice given to the Sub-Contractor by the Beneficiary under clause 9.3 as conclusive evidence that the Beneficiary is entitled to serve such notice.
- 9.6 The Beneficiary may by written notice to the Sub-Contractor appoint another person to exercise its rights under this clause 9 subject to the Beneficiary remaining liable to the Sub-Contractor as guarantor for its appointee in respect of its obligations under this Deed.
- 9.7 Notwithstanding the other provisions of this clause 9, if the Sub-Contract has for any reason been terminated prior to receipt by the Sub-Contractor of a notice from the Beneficiary served under clause 9.1.1 or clause 9.1.3, the Sub-Contractor shall on receipt of any such notice from the Beneficiary enter into a new sub-contract with the Beneficiary on the same terms as the Sub-Contract to continue the Sub-Contract Works in all respects as if the Sub-Contract had been transferred to the Beneficiary in accordance with the provisions of this clause 9.

10. LIMITATION

- 10.1 The Sub-Contractor has no liability under this Deed which is greater or of longer duration than it would have had if in lieu of this Deed the

Beneficiary had been a party to the Sub-Contract as joint client provided that the Sub-Contractor shall not be entitled to set-off or deduct from any sums payable to the Beneficiary under this Deed any sums due or claimed as due by the Sub-Contractor from the Contractor.

10.2 The Sub-Contractor shall be entitled in any action or proceedings brought by the Beneficiary under this Deed to rely on any limitation in the Sub-Contract and to raise equivalent rights in defence of liability (but excluding set-offs and counterclaims) as it would have against the Beneficiary if, in lieu of this Deed, the Beneficiary had been a party to the Sub-Contract as joint client.

10.3 The parties agree that no action or proceedings may be brought or commenced under this Deed at any time after the date being twelve years after the date of completion of the Main Works.

10.4 The Sub-Contractor shall not by reason of this Deed have any liability to the Beneficiary for delay in completion of the Main Works or any part of them.

11. PARTNERSHIP

Where the Sub-Contractor is a partnership references in this Deed to "the Sub-Contractor" will be deemed to include reference to each and every present and future partner of such partnership and the liability of each and every such partner under this Deed will be deemed to be joint and several.

12. GOVERNING LAW AND JURISDICTION

12.1 This Deed is governed by and construed in accordance with the law of England. Subject to clause 12.2, the courts of England have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Deed.

12.2 Any party may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.

12.3 Subject to clause 12.2, each party waives any objection to, and submits to, the jurisdiction of the courts of England and Wales. Each party agrees that a judgment or order of any such court is binding upon it and may be enforced against it in the courts of any other jurisdiction.

13. **THIRD PARTY RIGHTS**

- 13.1 Save that any member of the TfL Group has the right to enforce the terms of this Deed, the parties to this Deed do not intend that any of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.
- 13.2 Notwithstanding clause 13.1, the parties to this Deed are entitled to vary or rescind this Deed without the consent of any or all members of the TfL Group.

THIS DOCUMENT is executed as a Deed and delivered on the date stated at the beginning of this Deed.

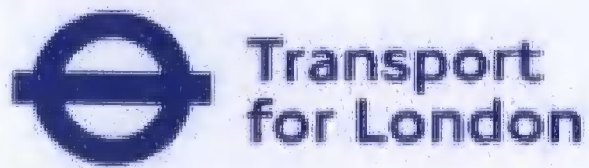
[EXECUTION CLAUSES TO BE ADDED HERE. ALL PARTIES TO EXECUTE AS A DEED]

Schedule 31

Not used

Schedule 32

Not used



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 4 (FOUR) – NORTH AND CENTRAL

Schedule 33 Vesting Agreement

DATED

20

[Insert name of Client]

and

[Insert name of Contractor]

and

[Insert name of Sub-Contractor]

VESTING AGREEMENT

relating to

[Insert details of Services]

BETWEEN

- (1) [INSERT THE NAME OF THE CLIENT] of [] ("**Client**" which term shall include any successor in title, assign or statutory successor of the Client);
- (2) INSERT DETAILS OF CONTRACTOR ("**Contractor**" which term shall include its successors and assigns); and
- (3) INSERT DETAILS OF SUB-CONTRACTOR ("**Sub-Contractor**" which term shall include its successors and assigns).

BACKGROUND

- (A) The Client has engaged the Contractor in accordance with the terms of a contract made on [INSERT DATE OF CONTRACT] ("**Contract**") to carry out capital works and maintenance works and related design, engineering and other services in relation to automated traffic signals, over-height vehicle detectors and variable message signs ("**Services**").
- (B) As part of the Services [the Client has instructed the Contractor to provide certain [Capital Works / Ordered Maintenance] under a works instruction dated [] ("**Works Instruction**") pursuant to which]¹ the Contractor has agreed to supply, or procure the supply of, certain items which are listed in the schedule hereto and any subsequent Schedule ("**Vested Materials**"). The Sub-Contractor has agreed to supply the Vested Materials to the Contractor.
- (C) The Contractor Materials (as defined below) are to be stored at the premises of the [Contractor] [Sub-Contractor] at [INSERT ADDRESS] ("**Premises**").
- (D) The parties have agreed to enter into this vesting agreement as a deed.

WITNESSES as follows:

1. DEFINITIONS AND INTERPRETATION

- 1.1 Terms used in this Deed shall, unless otherwise defined herein, bear the meaning given to them in the Contract.
- 1.2 In this Deed:
 - "**Contractor Materials**" means Vested Materials other than Supplier Materials.
 - "**Schedule**" means the schedule to this Deed and any subsequent schedule provided in accordance with clause 2.4 hereof;
 - "**Secondary Vesting Agreement**" means an agreement in the form of Appendix 1 to this Deed;
 - "**Supplier**" means a third party from whom the Sub-Contractor procures the supply of certain Vested Materials;
 - "**Supplier Materials**" means any Vested Materials to be supplied by a Supplier.

2. TITLE AND WARRANTIES

- 2.1 Legal title and all proprietary rights in the Contractor Materials are hereby vested in the Client, free from all liens, charges and encumbrances.

¹ Use the drafting in square brackets where the Vested Materials relate to Capital Works or Ordered Maintenance which are the subject of a Works Instruction.

payment of the last premium of the policy. The Contractor accepts that, should it fail to make payment of the premiums under the policy or fail to provide the evidence required, then the Client may make payment of the premium itself direct to the insurers or take out its own insurance and deduct the cost of so doing from monies due to the Contractor, or recover the same as a debt from the Contractor.

4. STORAGE

- 4.1 The Contractor and the Sub-Contractor jointly and severally undertake to the Client that they will:
 - 4.1.1 at no cost to the Client, keep the Contractor Materials at the Premises and not remove them from the Premises without the prior written consent of the Client, unless:
 - 4.1.1.1 such removal is in the course of carrying out the Services; or
 - 4.1.1.2 in the event of an emergency threatening the loss, deterioration of or damage to the Contractor Materials;
 - 4.1.2 ensure that the Vested Materials are protected and preserved from and against loss, deterioration and damage howsoever caused;
 - 4.1.3 store, or procure the storage of, the Vested Materials separately and securely from all other items in conditions suitable for their type and clearly and permanently mark them "Property of Transport for London"; and
 - 4.1.4 deliver, or procure the delivery of, the Vested Materials to the Client in accordance with the Contract, or in accordance with the Client's reasonable instructions.
- 4.2 The Client may itself or by its servants or agents or otherwise:
 - 4.2.1 enter the Premises on reasonable notice for the purpose of inspecting the Contractor Materials and/or inspecting the suitability of the Premises for storing them; and/or
 - 4.2.2 if (i) the Client has the right to terminate the Contract; and/or (ii) the Contractor and/or Sub-Contractor is subject to an Insolvency Event; and/or (iii) the Client serves a Step-In Notice on the Contractor, enter the Premises at any time for the purpose of removing the Contractor Materials.
- 4.3 Without prejudice to any other rights or remedies that the Client may have, the Contractor and the Sub-Contractor acknowledge and agree that damages alone would not be an adequate remedy for any breach of the terms of this Deed by either the Contractor or the Sub-Contractor. Accordingly, the Client shall be entitled, without proof of special damages, to the remedies of injunction, specific performance or other equitable relief for any threatened or actual breach of the terms of this agreement in particular of failure or refusal of either the Contractor or Sub-Contractor to allow the Client to enter the Premises for the purpose of removing or inspecting the Contractor Materials.

5. SUPPLIERS

- 5.1 The Sub-Contractor may secure the supply of any of the Vested Materials from a Supplier, provided that it shall first:
 - 5.1.1 inform the Client and the Contractor of its intention to do so and provide them with the name and address of the Supplier; and
 - 5.1.2 procure that the Supplier enters into a Secondary Vesting Agreement in respect of such materials (failing which the Contractor shall not be entitled to include the value of the relevant Supplier Materials in any payment application).
- 5.2 The Contractor and the Sub-Contractor agree that the Sub-Contractor shall provide any Supplier with a copy of any policy of insurance taken out by the Contractor, as described in clause 3.2 above, relating to the Supplier Materials.

6. FURTHER PROVISIONS

- 6.1 The Contractor shall procure that the Sub-Contractor complies with this Deed. The Sub-Contractor shall procure that any Supplier complies with the terms of the relevant Secondary

- 2.2 The Contractor and the Sub-Contractor jointly and severally warrant that:
- 2.2.1 they have the relevant title and rights in the Contractor Materials to satisfy clause 2.1;
 - 2.2.2 they are not in dispute with any other party in connection with or touching upon or concerning the Vested Materials;
 - 2.2.3 all sums due as at the date of this Deed to the Sub-Contractor under the terms of its sub-contract with the Contractor have been paid in full; and
 - 2.2.4 the Vested Materials are in accordance with the Contract and are ready for delivery to the relevant Site and incorporation in the Services or, if not, are in the state specified in the Schedule.
- 2.3 Nothing in this Deed or the Contract or any payment that may be made to the Contractor in respect of the Vested Materials shall be taken as any approval or acceptance by the Client, or any of the Client's agents or servants, that the Vested Materials are in accordance with the Contract.
- 2.4 The Contractor may, subsequent to execution of this Deed and from time to time, submit to the Client additional Schedules in the form of the schedule to this Deed, signed by the Contractor and the Sub-Contractor, setting out further items of Vested Materials which the Contractor and Sub-Contractor have agreed to supply, or secure the supply of. Upon approval of an additional Schedule by the Client such further items shall be treated as Vested Materials for the purpose of this Deed and in particular clause 2.1.

3. RISK AND INSURANCE

- 3.1 The Contractor and the Sub-Contractor jointly and severally indemnify (but not so as to permit double recovery of loss or damage) the Client against any loss or damage sustained by the Client arising out of or in connection with any loss of or damage to the Vested Materials of whatsoever kind and howsoever caused during storage or delivery to the relevant Site.
- 3.2 Without limiting any of its obligations under the Contract, the Contractor shall, at the Contractor's cost:
- (i) in respect of Contractor Materials, take out and maintain a policy of insurance in the joint names of the Contractor and the Client; and
 - (ii) in respect of Supplier Materials, take out and maintain, or procure that the Supplier takes out and maintains, a policy of insurance in the joint names of the Contractor and the Client,
- in both cases approved by the Client, against all loss and damage in respect of such materials for their full replacement cost, which will remain in force until the date that:
- (iii) where the Services are not Capital Works or Ordered Maintenance, the Equipment which is to be installed as part of the Services to which the relevant materials relate are Commissioned (as that term is defined in the Contract); or
 - (iv) where the Services are Capital Works or Ordered Maintenance, the Defects Certificate (as that term is defined in the Capital Works Conditions of Contract) has been issued in respect of such Capital Works or Ordered Maintenance to which the relevant materials relate.
- 3.3 The Contractor shall not allow any variation to the terms of the policy of insurance without the written consent of the Client which consent shall not be unreasonably withheld or delayed.
- 3.4 The Contractor undertakes to the Client that the Contractor and the Sub-Contractor shall comply with all the terms and conditions of the policy of insurance and the Contractor shall, without prejudice to the generality of the foregoing, diligently proceed with any claims under such policy. The Contractor shall provide a copy of such policy to the Sub-Contractor promptly after taking it out or renewing it.
- 3.5 The Contractor shall on request in writing by the Client provide evidence that insurance as required by this clause 3 is being maintained in accordance with this Deed, and receipt for

Vesting Agreement.

- 6.2 The Contractor and the Sub-Contractor jointly and severally indemnify (but not so as to permit double recovery of loss or damage) the Client from and against all costs, claims, demands, liabilities, damages, expenses and losses of whatsoever nature (including but not limited to any consequential loss) arising from any breach of this Deed or any warranty given pursuant to this Deed.
- 6.3 The terms of the Contract, and of the subcontract between the Contractor and the Sub-Contractor, shall remain in full force and effect.
- 6.4 The bankruptcy, liquidation, receivership, administration, other analogous proceeding or insolvency of the Contractor and/or the Sub-Contractor shall not in any way prejudice the Client's rights of ownership in the Contractor Materials.

7. APPLICABLE LAW AND JURISDICTION

- 7.1 This Deed shall be governed by English law and subject to clause 7.2, the courts of England and Wales have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Deed.
- 7.2 Any party to this deed may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.
- 7.3 Subject to clause 7.2, each party waives any objection to, and submits to, the jurisdiction of the courts of England and Wales. Each party agrees that a judgment or order of any such court is binding upon it and may be enforced against it in the courts of England and Wales or any other jurisdiction.

IN WITNESS where of this vesting agreement was executed and delivered as a Deed on the date above.

EXECUTED as a DEED by the Client by applying its seal in the presence of an Authorised Representative:

.....
(signature of Authorised Representative)

.....
(name of Authorised Representative)

EXECUTED AS A DEED by the Contractor by

.....
(Signed)

.....
(Name of Director)

.....
(Signed)

.....
(Name of Director/Company Secretary)

EXECUTED AS A DEED by the Sub-Contractor by

.....
(Signed)

.....
(Name of Director)

.....
(Signed)

.....
(Name of Director/Company Secretary)

SCHEDULE TO VESTING AGREEMENT [MADE ON INSERT DATE OF VESTING AGREEMENT]²

For Payment Application [INSERT PAYMENT APPLICATION REFERENCE DETAILS]

Relating to Contract No [INSERT REFERENCE DETAILS OF RELEVANT CONTRACT BETWEEN THE EMPLOYER AND CONTRACTOR] and Sub-contract No [INSERT REFERENCE DETAILS OF RELEVANT SUB-CONTRACT]

BETWEEN

- (1) [INSERT DETAILS OF CLIENT] of [] ("Client");
- (2) [INSERT DETAILS OF CONTRACTOR]
- (3) [INSERT DETAILS OF SUB-CONTRACTOR]

Vested Materials		
Description of Materials	Stage of completeness	Value Excl VAT

Submitted on behalf of the Contractor by authorised signatory:

.....
(Signed)

.....
(Name of Authorised Signatory)

Date

Submitted on behalf of the Sub-Contractor by authorised signatory:

² Delete all the wording in the brackets for the first Schedule, because the first schedule will be attached to the vesting agreement and the date of the vesting agreement will not be known at that stage. For subsequent Schedules, the wording in brackets must be included and the date of the executed vesting agreement must be inserted.

.....
(Signed)

.....
(Name of Authorised Signatory)

Date.....

Approved by or on behalf of the Client:

.....
(Signed)

.....
(Name of Authorised Signatory)

Date.....

APPENDIX 1

TEMPLATE SECONDARY VESTING AGREEMENT

THIS DEED is made on

20

BETWEEN

- (1) INSERT DETAILS OF SUB-CONTRACTOR ("**Sub-Contractor**" which term shall include its successors and assigns); and
- (2) INSERT DETAILS OF SUPPLIER ("**Supplier**" which term shall include its successors and assigns).

BACKGROUND

- (A) Pursuant to a contract made between Transport for London, a statutory corporation whose principal office is at 5 Endeavour Square, London E20 1JN, ("**Client**") and [●] ("**Contractor**") dated [●] the Client has engaged the Contractor to carry out capital works and maintenance works and related design, engineering and other services in relation to automated traffic signals, over-height vehicle detectors and variable message signs ("**Services**").
- (B) As part of the Services [the Client has instructed the Contractor to provide certain [capital works / ordered maintenance] under a works instruction dated [] ("**Works Instruction**") pursuant to which]³ the Contractor has agreed to supply, or procure the supply of, certain items to the Client ("**Vested Materials**"), including the items listed in the schedule hereto and any subsequent Schedule ("**Supplier Materials**"). The Sub-Contractor has agreed to supply, or procure the supply of, the Supplier Materials to the Contractor.
- (C) The Supplier has, in turn, agreed to supply the Supplier Materials to the Sub-Contractor. The Supplier Materials are stored at the premises of the Supplier at INSERT ADDRESS ("**Premises**").
- (D) The Client, the Contractor and the Sub-Contractor have entered into a vesting agreement dated [●], pursuant to which legal title and all proprietary rights in the Vested Materials other than the Supplier Materials is vested in the Client. The Supplier has now agreed to enter into a vesting agreement with the Sub-Contractor on similar terms in respect of the Supplier Materials.
- (E) The parties have agreed to enter into this vesting agreement as a deed.

WITNESSES as follows:

1. DEFINITIONS AND INTERPRETATION

In this Deed:

"**Contract**" means the contract between the Sub-Contractor and the Supplier for the supply of the relevant Supplier Materials.

"**Schedule**" means the schedule to this Deed and any subsequent schedule provided in accordance with clause 2.4 hereof.

2. TITLE AND WARRANTIES

- 2.1 Legal title and all proprietary rights in the Supplier Materials are hereby vested in the Client, free from all liens, charges and encumbrances.

³ Use this drafting where the Vested Materials relate to Capital Works or Ordered Maintenance which are the subject of a Works Instruction.

- 2.2 The Supplier warrants that:
- 2.2.1 it has the relevant title and rights in the Supplier Materials to satisfy clause 2.1;
 - 2.2.2 it is not in dispute with any other party in connection with or touching upon or concerning the Supplier Materials;
 - 2.2.3 all sums due as at the date of this Deed to the Supplier under the terms of the Contract have been paid in full; and
 - 2.2.4 the Supplier Materials are in accordance with the Contract and are ready for delivery to the site where the Supplier Materials will be incorporated as part of the Services and incorporation in the Services or, if not, are in the state specified in the applicable Schedule.
- 2.4 The Supplier may, subsequent to execution of this Deed and from time to time, submit to the Sub-Contractor additional Schedules in the form of the schedule to this Deed, signed by the Sub-Contractor and the Supplier, setting out further items of Supplier Materials which the Supplier has agreed to supply. Upon approval of an additional Schedule by the Sub-Contractor, such further items shall be treated as Supplier Materials for the purpose of this Deed and in particular clause 2.1.

3. INSURANCE

- 3.1 The Supplier undertakes to the Sub-Contractor that if the Contractor has taken out a policy of insurance in respect of the Supplier Materials and a copy of the terms and conditions of that policy has been provided to the Supplier, it shall comply with all such terms and conditions.
- 3.2 The Supplier undertakes to the Sub-Contractor that, if requested by the Client or the Contractor or the Sub-Contractor, and at the cost of the Supplier, it shall take out and maintain a policy of insurance approved by the Client in the joint names of the Supplier, the Contractor and the Client against all loss and damage in respect of the Supplier Materials for their full replacement cost, which will remain in force until the date of delivery of the relevant materials to the site where either:
- 3.2.1 the Supplier Materials will be incorporated as part of the Services; or
 - 3.2.2 the Supplier Materials are protected by an insurance policy maintained by the Contractor which provides insurance cover at least equivalent to that required by this clause 3.2,
- whichever is the earlier.
- 3.3 The Supplier undertakes to the Sub-Contractor that if the Supplier takes out a policy of insurance pursuant to clause 3.2 above:
- 3.3.1 it shall not allow any variation to the terms of such policy without the written consent of the Client which consent shall not be unreasonably withheld or delayed;
 - 3.3.2 it shall comply with all the terms and conditions of the policy of insurance and shall, without prejudice to the generality of the foregoing, diligently proceed with any claims under such policy; and
 - 3.3.3 it shall, on request in writing by the Client, the Contractor or the Sub-Contractor, provide evidence that such insurance is being maintained in accordance with this Deed, and receipt for payment of the last premium of the policy.

4. STORAGE

- 4.1 The Supplier undertakes to the Sub-Contractor that it will:
- 4.1.1 at no cost to the Sub-Contractor, keep the Supplier Materials at the Premises and not remove them from the Premises without the prior written consent of the Sub-Contractor or the Client, unless:
 - 4.1.1.1 such removal is in the course of carrying out the Services; or
 - 4.1.1.2 in the event of an emergency threatening the loss, deterioration of or damage to

the Supplier Materials;

- 4.1.2 ensure that the Supplier Materials are protected and preserved from and against loss, deterioration and damage howsoever caused;
 - 4.1.3 store the Supplier Materials separately and securely from all other items in conditions suitable for their type and clearly and permanently mark them "Property of Transport for London"; and
 - 4.1.4 deliver the Supplier Materials to the Client or the Sub-Contractor (as applicable) in accordance with the Contract, or in accordance with the reasonable instructions of the Sub-Contractor or the Client.
- 4.2 The Sub-Contractor or the Client may at any time by its servants or agents or otherwise enter the Premises for the purpose of removing or inspecting the Supplier Materials and/or inspecting the suitability of the Premises for storing them.
- 4.3 Without prejudice to any other rights or remedies that the Sub-Contractor and the Client may have, the Supplier acknowledges and agrees that damages alone would not be an adequate remedy for any breach of the terms of this Deed by the Supplier. Accordingly, the Sub-Contractor and the Client shall be entitled, without proof of special damages, to the remedies of injunction, specific performance or other equitable relief for any threatened or actual breach of the terms of this agreement in particular of failure or refusal of the Supplier to allow the Client or the Sub-Contractor to enter the Premises for the purpose of removing or inspecting the Supplier Materials.

5. FURTHER PROVISIONS

- 5.1 The Supplier indemnifies the Sub-Contractor and the Client from and against all costs, claims, demands, liabilities, damages, expenses and losses of whatsoever nature (including but not limited to any consequential loss) arising from any breach of this Deed or any warranty given pursuant to this Deed.
- 5.2 The terms of the Contract shall remain in full force and effect.
- 5.3 The Client shall have the right to enforce the provisions of this Deed against the Supplier in accordance with its terms and the Contracts (Rights of Third Parties) Act 1999.
- 5.4 The bankruptcy, liquidation, receivership, administration, other analogous proceeding or insolvency of the Supplier shall not in any way prejudice the Client's rights of ownership in the Supplier Materials.

6. APPLICABLE LAW

- 6.1 This Deed shall be governed by English law and subject to clause 6.2, the courts of England and Wales have exclusive jurisdiction to settle any dispute which may arise out of or in connection with this Deed.
- 6.2 Any party to this deed may seek interim injunctive relief or any other interim measure of protection in any court of competent jurisdiction.
- 6.3 Subject to clause 6.2, each party waives any objection to, and submits to, the jurisdiction of the courts of England and Wales. Each party agrees that a judgment or order of any such court is binding upon it and may be enforced against it in the courts of England and Wales or any other jurisdiction

IN WITNESS where of this agreement was executed and delivered as a Deed on the date above.

EXECUTED AS A DEED by the Sub-contractor by

.....
(Signed)

.....
(Name of Director)

.....
(Signed)

.....
(Name of Director/Company Secretary)

EXECUTED AS A DEED by the Supplier by

.....
(Signed)

.....
(Name of Director)

.....
(Signed)

.....
(Name of Director/Company Secretary)

SCHEDULE TO VESTING AGREEMENT [MADE ON INSERT DATE OF SECONDARY VESTING AGREEMENT]⁴

Relating to Contract No [INSERT REFERENCE DETAILS OF CONTRACT]

BETWEEN

- (1) [INSERT DETAILS OF SUB-CONTRACTOR]
- (2) [INSERT DETAILS OF SUPPLIER]

Supplier Materials		
Description of Materials	Stage of completeness	Value Excl VAT

⁴ Delete all the wording in the brackets for the first Schedule, because the first schedule will be attached to the vesting agreement and the date of the vesting agreement will not be known at that stage. For subsequent Schedules, the wording in brackets must be included and the date of the executed vesting agreement must be inserted.

Submitted on behalf of the Supplier by authorised signatory:

.....
(Signed)

.....
(Name of Authorised Signatory)

Date

Approved on behalf of the Sub-Contractor by authorised signatory:

.....
(Signed)

.....
(Name of Authorised Signatory)

Date.....