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## Part 26 – Logistics Management

### 26.1 Introduction

During the passage of the Crossrail Act 2008, the *Employer* made commitments to:

- minimise road transportation and maximise rail and water;
- ensure beneficial re-use of all uncontaminated excavated material;
- to maximise the use of sustainable transport;
- coordinate all vehicle movements, including the delivery of materials to site and removal of waste and excavated material from site in an efficient and safe manner to reduce impacts and congestion;
- undertake lorry driver training with particular emphasis on vulnerable road users; and
- promote off-site manufacture, the use of consolidation centres and sustainable transport.

This part of the Works Information describes the *Employer's* Logistics Management requirements and the logistical constraints on how the *Contractor* Provides the Works arising from the commitments made by the *Employer*.

### 26.2 The *Contractor's* Responsibilities for Logistics Management

The *Contractor* is responsible for the Logistics Management of all it's activities and those of his Subcontractors and suppliers including:

- all logistics activities within the Site;
- all logistics activities to deliver the *works*;
- all movement of Equipment, Plant and Materials and people to and from the Site and the Working Areas;
- the removal and treatment of all excavated material;
- the coordination of all his logistics activities with Others, including other contractors; and
- developing, planning and implementing logistics solutions to deliver the *works* which support and discharge the *Employer's* commitments;

The *Contractor* shall ensure that the safe delivery of Equipment, Plant and Materials and people including other road users and pedestrians is the overriding priority in all vehicle movements.

### 26.3 Logistics Manager

The *Contractor* shall appoint a Logistics Manager

The Logistics Manager shall:

- produce and implement the Logistics Plan ;
- organise weekly meetings with the *Project Manager* and record actions;
- co-ordinate with Others (including other contractors) regarding cumulative impacts on or outside of the Site;
- produce report information for the logistics part of the progress report and attend the progress meeting to ensure that the Logistics Plan remains suitable, adequate and effective;
- be the point of contact between the *Contractor* and the Traffic Coordination Centre;
- attend Traffic Liaison Group meetings;

The Logistics Manager shall have the following competencies:

- appropriate experience of logistics management, including demonstrable site experience on construction projects;
- good knowledge and practical experience of legal requirements and how to comply with them, including but not limited to driver hours, vehicle and driving safety;
- good knowledge of safe operational practice for operation of vehicles and Equipment and methods of loading and off-loading;
- good knowledge and practical experience of planning and organising deliveries to/ from sites; and
- experience of liaison with stakeholders including local authorities, the police and Highways Agency.

### 26.4 Logistics Plan

8 weeks prior to the start of construction activities the *Contractor* shall produce a Logistics Plan and submit it to the *Project Manager* for acceptance. In the case of the first submission of the Logistics Plan the *Project Manager* will reply within 4 weeks of the date of submission. Any further revisions, submissions and responses

shall be made within the *period for reply*. The Logistics Plan may include existing corporate procedures, plans or other documents provided that these meet legal requirements and the requirements of this contract.

The *Contractor* shall not commence construction activities on the Site and the in the Working Areas until the *Project Manager* has accepted the Logistics Plan.

The template for the *Contractor's* Logistics Plan is included in Appendix 26A. This template includes guidance on the minimum information that shall be included in the *Contractors* Logistics Plan.

The *Contractor* shall ensure the Logistics Plan is appropriate to all logistics activities included in the *works*.

The *Contractor* shall review and update the Logistics Plan at least every 6 months.

## 26.5 Not Used

## 26.6 Excavated Material

### 26.6.1 General

During the passage of the Crossrail Act 2008, the *Employer* made commitments in the form of Undertakings and Assurances and other legal agreements that relate to the manner in which the excavated material arising from the *works* is transported and put to beneficial re-use on other projects or disposed of.

The *Employer* has entered into an agreement with the Royal Society for the Protection of Birds (RSPB) to place uncontaminated excavated material at Wallasea Island in Essex.

The *Contractor* is responsible for transporting suitable excavated material from the Site to the Transfer Site, and unloading at that site, for onwards transportation by Others to Wallasea Island.

Volume 2A of the Works Information states a date by which excavated material can be transported to Wallasea Island. If the *works* generate excavated material prior to this date then the *Contractor* shall be responsible for disposal of that excavated material in line with the requirements of the Works Information.

The *Contractor* is responsible for the transportation and/or beneficial re-use of excavated material and the treatment, transportation and disposal of contaminated or hazardous material.

The *Contractor* shall detail in its Logistics Plan his proposals for meeting all excavated material requirements including.

- how the *Contractor's* proposals shall be planned, managed and implemented;
- details of beneficial re-use location, Transfer Site or disposal location and an assessment of their suitability;

- details any treatment of waste and contaminated material within the Site and Working Areas prior to disposal or post transfer to beneficial use location/Transfer Site/disposal location;
- details of planning approvals for the location including hours of operation and types of material which will be accepted;
- details of the material testing regime and location of such tests;
- the method of transportation to that location such that it minimises the requirement for road transport and maximises rail or water transport;
- evidence of appropriate licences;
- plans to ensure that part loads are not transported; and
- Provision of an electronic waste transfer note process.

26.6.2 Not Used

26.6.3 Load tracking and compliance management

The *Contractor* shall detail in its Logistics Plan how it will track excavated materials from the *works* to the Transfer Site or other sites. The *Contractor* shall ensure that the composition, volume and weight of loads are not altered in course of the handling and transportation. Only excavated materials originating from the *works* shall be delivered by the *Contractor* to the Transfer Site or any other sites.

The *Contractor* shall implement a waste transfer note process and system. The load tracking process shall provide a clear audit trail of all vehicle movements of excavated materials and include full traceability of:

- load identification number;
- subcontractor;
- date;
- volume; and
- weight.

All information shall be made available to the *Project Manager* in electronic format compatible with the Traffic Coordination Centre.

26.6.4 Not Used

## **26.7 Not Used**

26.7.1 Not Used

26.7.2 Not Used

26.7.3 Not Used

26.7.4 Not Used

## **26.8 Not Used**

## **26.9 Consolidation**

The primary aim of consolidation is to minimise vehicle movements by allowing part-deliveries to be consolidated into full loads and parcel loads in such a way that they are incorporated into the *works* with limited storage duration on Site. Additional roles of consolidation are to:

- reduce the cost and risk to suppliers of making deliveries into central London;
- improve construction efficiency by providing planned and controlled delivery operations;
- reduce Plant and Materials on-Site by not delivering more than immediately required;
- minimise waste by reducing packaging and handling waste/excess; and
- maximise demand aggregation and reduce lead times by holding stock.

The *Contractor* shall review and assess the need for consolidation methods and/or consolidation as part of his Logistics Plan.

## **26.10 Lorry Driver Induction Training**

### **26.10.1 General**

During the passage of the Crossrail Act 2008, the *Employer* made commitments in the form of Undertakings and Assurances and other legal agreements that committed the Project to provide mandatory training to lorry drivers working on or in connection (delivery drivers) with the Project.

The *Employer* will provide and implement a lorry driver induction training course for all frequent lorry drivers engaged on this contract, including owner drivers.

The *Contractor* shall ensure that all frequent lorry drivers engaged on the contract, including those employed by subcontractors and suppliers (including owner drivers),

attend the lorry driver induction training course before they work on the contract or reach frequent lorry driver status.

A Frequent Lorry Driver is defined as:

- all excavated material removal vehicle drivers;
- all concrete remixer vehicle drivers;
- all consolidation centre vehicle drivers; and
- any driver of a large goods vehicle either supplying or removing Equipment, Plant and Materials, or people from the site who makes 5 or more round trips in any 12 month period to any Crossrail worksites for any part of the Project.

A Large Goods Vehicle is defined as any vehicle greater than 3.5 Tonnes gross vehicle weight.

A Frequent Lorry Driver will not be allowed to enter or deliver Equipment, Plant and Materials, or people to a Site or Working Areas or lorry holding area until they have completed the lorry driver induction training. Any costs incurred by the *Contractor* in not complying with this requirement shall be Disallowed Costs.

26.10.2 Not Used

26.10.3 Lorry Driver Induction Training Course

The lorry driver induction training course is a 1 day classroom based course lasting 7 hours provided by the *Employer*. The course contributes to the Driver Certificate of Professional Competence (DCPC) as 7 hours periodic training. Drivers shall be required to produce their driving licence at the start of the course as supporting evidence for the accreditation requirement.

The DCPC is for large good vehicles drivers who drive professionally throughout the UK and has been developed as a requirement of the EU Directive 2003/59, which is designed to improve the knowledge and skills of professional large good vehicles drivers throughout their working life. There are two parts to the legislation:

The initial qualification that must be achieved by new large good vehicles drivers along with their vocational licence to enable them to use their licence professionally; and

Periodic training, which involves all professional drivers undertaking 35 hours of training every 5 years.

The course will be held in the facilities provided by the *Employer*..

The *Contractor* shall include a forecast of the number of drivers required to attend the lorry induction driver training course as part of its Logistics Plan. The *Employer* will use this forecast to plan the required number of training courses and will use the next period forecast to book the course.

The *Contractor* shall confirm the drivers required to attend the driver training course and provide their required details to the *Project Manager* at least 2 weeks prior to the *Contractors* requirement for the drivers to attend the course. If the number of drivers exceeds the next period forecast provided by the *Contractor* then the *Employer* cannot guarantee that there will be sufficient capacity for all drivers and the *Contractor* shall prioritise training requirements.

If a driver booked onto the course can no longer attend for any reason, the *Contractor* shall inform the *Project Manager* at least 48 hours prior to the course date. Failure to do so will result in the abortive costs incurred being recovered from the *Contractor*.

Following successful completion of the lorry driver induction training course, the *Project Manager* shall ensure that the training provider issues the driver with certification and a photo ID card (with unique ID number) confirming that they have undertaken the training. The *Project Manager* will forward details of trained drivers to the *Contractor* and Traffic Coordination Centre.

The *Contractor* shall ensure that following successful completion of the course all trained lorry drivers shall wear their photo ID badge, making sure it is clearly visible at all times when employed on the Project and shall make their ID badge available for inspection by the *Project Manager*. The *Contractor* shall maintain records of all drivers that have completed the lorry driver induction training course.

The lorry driver induction training course does not replace any other induction training required by the Works Information.

#### 26.10.4 Infrequent Lorry Drivers – Driver Information Pack

An Infrequent Lorry Driver is defined as any lorry driver, including those employed by subcontractors and suppliers of (including owner drivers), supplying or delivering Equipment, Plant and Material or people from the Site who is not a frequent lorry driver.

The *Employer* will, via the *Project Manager*, provide the *Contractor* with an electronic version of the Project driver information pack.

The *Contractor* shall ensure that all infrequent lorry drivers engaged on the contract are issued with the Project driver information pack before they commence work on the contract, and shall record that all infrequent lorry drivers have read the pack.

The *Contractor* shall audit their own drivers and those of subcontractors and suppliers to ensure the requirements of this Works Information are met.

### 26.11 Freight Operators and Hauliers

#### 26.11.1 General

The *Contractor* shall ensure that all haulage firms and freight operators engaged on the contract, including owner drivers, are assessed and selected to ensure that they meet the minimum requirements set out in this Works Information. a Freight

Operator or Haulier includes the *Contractor* and subcontractors and suppliers engaged in the following activities:

- removing excavated material or waste;
- delivering Equipment (including temporary works), and Plant and Materials; and
- delivering loads from consolidation centres.

#### 26.11.2 Selection Criteria

The *Contractor* shall demonstrate to the *Project Manager* that the assessment process used for their selection of Freight Operator and Hauliers ensures that they fully embrace all of the *Employer's* environmental, health and safety, sustainability and community relations policies, principles and values.

In selecting Freight Operator and Hauliers the *Contractor* shall:

- ensure they are members of Freight Operator Recognition Scheme (FORS) or equivalent standard ;
- ensure they comply with the Vehicle Safety Equipment Standards;
- ensure they comply the requirements for Lorry Driver Induction Training;
- check company or owner driver references;
- declare any convictions or formal cautions against the companies, their Directors or, if applicable, an owner driver, in the last 5 years; and
- declare any enforcement actions such as an enforcement notice, a suspension notice, a landfill closure notice, or regulation 60 against the companies, their Directors or, if applicable, an owner driver, in the last 5 years.

The perception that a driver must make deliveries as fast as possible or undertake as many deliveries within a given time frame as possible is a potential cause of dangerous driving and accidents. The *Contractor* shall not incentivise drivers,, or allow subcontractors or suppliers of any tier to incentivise their drivers, based on the number of, or speed in which, deliveries are made. The *Contractor* shall ensure that the safe delivery of Equipment, Plant and Materials and people is the overriding priority in all vehicle movements.

#### 26.11.3 Freight Operators Recognition Scheme

If the *Contractor* operates commercial vehicles of any size in the United Kingdom he shall be a registered member of the Freight Operator Recognition Scheme (FORS) or equivalent standard within 3 months of the *starting date*. The *Contractor* shall ensure that each freight operator or haulier working on this contract is a registered member of (FORS) or equivalent standard prior to appointment on this contract or as a minimum within 3 months of their appointment.



If the *Contractor* does not operate any commercial vehicles he shall become an Associate Member of FORS within 3 months of the *starting date*.

The *Contractor* shall provide evidence upon request that the Freight Operator and Hauliers and other goods vehicle operators are in possession of an up to date operating licence required to operate their class of vehicle. The *Contractor* shall inform the *Project Manager* of any changes to their operating licence, or the driving licences of any of their drivers, including subcontractor's drivers, that impact on their ability to safely and legally operate and drive vehicles as part of the *works*. The *Contractor* shall be responsible for all drivers under their contract, including those employed by Subcontractors, agencies and owner drivers who are contracted to work for them in delivering the *works*.

## 26.12 Control and Coordination of Vehicle Movements

### 26.12.1 General

The *Employer* will implement a Traffic Coordination Centre (TCC) to assist in the co-ordination of vehicle movements required for the *works* and other contracts forming part of the Project. This includes providing a Vehicle Movement Planning System (VMPS) and operating the TCC.

### 26.12.2 The *Contractor's* Responsibilities for the Control of Vehicle Movements

The *Contractor* shall be responsible for the planning and implementation of all vehicle movements associated with the *works*, including those by subcontractors and suppliers, and for ensuring that they meet the requirements of the Works Information.

The *Contractor* shall include in his Logistics Plan his proposals to control all vehicle movements associated with the *works*.

### 26.12.3 Traffic Coordination Centre

The TCC will operate a central VMPS. The TCC collects and collates traffic information across the Project to assist the *Contractor* and Others with vehicle planning. No action or omission of the TCC nor any inaccuracy in the information that it provides will relieve the *Contractor* of its responsibility to plan and control all the vehicle movements associated with the *works*, including those by subcontractors and suppliers.

The TCC will:

- provide and operate the VMPS which is a Project-wide facility for recording planned and actual vehicle movements;
- liaise with stakeholders and Others to gather key road transport information and advise the *Contractor* on known events which may impact on the vehicle movement planning;
- review and comment on the *Contractor's* vehicle movement plans;

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- assist the *Contractor* in coordinating his vehicle movement plans with those of other Project contractors and Others and identify opportunities for the *Contractor* to minimise his vehicle movements;
- seek to identify any conflicts between the *Contractor's* long range or weekly plans as a result of the plans of other Project contractors or Others to enable the *Contractor* to resolve those conflicts; and
- collate and monitor actual vehicle movements and incidents.

#### 26.12.4 Lorry Holding Areas

Due to restricted road space available at sites and adjoining streets, lorry holding areas are required to assist efficient road transportation control and reduce the risk of congestion.

Lorry holding areas may be remote from the Site or the Working Areas or within the footprint of the Site in some cases. The *Contractor* shall use the lorry holding areas to receive, hold, and release all vehicles prior to dispatch to the Site and the Working Areas in order to prevent any on-street congestion, waiting, or circulating of the local roads. In using lorry holding areas the *Contractor* shall:

- utilise the VMPS;
- ensure there is sufficient capacity in the lorry holding areas to meet the requirements of the *Contractor's* daily vehicle movement plan and that the lorry holding areas is used in accordance with that plan;
- turn away any vehicle which arrives at the lorry holding area when there is insufficient capacity in the lorry holding areas;
- not call forward or allow a vehicle to leave a lorry holding areas until there is sufficient capacity at the Site for the vehicle to enter the Site;
- allow vehicles from other contractors to use the lorry holding areas as directed by the *Project Manager*;
- respond to the *Project Manager* with a prompt decision if a vehicle arrives at the lorry holding areas which is unplanned or otherwise not in compliance with the daily plan;
- allow the Vehicle & Operators Servicing Agency (VOSA) access to the lorry holding areas to undertake vehicle compliance checks; and
- Act as Principal Contractor under the Construction Design & Management (CDM) Regulations 2007 for lorry holding areas operated by the *Contractor* .

If the *Contractor* fails to ensure compliance which results in congestion or other impacts then the *Project Manager* may instruct the *Contractor* to:

- stop additional vehicles approaching the congested area; and
- send away vehicles waiting to enter the lorry holding areas or already in the lorry holding areas
- If the *Contractor* does not promptly comply with these instructions then the *Project Manager* may stop the *Contractor's* vehicle movements.

In the course of the daily operation of the lorry holding areas the *Contractor's* Logistics Manager and other nominated management and supervisory staff shall liaise frequently with the TCC and lorry holding areas operatives to resolve any conflicts arising from vehicles arriving early, late or not at all at the lorry holding areas. Two-way communication systems enabling the lorry holding areas and the Site and the Working Areas to converse directly shall be provided by the *Contractor*.

#### 26.12.5 Vehicle Movement Planning System

The *Project Manager* shall implement a Vehicle Movement Planning System (VMPS) which will:

- be a centralised system to be used by the *Contractor* and other Project contractors;
- record planned and actual vehicle movements for each lorry holding area, Site and Working Area by timeslot;
- identify individual drivers and will record their driver induction training; and
- monitor and report actual vehicle movements.

The *Contractor* shall populate the VMPS when producing his long range, weekly and daily vehicle movement plans. The information required to populate the VMPS shall include:

- vehicle ID/vehicle registration number;
- Freight Operator or Haulier;
- Drivers full name and ID (if a frequent lorry driver, this shall be linked to the completion of the lorry driver induction training course);
- confirmation that the infrequent lorry drivers have received the Project driver information pack;
- vehicle description – vehicle type and load size;
- point of origin;

- access point to Site or Working Areas;
- lorry holding area arrival time;
- Site or Working Area arrival time;
- estimated dwell time on Site or Working Area (eg for unloading/loading);
- indicative journey times and distances;
- vehicle utilisation, i.e. the proportion of a full load that is delivered;
- loading/unloading duration;
- Site or Working Area departure time;
- abnormal load notification;
- a cumulative assessment of all vehicle movements and their compliance with the Works Information; and
- any other traffic management requirements.

The *Contractor* shall provide to the TCC copies of the gate sheets detailing actual vehicle movements within 2 working days of the vehicle movements.

In addition to the above the VMPS may allow the *Contractor* to record the following information should the *Contractor* wish to do so:

- Company FORS registration number;
- Mileage;
- Load weight; and
- Person entering information into the VMPS.

#### 26.12.6 Vehicle Movement Planning

The *Contractor* shall:

- determine all vehicle movement requirements for the *works*;
- estimate the number of vehicle movements required taking into consideration the requirement to consolidate part loads;
- ascertain from the TCC known future traffic restrictions and constraints;

- liaise with Others, to seek to ensure there are no conflicts between them and the *Contractor's* forecasts which may cause congestion or impact on the *Contractor's* ability to comply with the Works Information.

The *Contractor* shall produce long range, weekly and daily vehicle movement plans for submission to the *Project Manager* and TCC as detailed below:

- Long range plan - At the start of every Project period the *Contractor* shall submit a plan of all vehicle movements required for the following period.
- Weekly plan – By 12:00hrs the Monday of every week the *Contractor* shall submit a plan of all vehicle movements for the following week (i.e. starting 7 days after submission) which shall detail movements on a daily basis.
- Daily Vehicle Movement Plan – By 09:00hrs every day the *Contractor* shall submit a Daily Vehicle Movement Plan for all vehicle movements for the following day (i.e. at start of work the following day) including planned timings, and indicate where this daily plan differs to the weekly look ahead.

These plans shall contain complete and accurate information and shall be both feasible and practicable and shall be submitted using the VMPS.

On receipt of the *Contractors* long range, weekly or daily plans the TCC will:

- collate and review the plans with those provided by Others;
- Seek to identify any potential issues or constraints in the *Contractors* plans;
- Seek to identify any potential conflicts between the *Contractors* plan and plans of Others;
- Identify any potential issues, conflicts or constraints with the *Contractors* plans to the *Contractor* and the *Project Manager*.

The *Contractor*, is responsible for resolving any potential issues conflicts or constraints identified by the TCC or Others

If on receipt of the *Contractor's* Daily Vehicle Movement Plan by the TCC the *Contractor* has resolved all conflicts such that it is not envisaged that the proposed Daily Vehicle Movement Plan would cause congestion, the *Project Manager* may issue, via the TCC, a non-objection communication to the *Contractor* . On receipt of a non-objection communication to a Daily Vehicle Movement Plan the *Contractor* shall remain responsible for implementing that plan and the impact of any foreseen or unforeseen incidents on that plan.

If on receipt of the *Contractor's* Daily Vehicle Movement Plan the *Contractor* has not resolved all conflicts such that the proposed Daily Vehicle Movement Plan might cause congestion the *Project Manager* may issue, via the TCC an objection communication to all or part of the *Contractor's* Daily Vehicle Movement Plan. The *Contractor* shall not implement that part of the Daily Vehicle Movement Plan to

which the *Project Manager* has objected. If the *Contractor* does not modify his Daily Vehicle Movement Plan to remove a conflict the *Project Manager* may prohibit the operation of that part of the plan and the *Contractor* will be held liable for any cost incurred as a result.

The *Contractor* shall ensure that all vehicles visiting or leaving the Site or the Working Areas are planned and entered in to the VMPS.

#### 26.12.7 Contingency Planning

As part of its Logistics Plan, the *Contractor* shall produce a road transport contingency plan prior to commencing any major vehicle movements.

#### 26.12.8 Not Used

#### 26.12.8A Abnormal Indivisible Loads

An abnormal indivisible load is defined in the Road Vehicles (Authorisation of special types) (general) order 2003.

Legislation requires hauliers to notify the movement of most abnormal indivisible loads and abnormal vehicles to the police before moving them by road. There is also a requirement to notify heavier loads and vehicles to highway and bridge authorities to ensure that bridge structures can accommodate these heavy loads.

#### 26.12.8A.1 Lorry Controls

The *Contractor* shall ensure that when any vehicle or item of equipment is reversing within the site, on or adjacent to a highway open to traffic, it does so only under the supervision of a person designated and trained for the purpose of regulating traffic within the site who shall be readily distinguishable from the remainder of the work force

The *Contractor* shall display signs in a prominent position on vehicles on public roads which are dedicated to the Project. The signs shall uniquely identify the vehicle to Crossrail

#### 26.12.9 Not Used

### 26.13 Vehicle Security

The *Contractor* shall be responsible for the security of all Equipment, Plant and Materials, vehicles and drivers whilst in transit or at the Site.

The *Contractor* shall develop and implement a Vehicle Security Plan as part of the Logistics Plan for the *works*. The Vehicle Security Plan will set out how the legal and contractual requirements shall be managed in accordance with the Works Information and must clearly identify measures to ensure the security of the load being transported, vehicles and drivers. The plan shall include the nominated persons responsible for each task.

The *Contractor* shall undertake vehicle security searches. All vehicle security searches must be recorded and the details forwarded to the *Project Manager* and TCC. Any security breach in relation to vehicle movements or this part of the Works Information must be reported immediately to the *Project Manager* and the TCC.

Planned and controlled security screening of vehicles may also be undertaken at the lorry holding area and Sites by the *Project Manager* or other authorised bodies.

Particular attention should be made to the requirements detailed in Part 16 Security of Volume 2B of the Works Information.

## 26.14 Vehicle Safety Equipment Standards

### 26.14.1 General

This section details the *Employer's* vehicle safety equipment requirements. These requirements are in addition to those required by legislation.

The *Contractor* shall be responsible for ensuring all his vehicles and drivers and those of subcontractors and suppliers transporting Equipment, Plant and Materials and people to and from the Site and the Working Areas comply with this section of the Works Information.

Any vehicle or driver that does not meet the required standard shall not be allowed to enter or deliver Equipment, Plant and Materials or people to the Site or Working Areas or lorry holding area. The *Contractor* will be held liable for any costs resulting from vehicle being turned away from the Site or Working Area or lorry holding areas for failure to comply with these requirements.

Abnormal Indivisible Loads are exempt from the requirements of this section subject to the *Contractor* taking all appropriate measures to ensure the vehicles are operated in a safe manner. In addition the *Contractor* must document what measures have been taken and submit this to the *Project Manager* at least 7 days prior to the vehicle commencing its journey.

26.14.2 Not Used As part of his Logistics Plan the *Contractor* shall develop and implement arrangements and processes to ensure compliance with this section of the Works Information.

### 26.14.3 Minimum Safety Equipment Requirements for all Vehicles

The *Contractor* shall ensure that all vehicles used to transport Equipment, Plant and Materials and people to and from the Site and the Working Areas will be equipped with operating the mandatory safety equipment listed below:

- seat belts (for the driver and all passengers riding in vehicles used to transport multiple individuals);
- rear-view mirrors;
- reversing sensors/alarms/cameras;

- lights (head & tail, stop, turn signal, and emergency warning);
- reflective warning triangle (portable emergency warning);
- signage: maximum number of passengers (buses and other similar vehicles only);
- seat belt, inspection and Drug and Alcohol warning decal;
- light and high-visibility colours for vehicles;
- daytime running lights;
- no additional window tinting;
- backup alarms –where applicable;
- fire extinguishers;
- flashing lights (construction vehicles) – this requirement applies only to vehicles which enter Security Zone 2 and/or Security Zone 1. For vehicles which do not enter Security Zone 2 and/or Security Zone 1 the *Contractor* must assess whether the vehicle requires flashing lights to be fitted, this assessment will include a *Contractors* risk assessment;
- spare light bulb kit; and
- fog lights.

#### 26.14.4 Mobile Batching Plant

Mobile batching plant vehicles which are classified as “engineering plant” may be exempt from certain regulations. Mobile batching plants represent a serious danger to vulnerable road users and the *Contractor* shall not use a mobile batching plant to deliver any part of the *works* without the prior acceptance of the *Project Manager*. In requesting acceptance the *Contractor* shall be required to demonstrate that the mobile batching plant meets the safety standard expected of a Large Goods Vehicle and the Works Information and:

- complies with the operator licensing arrangements required for goods vehicles;
- is fitted with a tachograph;
- complies with The Road Vehicles (Construction and Use) Regulations and in particular the axle and weight limits specified those regulations;
- that the vehicle will not be overloaded and not be loaded greater than 32 tonnes; and
- that the vehicle has a current Large Goods Vehicle M.O.T. certificate.



#### 26.14.5 Communication Equipment in Vehicles

The *Contractor* shall ensure that the use of communications equipment by drivers will be prohibited in all vehicles whilst moving, including those of subcontractors and suppliers. This includes:

- mobile hand held devices;
- mobile hands free devices;
- CB radios; and
- hand held transmitters.

#### 26.14.6 Additional Safety Equipment Requirements for Specific Vehicle Types

The vehicle safety equipment set out below is the minimum standard to be implemented by the *Contractor* when combined with Crossrail's Lorry Driver Induction Training will assist in reducing the risk of a serious collision occurring between a vehicle and vulnerable road user such as a cyclist, pedestrian or powered two wheeled vehicle. The equipment listed represents best practice in the construction industry and is in use daily by transport companies and contractors as part of their on going corporate social policy and attitude towards work related road safety.

This equipment includes:

- blind spot mirrors;
- fresnel lenses;
- rear warning signs for cyclists and pedestrians;
- side under-run guards; and
- side-scan side detection warning systems.

Table 26.1 lists the main types of vehicles which will be used in delivering the *works* and the minimum additional safety equipment to be fitted to those vehicles.

#### 26.14.7 Blind Spot Mirrors

All vehicles over 7.5 tonnes must be fitted with class IV and V Mirrors under the 2003 EU (retrofit) and 2007/38/EC for new vehicles. All mirrors must be cleaned daily and correctly adjusted.

In addition to statutory requirements the *Contractor* shall ensure all vehicles specified in Table 26.1 are fitted with Class VI mirrors to give a view of the roadway directly in front of the drivers cab; these mirrors have been proven to reduce collisions with cyclists and pedestrians.

#### 26.14.8 Fresnel Lenses

The *Contractor* shall ensure that a Fresnel lens is fitted on all vehicles as specified in Table 26.1.

For additional information on the use, benefits and fitting of a Fresnel lens please refer to the Transport Research Laboratory Published Project report PPR 43 “Follow up study to the heavy goods vehicle blind spot modelling and reconstruction trial” published in May 2009.

#### 26.14.9 Rear Warning Signs for Cyclists & Pedestrians

It is currently a statutory requirement for all vehicles over 7.5 tonnes to have warning signs fitted to the back of the vehicle stating the overall length.

In addition to statutory requirements the *Contractor* shall ensure that warning signs are fitted on the back of vehicles as specified in Table 26.1, alerting cyclists to the dangers of undertaking heavy goods vehicles. For articulated vehicles, mention shall also be made of the length of the vehicle to illustrate additional dangers as the vehicle moves round corners.

For pedestrians the *Contractor* shall ensure that warning signs are be fitted on the sides of HGVs at the front nearside warning about walking close to the front of a moving or stationary lorry.

#### 26.14.10 Side Under-run Guards

The *Contractor* shall ensure that vehicle side under-run guards are fitted on all vehicles as specified in Table 26.1. The guards must fill the space between the front and rear axles.

In addition to the above the *Contractor* shall install side under-run guards as standard to all 4, or multi axle, tippers (including grab lorries) unless the *Contractor* can provide evidence from the original equipment manufacturer that fitting of such equipment is not practicable. The *Contractor* shall review this requirement every period.

Road sweepers are exempt from the requirements of this clause

#### 26.14.11 Sidescan side detection and warning systems

The *Contractor* shall ensure that a sidescan side detection and warning system is fitted on all vehicles as specified in Table 26.1. This shall detect anyone in the vehicles blind spot warning them that the vehicle is about to turn whilst also warning the driver.

For tractor and trailer type vehicles the trailer is exempt from the requirements of this clause, the tractor must comply.

26.14.12 Vehicle Safety Equipment Requirements Matrix

Equipment Vehicles	Blind Spot Mirrors Class IV, V and VI	Fresnel Lenses	Rear/Side Warning Signs	Side Under-run Guards	Side scan detection and warning systems
Vans < 3.5 T			<input checked="" type="checkbox"/>		
Small lorries 3.5 to 7.5 T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Medium to Large Lorries >7.5 T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Concrete mixer (6 m <sup>2</sup> )	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2/3 Axle rigid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Grab Lorry	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	See 26.11.9	<input checked="" type="checkbox"/>
4 or multi Axle tippers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	See 26.11.9	<input checked="" type="checkbox"/>
Articulated low loader	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Table 26.1 – Vehicle Safety Equipment Requirements Matrix

## 26.15 Appendices

### Appendix 26A – Logistics Plan Template

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